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A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.*

BY CHARLES A. LEALE, M. D.,
VICE-PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

MR. PRESIDENT AND GENTLEMEN: Asiatic cholera again threatens to extend to America. Our advices from India tell us that at present an epidemic of great fatality prevails at Madras, and the telegraphic communications of November, 1884, inform us that, in consequence of the large number of deaths in many places, the villagers are terror-stricken.

During the past summer Asiatic cholera has appeared as an epidemic in France, Spain, and Italy. In Naples, during the months of August, September, and October, the epidemic was exceedingly virulent, and now, during the month of November, the city of Paris is being scourged with the disease. Thus far America has escaped, although we have had frequent arrivals of vessels from infected ports, and many hundreds of our summer travelers, in their annual visits to Europe, have been brought in direct contact with it. We have also imported old rags and other articles for manufacturing purposes from infected places.

The disease has not appeared either in Great Britain or in America. On November 15th, the day before yesterday, there were twenty-six deaths in Paris. How can we escape? The histories of past epidemics in this country clearly inform us that it enters by commerce with infected ports, by either the contaminated clothing of passengers or polluted rags. Newly manufactured woolen or other goods have never been the carriers of disease. In fact, other articles of commerce, and even ships, are safe. Old rags and the wearing apparel of those from infected places are to be specially guarded.

Our observations of epidemics during the past twenty years have taught us many valuable lessons. Let us now apply our knowledge in regard to Asiatic cholera, and we may keep the country free from disease.

In the year 1865 Asiatic cholera was epidemic in Europe. We had just ended our great war; we had a very large floating population; our new States and Territories were being settled by thousands of immigrants from Europe and returned soldiers from the South; there was intense excitement in our native population to recover from the effects of the four years of struggle; sanitary science was less understood; the importance of protection and former epidemics had been almost entirely forgotten. We were warned of our danger, but our officers were prevented from doing their utmost, and, as a result, the prediction was fulfilled, and early in the summer of 1866 epidemic cholera rapidly spread over New York city, and on the following year to the country westward to a distance of over a thousand miles. During the year 1866 the deaths from epidemic Asiatic cholera amounted to one thousand one hundred and fifty-eight in this city.

The Board of Health was fully aroused to the importance of its great work, and so vigorously did they combat the disease that, in the year 1867, cholera in New York city caused only twenty-seven deaths, and never approached the character of a general epidemic.

These facts, confirmed by the experience of many careful observers, have failed to place certain data in regard to this terrible disease in that clear light beyond controversy so much desired by the public, many of whom, without the unanimous opinion of the profession, will not accept the verdict.

We are now threatened as we were in 1865, and, if we are not extremely diligent, it will surely appear as an epidemic next summer. Our duty is a clearly defined one—prevention is easier than a cure. Let us, therefore, do our utmost toward prevention.

A large experience in the practice of our profession during the past twenty years has frequently demonstrated that one of our most difficult duties is to convince the public of approaching danger, and also, after people actually see what was predicted, to keep them from injuring themselves by over-doing. In no disease is this better illustrated than in Asiatic cholera.

We have been asked what became of the immense number of officers of the medical department at the close of our great civil war, and if they returned to the ranks of the general profession. We responded that the large proportion who returned with livers not too seriously damaged, and were not otherwise broken down in health, did as the rank and file of our volunteers—quietly assumed the positions in life most conducive to their health and happiness during times of peace. Yes, said the gentleman, but how could you settle to the drudgery of a most arduous life after enjoying commanding positions where all surroundings tended to do honor? In reply I said that for others I could not respond, but for myself it was neither difficult nor unpleasant.

That it was not for want of the opportunity of securing a position that I had acted as I did, for the Governor of New York State had specially asked for an introduction to me, after I had successfully operated on his son-in-law at Washington, and personally told me that he would do anything for me in the gift of his State within his power. I thanked Governor Fenton kindly, and said that I had another mission in life to fulfill.

When the printed official order came to me notifying me of my honorable discharge from the medical department of the army, I was prostrated on a sick-bed, expecting never to recover from the effects of long exposure to the poisons of hospital gangrene, pyæmia, and typhoid fever. I had broken down twice in health during my hospital service, once having to have my left popliteal vein freely laid open for the exit of pus after an almost fatal attack of septic popliteal phlebitis from having been for months exposed to the worst of blood-poisons, and, secondly, a year later, had typho-malarial fever, contracted while on my last duty as Surgeon-in-Chief of the Northern Defenses of Washington,

* Read before the New York County Medical Association, November 17, 1884.

which ended during a time when the old disease-saturated fortifications and hospitals were being demolished. In February, 1866, as soon as I was able to travel, I went to New York, in a condition so jaundiced that I could readily have been taken for a Mongolian. Medicine had failed, and the change to the bleak, cold March of New York only increased the tendency to a self-thought of my utter worthlessness, and a feeling that my usefulness in life had ended.

I then decided that I would go to Europe and do what I could by volunteering my services to those stricken with the disease, but an opportunity offered too important to ignore. It was at a time when immigration to the United States was at its highest point, when all our ships returned from Europe crowded with passengers, and when so many were exposed to cholera on the ocean and the great danger of continuing its introduction into the United States was by us everywhere dreaded.

At that time that courteous gentleman, Mr. Charles Lamson, told me that, if I would accept the surgeoncy of a ship, he would give me a position on the best one in their service, and said that probably the long sea-voyages to cross the Atlantic might also restore me to health. Subsequent events proved the correctness of his notions, for, after nearly twenty days' continued sea-sickness and vomiting bile, at the end of a month I reached England in restored health, having had, as professional duty, only to attend to one passenger on board, a young man who took the voyage as a trial for the cure of epilepsy.

After a brief sojourn, visiting the hospitals of England and France, I returned to find Asiatic cholera present in Liverpool, and threatening the large number of those intending to make their future homes in America.

On May 1, 1866, I returned from Paris to England, and was informed that three deaths had just occurred from cholera at Liverpool, and that it threatened to become epidemic among the five thousand people temporarily waiting there for passage to America. I sought information from Commander Prior, Royal Navy, the chief emigration officer for the government; and I now desire to tender the gentlemen whom I met at this office our sincere thanks for their courteous attention. With my English credentials, appointing me to take medical charge of the ship, on May 2d I drove to the magnificent packet Harvest Queen, 1,500 tons burden, bound for New York. As her medical officer, I had given her a thorough sanitary inspection, and found all the medicine and surgical appliances complete for a voyage of sixty days across the Atlantic.

It now became my duty to officially sign a certificate in accordance with existing regulations between Great Britain and the United States, after inspecting each passenger in regard to health and sanitary conditions. My previous army experience had taught me to do this in a thorough manner, and, as a result, I excluded two adults as being unfit to proceed, and sent them ashore, refusing the entreaties of others to accept them. One of these was a young woman who six hours previously was apparently well, but was then almost in the collapse stage of cholera. She had been vomiting and purging, and presented many of the usual signs of this malignant disease. I immediately sent her off the ship, and thoroughly disinfected and fumigated anything that might have been contaminated by the cholera poison. It was a chilly day, having snowed in the morning, and I soon became aware of the important fact that I had eight hundred and thirty-six human beings under my professional care, without either a physician, surgeon, or nurse to assist me, on an anticipated long voyage, and with the possibility of Asiatic cholera breaking out after we were in mid-ocean.

The passengers, as a rule, were comparatively healthy, and apparently of a more respectable class of English, Scotch, and Irish farmers and mechanics, there being many middle-aged fathers and mothers, with a large number of children.

The families were allotted compartments so that they could be all together, while the males, in accordance with a just law, were kept in a different part of the ship from the females. The upper deck was much more comfortable than the lower decks, which were below water, and had been converted into bunks to lodge the immense number of human beings. It took us five days after we sailed from Liverpool to reach Queenstown, and the passage in the Irish Sea and through St. George's Channel had been very severe. On the 5th of May the sea was particularly rough, and I had at least six hundred dreadfully sea-sick passengers to care for; fathers and mothers with five or six children were all simultaneously desperately sea-sick, and, as a matter of course, their bunks and places below deck presented a most offensive condition, and, with the heat generated from nearly a thousand human beings confined in so small and dark spaces, we had a typical hot-bed for the spread of cholera; but, as I before remarked, by close inspection I had detected it in the patient before we left Liverpool, and by vigilant sanitation had, as subsequent events proved, eliminated the special poison of cholera from those intrusted to my care, as not a single case occurred in the eight hundred and thirty-six souls during the entire voyage. On the same day that we left Liverpool, as I before stated, cholera prevailed there. The steamer Helvetia left with nine hundred and twenty-five passengers. Cholera broke out among the passengers almost as soon as they started on their voyage, in consequence of which they put back, and the plague was not checked until the surgeon of the Helvetia and forty of the passengers had died from the disease.

"The Helvetia, emptied of her passengers, was subjected to a careful purification and cleansing, and was again ready for sea on the 29th of May, and, although she carried seven hundred and fifty-six passengers, she arrived in New York on June 11th without a single case of sickness having occurred on board."—*From Report of the Health Officer of the Port of New York.*

The great probabilities are that, if the Helvetia had been allowed to proceed on her first voyage instead of putting back and resorting to sanitary means to check the disease, hundreds more of the passengers would have died.

I wish here to tender our sincere thanks to the English physician who kindly instructed me as to the official powers of a surgeon on the high seas in regard to his duties to the passengers, and the obligations of the ship-owners to fulfill their part, as, by knowing these duties and immediately act-

ing in accordance with them, on the first day I was enabled to devote my entire time toward promoting the welfare of those intrusted to me.

We had, as I was told at the office of the company, a captain combining the character of a gentleman with that of a strict disciplinarian; his management of the ship during a hurricane, as he stood lashed to his place of duty, and by the power of will forcing his men to obey him as he managed that grand full-rigged ship battling with the elements, will soon be remembered in these days of iron and steam as a lost art. Of all my six voyages across the Atlantic, this was the most romantic and useful. The food supplied was bountiful, nutritious, and good, and the meat, fish, potatoes, flour, sugar, tea, coffee, and the drinking water, were accurately given in accordance with allowances called for by regulation; it was an illustration of where the company and officers bountifully fulfilled their part, and the overcrowding was excusable when the great numbers of homeless ones in Liverpool exposed to an epidemic of cholera were considered, and anxious to continue their journey. Hundreds more would have come if we had permitted it, our great difficulty being to get off without them.

Intense Fear, Fright, Filth, and Impure Air, with Insufficiently-cooked Food, can not cause Cholera.—What can cause greater fear than the dread of foundering at sea in a violent storm?

What can cause greater fright than the tossing about of a person from the heaving of the ship in the heavy seas between Holyhead and Dublin, where limbs are occasionally broken and it is impossible to stand erect?

What dungeon of Calcutta could exceed in pollution the lower decks of a ship with 836 souls aboard, with over 600 sea-sick, and at least 100 with the diarrhœa following the change of diet and climate? Where could the air have been worse and more impure than in this ship, where ventilation was imperfect in consequence of the dread of filling with water?

Yet we had all these conditions combined, which so many ignorantly assert will cause cholera. We had left an infected port, had had cholera on our ship before we started, but it had been destroyed, and not a germ could have been left, as during our entire and long voyage I did not have a case of cholera; in so many people, and during a voyage of great severity across the Atlantic, lasting from May 2d until landing, on June 4th, I had only five deaths—one, aged fifty-nine, from homesickness and consumption, two infants from pneumonia, and two infants from dysentery; in a voyage of thirty-three days, from a list of 836, including all conditions in life, the infant boy born on the ocean arrived at New York and did as well as others. It is not necessary for me to say that I worked constantly, almost day and night, and in one instance even employing artificial respiration in a young woman who ceased to breathe for some time. She survived, and was landed alive in New York.

If fear, bad air, filth, etc., could cause cholera, the following instance would refute it:

On our way from Liverpool to Queenstown, after we had been on the rough sea two days, with rain wetting the wearing apparel and bedding, with over six hundred helplessly sea-sick, and a large proportion thinking they would go to the bottom, a storm arose, the violence of which was so great that it became necessary to batten down the hatches, thereby forcibly locking all in the hold of a ship which was pitching so furiously that every moment we expected we would sink. I can never forget that terrible night. I had an elegantly furnished state-room for myself—the best on the ship. I had been tossed out of my berth by a sudden pitch of the ship, and felt a little like complaining at my hard lot, until I heard, amid the roar of the tempest, hundreds of human voices, and the batterings of their hands against the securely fastened-down hatches, crying for help, praying to God to save them, and asking to be permitted to get out, even for a mouthful of fresh air, before going down to their supposed watery grave. I was exhausted from overwork, bruised from tossing about, and sea-sick myself, yet that appeal, even for human help, I could no longer resist, so at midnight I put on soft hat, pea-jacket, and high boots, and, with my little hand safety-lantern, scrambled on deck with difficulty, holding on to any object to prevent a fall. I approached the main hatchway, where I could hear still louder the appeals of those below to be saved from an ocean grave. "Oh, help us!" "For God's sake don't desert us!" "How long before we will sink?" "Where is the doctor?" "Can't the doctor come to us?"

To open the hatch and let them on deck would have been certain death, for many, if not all, would either be swept overboard by the sea, which completely washed over us, or they would interfere with the working of the ship, and she might founder and all go down together.

There was only one thing more that I could do to comfort the panic-stricken passengers, and that was to go to them myself and personally cheer them, telling them that if the ship sank I would go down with them. I therefore watched for a moment of safety when no sea washed over the deck, had the hatch opened and quickly descended into the interior, immediately after to hear the battening of the hatch fastening me down in the hold of the ship with over eight hundred human beings—all in dreadful fear and looking to me for succor. The scene as I walked among them can never be forgotten.

Several, on their knees in prayer, as I passed clung to my legs; they caught hold of me as if in desperation. Some were screaming to be saved, families were gathered together in groups on their knees in prayer, others were in the despair of lost hope and stoic in their silence. As I crawled among them they became calm and quiet, and, by a few words fitly spoken, in a short time I had soothed most of them to patient hopefulness. I quieted several hysterical young men and women, and in about two hours had visited them all, even to the lowest deck, and had checked the frightful panic. The air between decks was excessively offensive, loaded with carbonic-acid gas and emanations from the bodies.

I found one young lady, a teacher, partially asphyxiated; this condition was induced and greatly increased by her endeavoring to smother herself in the bedding to escape death by drowning. She was restored, and landed in excellent health. Another, a Mrs. B., with pulmonary consumption,

ceased breathing four or five times—once for over two and a half minutes. I worked over her, employing artificial respiration; got her in a short time to swallow a little brandy; she recovered, and also landed in fair health. Just as I had secured quiet and order, a fearful shriek again started the panic. I hurried to the place, and found hundreds in intense horror, and in the midst was a girl in the frightful contortions of epileptic convulsions. I soon quieted their fears, saying that in a few minutes she would be as well as before the attack. I was now called to see women soon to become mothers; they also were soothed, and no bad result or miscarriage followed. The groans of the adults in cholera morbus, those oppressed for air, and the little infants with colic, caused that to be a night of terrors.

Now surely here, in such a reekingly foul atmosphere, where fright and dread were apparent on all sides, we had many factors incorrectly stated by some to be causes of cholera, but the germ of cholera was not present; and, therefore, although there was a most prolific soil, yet not one case of Asiatic cholera occurred during the entire voyage. On a subsequent day, after the storm abated, with great difficulty I got all on the upper deck, some having to be forcibly carried up in the arms of the seamen, as they had neither the strength nor courage to make the exertion. I had the ship ventilated and disinfected during the day. No cholera, but an epidemic of measles followed. Those infected were quarantined in temporary hospitals on deck, and not more than twenty had the disease. I resorted to sanitary measures in preference to medication; had an abundance of fresh, pure air in the temporary hospitals, and plain, well-cooked, nutritious food; the recoveries were rapid, and not one died from any of the infectious diseases.

A most fortunate occurrence was the subsidence of the storm just before the epidemic appeared, permitting the use of the deck during the remainder of the voyage for hospital purposes.

The preceding illustrates the easy mode of protecting our merchant marine and ocean passengers from cholera by thorough inspection of each person before permitting him to go aboard, and, where cholera does gain access to the ship, the benefits of quickly resorting to the well-recognized sanitary laws to overcome and destroy the germs of the disease.

It also presents the danger of omitting the slightest detail where cholera is probably present. See the account of the steamer Helvetia, that left Liverpool the same day as we did—she, with 925 passengers, losing her surgeon and forty passengers from cholera; we, with 836 passengers, and with cholera on board when I first inspected the passengers, ridding ourselves of it within a few hours, and not having a single recurrence of the disease in a passage of thirty-three days.

To prevent the outbreak of cholera in a place, the greatest vigilance is necessary in observing the strictest rules of quarantine by thoroughly disinfecting all persons and articles of clothing coming from an infected port. But, if the vigilance proves insufficient and the disease appears, it is the absolute duty of the attendant to immediately notify the local health authorities, and for them, in their official capacity, to destroy, as quickly as possible, by disinfection and fumigation, all the ejecta of the sick, carpets, furniture, bedding, and wearing apparel, that by any possible means could have become contaminated.

An excellent suggestion in this regard was made by our worthy President, Dr. William Detmold, to the president of the New York Health Commission during the epidemic of 1866—viz., to purchase, at the public expense, all the infected articles, such as blankets and clothing, of the poor, and immediately burn those not practicable to be purified fit for future use. Dr. Detmold thought that by this means the clothing and bedding of the poor would be destroyed when their owners were too poor to replace them, and that the danger of secreting infected articles would, in a great measure, be overcome.

Dr. F. H. Blaxall,* assistant surgeon, H. M. S. Caledonia, gives a very strong illustration of outbreaks of cholera in the vessels after visiting infected ports, the entire subsidence of the disease on going to sea, the recurrence after a second visit to the port, and, finally, the total cessation after again going to sea.

In the practical study of cholera, Great Britain and America have done more than other nations. Great Britain, with opportunities within her own possessions, at the fountain-head of all epidemics, and America on the opposite side of the globe, have been enabled to watch the limitations of the disease.

The literature of these two countries unfolds volumes rich in the results of careful observers, and, in most matters of sanitary reforms, can point with pride to many illustrious names.

In regard to a possible explanation of why epidemic cholera so often breaks out at the end of the first week of a sea voyage, Dr. William Detmold states that immigrants from Europe have, as a rule, been accustomed at home to change their under-clothing once a week, and, on the long sea voyages formerly made by sailing vessels, they continued the same practice; therefore, on the opening of bundles or trunks of clothing, they for the first time exposed to the air garments that might possibly have been infected before leaving port, and which contained the germs of the disease.

Epidemic Asiatic Cholera in New York.—A great desire to clinically study Asiatic cholera was amply gratified during the first weeks of my professional work in New York city during the epidemic of Asiatic cholera in the summer of 1866, when, having nothing else to do, I devoted my entire time to it, and was privileged to observe and care for a neighborhood in which the disease ran a course of great severity, proving fatal in one instance in a few hours from the time of apparent health, also, in another instance, showing the results of successful active treatment and recovery where collapse had lasted for nearly three days, and in a number of cases giving an opportunity to study the sequelæ where the patients were kept under observation for a number of subsequent years. The most important conclusions reached from a study of this epidemic were that:

* "Transactions of the London International Congress," vol. iv.

1. Asiatic cholera is due to some special *materies morbi* which alone can produce the disease.

2. That the poison may be conveyed by clothing containing the dried or fresh dejecta or vomited material.

3. That nearly all persons, infants and aged, are equally susceptible to its influence.

4. That the period of incubation is only of a few hours' duration—I think acting as rapidly as yeast acts upon dough.

5. That the sufferers are nearly always rendered absolutely helpless to care for themselves, and a very large proportion would die if left unassisted.

6. That active proper treatment will save the larger number of even the most severe cases.

7. That the violence of the disease generally expends itself within the first three days, and, after life has lasted longer, convalescence in nearly all may be expected if treated judiciously.

8. That convalescence is generally rapid.

9. That the mental depression so often noticed after an attack is generally due to the shock on recovery in discovering the death of a number of dear friends.

10. That the severity of the disease is in proportion to the rapidity with which the blood is deprived of its liquor sanguinis by the frequent vomitings and purgings, causing a tendency to capillary stasis, rendering the muscles dry and almost bloodless, directly producing the intensely painful cramps, and making the disease one of the most painful to be borne.

A severe attack of Asiatic cholera during pregnancy almost invariably destroys the fœtus *in utero*, but the woman may go to the end of the ninth month and then be delivered of a macerated but not decomposed child.

Great immunity was strikingly noticed among those observing the ordinary sanitary rules who were properly nourished and comfortably housed; and also that where such fortunate ones contracted the disease it usually assumed a milder type, and was in nearly every case amenable to efficient treatment; and, where the *materies morbi* was neutralized by having the dejecta disinfected, the plague was stayed.

In the summer during the epidemic of cholera in New York city in 1866 I wrote a letter to one of our sanitarians, and kept the following copy, which gave the results of observations during the time I had a number of cholera patients under my professional care.

The account of the epidemic as it occurred in the above-mentioned locality—which, from its very commencement to its termination, was closely watched by myself (being the attending physician)—appears to be additional evidence in regard to several of the many opinions advanced by scientific men, and which the writer deems it his duty to add to those already given to the profession. We well know that most of the great laws that have proved useful to us in the prevention and cure of disease have only been promulgated after a lapse of time, during which large numbers of accounts and statistics have been tabulated and analyzed, and from which we have in many cases been able to form a definite idea of those maladies which the physician is called upon to contend with.

The important facts gleaned from the following history are:

1. That the cause of cholera may attach itself to clothing, etc., and is portable.

2. That it appears that when the peculiar "*materies morbi*" causing this disease is not brought in actual contact with some ponderable substance capable of absorbing it, but allowed to float in the atmosphere, its deleterious effects are lost; consequently it is necessary for a person to come in contact with it before he can get cholera.

3. The exceedingly short space of time necessary as a period of incubation.

4. The beneficial effects derived by the use of artificial heat.

After a careful investigation, we have (I think) discovered the means of entrance of Asiatic cholera in the neighborhood of 440 West Fifty-second Street, which in the brief period of twelve days proved fatal in three cases, caused a large number to have the premonitory symptoms, and produced such consternation in that locality.

It appears that Peter Crow, the first person attacked, is a driver on the Tenth Avenue cars, and that, while in perfect health, at 4.30 P. M., Sunday, August 12th, he sat upon some baggage that had been placed on the front of the car by a party of five German immigrants who had just landed at Castle Garden. While sitting on their bundles of clothing, he states that he felt a peculiar chilly sensation, and that when he arrived at his home, seven hours afterward, at 11.30 P. M., he commenced to have nausea, vomiting, and purging, which were soon followed by severe and painful cramps. The usual household medicines were administered, but were vomited as they were given; his symptoms continued to assume a more alarming character until the following day, at 11 A. M., when I was sent for, and found him in the collapse stage; he had the peculiar Hippocratic countenance (anxious, livid, and slate-color, with contracted features, and deep, sunken eyes), his pulse was slow and feeble, his extremities were cold and purple, and he was covered with a profuse cold perspiration. The vomiting occurred at intervals of about fifteen minutes, and always preceded the cramps of both upper and lower extremities, which lasted about ten minutes, were very severe, and always followed by great prostration.

I immediately applied artificial heat, and gave the mixture of opium, chloroform, and capsicum. After two hours his body became warm, the capillary circulation was re-established, and he began to converse. I now commenced to give stimulants, carefully watched the circulation at the extremities, and, as he continually called for water (which was always vomited as soon as given), had small pieces of ice placed in his mouth. As he was then in a comparatively comfortable condition, he was left, with the instructions that, if any unfavorable change took place, I should be sent for.

About 4 P. M. he suddenly grew worse, I was sent for, and found that the medicines and all other liquids were vomited as soon as they were swallowed.

I remained with him for three hours, and am convinced that the excessive quantity of matter vomited greatly exceeded that taken into the stomach (by the mouth): during that time the vomit was colorless, resembling rice-water; the dejections were of the same consistency and of a pale brick-dust color, which is the characteristic color that I have found in the intestinal canal of four autopsies made within the past month, in company with Dr. J. Lewis Smith, of patients who have died while in the acute stage of the disease.

The house was now thoroughly disinfected by chlorine, the discharges were removed immediately after having been passed, small quantities of stimulants were given, and the remedies administered in the dry form: ℞ Pulv. opii, gr. xij; pulv. camph., gr. iij; misce, et in chart. xij divid. One to be given every

hour (oftener, if vomited). He was wrapped in warm blankets, and his room was well ventilated. The medicines were continued until the effects of the opium could be seen in the contracted pupils of the eyes, after which the powders were discontinued. After this the cramps and spasms occurred at intervals of about two hours, and gradually diminished in severity until the following 7 A. M., when he presented every aspect of a speedy recovery.

I may here state that, of five marked cases (all adults) that I had treated in the month of July by exactly the same method, all recovered.

On the fourth day of the illness of Peter Crow a general icteroid appearance showed itself, and he vomited a large quantity of bilious matter. The vomiting, becoming very frequent, caused great debility. Two-grain powders of oxalate of cerium whenever he felt approaching nausea; twelve powders were given, and, at the end of thirty-six hours, the vomiting ceased, since which he has rapidly convalesced.

At my first visit I had the children of this patient removed from the house, and cautioned those placed in charge of them of the absolute necessity of keeping them away on account of the great danger; but, unfortunately, my advice was several times neglected, and at 4.30 P. M., Saturday, August 18th, John, son of Peter, aged three years, came running to his mother from his playmates in the street, and, as she described it, before he reached her "he was black in the face." In less than fifteen minutes he had severe cramps, nausea, vomiting, and purging. I saw him at 7 P. M., and found him then in a collapse, and without any perceptible circulation at the distal portions of all four of his extremities. Energetic efforts were immediately resorted to to arouse him from that condition, which proved unsuccessful, and he died at 11.30 P. M.—just seven hours from the time that he was apparently well and at play with other children in the street.

Prophylactics were now eagerly sought for, even by those who, before this death, tried to appear skeptical as to the nature of the disease, and for some time not one could be found who would offer voluntarily any assistance, while before this death it was with the greatest difficulty that the sick-room could be kept free from the large number of visitors for a sufficient time to properly ventilate it—all of whom before had positively asserted, even to the undertaker, that the doctors were all wrong, as not a single case of cholera had appeared in the city. However, the remedies were now eagerly purchased, and the great difficulty was found to be in keeping them from taking too large and too frequent doses, as in several cases I saw, by the remaining quantities in the bottles, that enough had been taken by the skeptics to have lasted them a week.

The third person to be attacked was Catherine Crow, wife of Peter, who had been with him constantly since the first appearance of his symptoms. She was taken with nausea at 6.30 A. M., Sunday, August 19th, and in a short time had cramps and the characteristic painless discharge from the bowels (which the appearance of the premonitory symptoms in myself prevented me from examining). Her symptoms did not so rapidly assume so grave a character as did those of her husband, and it was not until the end of forty-eight hours that the cramps became severe. But in a short time she went into a collapse, from which condition she was relieved only after the most vigorous and prolonged efforts, wrapping in hot blankets, warm fomentations to epigastrium, friction, etc., after which stimulants and the prescribed remedies were given. She continued to improve

NINETEEN CASES OF ASIATIC CHOLERA, ALL TRACED TO THE ORIGINAL INFECTION OF PETER CROW, AND BY HIM SPREAD TO HIS RELATIVES AND NEIGHBORS, TREATED BY C. A. LEALE, M. D., DURING THE SUMMER OF 1866, IN NEW YORK CITY.

NAME.	Age.	Residence.	Date of attack.	Character of Attack.	Results.
1. Peter Crow	29	No. 426 W. 52d St.	Aug. 12.	Very severe painful cramps, frequent painless dejections, in collapse for three days.*	Perfect recovery after jaundice of two weeks' duration.
2. James Crow	60	" " " "	" 14.	Moderately severe cramps, diarrhœa, no collapse.	Perfect recovery.
3. Mrs. James Crow	58	" " " "	" 14.	Very severe cramps, diarrhœa, collapse.†	Never entirely recovered; died in about two years.
4. John Crow	3	" " " "	" 18.	Almost fatal collapse while at play, 6 P. M.; came running home seized with painful cramps.	Died in seven hours after first symptom.
5. Thomas Crow	5	" " " "	" 18.	Very severe collapse, cramps, and diarrhœa.	Died in two days, on 20th.
6. Christopher Jones	35	" 527 " "	" 18.	Mild attack, simultaneous with febrile intermittent tertian.	Perfect recovery.
7. Kate Crow	19	" " " "	" 19.	Very severe collapse.	Recovery.
8. Mrs. Bridget Crow Kearns	38	" " " "	" 19.	Very severe collapse.‡	Recovered from cholera, but died, grief, etc.; died 3 A. M., August 24th, exhaustion.
9. Mrs. Christopher Jones, nee Crow	26	" " " "	Sept. 1.	Profound collapse, severe cramps; could be heard screaming two hundred yards off.§	Death, Sept. 2, in 10 hours from first symptom.
10. Thomas Crow	35	" " " "	" 20.	Very severe.	Recovery.
11. Mary Crow Donohue	19	" " " "	" 8.	Very severe cramps and collapse, lasting three days.	Perfect recovery.
12. James Kearns	42	" " " "	Aug. 21.	Mild attack, cramps, collapse, and diarrhœa.	Perfect recovery.
13. Patrick Crow	54	" " " "		Painless diarrhœa, vomiting, cramps, no collapse.	Recovery.
14. Mrs. Thomas Dillon	52	" 519 " "		Very severe cramps, diarrhœa, collapse.	Incomplete recovery, and since died of sequelæ.
15. Mary Ann Crow	10	" 426 " "	" 27.	Painless diarrhœa, vomiting, cramps, collapse.	Recovery.
16. James Crow, Jr.	36	" 428 " "	" 27.	Painless diarrhœa, vomiting, cramps, no collapse.	"
17. Mrs. James Crow, Jr.	30	" " " "	" 27.	Painless diarrhœa, vomiting, cramps, no collapse.	"
18. Mary Seitz	14	" 426 " "	" 21.	Very severe cramps, collapse, and profuse diarrhœa.	Perfect recovery.
19. Margaret Crow (Pat's wife)	24	" " " "	" 19.	Very severe.	" "

* *Sequela*: Hepatitis.

† *Sequela*: Debilitas.

‡ *Sequela*: General typhoid symptoms, ulceration of glands of intestines.

§ Nothing was done; waiting for me; was absent on Blackwell's Island during autopsies of children who had died of cholera.

until the 21st, when all choleraic symptoms had abated, and she promised a speedy recovery. She had a clean tongue, warm skin, secretions were all very good, and was pronounced to be convalescent. Her eldest son, who had been attacked with the disease subsequently to herself, was now buried. This caused her to become very melancholy, and to refuse to take food (which, however, was given in the form of strong beef-tea by mouth and rectum). On the afternoon of the 21st most of the symptoms of typhus fever showed themselves (all excepting the eruption). She had the sighing respiration; skin slightly above the usual temperature; very slow, feeble pulse. The pupils were dilated to double their usual size, the conjunctivæ were very much injected, and she had the low, passive delirium (continually picking at the bed-clothes, etc.), from which condition it was difficult to arouse her, even for a sufficient time to swallow the nourishment placed in her mouth. Beef-tea and brandy were given every half hour. She gradually grew worse, and at 3 A. M. of the 24th died of asthenia.

Thomas, the eldest son of Peter and Catherine, aged six years, was the fourth to be taken with this awful disease, and whose first symptoms appeared at 6 A. M., Monday, August 20th. He almost immediately went into the collapsed stage, in which condition I found him about two hours and a half after. Every endeavor was made to rescue him, and at one time we partially succeeded, but all of our efforts and perseverance soon proved useless, as he died at 4 P. M., ten hours after the first premonitory symptoms, the vomiting, purging, and cramps having continued almost uninterruptedly until death.

Mrs. James Kearns, sister to Peter Crow, who "laid out" John, was taken with cramps, vomiting, and great pain in the epigastrium on the 19th. The cramps occurred in both upper and lower extremities. She had a livid countenance, and was bathed in a cold perspiration. Vigorous measures were immediately resorted to, and in three days she was able to sit up in bed.

On the morning of the 21st James Kearns, her husband, had the usual symptoms, but less severe. He is now convalescent. Five or six of those living in the same houses also had a few of the premonitory symptoms, which were soon checked.

An analysis of these nineteen cases shows that Peter Crow was in the enjoyment of good health up to the time he sat on the bundles of clothing belonging to these German emigrants, who had just left Castle Garden; that the offensive smell nauseated him; that he immediately began to feel sick at his stomach, and soon had profuse vomiting, and a copious, painless diarrhœa; that, within twenty-four hours from the time he came in contact with the infected clothing, he was in the profound collapse of the algid stage of cholera; that he was the first person in his neighborhood to have cholera, but that, within two days from the appearance of his first symptom, his father and mother were stricken with the disease.

That, six days after Peter's first symptoms, three other members of the family took the disease, and that two of these died after a few hours' sickness. That the epidemic continued to attack other members of the family, in varying degrees of intensity, until the 3d of September, when the disease exhausted itself in the immediate neighborhood, or was stamped out by sanitary measures. That all those who were early treated recovered, except the three, who were apparently overwhelmed by the violence of the poison during the first few hours.

That the dread of cholera is unnecessarily great. That it is wrong to wait for a physician for hours after the appearance of the first symptoms. That it is a disease, if properly treated, of short duration, and a large proportion of those affected recover.

That cholera greatly depresses the nervous system, rendering the convalescent very sensitive to the shocks of bad news, the heart's action is more feeble, and the brain for weeks left irritable from the results of the sudden prostration.

Tracing the Cause of the Epidemic of Asiatic Cholera in the Neighborhood of West Fifty-second Street.—The evidence was so strong of the portability of the cholera poison that I reported my account of it to the Health Department, as a danger of the travel on the street cars, where recently arrived immigrants, with bundles of infected clothing, were also passengers.

Not a death from cholera occurred, under my observation, where the patients' excretions did not come in direct contact with the earth. The residences of the Crows and Joneses were built on the top of a rock irregularly filled with earth, and just such a receptacle as was most admirably adapted to confirm the theory of Dr. Pettenkofer.

Proof of the Limitation or Short Existence of Epidemic Asiatic Cholera in America.—After the epidemic of Asiatic cholera in New York city had been checked, I accepted, for one year, 1866–'67, the appointment of District Visiting Physician, and had under my supervision all that part of the city situated between Forty-fifth Street and Eighty-sixth Street, Fifth Avenue and Hudson River, covering at least five square miles of territory, one mile of which was densely crowded by a most varied population; and, although in this district I had personally treated, the summer previous, nearly fifty cases, one patient with Asiatic cholera, at the corner of Fifty-second Street and Fifth Avenue, where Mr. William H. Vanderbilt's residence now stands, one case on Fifth Avenue near Fifty-eighth Street, one at Seventieth Street, on the old Bloomingdale Road, a few near the Hudson River banks, and a large number in West Fifty-second Street, yet, during the entire year following that I performed this duty, I neither saw nor heard of an instance of the reappearance of the disease.

Mountain Ranges are frequently Barriers to the Travels of Cholera.—Many illustrations in Asia, Europe, and America confirm this opinion, and the most remarkable to be found is

In a recent history of Chili * we are informed that the most fatal diseases are gastric, typhoid, and typhus fevers, and the next pulmonary complaints, dysentery, and syphilis; that the system of sewerage of Chili is generally bad, consisting of partially open channels passing through the houses, sometimes with running water, and at other times nearly dry. Intermittent fevers are unknown, and Asiatic cholera has not yet passed the Andes.

Why should Naples have suffered so terribly from the epidemic of Asiatic cholera during the summer of 1884, is a question to be answered by her sanitary officials. We who have visited that beautiful portion of southern Italy well know that Nature has been wonderfully bountiful in her gifts. Naples is on the shores of the charming bay of

* "Encyclopædia Britannica," 9th edition.

Naples, a safe harbor from the storms of the Mediterranean Sea, is situated on the slopes of two crescent heights, and nestled between them, with a broad base near the water, a place well adapted for natural and artificial drainage, with a climate in summer cooled by the breezes from the great sea. Beneath the city are many deposits of volcanic soil saturated with sulphur, through which numerous sulphur springs flow continuously. At the most excellent hotel, where I resided, the "*Hôtel Royal des Étrangers*," I was shown sulphur mineral waters, of great purity and excellence, bubbling up a few feet from the door.

It has often been stated that Asiatic cholera has been the means of promoting important sanitary reforms. London and New York can bear testimony to this. The King and Queen of Italy have greatly endeared themselves to their people by their faithful attentions during the past epidemic. Now may we hope that they may complete their labors, and give Naples a good system of sewers and an abundant water supply, keep the lower part of the city in a sanitary condition, and they not only will benefit and elevate their people, but they will so enhance the desirability of Naples as a place of summer resort that, within a few years, I predict it will become the most fashionable summer residence, and the favorite place in southern Italy as a sea-side resort.

The ancient Romans well knew the advantages of the charming bay of Naples in locating their gay summer villas at Pompeii and Herculaneum; and now, over seventeen hundred years after their destruction, in walking through their well-paved streets and examining the remains of their beautiful houses, we readily see how, in the enjoyment of life, the abundant water supply, and numerous baths, the ancient Romans clustered around them all the comforts of life, and, by their Temple of Venus, theatres, and numerous private gardens and paintings, believed in cheerfulness and bodily cleanliness, if not in godliness.

(*To be continued.*)

DISLOCATION OF THE HEAD OF THE RADIUS DOWNWARD (BY ELONGATION).

By Dr. G. POINSOT.

With Comments by Dr. Frank H. Hamilton.

The French edition of my "Treatise on Fractures and Dislocations" contains a note on the above subject by the editor, Dr. G. Poinsot, of Bordeaux. In my last (7th) American edition I have referred to this note, and stated briefly my opinion as to the correctness of Poinsot's conclusions that this ought to be regarded as a separate and distinct variety of dislocations; and, while I see no occasion to change my opinions as there expressed, I am persuaded that the arguments and conclusions made by M. Poinsot are entitled to more space than I have given to them, and, to say the least, they show a careful study of the subject on the part of the writer, and they will doubtless interest a large proportion of your readers. At my request, therefore, Dr. Lucien Damainville, of this city, has carefully translated the entire note, which is as follows:

"§ IV.—*Dislocations of the Head of the Radius downward (by Elongation).*

"This displacement, peculiar to childhood and which results from violent traction having been made upon the forearm, has been described by Malgaigne, Denucé, and most surgical authors when speaking of the dislocations forward and backward as being a partial variety of one of those. For several reasons, however, it has seemed to us preferable to devote to it a separate paragraph; if, in many of those dislocations of infancy, the head of the radius is found either forward or, much more rarely, backward, it is nevertheless true, as we shall see presently, that in all cases the mechanism of the primitive displacement is the same; the cause by which the bone is kept in its abnormal situation is identical; in all cases the traumatism is due to a violence of the same order. The analogy is as great regarding the symptoms and the prognosis. So alike between them, whatever the direction of the displacement may be, these dislocations in children differ absolutely from the partial dislocations in the adult; the former are entirely of a benign character, and their reduction is often spontaneous; the latter, on the contrary, are apt to be irreducible, or they always necessitate certain efforts for reduction. In the first case, after the displacement is once reduced, the child is apt to use his arm as well as before, and no precaution is needed to prevent the dislocation from being reproduced; in the second case, it is often very difficult to keep the parts in place, and the patient is always obliged to wear an apparatus for a certain length of time. Therefore, the authors mentioned above have been obliged to divide partial dislocations into dislocations in adults and dislocations in children, and, again, when coming to dislocations backward, such as are observed in the latter, in order to avoid repetition, they had to refer the reader back to what they had said when speaking of analogous displacements forward. Those reasons seem to us amply sufficient to justify the classification which we have adopted.

"*Causes and Mechanism.*—The dislocation downward has been most frequently observed in children two or three years of age; after six years it becomes exceptional. Bourguet, however, met with an example of it in a child thirteen and a half years old.* Again, Dugès has met with it in a newly born infant,† and Malgaigne in children still nursing.

At all events, certain subjects seem predisposed to this accident; thus, in two cases, Perrin has seen the displacement take place in both forearms simultaneously or successively with a persistent tendency to its recurrence.‡

"The immediate cause, noted in the immense majority of cases, is a traction, *with or without torsion*, made upon the hand or forearm, such as in the act of lifting a child to make him pass over an obstacle or to prevent him from falling, or in trying to force his hand through a sleeve that is too narrow. Rendu# and Descamps‖ have observed the dislocation downward in children who had been made to jump as an amusement while being held by the hands.

"The mechanism of these dislocations in children has been variously understood by authors. Fournier and, with him, Duverney, Jr., had admitted an elongation of the radius by stretching of the ligaments; but, being devoid of any anatomical proof, this theory was forgotten before long. The articular displacement being most often very difficult to establish, it was pre-

* Bourguet, d'Aix, "Revue médico-chirurgicale," t. xv, 1854, p. 288.

† Dugès, "Journal hebdomadaire de médecine," 1831, t. iv, p. 197.

‡ Perrin, "Journal de chirurgie" de Malgaigne, t. 1, p. 136; "Revue médico-chirurgicale," t. v, p. 146.

Rendu, "Gazette médicale de Paris," 1841, p. 301.

‖ Descamps, "Luxation incomplète des enfants," th. de Paris, 1876.

ferred to deny its existence. Gardner* and Rendu maintained that the characteristic difficulty in movements of the forearm was due to a hooking of the bicipital tuberosity by the external border of the ulna, and Bourguet, in addition to that, supposes that there are muscular fibers of the supinator brevis interposed between the two bones. The editor of the "Medico-chirurgical Review" has thought of an epiphyseal separation.† Goyrand, observing that the inter-osseous space was too large to allow the hooking of the tuberosity of the radius, admitted at first that the head of that bone was displaced forward by the biceps, and was fixed in that position, against the inferior extremity of the humerus, by the contraction of the other muscles; but, later on, he abandoned this first opinion and denied that the radius had any participation in the traumatism in question, seeing in the latter only a subluxation of the inter-articular cartilage of the wrist upon the inferior extremity of the ulna.‡ Perrin finally came back to the idea, already enunciated by Duverney, of a displacement downward, and, in order to explain its persistency, he supposed that the edge of the radial cup was pressing against the condyle. Each one of those theories was liable to palpable objections; we have seen Goyrand criticise very justly the theory of hooking; the one in which muscular contraction intervenes in order to pull and fix the radius forward implies a flexion of the forearm and especially a muscular rigidity which are far from being constant. The localization of lesions at the elbow can not be disputed; as to the epiphyseal separation, it has yet to be confirmed, not only anatomically, but also clinically. Finally, the mode of displacement admitted by Perrin would necessarily require a lowering of the radius to the extent of eight or nine millimetres, which would consequently be very difficult to discover, since it is often impossible to establish the least change of relations between the bones.

"Thus stood the question when M. Pingaud, resuming some experiments formerly made by Streubel, threw an entirely new light upon it.

"Streubel, while regarding the partial displacement of the radius forward as the characteristic anatomo-pathological feature of the dislocation of childhood, and while considering the movement of torsion of the forearm as the principal factor in the production of this accident, had noticed that the fixedness of the bone in its abnormal position was due to the interposition of a portion of the capsule and of the annular ligament.* The results of M. Pingaud's experiments were also to demonstrate beyond doubt interposition of the capsule, while establishing, contrary to Streubel, that the displacement of the radius downward, its elongation, to use Duverney's expression, constitute the primitive displacement.

"'If,' says M. Pingaud, 'we examine what is going on toward the humero-radial articulation, when the wrist and the hand of the little cadaver are carried into a state of forced adduction, so as to pull the radius from below, a noticeable separation is seen to take place over the articular interline, and the atmospheric pressure drives and depresses the integuments toward the interior of the articulation. So soon as the traction is abandoned, the radius reascends and resumes its place. In this manner the radius may be made to move back and forth in a parallel direction to the ulna and without any great effort.

"'If the traction is suddenly carried somewhat farther, a slight click is heard, and then the following facts are witnessed: 1. The moment traction is abandoned, the radius does not go up so easily nor so high as it did previously, and a line of depression, perfectly appreciable to the eye and to the finger, is seen to separate its head from the articular condyle. 2. The head, however, is in its place under the condyle, inasmuch as it does not project abnormally either forward, backward, or outward. 3. The movements of rotation of the hand, especially that of supination, are not so free as before; in a word, there is *somewhere* a slight but perfectly appreciable obstacle to the regular performance of those movements. 4. Finally, these movements of rotation cause a slight displacement of the head of the radius in front of the condyle when pronation is slightly forced.

"'If the parts be dissected, they are found in the following condition: No tearing of muscle or ligament can be perceived at the humero-radial articulation, but there is seen a small segment of the radial cup completely uncovered by the annular ligament, which has moved upward only in front. It is evident that the narrow fibrous ring which, in a physiological condition, terminates the annular ligament below and surrounds the neck of the radius, has, owing to its elasticity during youth, been gradually stretched by the lowering of the head of the bone, and that it has gradually slipped above it, at the point only where it is not adherent to the deep surface of the muscles covering it, and where the bony cylinder representing the head of the radius offers so little prominence in the child as to be reduced, so to speak, to a simple border.'

"If, then, the forearm be placed in a state of pronation, a larger portion of the radial cup is seen to emerge from below the annular ligament, and to such an extent that, at the extreme, it might be entirely disengaged from under it, and the head of the radius might be entirely dislocated forward; but the latter displacement is always secondary, and the first stage of the accident now under our consideration consists in the displacement of the head downward.* Such is, therefore, the mechanism of the subluxation in all the rather numerous cases where the head is found slightly displaced forward; but it could not be applied to the cases where an opposite displacement is observed—viz.: that of the head backward. M. Pingaud has remained almost silent on this latter point, but an experiment of Streubel will help us to solve the difficulty; indeed, Streubel remarked that, if a sudden movement of extension and supination be applied to the forearm of a young subject, the head of the radius is plainly felt being displaced backward. If the same experiment be repeated after having removed the skin and the muscles covering the articulation, the posterior portion of the capsule and of the annular ligament may be seen to be highly distended, while at the same time a depression of more or less depth is produced at the anterior portion, the atmospheric pressure determining at that point the interposition of the corresponding portion of the capsule. Here, again, a primitive displacement downward is necessary to allow the separation of the bones and the interposition of the ligaments, the movement of supination intervening only to determine the direction of the secondary antero-posterior displacement.

"To sum up regarding the partial dislocation in children: 1. The primitive displacement, resulting always from a traction applied in the direction of the axis of the radius, consists essentially in a lowering of that bone which allows the interposition of the capsule and of the annular ligament. 2. The movement of torsion of the forearm has influence only upon the secondary displacement, in order to determine its direction antero-posteriorly.

"*Symptoms.*—At the time of the accident, the person holding the child by the hand can generally perceive a cracking in

* Gardner, "Gaz. méd. de Paris," 1857, 21 Oct., p. 664.

† "Medico-chirurgical Review," 1859.

‡ Goyrand, "Annales de la chirurgie," 1842, t. v, p. 129.

" Streubel, "Prager Vierteljahrsschrift," 1850, Bd. i u. ii.

* Pingaud, art. "Coude," in "Dict. encyclopédique des sci. méd.," 1re série, t. xxi, p. 581.

the joint. At the same time, the child experiences in the elbow a very sharp pain, which he manifests by his cries, and the limb is seen to be powerless; it falls inert, generally flexed one quarter, and in a position midway between pronation and half-pronation. In a few exceptional cases, however, almost complete extension and supination of the forearm have been met with. The deformity is ordinarily very slight; Bourguet had called attention to an increase of the antero-posterior diameter of the elbow which has not been confirmed by the other observers. It is pretty rare, notwithstanding Malgaigne's statement, to see a prominence of the head of the radius in front; the prominence behind is scarcely ever observed.

"The symptoms of the partial dislocation in children are, as may be seen, pretty vague; those that may be considered as characteristic are the inertia of the limb and the impossibility to give the forearm the necessary movement of torsion in order to bring it back in the opposite position to that in which it is found (movement of supination if, as is generally the case, the forearm is found in pronation, and *vice versa*).

"*Prognosis.*—Left to itself, that dislocation gets well almost always, and often there is no time even to consult the surgeon. My brother, then two years and a half old, experienced an accident of this kind; he had been made to jump over a gutter by being lifted by the hand. Before the family physician could arrive, the displacement was reduced by means of a few frictions applied at the bend of the elbow, and, probably, also of a few attempts at extension of the forearm; the symptoms disappearing at once. Nevertheless, that spontaneous reduction may be tardy, and it is better to act without delay.

"*Treatment.*—The different modes of reduction indicated in the case of complete dislocations are applicable in this instance. Generally, when the forearm is in a state of pronation, it is sufficient, during extension, to bring back by force the limb into supination, and then to flex it suddenly. If the forearm is in a state of supination, it will be necessary, after having exaggerated the extenson, to put the limb in pronation, but without flexing it.

"In case some displacement of the radius should be noticed, it would be well to add to these manœuvres a certain amount of pressure upon the head of the radius in the direction of the condyle of the humerus."*

One who reads carefully the foregoing note of Poinsot will see that he has left me no occasion to review critically the opinions of several of the writers who have attempted to explain the mechanism of this accident. Poinsot has discussed and rejected, as either improbable or unproved, the theories of Fournier, Duverney, Jr., Gardner, Rendu, Bourguet, the editor of the "Medico-chirurgical Review," Goyrand, and Perrin; and in these conclusions of the distinguished writer I concur.

Poinsot has, however, accepted of the theory offered by Pingaud as a satisfactory explanation of those cases in which, at an early period of life, there is a subluxation forward occasioned by pulling, or by lifting the body by the arms; and he accepts as, perhaps, only a little less satisfactory the explanation offered by Streubel of the subluxation backward which is occasionally observed.

So far as the anterior subluxation is concerned, I think the explanation offered by Pingaud is exceedingly ingenious and plausible, and that it only needs some additional corroborative experimental testimony on the part of other surgeons to establish its absolute accuracy; but I confess that I entertain some doubts whether further experiments will not show that it is not the true explanation of *all* cases belonging to this special class of accidents; and whether, indeed, it will not be found to be the exception rather than the rule. I shall be disappointed if further experiments do not show that in most of these cases there is nothing different from a subluxation as it occurs in other joints—namely, a stretching or partial rupture of the capsule, or of the ligaments, which, in certain positions of the radius, allow the head to become partially displaced. If this is shown to be the fact, then the displacement of the annular ligament observed by Pingaud must only be regarded as a complication; the same as when, in a dislocation at the humero-scapular articulation, the long head of the biceps or the untorn capsule presents itself in such a situation as to prevent the reduction, unless the surgeon resorts to certain manœuvres of position and rotation. The fact that it may perhaps be found hereafter to be only a complication seems to me a sufficient reason why, in my last edition, I have not adopted Poinsot's suggestion, and given to all those accidents occurring under the circumstances described a separate classification, under the title of "dislocation downward."

Another difficulty in the way of Pingaud's theory of mechanism as applied to the accidents in childhood caused by lifting is, that it only applies to the forward dislocations, leaving the backward dislocations unexplained. Poinsot saw this defect, but found in the theory of Streubel an explanation which seemed to him to supplement the theory of Pingaud, and to render complete his own theory that, in all of these cases, the primary accident was an elongation of the capsule, and the displacement a secondary accident, while the maintenance of the bone in its abnormal position was due to interposition either of the ligament or of the capsule; but the theory of Streubel, like that of Pingaud, needs further evidence to be considered established. No doubt there is in most or all of these cases a stretching of the capsule, and perhaps the dislocation is most often secondary, or takes place immediately following the stretching or elongation of the capsule, in consequence of the greater freedom of motion which is allowed to the head; beyond this the theories accepted by Poinsot are less satisfactory, and will have to be subjected to further experimental observation and study.

While we are waiting for the more complete solution of the mechanism of this accident, I would like to add one more to the possible explanations. It seems to me not altogether improbable that a certain proportion of these accidents are not dislocations at all, but only examples of temporary injury done to the musculo-spiral nerve, which nerve, as it emerges from beneath the triceps and passes in front of the elbow between the supinator longus and the brachialis anticus, would seem to be peculiarly exposed to strain when the forearm is in a position of extreme extension, as it is when the child is lifted by the hand; but, in early childhood, the forearm is capable of being carried backward

* Traité pratique des luxations, par Fr. H. Hamilton, Chirurg. etc. Traduit par G. Poinsot, Prof. agrégé à la Faculté de Méd. de Bordeaux, Chirurg. des Hôpitaux." Paris, Baillière et Fils, 1864, pp. 595–599.

considerably beyond the line of the axis of the arm and forearm, into a position of slight dorsal flexion, and in this position the musculo-spiral nerve would be especially subject to strain.

Of course, this explanation would not apply to those cases in which the head of the radius is recognized as being in an abnormal position, or in which the surgeon found it impossible or difficult to flex or rotate the arm; but only to those cases in which the accident, being accompanied with a sharp pain at the moment of its occurrence, presented no projection of the head of the radius in either direction, and in which the surgeon could perform all the usual motions of flexion and rotation, but the patient could not voluntarily perform these motions, and in which these symptoms disappeared without any surgical interference in a short space of time. Such examples are not very infrequent, but hitherto they have been regarded as partial dislocations which have undergone a spontaneous or accidental reduction.

REPORT OF A CASE OF COMPOUND DISLOCATION OF THE RADIUS AND ULNA, WITH RUPTURE OF THE BRACHIAL ARTERY.

By CHARLES A. POWERS, M. D.,
LATE HOUSE SURGEON TO THE CHAMBERS STREET HOSPITAL.

C. T., aged forty-nine years, married, a native of the United States, a canal-boatman, was brought to the Chambers Street Hospital in an ambulance at 10.17 A. M., June 17, 1884, with the following history: About half an hour previously he had fallen headlong some fifteen feet, the entire weight of the body being received upon the extended palm of the left hand; there was at once profuse arterial hæmorrhage from the region of the left elbow anteriorly, which was promptly checked by tightly tying a handkerchief about the arm.

On admission, the patient was conscious, face pale, lips blanched, surface cool, muscles relaxed, pulse on uninjured side 84 and of good strength, respiration and temperature normal. He was unable to move the left forearm and hand, there was semi-anæsthesia of these parts, and the temperature was considerably lower than on the opposite side; there was no pulsation in the radial or ulnar artery of the left side.

Examination revealed a lacerated wound over the anterior aspect of the lower extremity of the left humerus, commencing without at a point two centimetres above the external condyle, and extending downward and inward ten centimetres to a point one centimetre above the internal condyle; through this wound protruded the lower articular extremity of the humerus. The synovial membrane was torn entirely across anteriorly, the external and internal ligaments of the elbow ruptured, the radius and ulna dislocated backward and outward, the brachialis anticus muscle ruptured opposite the articulation, and the brachial artery ruptured about four centimetres above its bifurcation, the upper end being occluded by a clot, and lying loosely in the wound. The median nerve passed across the trochlear surface of the humerus, and was somewhat contused; the tendon of the biceps could be felt behind the external condyle, and was still attached to the tuberosity of the radius.

The wound was continuously irrigated with a solution of the bichloride of mercury, one part in one thousand, a firm catgut ligature placed upon the upper end of the brachial artery, and the dislocation of the radius and ulna easily reduced by over-extension, traction, and flexion.

The upper end of the lower fragment of the artery had retracted so much that it could not be found without dissection, and was not sought, as there was no hæmorrhage from it.

Catgut ligatures were applied to all bleeding points, the forearm placed at an angle of 90° with the arm, the wound loosely packed with iodoformed gauze for drainage, and a large dressing of peat and borated cotton applied from the shoulder to the wrist, with a posterior right-angled splint of felt.

At 4 P. M. he was without pain, and perfectly comfortable, sensation and motion in hand and fingers apparently normal, no appreciable difference in the temperature of the hands, both of which were warm. A light diet was ordered, and the patient advised to lie quietly in bed, the arm being comfortably supported by pillows.

At 6 P. M., temperature 99·4°, respiration 18, pulse 94. June 18th, A. M., temperature 100°, respiration 18, pulse 100. The patient slept well during the night, experiencing no pain or discomfort. P. M., temperature 98·6°, respiration 18, pulse 100; condition, both local and general, in every way good.

During the six succeeding days the temperature was at all times normal, except on the evening of the fourth day, when, without apparent cause, it rose to 101°, but, as there were no other local or general symptoms, the dressing at elbow was not removed, and the following morning the temperature was again at normal. The pulse ran from 90 to 100, the appetite was good, the bowels regular; there was at no time œdema of hand, or any local pain or discomfort; sensation and motion of fingers were at all times perfect.

June 24th, seven days after the accident, the dressing was removed under strict antiseptic precautions. There was a moderate discharge of healthy pus, the wound had been well drained, there being no pocketing; its bottom showed healthy granulations, the edges were of good color, and there were nowhere evidences of inflammation.

The forearm was flexed to an angle of 75°, the wound dressed, as before, with iodoformed gauze, peat, and borated cotton, and a light plaster-of-Paris splint applied over all from the wrist to the shoulder. During this, as well as all subsequent dressings, the wound was continuously irrigated with a solution of the bichloride of mercury, one part in one thousand. Patient now allowed to be up and about the ward, with arm supported by a sling.

The wound was again dressed on July 3d and 11th, respectively the sixteenth and twenty-fourth days after the accident, the discharge being of a healthy character and the granulations gradually approaching the surface. The edges had so contracted that on the latter date it was about 4·5 centimetres long by 1·5 centimetre at its widest part. The forearm was at each time fixed at a somewhat different angle, and at the fourth dressing a fenestra was left in the splint, and the wound afterward dressed daily with the balsam of Peru.

July 16th, twenty-nine days after receipt of injury, there was simply a healthy granulating ulcer, two centimetres by one centimetre at site of wound. There was moderate power of pronation and supination of forearm, and it could be flexed from an angle of 95° to one of 70°. The use of the splint was now discontinued, and passive motion carefully made morning and evening.

Six days later he was allowed to go home, with instructions to return daily for treatment. Under the passive motions the forearm rapidly resumed its ordinary movements, so that, on August 7th, forty-nine days after his admission, he could himself completely flex and almost completely extend it.

Pronation and supination were perfect, and, the ulcers having entirely closed, he resumed, against advice, his usual duties on the canal-boat, which consisted almost entirely in lifting heavy goods.

I saw him last on October 20th, and at that time all motions of the forearm were perfect, and there was a faint pulse in the radial artery. He told me that his arm was in every way as good as before the accident, and it had certainly been subjected to severe tests.

In this case the elbow joint was the seat of a severe injury. Not only was the joint thoroughly opened and all its attachments torn, but the main artery of the limb was occluded. Yet, with rigid antisepsis, careful attention to position, and the early employment of passive motion, a perfect result was reached in a period scarcely longer than that required in simple non-complicated dislocations.

A CASE OF VARICOCELE,

WITH SLIGHT VARICOSITY OF THE SPERMATIC VEINS, BUT GREAT ENLARGEMENT OF THE SCROTAL VEINS AND REDUNDANCY OF THE SCROTUM.

Removal of the excessive portion of scrotum, including the entire mass of enlarged scrotal veins, followed by perfect cure.

By MORRIS H. HENRY, M. A., M. D., LL. D.,

late surgeon-in-chief, new york state emigrant hospitals; fellow new york academy of medicine.

The value of clinical contributions is not in a repetition of reports of well-known and established clinical facts, but in the observation and record of rare forms of diseases and suggestions that aid in the diagnosis and successful treatment of the same. Any deviation from the ordinary course or courses of surgical diseases must be of especial interest to the surgeon; additionally so when occurring in a class of cases that are not of uncommon occurrence. They serve to modify or sustain impressions of the pathology of the disease, and of the best methods for surgical interference.

Case.—M. H., twenty-eight years of age. Born in Ireland. Laborer; unmarried; five feet nine inches in height; robust; weight about one hundred and seventy pounds. Has slight varicosity of the left spermatic veins, enormous enlargement of the scrotal veins, principally along the lower third of the scrotum; great redundancy of the scrotum, extending seven inches below what would be regarded as the normal length. He complains of dragging pain in the right and left inguinal regions, and along the inner course of the thighs; distress after being a short time on his feet; annoyance when crossing his legs, and, in fact, the ordinary bad features of the disease. Added to these, the distress of a suspensory bandage pressing directly against the most dependent portion of the scrotum in immediate contact with the largest knot of enlarged scrotal veins.

May 11, 1884.—Under the influence of ether, administered by Dr. Pryor, and in the presence of several surgeons, I removed the whole of the excessive or redundant portion of scrotum, including the mass of enlarged scrotal veins. The upper or main trunks of the veins were small compared with those removed with the scrotum.

After applying my clamp, which embraced all I desired to remove, I passed four black-silk ligatures through the parts under the clamp, excised the redundant portion, removed the clamp, washed the parts with a weak solution of the bichloride of mercury, and then closed the wound with catgut sutures. The object in passing the black-silk ligatures through the edges of the wound previous to the removal of the clamp was done to retain control of the reduced and contracting scrotum, thus avoiding, to a great extent, exposure and handling of the glands, and to serve as additional and distinctive means of retaining the cut edges together should the catgut ligatures be absorbed or give way before union could take place.

I deviated in this case from my usual plan—that of passing pins through the scrotum to secure the edges previous to the removal of the clamp—because I was forced to cut through some few vessels that I preferred to tie rather than leave to the acupressure effect of the pins. These were, of course, the large veins of the scrotum not met with in the common or ordinary cases of varicocele. I therefore merely changed my ordinary plan of treating this wound to meet the change or deviation from the common forms of this disease.

The wound did well; while it did not unite, along its whole course, by first intention, the surfaces remaining to heal by granulation were so slight that the patient felt no inconvenience whatever when the wound was dressed—one part of iodoform to four parts of oxide-of-zinc ointment, applied morning and evening, and secured by perineal bandage—to leave his room on the seventh day and attend to his business. In the course of the following week the wound improved daily, and in ten days from the time he left his room it had entirely healed.

December 27, 1884.—I examined the patient this day, and the result of the operation is all that is claimed in its favor.

This case is one of exceptional interest. In the examination of several hundred cases of varicocele, I have never met with one like it. The special features are: its existence in a man twenty-eight years of age—the disease of not more than two or three years' origin—and the man of robust, fine physique—an athlete, and accustomed to daily hard work. He is a temperate man, has never contracted any venereal disease, nor indulged in any venereal excesses. There is no evidence whatever of any enlargement of the veins along the course of the thighs or legs, or in or about the rectum.

581 Fifth Avenue, New York.

A CASE OF OUTWARD DISLOCATION OF THE TIBIA.

By R. B. JESSUP, Jr., M. D.,

late house surgeon to the chambers street hospital.

Louis Correard, aged fifty, was brought to the Chambers Street Hospital, May 12, 1884, a few minutes after having sustained an injury to the left knee, during a scuffle with another man. They both fell in such a way as to bring the entire weight of his opponent upon the inner aspect of his leg as he was falling.

On examination, the left leg was immovably fixed in a flexed attitude, a little beyond a right angle. The articular surface of the tibia was displaced directly outward from the posterior surface of the condyles of the femur, and was rotated in an outward direction. This exposed the internal condyle and the groove between the condyles. The patella was directly over the outer surface of the external condyle. The tibia was in contact, by its inner tuberosity, with the external condyle of the femur. There was no great swelling, but the skin was tense and red over the inner condyle.

An attempt at reduction without ether failed. Ether was administered, and the thigh firmly held by an assistant. The leg was first forcibly flexed, the right hand of the operator firmly grasping the tuberosities of the tibia from the lower side, the left hand grasping the leg at its middle. While forcible flexion was being made, traction was made in the line of axis of

the femur, at the same time the thumb of the right hand pushed the patella inward, and the leg was extended by the left hand.

Considerable difficulty was experienced in the reduction, even under ether, which was due to the peculiar position of the patella, the parts almost falling into place as soon as it was pushed inward from off the external surface of the outer condyle. The internal lateral ligament was found to be ruptured, and, in all probability, the crucial, but the external lateral ligament was intact, having been saved by the outward rotation of the tibia, which took place at the time of the accident. A Volkmann's posterior splint, heavily padded with cotton, was applied, and bandaged from the foot. The patient came out well from ether.

On the next day there was some effusion into and around the joint, the skin was red over internal condyle, and circulation in limb good.

May 17th.—The limb was put into a plaster dressing from the ankle to the hip.

20th.—Plaster splint cut open down the front and about one inch taken out along its entire length, after which it was reapplied.

June 2d.—Patient allowed to be up on crutches with plaster still on. Passive motion begun.

24th.—A posterior splint from middle of leg to middle of thigh substituted for plaster. Patient walks without support. He can flex leg from full extension through about 20°.

28th.—Sent home to report in two days. Circumference of right knee 13¾ inches; of left knee, 14¼ inches.

30th.—Walks with posterior splint still, which has been shortened. Can flex leg through arc of about 55°.

October 1st.—Patient wears rubber bandage about the knee. There is some lateral weakness, but he walks and works without inconvenience.



Dislocations of the knee are considered by all authorities as the rarest of those of any joint, owing to the strong ligamentous and muscular support with which it is supplied. They all prognose a great danger of ankylosis, and say that the joint will remain weak, stiff, or insecure for a long time. The case we are considering is interesting in several peculiarities it presents. It approaches what Agnew has described as the external rotatory dislocation. It is peculiar in that the external lateral ligament was not ruptured, and, also, in the position of the dislocated patella, which prevented reduction until it was first reduced. It may be considered exceptional to acquire so free movement in so limited a time; and, while the joint must still be looked upon as, in a degree, insecure, yet it is one which affords free locomotion without aid or inconvenience, and which, we have reason to believe, will become stronger and stronger with use.

Correspondence.

LETTER FROM WASHINGTON.

The Importation of Rags.—The Bill for a New National Board of Health.—A Bill to provide Anatomical Material.—Dr. Bailhache.

WASHINGTON, *December 22, 1884.*

THE vexed question of the importation of old rags has to-day received its final quietus by the issue of a circular from Secretary McCulloch providing that hereafter all old rags shall undergo disinfection before being admitted to entry in this country. The circular was prepared some time since by the chief of the Marine-Hospital Service and the Customs Division of the Treasury Department. It was then submitted to the Committee on Federal Legislation of the Health Conference in session here last week, and finally to the rag importers and paper manufacturers of New York and Boston, and by all parties finally agreed to, with a few verbal changes. At first it was thought that the restriction ought to apply only to rags shipped from infected ports, but the fact that small-pox existed in many foreign ports, a large number of cases being reported in the London hospitals, made it evident that no positive statement could be given that would guarantee the absence of contagious diseases at the port of shipment. It was therefore decided to order the disinfection of all old rags, without regard to the place of shipment or of original collection.

The Public Health Committee of the House have not yet considered the new health bill introduced by Mr. Beach, and it is rumored that it will meet with opposition by the friends of the old National Board.

Dr. A. F. A. King, of the Columbian University, has had a hearing before the District Committee of the House on the bill to legalize the dissection of unclaimed bodies from the almshouse and prison. It is understood that the bill will be favorably reported and its early passage urged.

Dr. P. H. Bailhache, of the Marine-Hospital Service, who has been stationed here since 1879, has been ordered to Philadelphia. During the late war he was a brigade surgeon in Sherman's army, and was taken prisoner and carried South, where with other officers he was kept a long time awaiting exchange. After the war he entered the Marine-Hospital Service, and was stationed at Louisville and Baltimore. He was detailed to represent the Treasury Department at the meetings of the National Board of Health, and is at present an honorary member of that organization. He has many friends in this city who wish him success in his new station.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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NEW YORK, SATURDAY, JANUARY 3, 1885.

OVER-TREATMENT IN FEVER.

Professor Nothnagel has recently called attention to the general error which prevails among physicians of regarding fever as a disease *per se*, which is to be treated by any and every remedy that is supposed to influence it. We lately quoted a few sentences from his forcible address before the Society of Physicians of Vienna, and from them our readers may have obtained an idea of its general purport. Although his remarks were evidently intended strictly for his own countrymen, they will apply equally well to his American *confrères*. The high authority of the speaker and the practical wisdom displayed in his remarks can not but win for them the serious consideration of the profession. Nothing can be truer than that Liebermeister's teachings with regard to the antipyretic treatment of fever have made a profound and lasting impression, but it is also undeniable that his method has become more a matter of routine than a judicious application of principles. Professor Nothnagel justly complains that "the employment of quinine has become a reflex phenomenon." In this concise phrase he expresses volumes. We have frequently known the thermometer to prove a stumbling-block, rather than an aid, even to highly intelligent practitioners. Such is the alarm occasioned in most minds by a sudden elevation of temperature that many a man's peace of mind is disturbed when the index registers 101° F., and he cudgels his brains to find an explanation of the phenomenon. This applies particularly to the younger members of the profession, whose thermometers cause them no little anxiety if not positive unhappiness.

The distinguished German teacher calls attention to the important fact that fever is often to be regarded as a salutary condition, in fact one of nature's regulative processes. Moreover, it is not probable that acute febrile diseases are ever shortened by simply diminishing the temperature. The irregular and indiscriminate use of quinine is not only useless, but even injurious, in certain states where as yet the only symptom present is a heightened temperature.

It would be a great mistake to infer that Nothnagel's ideas would, if generally adopted, tend to weaken our confidence in medical thermometry. He is too scientific a physician to encourage any such loose notion as that. He only insists upon the exercise of greater judgment in the use of antipyretic remedies and a more general resort, in the absence of positive indications, to that "expectant" treatment which is so judiciously and happily practised in his own wards. Such teaching as this is to be regarded as cosmopolitan in its application.

MINOR PARAGRAPHS.

THE CHICAGO CASES OF ACTINOMYCOSIS.

Dr. Murphy's cases of "lumpy jaw" in the human subject, an account of which will be found in the summary which we publish in this issue of the proceedings of the Chicago Medical Society, are remarkable in some respects. From the testimony that was brought out at the meeting, their genuineness seems to us beyond question. In view of the fact that they are the first well-authenticated instances of the occurrence of the disease in man that have been observed in this country, it is a strange coincidence that they both fell under the same gentleman's notice, especially as the histories of the two patients appear to show that they could not have arisen from a common source of contagion. In the light of these cases, it will be the part of wisdom to look upon every case of apparent alveolar abscess as calling for careful investigation.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 30, 1884:

DISEASES.	Week ending Dec. 23.		Week ending Dec. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	19	5	9	4
Scarlet Fever	92	20	74	16
Cerebro-spinal meningitis	6	7	5	2
Measles	103	23	130	20
Diphtheria	62	28	51	35

A Defect in our Ambulance Service, admirable as it is in its general features, seems to consist in an insufficient number of vehicles. It was in great measure owing to this deficiency that a gentleman who lately met with a serious injury downtown—one that shortly proved fatal—was very much delayed in reaching his home. In part, however, the delay was due to his detention, from the best of motives, at the Chambers Street and the New York Hospitals, as is very satisfactorily explained, by the Visiting Committee of the latter institution, in a letter to the newspapers, called forth by unnecessary and unkind criticism.

An English View of the Comma Bacillus.—The "Lancet" learns that Dr. Klein and Dr. Gibbes, of the English Cholera Commission, have made a preliminary report in which they express themselves as entirely at variance with Koch. They deny the invariable presence of the comma bacillus in cases of cholera, and have been unable to inoculate the lower animals.

The Removal of a Tumor from the Brain.—The "Lancet" recently published an account of a unique operation, performed by Mr. Godlee, of London, being nothing less than the removal of a tumor from the cerebral substance. It is reported that the patient has been relieved of most of his pressure-symptoms, and is on the road to recovery.

The Disappearance of a Physician.—More than a week ago Dr. Richard C. Brandeis, a promising and highly esteemed young physician of this city, disappeared, and, at the time of our going to press, no indication of his whereabouts has been found. He was in delicate health, and the fear is entertained that he may have done himself harm while under the influence of a mental aberration.

The late Dr. William Darling.—At a meeting of the faculty of the Medical Department of the University of the City

of New York, held December 26, 1884, the following resolutions were adopted:

Whereas, At the end of a long life devoted to the profession of which he was a learned and honored member, William Darling, A. M., M. D., LL. D., F. R. C. S., has been removed from our midst; and

Whereas, It becomes those who have been associated with him as colleagues for many years to give official expression to their sense of the loss they have sustained in his death; be it, therefore,

Resolved, That we, the members of the faculty, fully appreciating his great learning and his wonderful ability as a medical teacher, and believing that the most enduring monument to his memory will be found in the record of his life, here tender to his relatives and friends our heartfelt sympathy in their grief.

Resolved, That these resolutions be spread upon the minutes of the faculty, and be published in the medical journals of this city.

J. W. Wright, M. D., } *Committee.*
W. M. Polk, M. D., }

The Death of Dr. Augustus Van Cortlandt is announced as having taken place on the 24th of December, in his fifty-ninth year. Dr. Van Cortlandt was a graduate of the College of Physicians and Surgeons, of the class of 1862. He died at Mount Vernon, Westchester County, in which neighborhood he had lived for a number of years past.

The Death of Dr. George H. Atkinson, of Brooklyn, took place last Saturday, as the result of blood-poisoning contracted in the practice of his profession. Dr. Atkinson was a graduate of the Long Island College Hospital, of the class of 1873, and a member of the Medical Society of the County of Kings and of the Brooklyn Pathological Society. He took a prominent part in the proceedings of those societies, and was regarded as in every way a most valuable member of the profession.

The Death of Dr. William H. Thorndike, of Boston, took place on Friday of last week at his home in that city. He was a native of Massachusetts and a graduate of Harvard, from which institution he took his medical degree in 1848. He was widely known and highly esteemed as a practitioner. He was fifty-nine years of age at the time of his death.

The Late Dr. Cyrus N. Nutt, of New Albany, Indiana.—At a special meeting of the Floyd County Medical Society, held December 23, 1884, for the purpose of taking suitable action in regard to the death of its President, Dr. Cyrus N. Nutt, the following resolutions were adopted:

Resolved, That in his death this society has lost one of its most efficient and devoted fellows, the medical profession an honorable and faithful member, and this community an upright Christian gentleman.

Resolved, That we will ever cherish the memory of our late associate and brother, whose example of fidelity to the science of medicine and uprightness of character should stimulate us in the discharge of our professional and social obligations.

Resolved, That we tender the surviving members of his family an expression of our sympathy in this their deep affliction.

Resolved, That this society attend the funeral ceremonies as largely as possible.

Resolved, That a copy of these resolutions be presented to his family, and be published in the "New Albany Ledger," "New York Medical Journal," "Bloomington Progress," and "Indianapolis Journal."

The Death of Dr. Theodor Meurer, of New Albany, Ind., is recorded by the "Ledger," of that place, as having taken place on the 24th of December, 1884, in his sixty-third year. The deceased was a native of Saxony, but had practiced in New Albany for twenty-eight years. From the "Ledger's" account we gather that he was a most esteemed and successful practitioner.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 21, 1884, to December 27, 1884:*

McParlin, Thomas A., Lieutenant-Colonel and Assistant Medical Purveyor. Granted leave of absence for three months, on surgeon's certificate of disability. S. O. 301, A. G. O., December 24, 1884.

Johnson, Henry, Captain and Medical Storekeeper. Directed, in addition to his present duties, to perform the duties of assistant medical purveyor in New York city. S. O. 301, A. G. O., December 24, 1884.

Wales, P. G., First Lieutenant and Assistant Surgeon. Relieved from duty in the Department of Colorado and ordered to the Department of Arizona. S. O. 128, Division of the Pacific, December 17, 1884.

Society Meetings for the Coming Week:

Monday, *January 5th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Chicago Medical Society; Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *January 6th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi-annual—Lockport), N. Y., Hudson (Jersey City) and Union (quarterly), N. J., Androscoggin (annual—Lewiston), Me., and Chittenden, Vt.

Wednesday, *January 7th:* Medical Societies of the Counties of Richmond (Stapleton), N. Y., and Penobscot (Bangor), Me.

Thursday, *January 8th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Fulton (annual—Johnstown), N. Y.; South Boston, Mass., Medical Club (private).

Friday, *January 9th:* Yorkville Medical Association, New York (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *January 10th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

The Chicago Medical Society.—It is expected that the following papers, which were to have been read at the last meeting, will be read at the next regular meeting, to be held Monday evening, the 5th inst.: "Diphtheria, with Remarks on the Germ Theory, and Report of Cases under Alcoholic Treatment," by Dr. G. H. Chapman; "Manganese as an Emmenagogue," by Dr. F. H. Martin; and "The Bacillus of Syphilis," by Dr. Josef Zeisler.

OBITUARY NOTES.

Professor William Darling.—Dr. Darling, for many years the professor of anatomy in the Medical Department of the University of the City of New York, and in the Medical Department of the University of Vermont, died on Christmas, at his residence in the former institution. He was in the neighborhood of eighty years of age, but probably his precise age is

not known, as he was very reticent in regard to his personal affairs, and it is understood that none of his relatives survive him.

William Darling, M. D., LL. D., F. R. C. S., was born in Berwickshire, Scotland, and received his early education in Edinburgh. He came to New York before he had attained his majority, and became a pupil of the late Dr. Valentine Mott in 1834. In 1842 he took the degree of doctor in medicine at the Medical Department of the University of the City of New York, and was shortly appointed prosector in surgery, which office he held until 1845, when he was made demonstrator of anatomy. After having held the latter position for eight years, he served twelve years as an assistant physician at the quarantine station and at the State Immigrants' Hospital. In 1856 he went to London and took the degree of M. R. C. S.; that of F. R. C. S. he received ten years later. In 1866 he was appointed professor of anatomy in the Medical Department of the University of the City of New York, and in 1873 he received the same appointment at Burlington. He held both these positions at the time of his death. In 1877 he was elected an honorary member of the Rhode Island Medical Society and a foreign correspondent of the *Société d'anthropologie*, of Paris.

Dr. Darling had a peculiar gift for teaching descriptive anatomy, which he did largely by methods of his own contrivance. As a man, he was very peculiar, but the few who were admitted to his friendship were very fond of him. A well-known New York surgeon was once heard to say that it was a rare treat to roam about London in company with Darling, who knew every inch of the British metropolis. One of his hobbies was that of living on a ridiculously small sum per diem, and he thus amassed a considerable fortune. He died a bachelor.

Letters to the Editor.

TRISMUS NASCENTIUM AND DEPRESSION OF THE OCCIPITAL BONE.

Washington, D. C., *December 26, 1884.*

To the Editor of the New York Medical Journal:

Sir: In your issue of the 20th inst., among the proceedings of the Clinical Society of the New York Post-Graduate Medical School and Hospital, I notice the following:

"Dr. H. G. Lyttle presented a child, *two months and six days old*, with a marked depression of the occipital, and overlapping of the parietal bone. The child had slight convulsive movements of the hands and rolling of the eyes, with a disordered condition of the stomach and bowels. Dr. J. F. Hartigan had reported, in the 'American Journal of the Medical Sciences' for January, 1884, forty-nine cases of trismus nascentium as being due to this cause. Dr. Lyttle presented this case to show that the displacement of the occipital bone might occur without producing trismus."

I regret if I have failed to make myself sufficiently clear in the article referred to, and in the subsequent enlarged publication by Bermingham. All authors agree that the disease occurs in the first days, certainly within the first month, of infantile life. For instance, of the forty cases reported by J. Lewis Smith, in thirty-seven the patients were seized within eight days; of the eighty-eight by Stadfeldt, only one survived the tenth day; Mathews Duncan's twenty-three were all seen before the ninth day; one hundred and seven of Clarke's patients died before the ninth day; while, in my table of two hundred and twenty-nine deaths, ninety per cent. were of children under ten days, the remainder ranging within thirty days.

Now, as the disease is not limited to this age, and as the course of the symptoms varies at a later age, it became necessary to draw a line of demarkation, as it were, or to divide it into two forms, the acute and the chronic. The first, of course, is familiar to all. Coley best describes the second, as follows: "The chronic variety commences with dysentery, and is attended with a cold, exsanguineous state of the skin, whence it has been popularly denominated the 'white locked-jaw.' This form of the disease is tedious, and attended, as when dysentery is uncomplicated, with rapid emaciation, convulsive twitchings, etc., which renders ordinary treatment insufficient, and terminates in death."

Trismoid is the suggestive and appropriate appellation given by Dr. J. Marion Sims to this form, and, as I have found, it is a condition even more amenable to postural treatment than the acute disease; and the reason, perhaps, is, that the further development of the dura mater resists the pressure in part, thereby modifying the symptoms, or the medulla oblongata becomes more compact and tolerant after the first month, or both. Dr. Lyttle's case, therefore, is one of trismoid, and, instead of disproving, it only confirms our theory. This chronic form can be developed any time within six months, or before the lambdoidal commissure is closed, or, as I have had frequent opportunity to confirm, as a sequel of capillary bronchitis and like exhausting diseases. The little patient may be recovering from the primary trouble, but the occiput, having sunk in as a consequence of cerebral waste, becomes impacted, and, unless this new complication is detected early by the physician, and promptly corrected, his labors will be in vain.

The following extract from my published work is especially applicable where the lambdoidal commissure is wide from deficient ossification: "It is not always necessary to the development of the disease that displacement should be marked or visible. In either case, from continued decubitus unpleasant symptoms may arise, which subside when the child is taken up—the pressure being thereby relieved—only, however, to recur when the infant is again laid down."

Finally, if any one doubts the correctness of occipital displacement as the cause of trismus nascentium, let him but make pressure on the occiput with the finger, as I have repeatedly demonstrated, and he can produce the convulsions at will.

J. F. Hartigan, M. D.

PITTSBURGH MEDICAL SOCIETIES AND PITTSBURGH SURGERY.

Pittsburgh, Pa., *December 18, 1884.*

To the Editor of the New York Medical Journal:

Sir: A Pittsburgh Obstetrical Society has lately been organized, with a membership of thirty. The County Medical Society has a membership of one hundred and forty. At the last meeting of the latter society two successful ovariotomies were reported by Dr. McCann, of this city, which elicited a discussion on drainage. Dr. R. S. Sutton expressed his views on this subject, approving of drainage in all cases in which there was any prospect of subsequent oozing. He stated that, in his last nine ovariotomies, done in his private hospital, he had drained in every case, and that eight of the patients had recovered. Three of the operations were double ovariotomies, and one of them included supra-vaginal amputation of the uterus. All of these three patients recovered. The single death was after a Tait's operation, done for menstrual epilepsy. The patient died three weeks after the operation, the cause of death being either septicæmia or typhoid fever. Successive crops of rose spots, slight bronchitis, slight diarrhœa, delirium, coma, and enlargement of the parotids were the symptoms. Consulting physicians considered it a well-marked case of typhoid fever.

Yesterday I witnessed a laparotomy at Dr. Sutton's private hospital. The patient was a lady who had suffered for three years with an artificial anus, the result of a direct inguinal hernia. Dr. Sutton opened the abdomen in the median line, detached several loops of intestine from the abdominal ring, resected the gut at two points wide apart, and closed the abdomen, leaving in a long drainage-tube applied in the manner he had advocated at the County Society. No spray was used, but the most absolute cleanliness was enforced. To-day (the operation having been done yesterday at noon) the temperature remains normal, not having risen a fraction of a degree. A full report of this interesting case, probably the first in the United States for artificial anus, will be forthcoming as soon as its result is determined. The patient upon whom Dr. Sutton first performed resection of the intestine, in the spring of 1883, is still living.

GEORGE B. FUNDENBERG, M. D.

FRACTURE OF THE FLOOR OF THE ACETABULUM.

2101 CALUMET AVENUE, CHICAGO, *December 26, 1884.*

To the Editor of the New York Medical Journal:

SIR: The paper of Dr. Gay, read before the New York State Medical Association, and published in your issue of the 20th of December, induces me to report a case of fracture of the floor of the acetabulum with displacement, which was the subject of an impromptu clinic some years ago. It is probable that this clinic will be remembered by many students who were present.

The patient was a lad of about fifteen years of age, who had been thrown from a horse, striking the trochanter major upon a frozen lump of earth. The accident had occurred some weeks previously. On examination, there was found marked flatness of the trochanteric region, but neither eversion, inversion, nor shortening. Flexion and extension were free, but somewhat limited. Rotation, abduction, and adduction were also free, but very limited. There was, however, sufficient range of rotary motion to enable me to estimate the radius of the circle the limited arc of which the trochanter described.

Relying on the manner of occurrence of the accident, and on the above-enumerated signs, I diagnosticated fracture of the floor of the acetabulum with inward displacement, and remarked to the class that an intra-pelvic examination with the finger in the rectum would test the correctness of the diagnosis. I then made this test-examination, and readily detected a prominent inward bulging of that portion of the pelvic wall corresponding to the floor of the acetabulum. Two of the representative members of the class were invited to participate in this last part of the examination.

MOSES GUNN.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of December 15, 1884.

The President, Dr. D. A. K. STEELE, in the chair;

Dr. LISTON H. MONTGOMERY, Secretary.

Actinomycosis in the Human Subject.—Dr. JOHN B. MURPHY read a paper on this subject, in which he first gave an interesting summary of the main literature of the disease, with references to twenty-eight cases of its occurrence in the human subject, and then reported two additional cases, as follows:

CASE I.—June 28, 1881, he was called to see Mary M., twenty-eight years old, who stated that two weeks before she had begun to suffer with severe toothache in the left side of the lower jaw. Shortly afterward a swelling appeared in the throat, with great pain in swallowing and inability to open the mouth. The pain and swelling disappeared after her face and neck had been poulticed for several days. A few days afterward she was again attacked with toothache, together with an indescribable ringing in her ears. A swelling appeared in her mouth, on the outer side of the jaw, the pain grew more severe, and the swelling continued to enlarge up to the time that the speaker was called. On examination, he found a swelling behind the angle of the jaw, on the left side. The patient could not open her mouth more than three quarters of an inch, and had eaten nothing for two days. The left tonsil was much enlarged, and filled most of the pharynx; a pale-yellow spot marked the spot where an abscess was about to break. A large quantity of pus was set free with a lancet. She made a rapid recovery, and was about in a few days. She appeared to remain comparatively well until the 8th of July, but did not regain her strength, and occasionally suffered with toothache. A small swelling now appeared on the left side of the neck, below the jaw, accompanied by some pain and inflammation, and a few days afterward she again presented herself for treatment. The lump was about as large as a walnut, and the surrounding tissue was considerably indurated. Several carious teeth were noticed in the mouth. The "bunch" fluctuated and seemed to contain considerable pus, but only a small quantity was discharged when it was punctured, not exceeding a few drops and having a creamy appearance. A drainage-tube was inserted and an antiseptic dressing applied. On her return, two days later, the drainage-tube was removed, and about twenty drops of thick, creamy-looking discharge oozed from the opening. It contained peculiar sulphur-colored granules, which were recognized with the aid of the microscope as actinomycetes. A number of specimens were then prepared and shown to Dr. Fenger, Dr. Bridge, and Dr. Kerber, who agreed with the speaker as to their nature. The patient was under observation for ten days longer, and each day new specimens were procured. As the swelling and induration continued to increase, and as the patient was sinking rapidly, she was advised to enter the City Hospital, and Dr. W. T. Belfield was asked to examine the case. He reported that the pus contained actinomycetes.

After a few days of preparatory treatment, the growth was removed, with the assistance of Dr. Fenger, Dr. Belfield, and Dr. W. P. Verity. An incision was made, extending from the ear to the clavicle, parallel with the sterno-cleido-mastoid muscle. A mass of succulent tissue was observed, interspersed with pus and gold-colored granules, penetrating the surrounding tissue. It was all removed with a knife and a sharp spoon. In some places this tissue penetrated from half to three quarters of an inch. A carious tooth was removed, and a probe was passed down from the alveolus into the wound. A small portion of the angle of the jaw was chiseled away, and the alveolus and the canal were thoroughly scraped. After the wound had been cleansed, a tampon of iodoformed gauze was inserted into the alveolus, drainage-tubes were placed in the wound, and the edges were approximated with silk sutures. Primary union took place, and the patient made a rapid recovery. She gained over twenty-six pounds in weight within five weeks, and was now in good health.

CASE II.—Thomas C., eighteen years old, consulted the speaker September 3, 1884, and stated that, on the previous Christmas, when he was living in Ireland, he had begun to suffer with severe toothache in the lower jaw, on the right side, which lasted about two months. Then a swelling appeared at the angle of the jaw, and the pain subsided. Since that time the swelling had enlarged somewhat, and he had had more or less pain. On examination, Dr. Murphy found a carious tooth, and the swelling showed well-marked fluctuation. It was as large as a pigeon's egg and situated below the jaw. There was a little induration of the surrounding parts. It was punctured, and about teaspoonful of thick, creamy pus escaped, of a consistence and color that attracted his attention, so that he made a microscopical examination of it and found that it contained radiating threads. Not being satisfied with this examination, he asked the patient to call again, which he did in two days. Pressure on the swelling then caused a small amount of pus to exude, and this was found to contain perfect actinomycetes. Specimens were shown to Dr. Fenger and Dr. Bridge, who recognized the parasite. The sinus was scraped out, and in ten days the parts were completely healed.

The patient was seen four weeks later, and there was no evidence of a recurrence of the disease. About six weeks later the man again consulted the speaker in regard to a swelling in the same locality, somewhat larger than the first. It was opened, and a drainage-tube was inserted. The same characteristic pus was found, and it was examined by Dr. Fenger, Dr. Bridge, Dr. Belfield, and Dr. Kerber, all of whom recognized actinomycetes. The speaker had not seen the man since, but had learned that the opening had healed.

It would be seen from the summary the speaker had given in his preliminary remarks that in only one of the cases that had ended in recovery had the disease begun in the lower jaw. Some of them appeared as diffuse phlegmons, some as chronic burrowing abscesses, and others as chronic suppuration of lymphatic glands, and, on opening the swellings, they were found to consist mostly of a mass of granulations, with but little pus, although Rosenbach had observed a moderate amount of matter in a few of his cases. Of the fatal cases, but two had had their origin in the lower jaw, the others originating in the internal organs, such as the lungs, the intestines, the oviducts, etc., and presenting no other symptoms than those of chronic suppurative inflammation, with little pain and no fever, but great emaciation. At the autopsies, the pus showed the characteristic granules, and the affected organs presented a honeycombed appearance, the spaces containing projecting masses of pale-yellow granulations and but very little pus.

The disease was very chronic in its course, its shortest duration, in the fatal cases, having been seven months, and the longest twenty months. The patients usually died of exhaustion or pyæmia. Various metastases might appear, either to the heart, to the lungs, or to the intestines. Considering the great space invaded, the comparative freedom from pain and fever was specially noteworthy. In the matter of diagnosis, it was important to notice that the disease usually had its origin in the lower jaw, whence it extended to the neck, the vertebræ, and the thoracic cavity; that it might have its origin in one of the internal organs; that, although the fistulæ extended deep and in all directions, their boundary was very sharp and the surrounding tissue but little disturbed, this being characteristic of the granulations; and, above all, that the only pathognomonic sign was the sulphur-colored granule, which, under the microscope, presented its characteristic radiating threads with club-shaped ends.

As to the prognosis, the external forms of the disease showed seventy per cent. of recoveries, while the internal forms showed only eighteen per cent. The average mortality was sixty per cent. The treatment would depend upon the situation of the disease. When it was local, it was sufficient to open the mass and scrape and drain the cavity, or merely open it and wash it out with an antiseptic solution, as had been done by Rosenbach in his five successful cases. If the deposit was of any great extent, its radical removal was necessary. When the disease invaded the internal organs, we were completely at its mercy, and could only treat the symptoms as they arose.

Dr. Christian Fenger opened the discussion, during the progress of which a number of microscopic specimens showing the actinomycetes were inspected. Dr. Fenger had seen the two patients whose histories had been related, but could add nothing to what had been said of their cases. Rosenbach's treatment might answer in slight cases, but the course of the disease was chronic, and it was often impossible to get at the deposit even when its extension from the mouth was in the direction of the muscles of the neck, and especially was this the case when the swelling had formed at the angle of the jaw and the parasite got into the veins, resulting in metastases to the lungs or the heart and not on the outside of these organs. The fungi were too large to pass through the capillaries of the lungs, so that in case of such metastases the patient was lost. If they got into the bronchi, or into the anterior or posterior mediastinum, not much could be done by medication, and they were beyond surgical treatment; hence a fatal result would follow. He would not hesitate to perform a radical operation wherever there was a sinus.

The President congratulated the author of the paper on the fact that he had been the first in this country to discover the disease in the human subject. He had been under the impression that the death-rate was about fifty per cent.

Dr. Tilley questioned the correctness of the diagnosis in the two cases that had been related. He had heard that an attempt had been made to inoculate a calf with the matter taken from one of the patients, and that it had failed. If that was the case, the diagnosis was not proved. Then, too, he would like to be assured that the specimens shown were really taken from these patients, and not from the bovine affection. He had seen the second patient after he had passed out of Dr. Murphy's hands, and recovery had followed within a fortnight after a tooth had been extracted. Why were not the diseased teeth extracted in both cases at the outset? He had no desire to throw cold water on the enthusiasm aroused by the alleged discovery, but he did not wish to see the society take untenable ground.

Dr. Fenger replied that there was no longer any doubt as to the nature of the cases; there was the convincing proof of the microscope. The fungi were large, and not the contemptible micrococci. He cited a case in which the tooth was extracted at once, and yet the patient lingered for fourteen months, and died of metastases to the lungs and the vertebræ. Even if a patient seemed to have been cured, he should present himself to his physician every month for at least six months, that it might be seen if the disease showed any tendency to return.

Dr. W. T. Belfield testified to the accuracy of the diagnosis in the first case, which he himself had seen, and he had no doubt as to the correctness of Dr. Murphy's diagnosis in the second case; that gentleman knew what he was about, and had treated his patients correctly. He thought a misapprehension was being spread abroad with regard to the actinomycetes; they were not minute germs, but plants that could be seen with the naked eye. The cases reported by the writer of the paper were the first that had been observed and recorded accurately outside of Germany. Mr. Treves, of England, had thought that he had recognized a case, but the microscope had disproved his diagnosis. Dr. Belfield then showed a large piece of the jaw-bone of a cow that had died of the disease. Having been permeated by the parasite, it was very soft, so that it could be cut with a knife. The cow's head had been swollen to nearly double its natural size, the enlargement being chiefly of the bone itself.

Dr. Tilley disclaimed any intention of throwing discredit on the microscope as a means of diagnosis, or of questioning Dr. Murphy's skill; but he was sorry that he had not seen the patients. The fact that the second one recovered so quickly had given him the impression that the disease could not be so very dreadful. He would repeat that it was a pity the teeth had not been extracted early, and he thought Dr. Fenger's remarks were in favor of the view he himself took.

Dr. C. T. Parkes had seen the second patient after Dr. Lydston had extracted the tooth, but he had expressed no opinion as to the diagnosis. In all such cases the microscope ought certainly to be resorted to to establish the diagnosis, but it should be remembered that an alveolar abscess might at times prove a very formidable affair.

Dr. Belfield said that, if these were not cases of actinomycosis, then scarlet fever was not scarlet fever on anybody's diagnosis. The disease spread by continuity, and perhaps might be analogous to anthrax. Anthrax was trifling if we cut it out at once, and so was actinomycosis, but, if the latter was allowed to

spread to the neck, the chest, or the vertebræ, it became not only dangerous but incurable.

Dr. MURPHY, replying to some of Dr. Tilley's criticisms, said that one of the specimens from the case of the boy had been somewhat impaired by having been put into glycerin. In regard to the test by inoculation, both a calf and a horse had died within six weeks after having been inoculated with the pus. It made not a particle of difference what Dr. Tilley believed, or whether the teeth had been pulled out or not; the disease was certainly actinomycosis—the same disease, historically, clinically, and classically, as had been described by Rosenbach, and as such it had received proper surgical treatment by opening, drainage, etc. The "germs" were easy of recognition, and were herewith presented.

Dr. TILLEY deprecated the introduction of any degree of animosity into the discussion, but it was still a pity, he thought, that the teeth had not been extracted in the early stage of the affection.

Dr. G. NEWKIEK thought that the limited number of cases reported cast some doubt upon the diagnosis, although it was true that successful inoculation upon the lower animals, together with the microscopical appearances, made it very strong. It would be a pity to extract a tooth for every swelling of the jaw, for ninety per cent. of them could be cured by simple measures.

Dr. FENGER remarked that it was an error to suppose that these cases were the first that had been reported outside of Germany, for an Italian physician had reported a case that had turned out to be pneumo-actinomycosis.

Dr. J. J. M. ANGEAR called attention to the desirability of the members' knowing, with regard to the particular slides shown, which of them represented specimens from the cases reported, and which those that had been taken from animals.

Dr. WILLIAM P. VERITY corroborated Dr. Murphy's statements in regard to the fungi.

Dr. BELFIELD then showed a number of specimens, and compared them with the plates in Ponfick's monograph, which everybody could examine to his own satisfaction. With reference to alveolar abscesses, a fungus might be present in them, or the actinomyces might be found in them, but no one had ever looked for it, and he doubted if the pus in one case in a thousand, or one in ten thousand, was ever examined.

Dr. PARKES asked if the incipient symptoms of actinomycosis were as severe as those of alveolar abscess.

Dr. BELFIELD thought the actinomyces had never been found to have effected a lodgment in a healthy human being or a healthy animal, but it had been found in the mucus of the tonsils in hogs.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of December 22, 1884.

The President, Dr. DANIEL LEWIS, in the chair.

The Physiological and Therapeutical Effects of the Coca-Leaf and its Alkaloid was the title of a paper read by Dr. WILLIAM OLIVER MOORE.

Since the days of the discovery of the general anæsthetic effect of ether nothing had so startled the medical world as the announcement, by Dr. Carl Koller, of Vienna, but three months since, of the wonderful local anæsthetic power of the alkaloid of a hitherto obscure plant. The quickness with which the fact was received, and the promptness of physicians to verify his statements, and to go even farther than he anticipated, was a marvel. The universal enthusiasm shown and the invariable good results obtained from the use of the drug went to show that it was one of those substances that had "come to stay." The writer's first aim will be to show the uses of the *coca-leaf* in substance, and he would afterward treat of the alkaloid by itself.

Coca had been in use in South America from the earliest times, for there was no historical record as to when it came into use, or who first discovered the properties of the leaves; but, probably, like cinchona, it had been noticed by the astute aborigines. In Peru, under the dynasty of the Incas, it was considered as a representation of the Divinity, and the fields where it grew were venerated as sanctuaries. Coca-leaves were placed in the mouths of the dead to secure their favorable reception into the other world. If a mummy was met by a traveler, a coca-leaf was placed in its mouth. Coca-chewing dated from the introduction of the plant, and when the Spaniards made the conquest of Peru they were alarmed at its prevalence and the superstitions regarding this insignificant leaf—so much so that a decree against its use (October 18, 1569) was declared by the Second Council of Lima. At the present day the laborers of the whole of South America continued the use of coca.

The leaf was obtained from the *Erythroxylon coca* plant. *Erythroxylon* referred to the red color of the wood of some of the plants of this group; *coca* seemed to be derived from the word *khoka*, signifying *the tree* or *the plant*—that is, *the* specially favored one.

The first botanist to treat of the plant seemed to have been Monardes (1569); after him Clusius (1605). The first specimen received in Europe was sent there by Jussieu (1750), who gave it the name it still bore. Lamarck adopted it in his "Encyclopædia." The leaves were the part used in medicine and in which the alkaloid resided. They were peculiar in the disposition of their veins—viz., by the side of the middle fiber two longitudinal lines were to be seen jutting out, which separated at the base of the leaf, and met again at the point, each describing a slight curve. The tree was cultivated, the seeds being sown in December and January, and attained its full height at the end of five years. The first crop of leaves was picked at the end of a year and a half. The duties upon coca in Peru amounted yearly to one hundred thousand dollars. It had been estimated that coca was used by ten millions of the human race (betel by one hundred millions, chicory by forty millions, coffee by one hundred millions; three hundred millions ate or smoked haschisch, four hundred millions used opium, five hundred millions used tea, and all known peoples of the earth were addicted to tobacco). The *coquero* (chewer) took coca three times a day—before beginning his work, about the middle of his task, and some time after completing his labor, mixing with each *acullico* (ball or quid) some alkaline substance. Many of the natives would not undertake their labors without their pouch of coca-leaves. That coca-chewing might be carried to excess was no doubt true, but the opinion of those who had studied the matter thoroughly was that the effects on the system were harmless, and that, besides having a stimulant action, it also acted in a nutritive way. The fact that the *coquero* could do without food for hours might be explained, now, in the light of the wonderful anæsthetic properties of the plant, by its benumbing action on the mucous membrane of the stomach, abolishing thus the *sense of hunger*. Coca was second only to alcohol in its food-replacing power. Mantegazza,* who had experimented upon himself, stated that an infusion of coca would increase the action of the heart fourfold. By taking an infusion made from three drachms of the leaves, increased heat of the skin, palpitation of the heart, flashes, headache, and vertigo were produced, while the pulse rose from seventy to one hundred and forty. A feeling of increased strength was produced, with a desire to

* "Sulle Virtù Igieniche e Medicinali della Coca," p. 76. Milano, 1859.

exert himself, accompanied by a roaring in the ears. He took as much as eighteen drachms of the infusion, and was able to abstain from food for forty hours. The meals then taken were very well digested. From his experiments he drew the following conclusions:

1. In large doses, coca increases the animal heat, increasing the frequency of the pulse and respiration.

2. In a dose of three to four drachms of the infusion, it excites the nervous system, increasing the desire for muscular action; and afterward has a calming effect.

3. In very large doses, it causes delirium, hallucinations, and congestion of the brain.

Dr. Isaac Ott,* after chewing the leaves, obtained nearly the same results; after chewing sixty grammes during nine hours, he found dilatation of the pupil, frontal headache, drowsiness, increase in the pulse and temperature, and decrease in the amount of chloride of sodium excreted from the kidneys.

It had been found that coca caused slight excitation of the stomach, with an increase of the gastric and intestinal secretions, which was temporary, and was followed by a dryness and anæsthesia of the mucous membrane, and it was this fact that made it of great use in certain painful affections of that organ. Coca would produce sleep when opium had failed, if given in small doses, repeated; in hypochondria and melancholia, its action in promoting cheerfulness was marked. Dr. J. Leonard Corning, in "Brain Exhaustion," says: "It is the remedy *par excellence* against worry." Spanish-American physicians stated that its effect was speedy and certain in inertia uteri. We were informed that the natives used an infusion of coca-leaves for cholera morbus with marked benefit, cramps and vomiting speedily yielding. It had also proved of value in asthma. In cholera, might we not have in this agent a remedy of potent influence? Above all, it acted as a tonic, and was called by Fuentes, of Lima, "the most tonic plant in the vegetable kingdom." Next to its general tonic effect, the most brilliant results had been in the hands of the laryngologists. Dr. Charles Fauvel, of Paris, was one of the first to use coca internally for the tonic effect on the vocal cords and on the system generally. He was led to use it by the repeated statements of an old priest, who said that, whenever he had a long service to perform, he took it for ten days before, always with the effect of increasing the volume of his voice. For the past ten years Dr. Fauvel had used it, both internally, in the form of the *vin Mariani*, and also by local applications to the pharynx and larynx in spray or by brush, in the form of a fluid extract, or, more recently, of a concentrated non-alcoholic preparation more of the nature of a cordial (prepared by Mariani & Co.). This Dr. Moore had tested, and had found to be very efficient, containing a large percentage of cocaine. Cocaine hydrochlorate was furnished Dr. Fauvel by the same manufacturers in 1882. Fauvel calls coca the "tensor *par excellence* of the vocal cords."

Dr. Elsberg, of this city, had used these preparations for nearly as long a time, both given internally and locally. He wrote: "I received, in August last, some '*chlorhydrate de cocaïne*' from Mariani & Co., and on October 30, 1884, removed by its means an intra laryngeal papilloma from the anterior commissure with ease."

Sir Lauder and Lennox Browne, of England, had also used the extract of coca with great benefit, both locally and generally. It was strange, therefore, that the *alkaloid* should not have been resorted to universally till after Koller's discovery of its effect upon the eye.

In the opium habit, the wine of coca and all of the various preparations had been used with marked success. Dr. Palmer,

* "Medical Record," 1876.

of Louisville, Kentucky, who had written much on the subject, said, after speaking of its virtues: "My only desire is to direct professional attention to the administration of coca in the treatment of the opium habit."

Dr. Sigmund Freud, of Vienna, had also used coca with good effect in both the opium and alcohol habits, and thought it was antagonistic to opium. In this direction further experiments were necessary. In short, coca was a tonic of great value in all asthenic conditions; it was also an antispasmodic; and, next to alcohol, a food-replacing agent of immense value. The *vin Mariani* seemed to have the most potent influence, and Dr. Moore had reason to believe that its effect was better than that of other preparations, owing to an alkali having been added, the makers having taken this point from the South Americans, who always added some alkali to their quid of leaves.

The alkaloid of the coca-leaf was called *cocaine*, or *cocaina*, being named so by Niemann, of Goslar, a pupil of Wöhlers, in 1860, although Gadecke first isolated it and called it erythroxyline.

The process of extraction was slow but simple, the crystallization being the most difficult part. The crystals belonged to the monoclinic system, had a bitter taste and a strong alkaline reaction, melted at 98° C., and were soluble in ether, in alcohol, and in 704 parts of water at 12° C. The chemical formula was $C_{17}H_{21}NO_4$. It united with acids, forming salts which crystallized, and were soluble in alcohol but not in ether.

The salts that had been made were the hydrochlorate, the borate, the sulphate, the nitrate, the oxalate, the tannate, the salicylate, the citrate, the hydrobromate, and the tartrate, besides certain double salts. An oleate had also been prepared. Egonine and hygrine were also found in the leaves. Reveil, in 1860, closed an article on coca with this prophetic statement: "This substance will some day have an important position in therapeutics."

Given in small doses to warm-blooded animals, it stimulated the nerve-centers—first the cerebrum, and then the medulla oblongata and the cord; it caused vertigo and loss of equilibrium, seeming to have an action on the semicircular canals. Respiration was hastened and labored, and, in fatal cases, the breathing stopped before the heart's action. In moderate doses it raised the arterial pressure, dilated the pupil, and impaired the accommodation.

Frogs were more susceptible than warm-blooded animals; a fatal dose for a dog * was from three to five grains.

Dr. Alexander Bennett,† of England, in 1874 found, after experiments on over one hundred animals, the following: 1. In small doses, cerebral excitement, with partial loss of sensibility. 2. In large doses, cerebral excitement, complete paralysis of sensibility, tetanic spasms, and death. 3. It paralyzes the entire posterior column of the spinal cord, also the entire system of *peripheral sensory nerves;* but the anterior columns of the cord and the peripheral motor nerves are not paralyzed.

The internal dose of cocaine for man was from a quarter of a grain to three grains; the effect was not cumulative. Schroff,‡ in 1862, first experimented on man, and found that in large doses it caused vertigo, slight deafness, and disturbance of memory and of co-ordination of thought. Fronmüller,# by giving doses up to five grains, was able to produce sleep.

Ploss reported a case of a man who took twenty-two grains of cocaine at one dose, with suicidal intent, yet he survived, with only slight signs of intestinal irritation with anuria for one

* Danini, "Ueber physiol. Wirk. und therap. Anwendung des Cocains."

† "British Medical Journal," April 18, 1874.

‡ "Zeit chrift fur Wien Aerzte," Nos. 30–34, 1862.

"Prag. Vierteljahrsschrift," 79–109, 1863.

day. This was undoubtedly an exceptional case, or else the alkaloid was impure.

On October 20th Dr. Moore made experiments hypodermically with a solution of cocaine hydrochlorate on his own person. The solution was prepared from crystals made by Foucar & Co., of this city. It was neutral, as proved by testing with litmus-paper. This precaution was taken so that no abscesses would occur. His first injection contained one grain and a half of the salt, and was made on the outer side of the arm, midway between the shoulder and the elbow. In four minutes the skin for a distance of two inches about the site of puncture was anæsthetic, and the surface temperature reduced by one degree. It was also noticed that the radial side of the forearm was numb, and there was exhilaration with tinnitus aurium; in fact, he felt as if champagne was being absorbed. After half an hour, dilatation of the pupil was noticed; the pulse rose ten beats a minute, and became fuller and stronger, as proved by sphygmographic tracings; and the general temperature was slightly raised, with an increase in the frequency of the respirations.

No new symptoms appearing, in seventy-five minutes he injected another grain (making the second), this being thrown under the skin just below the knee, over the site of the internal saphenous nerve. In five minutes the skin near the puncture was numb for a distance of two inches in all directions, and it was also noticed that the skin of the whole inner side of the leg, down to the great toe, was numb and painless, showing, for the first time in his experience, that the parts supplied by the nerve over which the injection was made were affected. Excitation was more marked, the pupils were more dilated, the accommodation was more impaired, there was a feeling of intense comfort and a desire to recite, the general temperature was now 1° higher than before the first injection, and the pulse was strong and full at 85.

After one hour most of these symptoms were less, and he then injected one grain more (the third) into the deep tissue of the arm, passing the needle in perpendicularly. In this case no surface anæsthesia was found, and no loss of temperature at the point of injection as before; all the parts of the arm and forearm below the point of injection were numb and very much blunted to pain; this came on in ten minutes.

In short, during eight hours he injected three grains and a half of cocaine, with the effect of increasing all the symptoms already mentioned, with unsteadiness of gait, beautiful hallucinations, irregular contraction of the muscles of the extremities, coming on at irregular intervals, lasting during a space of thirty minutes; these occurred twenty minutes after the last injection. The mind was clear and speculative, the paresis of accommodation was now complete, sleepiness then came on, and, after four hours of broken rest, he awoke, feeling relaxed and melancholy, and might have exclaimed, with Cowper, "I awake, like a toad out of Acheron, covered with the ooze and slime of melancholy." This depressing effect was not usually noticed.

These experiments, made in October, he was glad to see, had been verified by Dr. Hall and Dr. Halsted (*vide* "N. Y. Medical Journal," Dec. 6, 1884). Dr. N. J. Hepburn * had obtained (October 16th) nearly the same results.

Moreno,† in 1868, showed that local injections abolished reflex movements; and von Anrep,‡ in 1880, that sensibility of the skin was abolished by hypodermic injections, and that the tongue became numb when touched with strong solutions; he also noticed that the pupil dilated if solutions were placed on the conjunctiva; strange to say, although on the verge of a discovery, he did not notice the conjunctival anæsthesia.

Although since 1860 it had been known that a benumbing effect was produced on the tongue when cocaine, either in substance or in solution, was placed upon it, it remained for Koller, in 1884, to make use of this well-known fact. On the 26th of November Dr. Moore had received the following letter from Dr. Koller:

"VIENNA, *November 11th.*

"DEAR SIR: Your letter received. With pleasure I notice that my experiments have been received with enthusiasm on the other side of the ocean, and that my remedy has been found useful. In our clinic, as well as in the other clinics of Germany, the same successes have been obtained; similar good reports have been also received from England. I send you inclosed a reprint * of my paper, read here October 17th. In regard to your question as to the reason of my experiments with cocaine I may answer as follows: Through the therapeutical experiments that my friend, Dr. Sigmund Freud, made by the internal administration of cocaine, the results of which are published in Heitler's 'Zeitschrift für Therapie,' August, 1884, cocaine became current in Vienna.

"To convince myself of the wonderful effects of the drug on the system generally, I took a quantity of the alkaloid, placing it on the tongue, and noticed the benumbing influence (this effect was already known to me through the books). The idea then occurred to me that the influence of cocaine on the *terminal nerves of the conjunctiva and cornea should be the same* as on the tongue, and, if so, would be of great importance, as we had no such substance that would produce anæsthesia without at the same time cauterizing the tissue. I immediately made experiments on animals that succeeded. . . .

"In the 'Medical Record,' New York, I noticed the inaccurate statement that the Vienna laryngologists had previously used cocaine; this has only been done since my experiments made upon the eye.

"My friend, Dr. Jellinck,† at my suggestion, made experiments on the larynx, with most satisfactory results.

"Very truly, DR. CARL KOLLER,
"*Assistant Physician Vienna General Hospital.*"

To Dr. Koller, therefore, is due the honor of the discovery, and more credit is due him as he arrived at the fact by *reasoning* and not be accident. Koller's conclusions, as well as his numerous experiments, can be found *in extenso* in his paper already referred to. He not only used it on diseased eyes, but did operations also with its use with great success. Since his announcement of its wonderful anæsthetic properties every journal in this and other countries had been filled with enthusiastic accounts of operations, not only on the eye, but on regions far removed from that organ.

On October 11th Dr. Moore's first experiments were made with it, and these had already been reported.‡ He would say that it could be used successfully for every operation on the eye with perfect freedom from harm. Not only did cocaine act as an anæsthetic, but it produced anæmia of the mucous membrane or surface to which it was applied. This paleness came on just before the loss of sensation, and with it there was a reduction in the temperature of the part. When placed in the eye it produced anæsthesia within three minutes, if the solution was freely used. The stronger the solution, the more rapid the effect. This loss of sensation lasted for fifteen minutes, and gradually passed away. The pupil began to dilate within fifteen minutes, the extent of dilatation depending on the strength of the solution. It remained dilated for twelve hours usually. The accommodation was impaired in about thirty-five minutes, the effect lasting six hours, when a four-per-cent. solution was applied; it was rarely entirely paralyzed. As Nikolski found that the pupil still dilated after the sympathetic had been cut, it would

* "Medical Record," vol. xxvi, No. 20.

† Moreno y Maiz, "Recherches cliniques et physiol. sur l'*Erythrox. coca* et la cocaine."

‡ "Archiv für Physiologie," 1880.

* "Wiener med. Wochen.," 43, 44.

† "Wiener med. Wochen.," November 8, 1884.

‡ "Medical Record," vol. xxvi, Nos. 16 and 19.

seem that cocaine acted through the third pair of cranial nerves.

In order to ascertain the local action of the drug on the blood-vessels, the writer had taken a frog's foot and studied the circulation under the microscope, but had found (what was well known to microscopists) the vessels constantly contracting and dilating. Permanent dilatation was then produced by an irritant; then a drop of a solution of cocaine was applied on this point, and its effect noticed. In three minutes the vessels began to diminish in size, becoming smaller than before the irritation was produced; this contraction lasted for eighteen minutes, and the vessels then went back to the first condition.

In other experiments the same experience was obtained, except that the vessels became *more dilated* than at first after twenty-five minutes. In fifteen minutes this condition of over-distension gave way. Cocaine, therefore, seemed to act first on the vaso-contractors, and subsequently on the vaso-dilators; acting, thus, on the vaso-motor system and also, as shown in the former experiments by hypodermic injection, on the nerves of sensation by direct absorption. This increase in the original size of the vessels noticed in the frog's foot might account for some of the secondary hæmorrhages that had been noticed by some observers after the use of cocaine about the eye and nose.

In operations on the eye, a two- or four-per-cent. solution of cocaine hydrochlorate or borate might be used, and this solution would act better if freshly made. Eight or ten drops should be applied to the conjunctiva by a dropper or in the form of spray during five minutes, and the operation, if it is to be superficial, may be begun immediately. Most are inclined to wait too long. If deep anæsthesia is required, use for twenty minutes before the operation a four-per-cent. solution, two or three drops every three minutes; in this way the deeper portions are benumbed.

For iridectomy, a few drops may be injected into the anterior chamber, as in a case reported by me ("Medical Record," November 8th); and for strabotomy a few drops may be injected under the conjunctiva over the muscle to be divided. For enucleation of the globe, the solution may be used on the surface, and also by injection into the orbit. It may be injected into the lachrymal canal for the operations on these parts. All the operations on the eye can be performed with the aid of this agent; an attempt to remove an eye in October failed in my hands, but since then Dr. Cocks, Dr. Knapp, and Dr. Walker, of this city, have succeeded. In inflammatory *diseases* of the eye it is of great use also to relieve pain.

On the ear it may used in any painful disease; also for operations on the drum-head. The writer would suggest its use for the relief of tinnitus aurium due to thickening of the mucous membrane of the drum cavity; it might be introduced, by the Eustachian catheter, by means of spray. In one case of this sort, treated with a spray of a two-per-cent. solution, he had been led to think good had been done. In the surgery of the pharynx and larynx, above all other parts, it was an agent surpassing any hitherto known, for with general anæsthesia the futility of operations on these passages was well known, as the patient's consciousness was needed to aid in the necessary manipulations. With cocaine we could pick out a tumor from the larynx with as much ease as a cork out of a bottle, as had been proved by Dr. Elsberg, Dr. G. B. Hope, and Dr. Andrew H. Smith, of this city. Its action on the erectile tissue covering the attenuated bones was in keeping with its known effect on the vaso-motor system. It was here that its marked power of reducing the erectile tissue was of immense value, not only in the ordinary condition of "cold in the head," but in those long-standing hypertrophies so often found. In relieving the painful swallowing in tubercular laryngitis and similar affections it was of inestimable value; used as a spray in asthma, much good might be obtained with it.

On the mucous surfaces of the vagina, the urethra, and the rectum, the same anæsthetic effects could be obtained. In the urethra the oleate of cocaine (as made by Foucar & Co.) could be used, as it was useful in passing the sound or catheter, acting both as a lubricant and also as an anæsthetic.

In minor surgery much had been done by injecting the solution into the part to be cut directly, and by injecting the cocaine over the nerve going to supply the part. Some also removed the epidermis and brushed the surface with the solution. In cases of paronychia the finger could be dipped into a solution and left there for five minutes, with good effect.

The youngest patient upon whom he knew of the drug having been used was an infant two months and a half old, on whom Dr. Charles Milne had operated for a preputial tumor. This growth was removed without pain, eight minims of a four-per-cent. solution having been injected into it; some also was brushed on the skin. Nearly half a gramme was used, without any constitutional effect.

He thought amputations could be done with cocaine anæsthesia by injecting over the site of the nerves going to supply the extremity to be removed.

In dental surgery, cocaine could be used either directly on the cavity, about the gums, or, better, hypodermically over the nerve-trunk supplying the part of the jaw about to be operated on. The pure salt could be used in the cavity, or mixed with glycerin in the form of a paste. Teeth could be extracted painlessly. In hemicrania, by using the solution in the eye of the affected side, complete relief had been given in three cases. Internally, cocaine was of service in gastric ulcer, cancer of the stomach, and all painful diseases of this organ, and in all conditions where coca was indicated. It was of special service in gastritis after a debauch; and in the morphine habit its action was most beneficial, as it seemed to have a direct antagonism to morphine.

NEW YORK SURGICAL SOCIETY.

Meeting of December 9, 1884.

(*Concluded from vol. xl, page 734.*)

Fracture of the Body of the Twelfth Dorsal Vertebra.—Dr. E. L. Keyes presented a specimen of fracture of the spine and dislocation forward, accompanied by the following history:

George H. McM., twenty-eight years of age, by occupation a driver, was admitted to Bellevue Hospital November 15, 1884. His family history was good. He had a chancre six years ago. On November 18, 1884, he was standing in front of his horses, when they started to run and knocked him down, the axle of the truck striking him on the back as it was dragged over him. The wheels did not touch him. He was at once paralyzed. He was taken to the Chambers Street Hospital, and transferred to Bellevue on the following day, where he was examined, and found to have total paralysis of motion below the umbilicus. Sensation was not entirely lost, but was much blunted. This state persisted for a long time, but could not be referred at all accurately to its proper source. The nature of the sensation was not recognizable. There was complete retention of urine. There was pain on pressure over the spinous process of the twelfth dorsal vertebra. This process was separated by twice the normal interval from that of the eleventh, and seemed to be displaced forward. The patient was placed on a water bed, and the urine was drawn with a catheter three times a day.

November 16th.—The patient vomited occasionally during the night, and had a burning pain near the left anterior-superior iliac spine.

17th.—Considering that the elevation of the displaced spinous process and lamina was the only possible means of relieving the spinal cord from pressure, Dr. Keyes asked his house surgeon, Dr. Pinkerton, to cut down upon the spine and remove the depressed bone. A crucial

incision was made, and the muscles were separated from the spinous processes, and pulled aside with retractors. The articular processes were then felt to be displaced from one another, admitting the index-finger between their surfaces, the inferior of the eleventh and the superior of the twelfth dorsal vertebra. It was impossible to make out any fracture of the laminæ. The spinous process and laminæ of the eleventh and the spinous process of the tenth dorsal vertebræ were removed with the *rongeurs*, the latter simply to give room to work in. There was found a slit in the dura about one fourth of an inch in length, which was accidentally increased to three eighths of an inch by being caught between the forceps and the bone. The spinal cord felt firm and normal. After removal of the bone the cord was entirely free from pressure. The operation was thoroughly antiseptic. A rubber drain was inserted, and the wound was dressed antiseptically. Stout zinc splints were applied to the back.

18th.—Temperature 99° to 100° F., and the patient feels a tingling in his feet, but is otherwise perfectly comfortable.

19th.—Examination of the urine showed a specific gravity of 1·010, albumin, and blood. Temperature from 99° to 103° F.

20th.—At 1 P. M. the patient had a chill, the temperature rose to 104·75° F., and the wound was dressed. No pus was found. Discharge only slight.

21st.—Temperature continues high, and the patient feels badly, but has no pain, nor any increase of paralysis or of anæsthesia. Incontinence of urine and involuntary evacuations from the bowels continue.

22d.—The patient died at 5 P. M.

Autopsy.—The appearance of the wound was healthy. Primary union of the incision. All of the organs normal except the spinal cord. The portion between the tenth and twelfth dorsal vertebræ was very soft. There was meningitis with acute ascending myelitis.

Dr. Halsted referred to a case in which he had trephined the vertebral column for a rotation-luxation forward of the twelfth dorsal vertebra. The patient, a man, about fifty years old, had been so caught between the top of an ascending elevator and a beam as to exaggerate the lower part of his dorsal arch. He was at once brought to Roosevelt Hospital (September, 1884). *Examination* revealed a depression and loss of the spinous process at about the dorso-lumbar junction. Just below the depression, on a line with the dorsal spines, was a sharp bony process, which Dr. Halsted believed to be the transverse process of the vertebra below the one dislocated. There was a complete paralysis of motion and sensation in the lower extremities. The abdominal reflexes seemed to be exaggerated, and all reflexes, superficial and deep, below these were absent. There was retention of urine, and, two days later, incontinence of fæces, also albumin and casts in the urine. On the third day after the receipt of the injury, the *operation* was performed as follows: An incision in the median line, through badly contused soft parts, was made over the lower dorsal and upper lumbar vertebræ. The spine of the dislocated and rotated twelfth dorsal occupied the frontal and sagittal level of the left upper articular process of the first lumbar vertebra. The right transverse process of the first lumbar vertebra, with its fractured tip, was driven into the muscles of the loin. Over the spine of the last dorsal vertebra were traces of central nervous matter.

The left articular process of the first lumbar and the spine of the twelfth dorsal being cut away, a strong Langenbeck's hook was inserted in the laminar fork of the twelfth dorsal. The patient was then doubled ventrally, and, at the same moment, pressure from behind forward on the lumbar vertebræ, exerted by the hands of an assistant, and traction backward by Langenbeck's hook, on the twelfth dorsal vertebra, reduced the displacement with a snap. Reduction of the dislocation was easily maintained. The patient did not, apparently, suffer shock from the operative interference, but died seventeen hours later.

One of the *internes* stated that, shortly after the operation, sensation extended almost to the knees. Before the operation there was no sensation in the parts below the distribution of the first lumbar nerve.

Autopsy.—Double pleurisy, with fracture of seven ribs on the left and of four on the right side. Both lungs œdematous. Fluid in the pericardium. Small granular kidneys. *Operation wound:* Dislocation remains reduced. Comminuted fracture of body of first lumbar vertebra. A small opening into left pleural cavity between eleventh and twelfth ribs. Spinal cord (lumbar enlargement) completely severed, and considerable effusion of blood in dural sac in the dorsal region.

Dr. Halsted was quite sure that Brown-Séquard had demonstrated, experimentally, that wounds of the spinal cord might heal, and its function be restored; also that other investigators had observed regeneration in animals of excised portions of the spinal cord; and, furthermore, thought there was clinical evidence sufficient to make it probable that, even if crushed, the cord might regain its function.

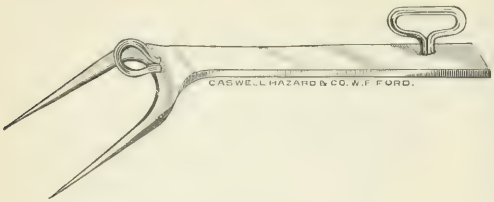
Dr. Sands said that, in Dr. Keyes's case, the persistence of complete paraplegia, after the removal of the depressed bone by trephining, rendered probable a disorganization of the cord opposite the seat of fracture, which would make any operative procedure unavailing.

Dr. Lewis A. Stimson remarked that the question of trephining for fracture of the spinal column had been discussed for many years, and the fact that the pressure which was sought to be relieved was made on the front of the cord by the displaced body of the vertebra, in a region which was not accessible for operation, indicated that the only service which trephining was likely to afford was that observable in Dr. Halsted's case, namely, affording an opportunity for the introduction of an instrument with which to correct the deformity.

Dr. Keyes thought the fact of the existence of acute ascending myelitis, with a blood-clot opposite the sixth vertebra, above the point of injury, would have made any other procedure unavailing in this case. The pressure seemed to be relieved at the time of the operation, but probably it was not.

A Fork for Fracture of the Patella.—Dr. Stimson showed a fork to be used in the treatment of fracture of the patella. He had expected to show a patient upon whom he had used it with success, but the man had failed to come. In using Malgaigne's hooks he had found it difficult to insert them deep enough to adjust the screw that connected them, and he had devised this fork as a substitute. The fork was of iron, two-pronged, the prongs being bent on the flat at an angle of about 45° at their junction with the shaft. The prongs were one inch long and three quarters of an inch apart; the shaft was about three inches long. There was a small ring at the base of the prongs for the attachment of an India-rubber cord, and another, at the end of the shaft, for the attachment of a bandage encircling the thigh. The instrument was used by inserting the prongs through the skin above the patella, and pressing them down until they rested against the upper border of the upper fragment; the shaft lay along the median line of the front of the thigh, and was prevented from tilting or moving to either side by a roller bandage wrapped around it and the thigh. Traction downward was made with a piece of India-rubber tubing, one end of which was attached to the ring at the base of the prongs and the other made fast to the shin by adhesive plaster. The introduction of the prongs could be made easily and painlessly by chilling the skin with ice, and making two punctures with a knife. In the case which he had treated with this fork the fracture was transverse and the separation about an inch. The separation was readily overcome by the traction, and the patient made no complaint during the five weeks the instrument was in place. He was kept in bed with the limb suspended in a wire gutter, and the punctures were kept dusted with iodoform; there

was no inflammatoryr eaction about them, and only a slight discharge. The lower fragment was kept gently pressed upward



by an oblique turn of a roller bandage. On the removal of the fork, five weeks after the occurrence of the fracture, the fragments were closely and firmly united, without independent mobility. As a precaution, a plaster bandage was then applied, and it was not removed until the end of the ninth week. The knee could then be flexed nearly to a right angle, and there was neither independent mobility nor separation of the fragments.

Dr. Little exhibited Haid's electric battery, designed to give electric light to aid in the performance of operations within cavities.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of October 23, 1884.

The President, Dr. B. F. Westbrook, in the chair;
Dr. A. H. P. Leuf, Secretary.

Dementia Paralytica; Pulmonary Hæmorrhage.—Dr. Edward C. Mann related the case of a man, twenty-two years old, whom, on his first visit, he had found demented, with symptoms of paresis. Four months afterward he had an attack of subacute meningitis, and died three months subsequently from an exhausting pulmonary hæmorrhage. At the autopsy the membranes were found to be adherent to the skull; there was subarachnoid effusion, with a large effusion between the pia mater and the brain; and the pia mater was adherent to the brain, and so thickened in patches that the thickening was plainly perceptible in the microscopical specimen shown. There was also effusion at the base of the brain and in the spinal canal, and the spinal cord was atrophied, with degeneration of the nerve elements of the posterior column, and increase of the connective tissue, as shown with the microscope. The cortical substance of the brain was atrophied and hardened, and there was diffused granular degeneration of the cerebral cells of the frontal convolutions. The left lung was found partly destroyed by the breaking down of the caseous products of pneumonia, and there were large cavities as the result. There were signs of recent endocarditis, and the walls of the heart were atrophied and showed traces of fatty degeneration. It was unusual for so young a person to be attacked with paralytic dementia. The most frequent causes of death were exhaustive and tubercular diseases. The average duration of life, after the development of well-marked symptoms, was about thirteen months.

Dr. John C. Shaw had now under observation a patient who was only seventeen years old. He thought the average duration of the disease was about three years.

Horse-shoe Kidney.—Dr. J. H. Hunt showed a horse-shoe kidney from the body of a man who had died, in St. Mary's Hospital, of chronic gastritis and fatty liver. The kidney, which in shape formed three sides of a square, was situated in the lower umbilical region, its isthmus crossing the spinal column over the sacro-vertebral joint, and the two lateral portions extended upward by the sides of the spinal column. It was found to be made up of two distinct kidneys, united at their lower extremities by a short isthmus of kidney connective tissue, the latter being of the full size of the kidneys themselves. There were two distinct pelves, the one on the left side being provided with two ureters, and that on the right side with but one. About two inches from the kidney the three ureters united into one trunk, which emptied into the left side of the bladder. Although this was one of the most common malformations of the kidney, it was not usually so perfect as in this instance. Sometimes the two kidneys were united at both ends or throughout, and the formation was then known as the "disc-shaped kidney." These abnormities did not usually cause trouble during life, but they had been mistaken for aneurysm of the abdominal aorta from their lying, as in this case, over the great abdominal vessels and transmitting their pulsations. In this case the stomach, which was also shown, was in a state of chronic inflammation.

Stricture of the Urethra.—Dr. Hunt also showed the kidneys, ureters, bladder, and penis of a man who had suffered from stricture, which was seen to be situated in the membranous portion of the urethra. They exemplified the results of this lesion in the shape of dilatation of the ureters and the pelves of the kidneys, and hypertrophy and diminished capacity of the bladder.

Dr. Hunt also presented a pair of lobular kidneys and another kidney containing several pus cavities.

Spherical Vesical Calculus; Uræmia.—Dr. A. H. P. Leuf showed the bladder, ureters, and kidneys from the body of a man who had died of uræmia. A globular calculus was lodged against the urethral orifice of the bladder, full 3 cm. in diameter. The bladder, the ureters, and the renal pelves were dilated and thickened, the ureters being quite 4·5 cm. in circumference. There was no urethral stricture. The dilatation was probably due to an obstruction to the flow of the urine caused by the occlusion of the urethral orifice of the organ by the calculus, which had acted like a ball-valve. The man had been a patient of Dr. George R. Kuhn's.

Dr. Shaw had found a horse-shoe kidney at a post-mortem a few days before. It had two ureters, which united before their entrance into the bladder. He did not know the structure of the isthmus in these cases.

Dr. Hunt said it was usually of ordinary kidney connective tissue.

Dr. Shaw had supposed so, but in his case it was composed of true kidney substance. He asked if the dilated stomach shown had come from the same body as the anomalous kidney, and, having been answered in the affirmative, if that kind of stomach was commonly associated with that kind of kidney, also whether the patient was in the habit of drinking much.

Dr. Hunt could not answer either question, but said that possibly Dr. Tieste could tell about the drinking.

Dr. Shaw remarked that he had found the stomach dilated in the case of horse-shoe kidney that he had mentioned.

Dr. Tieste stated that the patient, in Dr. Hunt's case, had simply had a diarrhœa, and had not been in the habit of drinking.

Dr. Frank W. Rockwell considered it well to bear in mind that horse-shoe kidneys might be more common than was generally supposed, especially when we were about to perform nephrectomy.

The President asked if an ante-mortem diagnosis of horse-shoe kidney was ordinarily possible.

Dr. Rockwell thought it was not.

Dr. George H. Atkinson remarked upon the frequency of an extension of even common inflammatory affections of the urinary tract to the kidney, in the shape of congestion if not of inflammation, and upon the far greater likelihood of such a result occurring in cases of obstruction.

Dr. Leuf called attention to the fact that, if it was desirable to bear in mind the possibility of a horse-shoe kidney in cases where the question of nephrectomy was entertained, it was equally important, if not more so, to remember that occasionally a person had but one kidney. In all the autopsies and dissections that he had made or witnessed, he had seen but one horse-shoe kidney, but he had met with three cases of single kidney. In each of them there could be no doubt of the post-mortem diagnosis, as the ureter on the side where the kidney was lacking had been traced up to its superior extremity, which in all cases was lodged in the retro-peritoneal connective tissue of the lumbar region, and had a club-shaped, vesicular end, of the size and shape of the olfactory bulb of an adult human brain.

Renal Calculus; Diminutive Kidney; Phthisis.—Dr. George G. Hopkins related the case of a man, thirty-nine years old, who had a family history of gout, but had never suffered from the disease himself. He first came under Dr. Hopkins's care July 1, 1880, suffering with nephritic colic. There was a small amount of albumin in the urine, but it disappeared under treatment in the course of two months. On the 1st of June, 1881, an examination of his urine showed the presence of albumin, but it disappeared very rapidly, and nothing else abnormal was observed. He was not seen again until March 20, 1882, when a slight hæmorrhage occurred from the apex of the left lung, but was easily controlled. The patient next consulted him on the 4th of February, 1883, when dullness and some consolidation were found at the left apex. A slight hæmorrhage took place on the 18th, and caused great prostration. At that time the urine presented nothing abnormal. On the 3d of March the patient was sent South, and remained there until the 1st of November, when the urine was found heavily loaded with pus, his phthisis was progressing, and his general health was failing. He went South once more, and was not seen again until September 8, 1884, when he was found greatly emaciated and with both lungs badly diseased. The pus had persisted in the urine during the year. He died September 14th. The right kidney was of full double the normal size and disorganized, containing four cysts as large as a Lima bean. Its pelvis was largely dilated, and there lay in its center a very jagged mulberry calculus, as large as a chestnut, surrounded by a pyogenic membrane. The microscopic appearances indicated that the kidney had been of very little value as a secreting organ. The left kidney was almost infantile, being of about one eighth the size of the other. It appeared normal to the naked eye, and the microscope showed nothing abnormal in its structure. The other abdominal organs were healthy. The case was interesting from the small size of the left kidney, which was probably congenital. It had not taken on any vicarious enlargement to supplement the want of excreting power in the other kidney, and this fact was a point against the theory that compensatory enlargement always took place in the remaining kidney when one had been removed or disabled from any cause.

Stricture of the Urethra; Dilatation and Hypertrophy of the Bladder; Dilatation of the Ureters; Hydronephrosis.—Dr. Frank Ferguson showed a preparation from a man of middle age, who had denied gonorrhœa and given no history of urethral injury. Three years before his death he was treated for stricture in some of the English hospitals, and had neglected afterward to carry out the instructions he had there received as to the daily use of a urethral instrument to keep the passage open. After he came to this country he was examined by a number of competent physicians, but declined surgical interference. He suffered very much before his death, for no instrument could be passed into his bladder through the urethra, and he positively and persistently refused to be aspirated. The autopsy revealed three impassable strictures above the bulbo-membranous junction, half an inch apart. There was great dilatation of the bladder, the ureters, and the renal pelves, with marked hypertrophy of the bladder.

Dr. Ferguson also presented a typical horse-shoe kidney; a stomach enormously distended and having a thickened mucous membrane, with a capacity of 4,004 c. c.; and a brain lacking the soft commissure.

The Treatment of Stricture of the Urethra by Electrolysis.—Dr. Robert Newman, of New York, having been invited to speak upon this subject, said that he had presented a digest of a hundred cases at the Cleveland meeting of the American Medical Association, last year, giving the history of each case in tabular form. It took time to show whether a stricture was cured or simply relieved, and, to settle this question, it was not fair to include cases that had been treated for a short time only, and then lost sight of. Excluding all such, his cases had been consecutive, and all the patients had continued under his observation for periods varying from three years and a half to eleven years. He had likewise excluded some cases in which there were unfavorable complications, such as, for instance, one of chronic urethral abscess. Most of the patients he had re-examined himself, or had heard from through their physicians or themselves. One of them had returned with a stricture, but it had turned out to have been newly acquired, being situated in a different part of the canal from the one that had been treated—the latter had maintained the caliber it had when the patient was discharged.

From such results, he thought he was justified in saying that electrolysis would cure stricture if the operation was properly performed. Only a few days before, he had seen a patient who had declined further treatment six months ago, because he felt well enough when a No. 25 F. bougie passed easily. On this occasion a No. 26 steel sound passed so easily that only two fingers were used as a leader, without any electricity. He ascertained the normal caliber of the urethra, which might be large or small, by the patient's feelings and by the size and force of the stream of urine. Three years ago he had treated an impermeable stricture until a No. 20 was passed, when the patient, being well pleased with that result, would not submit to further dilatation. This very morning the patient had come back to him with retention and dribbling. In these cases the first indication was to give relief. He here showed the instrument to be used (a bulbous sound), and stated that it could be used in connection with a tunneled sound. Tunneled bougies passed along on a guide were perfectly safe. It was easiest to relieve with a tunneled sound. In the case last referred to, he passed a No. 30 with ease, after three years, and relieved the patient, although on former occasions he had used nothing larger than a No. 26.

The size of the urethra was not the important point; the patient's comfort was the thing to be considered. The normal size of the urethra was still a moot question. He had begun, with the most primitive appliances, in 1867. His first paper on the subject was read before the Journal Association, and appeared in the "Medical Record" in March of that year. He also presented his ideas in the "Transactions of the Medical Society of the State of New York" for 1874. They had undergone no essential changes since that time, but he had considerably modified and improved his instruments. He would give the egg-shaped bulb the preference over all others, but sometimes, of course, it might be of special advantage to change the form of the instrument. As a rule, it was best to concentrate the electricity at the seat of the stricture, but where the mucous membrance had a parchment-like character, or where the stricture extended and might be due to a change in the mucous membrane, it might be well to diffuse the current.

The question might be asked, Why all operators did not succeed. No amount of negative evidence could possibly offset even a small amount of positive evidence. The one hundred cases he had reported at Cleveland spoke for themselves. Some had tried the procedure and had failed; others had not liked it, but, after having ventured upon another test, properly conducted, had readily admitted the justness of his statements. As for those who did not succeed, it was for a particular reason. All could not succeed, because they did not work properly; one must be expert, not only in the use of electricity, but also in instrumental manipulation of the urethra. First, it was necessary to be expert in the use of urethral instruments; second, to be expert in the use of electricity; third, to employ the best instruments; fourth, to select the cases.

Dr. Landon Carter Gray asked the speaker if he would not give a detailed account of his method of operating, as some of the gentlemen present knew nothing about it.

Dr. Newman said he would be glad to do so, but, the time being limited, it was hardly possible to do so with any fullness. To return to the selection of cases, it was necessary to distinguish between spasmodic and organic strictures. The former were made worse by the use of galvanism; a spasmodic stricture might even result from its employment, and the faradaic current was the only one that should be used for them. It was better to increase the intensity of the current rather than its quantity. A twenty-cell battery would suffice for these operations. The best cell for the purpose was the Bunsen, of carbon and zinc plates in hard-rubber cells. The fluid must not be too strong, or the action would be too violent at first, and the polarization rapid, thus very soon weakening the current and incrusting the elements with crystals. Any good galvanic battery could be used, but one arranged for intensity rather than for quantity was to be preferred. The current must be steady, without shocks from interruptions. A rheostat attached to the battery was a nicety, convenient in some cases, but as a rule it was not needed, as the current could be graduated sufficiently from cell to cell if the battery was well constructed. It was impracticable to state how many cells or what amount of electricity should be used in these operations—even more so than to state the dose of morphine or any other drug that would suit all patients. The amount of electricity to be used depended partly on the work to be done, partly on the nature of the stricture, and particularly on the sensation and susceptibility of the patient; and for these reasons a galvanometer was of little use, even if we had one that measured the current correctly. It would be desirable to express the "dose" of electricity in terms understood by everybody, just as we expressed the doses of drugs; but, in the practical application, there were other facts to be considered, such as the state of the atmosphere, which carried the electricity and modified the resistance by its humidity. In clear, dry weather, six cells would do as much as ten would do in a rain-storm or during a fog; and a patient might not endure so much to-day as he had borne the day before. Hence, to express the amount of a current by stating the number of cells used was indefinite and only relatively correct. However, we might say, in general terms, that from six to ten cells would be enough. Weak currents would do the work, acting by electrolysis; strong currents, which destroyed tissues, must be avoided.

The bougie electrode used had been perfected, and was of the greatest importance. The instruments shown had been made by Messrs. Tiemann & Co., and were smooth, without any inequalities, and well insulated except at their extremities. The terminal was a silver-plated, egg-shaped bulb of metal, to be used at the seat of the stricture. In special cases other shapes could be used, such as the acorn-shaped or the conical, and for close, tortuous strictures a tunneled sound could be used in conjunction with the electrolysis. Dr. Fanenil D. Weisse used straight electrodes, because he found most strictures in the bulbous portion, but the speaker preferred a short curve and a longer instrument, as he wished only to guide it, and not use any force—the work was done by the electricity solely. At all events, it was well to pass over the whole urethra, and to enter the bladder at least once, so that the patient as well as the surgeon should be convinced that all constrictions had been overcome.

Modus Operandi.—The topography of the urethra should first be well ascertained, and the strictures measured, and a plan for the operation made out accordingly, with a full knowledge of what it was intended to accomplish. The patient's susceptibility to the galvanic current was to be learned by applying it to the hand or some other part of his body. The posture which the patient should assume during the operation was a matter of slight importance; according to his convenience, he might stand, sit, or lie on his back with his shoulders elevated and his knees drawn up. Anæsthetics were not used, because no pain should be caused, and because the patient ought to be conscious, so that he could express his sensations. For ordinary strictures, the size of the bougie selected should be three numbers (French) larger than the stricture. This bougie electrode was then to be introduced into the urethra until the bulb was arrested by the stricture. A sponge electrode, wet with warm water and connected with the positive pole of the battery, was to be held firmly against the patient's skin, either in the palm of the hand or pressed against the abdomen, the thigh, or some other part, to complete the circuit. While both poles were held in this manner, the current was to be increased very slowly and gradually, one cell at a time, until the patient felt a warm and slightly pricking sensation. The operator was to keep the bougie steady against the stricture, and he would soon find that absorption was taking place, that the stricture yielded, dilated, and the instrument slowly advanced and passed the obstruction—at times it would fairly jump through the stricture. If there were more strictures than one, the bougie should be guided in the same way until it entered the bladder. Then the electrode was to be withdrawn slowly, and each stricture well worked out, until the first stricture was passed, when the current was again to be reduced slowly, cell by cell, to zero; and not until then was the electrode to be removed. During the whole operation the electrode must be held loosely and gently in its place against the obstruction, all pressure or force being avoided. The bougie would take care of itself, doing its work by the electrolytic action of the current. A *séance* might last from five to twenty minutes. The observance of the following rules would conduce to success: Begin the use of electrolysis carefully, not cauterizing, but only causing absorption, six cells being enough in many cases. Regulate the current according to the susceptibility of the patient. Repeat the *séances* at intervals of three or even four weeks, the shorter intervals being exceptional. Do not lubricate the electrode with any non-conducting substance. Wet the sponge electrode with hot water. Keep the plates in the battery-fluid only during the operation. Never use force with the bougie; never cause hæmorrhage. Do not operate while the urethra is in a state of acute or subacute inflammation, or when the application causes pain. Do not use the battery-fluid too strong. Never use two bougie electrodes in succession at one *séance*, nor any other instrument. Do not push the bougie to and fro in the urethra; it must be passed only once down and back again, and that with care.

If stronger currents were used than had been indicated, the tissues would be cauterized; if still stronger ones were used, the tissues might be destroyed. During the process of healing,

plastic lymph was thrown out, which would fill up the urethra, and the adhesion would cause a worse stricture. This state of things had been produced by an eminent surgeon, who had made these experiments almost simultaneously with the speaker; but he used a current strong enough to make his patients scream with pain, as he himself had stated in his report. Of course, he reported failure.

Electrolysis was the decomposition of a compound body by electricity, as stated in any text-book on chemistry. The positive pole attracted the oxygen and acids, while to the negative pole went the hydrogen, the alkalies, and the base of a salt. An experiment which demonstrated these facts, and which the speaker believed was original with himself, was the following: Two small glass bottles were nearly filled with a solution of iodide of potassium, their bottoms being replaced with pieces of bladder. The necks of the bottles were then closed with corks, through which ran a conductor—a small platinum wire was the best. Both bottles were then placed in a dish of water, about six inches apart. To the platinum wire of each bottle was attached one pole of a battery, which was then started with six or more elements, but a stronger current would show the effect more strikingly. We should now observe that, in the bottle connected with the positive pole, yellow streaks would appear in the clear solution, and in about five minutes the bottle would contain only a dark-yellow fluid, colored by the iodine set free. The contents of the bottle connected with the negative pole would remain clear, with white bubbles, or froth, due to the liberation of hydrogen and potassium. If we made the same experiment with a faradaic battery, no change would take place. This practical test proved that we should use only a galvanic battery for the electrolysis, and that the negative pole should be applied to the stricture, also that the action in the cure of the stricture was a chemical decomposition by absorption—"a galvanic chemical absorption."

It would be easy to tabulate a thousand cases of stricture treated successfully with electrolysis. The method had been fully tried and established, and every day brought new converts and made new friends. If proper precautions were observed, and the cases were selected, a cure would result.

Dr. David E. Callaghan asked if Dr. Newman had ever seen an autopsy of a person who had been so treated by himself, and, if he had, whether the electrolysis had removed all the new-formed tissue, so that there was no chance of recurrence.

Dr. Newman replied that he had witnessed such an autopsy, and that the appearances confirmed his ante-mortem conclusion. He had also experimented upon a dog, using in the urethra a current strong enough, he supposed, to end the animal's life, but the dog survived it, and, when he was afterward killed, it was found that the urethra had not been injured. He had also operated with a strong current, under anæsthesia, for a stricture of the rectum, in a female patient, in a case complicated with six distinct suppurating fistulæ opening in the gluteal regions. The patient declined further treatment, because she felt well enough, and, about ten months afterward, the same patient was found dying with peritonitis. A post-mortem was made, and the specimen was presented to the New York Pathological Society; it proved that there was no trace left of the former stricture, the whole rectum being lined with normal mucous membrane. In this continuous membrane six *very small* depressions could be seen, which marked the openings of the former fistulæ. These pits were so small that only diligent search revealed their existence. These post-mortem observations, with the histories of one hundred living patients in whom, for periods varying from three to eleven years, no relapse had occurred, best answered Dr. Callaghan's question, and proved the efficacy of the electrolytic treatment. In answer to a further question by Dr. Callaghan, as to whether cicatricial tissue could not be removed by electrolysis from other parts, such as the face, Dr. Newman said that it could—the measure was useful in removing tissue even from bones, as we knew from actual experiment. He had now several cases of malignant tumors under observation, in which the same treatment was being employed. There was a difference of action, however, with weak and with strong currents, also with mucous membranes and with cutaneous surfaces.

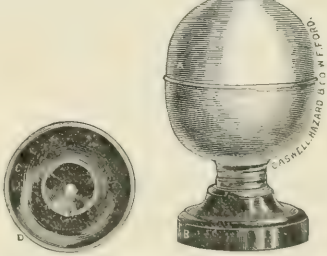
Dr. Atkinson thought that electrolysis took rank with divulsion, urethrotomy, and both combined, as well as with the steel sound, but he was not prepared to say that it outranked them. He called attention to the varying nature of strictures, and thought that measures of treatment should be varied accordingly.

New Inventions, etc.

A MODIFICATION OF CAMMANN'S BINAURAL STETHOSCOPE.

By D. M. Cammann, M. D.,
INSTRUCTOR IN DISEASES OF THE CHEST AND PHYSICAL DIAGNOSIS AT THE NEW YORK POLYCLINIC.

So numerous are the modifications of the binaural stethoscope that have been suggested, and so few, if any, have essentially improved its value as an acoustic instrument, that I add, with a feeling of diffidence, one more to the list already so long. Nevertheless, I have confidence that the stethoscope now described has advantages of practical value over that at present in use.* The instrument differs from the latter in



this, that in the chest-piece is a circular chamber, open on the side, which is applied to the chest. The inner and outer walls of this chamber are circular and nearly half an inch apart, the inner wall being the extremity of the tube leading from the chest to the ear, and the outer being the outer wall of the chest-piece, which, arching above and joining the inner wall, forms the roof of the chamber. The rims of the inner and outer walls lie on the same horizontal plane, so that when the instrument is applied to the chest the chamber is closed on every side. Connected by a small tubular opening with this chamber is a hollow rubber bulb, and, by pressure and relaxation of pressure by the hand

* A stethoscope, with a chest-piece containing a hollow chamber for exhausting the air, was suggested to me three or four years ago by Dr. J. R. Leaming. The present instrument is the result. In the instrument of Constantin Paul, in which the chest-piece is similar in shape to mine, the air is exhausted not only in the chamber in the chest-piece but in the two tubes leading to the ears. I am indebted to Mr. Ford, of Caswell, Hazard & Co., for assistance in the mechanical part of the work.

upon this bulb, the air in the hollow chamber is exhausted, and the stethoscope is held against the chest by the pressure of the external air. The tube conveying the sounds to the ear passes through the rubber bulb just above the chest-piece. The advantages of this are twofold: it gives compactness to the instrument, and the rubber bulb acts as a resonator to the passing sounds. In the figure a side view is given of the modified portion, which, at the upper part, can be screwed on to the binaural stethoscope like the ordinary chest-piece. B is the chest-piece, and A is the rubber bulb surrounding the sound-conveying tube, which passes from the chest to the ear. The smaller figure represents the chest-piece. E is the inner rim surrounding the sound-conveying tube leading to the ear. C is the chamber, bounded within and without by the walls E and D, and above by the roof formed by the arched junction of these two walls. As seen in the figure, it is open, but becomes a closed chamber on being pushed against the chest. D is the outer wall of the chamber. In the roof of the chamber, C, is a small opening leading to the bulb A, as seen in the larger figure, by which the air is exhausted, and the instrument held firmly against the chest.

Some of the practical advantages in the use of the instrument may now be considered. It is brought in the closest possible contact with the chest-wall. The sounds conveyed to the ear pass through two hollow chambers—the one in the chest-piece, and the rubber bulb—both of which act as resonators, and increase their intensity. Not only is the intensity of the sound greater than in the unmodified stethoscope, but the true quality is better brought out. The heart-sounds are more intense, and murmurs more readily recognized. The bronchial sounds are more bronchial, and the true character of sounds heard over cavities is better appreciated. Another advantage of the instrument is that the two hands of the auscultator are left free to practice the method of auscultatory percussion—a method which has not yet received the attention it deserves. With this stethoscope one observer can at the same time auscultate and percuss over the liver, the kidneys, or abdominal tumors. It can also be used over the heart, but not, perhaps, with such advantage as the solid wooden stethoscope. If the stethoscope be applied without pressing upon the rubber bulb, it may be used in the same way as the ordinary instrument. The modified portion is made so that it can be screwed on or removed at pleasure from a stethoscope that has the usual movable chest-piece.

Miscellany.

THERAPEUTICAL NOTES.

Hydrochlorate of Pareirine.—M. Ferreira, says the "Lancet," has called attention to the value of pareirine in obstinate cases of malarial disease which resist quinine. The dose is thirty grains daily, to be increased to sixty grains if necessary.

Ergot in the Treatment of Cough.—Dr. Allan ("British Medical Journal") reports fifty cases of pulmonary affections in which cough was a distressing symptom. He generally employed subcutaneous injections of ergotin. The dose is not mentioned. In most instances signal relief was obtained.

The Vapor of Glycerin in Obstinate Coughing.—The "Lancet" credits M. Trastour with a communication to the "Gazette médicale de Nantes," in which he speaks highly of this remedy. He evaporates two ounces of glycerin in a flat dish, and allows the patient to inhale the vapor. Carbolic acid may be added with advantage. This treatment is special applicable to phthisical patients.

Corrosive Sublimate in Urethritis.—M. Chameron ("Union médicale") has recently presented a thesis upon this subject, in which he advocates the use, in a solution of corrosive sublimate (1 to 20,000) in chronic urethritis, on the ground that the gonococcus, or specific principle of gonorrhœa, is destroyed by a solution of this strength. Three injections of the warm liquid are to be given daily, after the act of urination. Care should be taken that it reaches the deepest part of the canal. The writer mentions several cases which were cured in a week under this treatment.

Iodoform in Diabetes.—Dr. Bozzolo is quoted by the "Deutsche Medizinal-Zeitung" as having contributed an article on this subject to the "Archives italiennes de biologie." He states, as the result of a number of clinical observations, that iodoform, in doses of from one to three grains, causes a rapid diminution in the amount of water and sugar in the urine. He calls attention at the same time to the fact that iodoform lowers the arterial pressure and diminishes the number of red corpuscles in the blood. He can not account for the latter phenomenon.

Tannic-Acid Enemata in the Treatment of Cholera.—Professor Cantani, of Naples, says the "Centralblatt für die med. Wissen.," has had considerable success in the treatment of cholera with this method, used on the theory that the bacilli flourish in the alkaline fluid of the intestines. He seeks to destroy them by using acid injections. Carbolic acid he has rejected, because of the toxic symptoms which sometimes follow its use. His formula is as follows:

Tannic acid	1 to 3 drachms;
Laudanum	30 to 50 drops;
Gum arabic	2 ounces;
Warm water	2 quarts.

The writer does not mention the exact quantity of fluid which he uses for a single injection. This treatment is specially applicable to choleraic diarrhœa occurring during the progress of an epidemic.

The Treatment of Blepharitis.—Darier ("Progr. méd.") proposes this ointment:

Red precipitate	1½ grain;
Vaseline	2½ drachms.

Apply to the eyelids every night. He recommends at the same time the internal administration of iodide of potassium with cod-liver oil.

The Ohio State Sanitary Association will hold its second annual meeting at Columbus on the 5th and 6th of February. Full information as to the programme, railway rates, etc., may be had by addressing the Secretary, Dr. R. Harvey Reed, Mansfield, Ohio.

The Northwestern Medical and Surgical Society elected the following-named gentlemen to office at the annual meeting: Dr. Thomas H. Burchard, President; Dr. A. R. Robinson, Vice-President; Dr. J. Henry Fruitnight, Secretary and Treasurer; and Dr. S. Baruch, Dr. E. S. Peck, and Dr. Charles A. Leale, Committee on Admissions.

The Late Dr. A. S. Church.—At the last regular meeting of the Northwestern Medical and Surgical Society, the following resolution was adopted:

Resolved, That in the death of Dr. A. S. Church this society has met with a great loss, which we all most deeply deplore; that his kindly, genial smile, accompanied by his always welcome presence, will be missed by us; and that we can only, in this sad bereavement, tender to the family of the deceased our heartfelt sympathy.

Charles S. Wood, M. D.,
Charles A. Leale, M. D., } *Committee.*
Mark Blumenthal, M. D.,

The Sublingual Ulcers of Whooping-cough.—The "Lancet" states that M. Delthil has made observations that lead him to think that these lesions are not traumatic, but of contagious and parasitic origin, from direct contact of a healthy with a diseased infant. The lesion is not seen until about two weeks after inoculation, when it is ushered in by fever, which fever is believed to be due to "an intoxication by microbes." The healing of the sublingual ulcer is a proof that the disease has run its course, and that the microbes have been eliminated from the blood.

This curious theory bears a striking resemblance to that of the "lysse" of rabies, and perhaps the latter suggested the former. Both ideas may at present be regarded as creations of the "scientific imagination" which Tyndall speaks of.

Female Internes for the Paris Hospitals.—We learn from the "Union médicale" that six women presented themselves at the recent *concours* for the hospitals, but that no French woman has yet taken advantage of the new privilege.

Original Communications.

CASEOUS LYMPHATIC GLANDS,

AND THE IMPORTANCE OF THEIR EARLY REMOVAL.*

BY GEORGE R. FOWLER, M.D., BROOKLYN,
SURGEON TO ST. MARY'S GENERAL HOSPITAL.

GENTLEMEN: The task which I have undertaken—that of attempting to clearly define some more recent views regarding the necessity of early removal of caseous lymphatic glands, with the object of preventing general or remote tuberculous infection—I confess is one fraught with no small amount of difficulty. With all the light shed upon the subject of tuberculosis by modern pathological research and the revelations of the microscope, much uncertainty yet prevails as to the nature of the disease, the structure of its morbid products, and the relations which these latter bear to each other; even diversity of opinion exists as to the order of sequence of some of its gross and microscopical anatomical changes. You will pardon me, therefore, if I decline to enter fully upon the pathology of the disease and confine myself to the matter of the relation borne by diseased lymph glands, and the establishment by the surgeon of a prophylaxis, in their early extirpation, against general tuberculous infection.

Let us for a moment consider the method of caseation of a diseased lymphatic gland. At a no very remote period in the history of medicine it was taught, and generally believed, that caseation could only occur after the formation of pus; in other words, that absorption of the watery constituents of the pus took place, leaving the cheesy mass behind, and that this latter was in effect nothing but inspissated pus. This was considered, in general terms, to be one of the sequels to abscess formation, and this view was thought to account for the yellowish-white infiltration so frequently found in inflamed lymphatic glands. A moment's reflection can not fail to convince one that this view is not the correct one, inasmuch as there are but two channels through which these watery constituents can escape from the cavity of the abscess (supposing that such existed in the gland prior to its caseation), and these channels are constituted by the lymphatics and the blood-vessels. Now, as far as histological research goes, it has not yet been shown that granulations lining the abscess wall contain lymphatics; and even granting that such should prove to be the case, it seems incomprehensible, in our present state of knowledge, that only the watery portions of the pus should be thus carried off, and the small, dark bodies which are to be found in caseous foci, and at one time were looked upon as degenerated pus corpuscles, should not also find their way out by the same route.

Again, it is a physical impossibility for the watery constituents of the pus to escape through the walls of the vessels constituting the circulation of the granulation tissue of the abscess wall, for the reason that the pus contains more of the salts than the blood stream; and, if any interchange took place between the two fluids—i. e., the pus upon one side of the vessel wall and the blood upon the other—the reverse process, that of exosmosis, would take place, and water would be drawn from the blood rather than from the pus. It is likewise a not infrequent experience to find glands the subject of caseous infiltration lying adjacent to, and in some instances intimately blended with, glands the seat of genuine abscess pointing in the usual manner. It is therefore now held that caseous infiltration is the primary change, so far as the gland itself is concerned, and that abscess formation is but a secondary and purely accidental circumstance.

Having settled to our satisfaction the fact that caseous lymphatic glands are not the result of suppurative lymphadenitis and the inspissation of pus consequent thereon, it may be worth our while to discuss briefly the manner in which caseous infiltration occurs, and the characters of this latter. According to the views held by Hueter, the infiltrated cheesy mass consists mostly of spores which have the property of rapid multiplication by a process of cleavage (*Spaltpilzen*), and these find their way into the gland through the vasa efferentia. He also holds that these have their origin in some peripheral foci of inflammation, and, although but a few of the spores may thus find their way into the gland, yet, by their rapid propagation, an increase of the infiltration occurs. It therefore is evident that these cheesy foci in the glands are reservoirs of spores, according to the authority just quoted, who further states that this variety of spore possesses but slight irritative qualities, and may remain quiescent for a long time without producing sufficient local disturbance to cause abscess. These cheesy foci of lymphatic glands are frequently found coincidently with a granulating inflammation of peripheral parts—for instance, with chronic synovitis of the variety known among German surgeons as synovitis granulosa; that supposed typical local expression of the ill-defined, shadowy, and mysterious condition commonly denominated scrofula.

It has long been a matter of common experience that so-called scrofulous individuals are frequently destroyed by general tuberculosis; and, finally, pathological and anatomical researches called attention to caseous lymphadenitis as a means of diagnosis of the condition known as scrofula. Following this came the observations of von Buhl, who maintained that, in post-mortem examinations of patients dead with general tuberculosis, cheesy foci could invariably be found from which tuberculosis developed. The profession were scarcely willing to admit a close relationship as existing between the two diseases, much less their identity, until Villemin, in 1866, showed, by his experiments upon animals, that tuberculosis can be induced by the introduction of cheesy matter. These latter have been frequently verified by others. While Villemin experimented by inoculating his animals in the subcutaneous cellular tissue, Armanni inoculated caseous matter into the cornea, and Colnheim very ingeniously made use of the anterior

* The address of the chairman of the Surgical Committee, Medical Society of the County of Kings, delivered November 18, 1884.

chamber of the eye in rabbits, whereby the alterations in the living animal can be traced, and the formation of tubercles in the iris can be recognized. Finally, the researches of Klebs, and his beautiful successive-culture experiments, should not be lost sight of in this connection. He claimed that the poison upon which the manifestations of so-called scrofula depended were vegetative micro-organisms.

To show the analogy of the tuberculosis brought about by inoculation of caseous material in the animal and that which occurs in the human being, the subject of a caseous infiltration of lymphatic glands, it may be noted that an eruption of small nodules takes place as a local lesion in the neighborhood of the cheesy mass with which the animal has been inoculated, just as there will be found, in the case of the human subject, either in the lymphatic glands adjacent to cheesy foci, or in their near surroundings, similar nodules preceding the development of tuberculosis of the internal organs. A beautiful example of this came under my observation some time ago in a hospital patient from whom I removed a caseous cervical lymphatic gland. A number of small nodules were found scattered about in the immediate neighborhood of the cheesy mass, which suggested to me that my operation had been done too late to save the patient from what I felt was inevitably coming. My presentiments proved to be only too well founded, for the girl presented herself to me quite recently with a well-developed tuberculous infiltration at the right apex, which was already undergoing softening.

In cheesy foci themselves, whether as found in caseous lymphadenitis, tuberculous orchitis, or elsewhere, as well as in the exuberant tissue formation of granular synovitis of tubercular origin, a careful microscopical examination has shown, in the hands of expert histologists, fine tubercles to exist as a common occurrence. In rare cases these may be distinguished by the naked eye, in which case they are present in large numbers. During a recent visit to the surgical clinic at Halle, the distinguished Professor Volkmann exhibited to me a fresh specimen of caseous deposit in the cancellous tissue of the lower extremity of the femur, taken from a patient who had suffered from granular synovitis. Surrounding the cheesy mass was plainly to be seen a grayish-like halo marking the site of tubercle.

It has been pretty clearly shown that not only the cheesy foci, but the granular foci, not cheesy, of lymphatic glands contain the special poison containing tubercle, whether this latter be in the vegetative spores claimed by Hueter as being the originally infiltrated material of caseous lymphadenitis, or the *Monas tuberculosum* of Klebs, the bacterium of Buhl, or the *Bacillus tuberculosis* of Koch. In view of this fact, it may not be deemed inexpedient to remove any persistently enlarged lymphatic glands, whose induration can not be reasonably accounted for upon other grounds. Even the assumption that these are "only scrofulous" will hardly warrant the surgeon in declining to interfere, for, in the light of the above facts, it may be proper to assume, from a surgical standpoint at least, that tubercle is the legitimate product of a scrofulous inflammation, and this still remains the most comprehensive as well as the simplest explanation of the relations which caseous lymphatic glands, and, in some instances, lymphadenitis without caseous infiltration, bear to general tuberculosis.

The following suggestive experiment was made by Schüller and Hermann Hueter at the surgical clinic at Greifswald: The sputa of a tuberculous patient was atomized, and an animal was compelled to inhale the atomized fluid. The result was, that in this manner inflammation of the joints could be induced among the other ordinary lesions of tuberculosis. The elder Hueter was also successful in producing tuberculous joint disease by implanting cheesy material from a lymphatic gland of a human subject into the muscle of a frog.

The following case may be cited as bearing upon the question of the so-called inherited tendency or predisposition to the development or formation of tubercle as we find it surgically: A lad of thirteen came under my care at the hospital recently, with a large number of enlarged lymphatic glands of the neck, some of which were the site of caseous infiltration. I learned from the mother that I had amputated the boy's father's thigh for what I now remember to have been tuberculous disease of the knee joint, and that the man had perished some little time afterward from pulmonary tuberculosis. This occurred a trifle over twelve years ago, when the present patient was an infant in arms. Here, I reasoned, was a case of caseous, and perhaps scrofulous—whatever that may mean—lymphadenitis, and, if there is such a thing as a hereditary tendency to the formation of tubercle, then this boy will surely become tuberculous.

Fortunately for the boy, I argued, his submaxillary and cervical, rather than his mesenteric and bronchial, lymphatic glands have become the seat of this caseous infiltration which may bear with it, or become fruitful soil for the development of, the spore, coccus, bacteria, or bacillus, upon which the future development of tubercle may depend, in his case. I therefore instituted a series of operations for the removal of all his supra-hyoid, submaxillary, and upper and lower superficial, as well as deep cervical, lymphatic glands of both sides, all of which were involved, giving him a "ruffle-necked pigeon" appearance as he presented himself to me. Of course, it is yet too soon to even speculate upon what the result may be; but I am satisfied that, if my interference has been well-timed, I will have at least saved this boy from one of the sources of danger to which he must be exposed during his entire lifetime—namely, that of tuberculous disease of some joint or internal organ.

To summarize, then, I would briefly call attention to these points: 1. That what may appear—and in the opinion of the older teachers was—an innocent cheesy gland, which had become so from an inspissation of its contents, is really the site of an infiltration of material which rapidly becomes propagated, and constitutes the so-called caseous lymphadenitis. 2. That this caseous infiltration may be, and in all probability is, either the bearer of, or the soil proper for, the cultivation of the spore or germ upon which the anatomical product known as tubercle depends for its formation. 3. That there is a period of quiescence, varying perhaps in different individuals, during which no advance in the disease takes place, but during which the patient is threatened with an outbreak of general tuberculosis. 4. Wherever such casea-

tion is within reach of surgical art, the same rule that is applicable to carcinoma and sarcoma—namely, early, thorough, and complete removal—should be practiced; and this rule might be of service in those doubtful cases where a persistent lymphadenitis, without caseation, occurs, and no explanation or reason for its existence can be found, as well as to enlarged and indurated glands found in the neighborhood of those the site of caseous infiltration.

THE GROSS ANATOMY OF SURGICAL TUBERCULAR DISEASE.*

By E. A. LEWIS, M. D., Brooklyn,
LECTURER ON ANATOMY AT THE LONG ISLAND COLLEGE HOSPITAL.

The gross anatomy of surgical tubercular disease will be briefly considered in this introduction to the papers of the evening which will follow. I may, at the outset, exclude any description of this lesion in the lungs, not only because the gross anatomy is so familiar to all, but also because a *résumé* of this division of the subject is expected in a later paper. The object which I hope to attain is, to particularize those tubercular diseases which may be denominated surgical, and to present in each case the anatomical characteristics.

In so doing I may mention not only the more important lesions, the consideration of which will follow, but also some less frequent varieties, which may be treated by other surgical means than excision.

In what parts of the human body, first, do we find tubercular degeneration which may serve as a nidus for further infection, and which may be treated surgically? Second, What are the general appearances which characterize this lesion? Third, What are the objective symptoms? First, then, as to the different situations of this disease.

It seems that there is hardly any tissue of the body which is not liable to this degeneration.

The various authors, both medical and surgical, describe it as occurring in almost every part of the body and in almost every tissue, from the meninges of the brain to the phalangeal articulations of the foot, the parts least liable to attack being skin, tendon, aponeurosis, nerve, ligament, and voluntary muscle. What concerns us, however, is the general and specific appearance of those parts of the body where surgical interference may be of advantage to the patient.

These situations are, naturally, in the extremities in any part; or, superficially, in the neck, head, or trunk.

1. *Lesions of Mucous Surfaces.*—These are mostly of specific origin, but none the less on that account tuberculous. They are found principally about the mouth in both sexes and the genitals of females. They consist of irregularly oval patches, white or dusky-gray in color, slightly elevated above the surrounding surface.

2. *Painful Subcutaneous Tumors.*—These are found in the connective tissue under the skin, and often involving the skin itself. They occur principally on the extremities, especially the lower one; they are freely movable, and of about the size of a pea, as a rule.

There is no discoloration of the skin when it is involved. Section of these firm little tumors shows a homogeneous mass resembling somewhat adipose, or sometimes white fibrous tissue, and very plentifully supplied with nerve filaments; in fact, they are prone to occur in or over the course of a nerve. There is, third, a variety of subcutaneous tuberculous tumors of specific origin which are multiple, in distinction from the last-mentioned, which are single. These last vary in size, some being as large as an egg; they not only invade the connective tissue, but are sometimes found in muscles and tendons. They are firm and dense, and seldom involve the skin till they are softened and about to form abscesses.

4. *Bone Tissue.*—We find two varieties of this disease, differing both in anatomical characteristics and in the course which they follow. In one variety the deposit is nodular and encysted; in the other there is a diffuse infiltration of tuberculous matter. In either case the contour of the bone is at first preserved in an enlarged form. The first, or encysted variety, begins as a diseased spot, or in diseased spots, some of them as large as a hazel-nut. Section of the bone shows these firm and almost cartilaginous. They eventually soften and break down, forming the true bone abscess. The limb at this time is enlarged and penetrated by fistulous tracts, through which the pus finds exit. Section of the bone at this stage shows a thin external crust with an internal cavity, with more or less firm walls. When, on the other hand, the infiltrated variety of the disease occurs, the bone at first is somewhat enlarged, and section shows the whole interior permeated by small tuberculous points. As the disease progresses the soft parts become involved, while the bone itself is wasted away by a carious degeneration. Its contour is lost, and many times only a thin, irregular shell or fragment remains, while sequestra from time to time come away. The point of distinction, therefore, between these two varieties of tubercular degeneration of bone is, that one forms abscesses in bone—the other is a carious degeneration. Both destroy the bone.

The lymphatic glands are affected more often, possibly, than any other tissue. A single gland may be the seat of the trouble, or a whole chain be at once attacked, or the infection spread from one to another. Children are peculiarly liable, and the glands about the neck most often attacked. These glands become at first enlarged, hard, and misshapen; then they soften, involve the skin and break down into abscesses, leaving behind unpleasant scars. Often they attain a large size before breaking down. Early section shows almost a cartilaginous appearance, the capsule varying in thickness. Later on the contents are softer and disintegrated, resembling millet-seeds, the glandular appearance being entirely lost. Then they become sputtaceous and cheesy, and finally break down altogether into pus.

This disease in the larynx is especially destructive. The submucous tissues are infiltrated and thickened. The mucous membrane presents a worm-eaten appearance from ulcers of different sizes. Pus may be infiltrated through the tissues. The cartilages are eroded, and often bathed in

* Read before the Medical Society of the County of Kings, November 18, 1884.

pus. The ligaments are œdematous. In short, the whole organ is affected and its function gone.

The same two varieties of tubercle which were mentioned as occurring in bone are found also in the genito-urinary tract—i. e., the nodular or encysted, and the infiltrated. The ultimate result of each is the same—i. e., destruction of the proper tissue and function of the part. The testicle is at first enlarged, indurated, misshapen, and often very hard. Or it may be nodular, showing soft spots between the nodules. The epididymis is usually first attacked. The same process of softening of the tubercle with the formation of abscesses occurs as has been described. When abscess has formed and opened, there is apt to be a protrusion of fungous granulations made up of the gland substance of the testicle itself.

The kidney is not much enlarged, and its capsule is not thickened. It may be roughened, uneven, and nodular externally. The encysted tubercles attack the cortical substance first, while the infiltrated variety is general. The result in either case is the same—both the substance and function of the organ are destroyed, and, in extreme cases, there remains only a sacculated cavity containing pus and *débris*.

The specific tubercle which is found in this tract is made up of patches of yellow tuberculous matter.

Last, and perhaps most frequent and important of all,

Tubercular Joints.—Three stages of the disease are usually described.

In the first—called by Barwell "strumous synovitis"—the joint is not much swollen, but stiff. There is some fluid present.

The synovial membrane is thickened as well as the articular cartilage, which becomes loosened from its bony attachment.

As the disease progresses to the second stage, the joint is more swollen, deformed, and baggy. Fluid in the joint-cavity gives distinct fluctuation. The synovial membrane is softened and covered by granulations. The cartilages are ulcerated and worm-eaten. The bone is red, soft, and carious, and the ligaments are loose, spongy, and hypertrophied. Bony points about the joint are obliterated and the skin becomes whiter, thus giving rise to the name white swelling.

As the deformity increases and the tension becomes greater, the *third stage* is reached.

The joint now is discolored, and discharges pus and *débris* from its disintegrated interior.

The death of the tissues mentioned a moment ago is only more complete. The integrity of the whole joint is lost and its function destroyed.

It remains now only to mention a few anatomical points about the different joints which may assist in diagnosis.

In order of frequency, the hip and knee are attacked first, ankle and elbow next, carpus and tarsus third.

In the wrist, swelling at the back of the hand is the distinctive feature. There is indistinct fluctuation. The muscles of the forearm are wasted. The fingers look long. The head of the ulna is often prominent.

At the elbow, the swelling is on the anterior surface, and gives the appearance of two cones with their bases together, their apices directed up and down. The olecranon is the only bony point remaining. The joint is stiff and the neighboring muscles wasted. The opening into the joint usually occurs posteriorly. The ankle shows first fluctuating swellings in front of the malleoli, progressing to general swelling of the joint with wasted muscles, twisted foot, and enlarged ends of the bones.

The knee and hip are the two joints oftenest attacked, and it needs but a word to bring before the mind of each one the picture of this unfortunate visitation. In the knee, the swollen and fluctuating joint, the white, tense skin, the absence of bone landmarks, the enlarged veins, the immobility, the swollen leg, the atrophied thigh—all point unerringly to tuberculosis; while about the hip the anatomical changes are still more striking, not in the first stage, for in this there is little to note. But in the second and third stages, the flat buttock with its flabby muscles becoming afterward swollen and œdematous, the abduction, outward rotation, and apparent lengthening of the limb, followed by adduction, internal rotation, and flexion of both leg and thigh, the wasted muscles, abscesses, and sinuses—these changes alone, without the aid of personal history and all the other means, would render the diagnosis undoubted.

TUBERCULOSIS OF THE GENITO-URINARY TRACT,

MORE ESPECIALLY AS INVOLVING THE KIDNEY AND TESTICLE.*

By FRANK W. ROCKWELL, M. D.,

SURGEON TO ST. MARY'S AND ST. JOHN'S HOSPITALS, BROOKLYN.

Mr. President and Gentlemen: In presenting the subject assigned to me for this evening I must at the very outset waive all intention of either attempting to define certain limits within which true tuberculosis may be said to exist, or of even classifying the disease into primary, secondary, etc.—my object being to simply call your attention to a few clinical facts in regard to one or two of its more important forms, and so furnish material for the evening's discussion.

Strictly speaking, the true pathology of the disease as it affects the genito-urinary tract is by no means settled, some authorities regarding it as a true phthisis, while many others insist that tubercle, when found in these organs, is always secondary to and the result of a preceding strumous inflammation, whose caseous or cheesy products are found, on examination, to contain tubercles, as in other organs. The inextricable confusion which reigns through even modern pathology as to the terms scrofula and tubercle is intensified here, as in many cases "tubercular disease" of a kidney or testicle exists where no hereditary predisposition can be discovered, and in others the histological elements of true tubercle are wanting in specimens whose gross appearances and clinical history point unmistakably to tuberculous disease.

That tuberculosis proper of any of the organs forming the genito-urinary tract may and does occasionally exist as

* Read before the Medical Society of the County of Kings, November 18, 1884.

a secondary result of preceding disease affecting the lungs or glandular system is a fact known to all who are familiar with the post-mortem appearances of phthisis; and, accordingly, it has been seen by most of us as presenting itself in the bladder, testicle, and prostate of the male, and Fallopian tubes of the female.

In these situations it is, however, a mere local expression of a general condition, and of interest clinically simply as it elicits symptoms varying with the functional activity of the organ affected. As a matter of fact, tuberculous inflammation which gives rise to symptoms of sufficient gravity to be grouped and studied by themselves occurs most frequently in two only of the organs constituting the genito-urinary tract—viz.: the kidney and testicle—and it is to these affections I wish to refer in the short time at my disposal.

It is a matter of general experience that renal phthisis is in many instances found in subjects free from hereditary diathesis, and also that, while the generative organs are frequently implicated with the kidneys in the male, this is seldom or never the case in the female. Statistics also show that the disease is nearly twice as frequent in males as in females; also that, while found at both extremes of life, it is most common in middle age, when the functional activity of the generative apparatus is at its highest, and also the depressing influences which produce tubercular diseases are most active. Commonly both kidneys are diseased, but *in many of the cases where one side only has been affected, the epididymis or testicle of the corresponding side has been also found diseased.* Upon this fact I wish to lay some stress, as it seems to my mind to convey a strong reason for believing that, in the male sex at least, a close relation exists between tubercular disease of the generative system and that of the kidney; and that this relation is one of cause and effect would, I think, have been admitted long ago were not both diseases so rare as to have been studied only in isolated cases and at infrequent intervals.

As the symptoms of tubercular kidney are largely those of chronic pyelitis, caused by the gradual accumulation and breaking down of caseous foci and tubercular deposit in the tissues of the kidney, and the resulting ulceration in and absorption of the renal structure, but little time need be spent upon them. A significant fact, however, is that in secondary disease of the kidney (the commonest form of the affection) the pathological processes begin almost invariably upon the *mucous surfaces* of the pelvis of the organ, the papillæ being the first portions of renal *tissue* involved.

The diagnosis, too, of the disease is by no means an easy matter, unless it coexist with phthisis of some other organ, although some observers lay stress on the presence of caseous *débris*, or fibers of elastic connective tissue in the urine. In all cases of suspected nephro-phthisis a thorough examination of the epididymis, testicle, and especially of the prostate gland and seminal vesicles, should be made, as a nodular or hardened and knotty condition of these organs would strengthen the suspicion, especially if associated with progressive wasting, hectic, hæmaturia, and lumbar pain or tumor. The following case illustrates the general features of this rare affection perfectly, and is the only one I have seen:

C. M., aged thirty-seven, an Irish laborer, single, and perfectly continent; had enjoyed perfect health until October, 1882, when he experienced some difficulty in urination. A few weeks after he fell, striking his perinæum on a wheelbarrow and bruising his penis. Considerable swelling and inflammation followed, and lasted for two months, when he was circumcised for a phymosis which had developed. In the following July, or nine months after the initial symptoms, he came under my care. During this interval he had become emaciated and anæmic, and complained of constant pain in the head of the penis, with great tenderness over the pubes, and other symptoms of cystitis.

He had a deep-seated spasmodic stricture, admitting only a 7½ F. tunneled sound, and rectal examination showed an enlarged and tender prostate. This fact, together with the age of the patient (thirty-seven), and the absence of any history of gonorrhœa—especially as during the next few days he developed an evening temperature varying from 100·5° to 103°, chills, night-sweats, and colliquative diarrhœa—led to the diagnosis of tubercular disease of prostate and bladder, with probable extension of disease to kidneys. Between this time and September 1st, about six weeks, the patient sank steadily, with occasional intermissions of a few days, when his symptoms seemed to improve under treatment.

His morning temperatures were normal, the evening varying from 102° to 103·5°. Repeated examinations of his lungs failed to reveal any pulmonary difficulty. Early in September he began to have a muco-purulent expectoration, and slight dullness was discovered at the apex of his left lung, with infiltration of bases of both sides.

September 8th.—Rectal examination revealed the prostate larger than at previous examination, and studded with small nodules; no softening. His cough had become distressing, and his expectoration profuse and purulent. By the end of the month he had sunk into a semi-comatose condition, was extremely emaciated, and died, exhausted and worn out by his sufferings, on the 29th of the following October, just a year from the supervention of his first symptoms.

At the autopsy the lungs were found to be the seat of general tubercular deposit, and contained several cavities. The alimentary canal and mesenteric glands were normal.

Both kidneys were tubercular, the left, however, containing only a few caseous foci, averaging about 1 cm. in diameter, while the right was one mass of disease. All the pyramids had been converted into cheesy, tubercular masses. Only a few points of healthy tissue remained, and these were limited to the cortex. The pelvis and ureter of the right kidney were also tubercular and thickened, their mucous membrane being converted into a soft, cheesy layer. The bladder contained a greenish muco-pus, and its membrane was thickened, degenerated, and studded with small nodules from 1 to 2 mm. in diameter.

The prostate was also tubercular.

This case undoubtedly began as a tubercular affection of the prostate or bladder, and ended with tubercular kidney and pulmonary phthisis. I quote it because it is so pure a type of its class, occurring in a perfectly healthy temperate man of middle life, and probably aggravated by the injury to his generative organs consequent on his fall. Had the original starting-point of his disease existed as a cheesy deposit in his epididymis or testicle, the result would have undoubtedly been the same, and this is the point to which I am anxious to draw attention, because I believe that upon its recognition depends the safety of many patients afflicted with tubercular epididymitis or orchitis. Authorities all

recognize the undoubted relation between the two diseases. Ebstein says: "Sometimes the caseous inflammation begins in the mucous membrane of the bladder, and thence extends uninterruptedly through the ureters to the kidney. In exceptional cases the prostate may be the starting-point of the disease. By far the most frequently, however, the primary cheesy inflammation is seated in the testicle and epididymis, and the process is conducted to the kidney, either by direct continuity of tissue—the spermatic cord, prostate, bladder, and ureters being in turn involved—or discontinuously, one or all of these parts remaining unaffected."

With this view Van Buren, Roberts, and other writers agree, and the pathological text-books are filled with clinical evidence supporting not only this view, but that which regards caseous foci of the genito-urinary system as extremely liable to be followed by general or pulmonary tuberculosis, and yet the treatment of the primary lesion based upon this conclusion seems singularly inadequate from a surgical point of view. Iron, tonics, cod-liver oil, hygiene, and fresh air are universally recommended, with the hope that the patient may recover his general health, and so find a termination to his disease; or that the formation of a capsule about the caseous masses, thus preventing absorption of infecting substances, or the rarer termination in cretefaction of the inflammatory products, remove their power to injure.

How little dependence can be placed upon these hopes in the great majority of cases so treated, experience amply testifies. Sooner or later the patient develops a progressive series of symptoms, whose beginning and end we are all familiar with: Inflammation of the organ involved, breaking down of the cheesy masses, destruction of the surrounding tissue, abscess, ulceration of the overlying integument, prolonged and exhausting suppuration, during which the patient is in constant danger from the supervention of tuberculosis of the kidney or lung, and terminating finally in the removal of the organ involved, when, perhaps, the other testicle is already affected, and the patient's shattered health renders him unable to withstand the inroads of a fresh disease. Certainly, if good results are occasionally attained by, or rather in spite of, the treatment just mentioned, they are found among the wealthier class of patients, whose means enable them to secure all the benefits which may accrue from removal to fresh country air and abandonment of all depressing influences. In this class, however, the disease is comparatively rare, and it is among the poorly nourished and badly housed patients who seek our charitable institutions that it is commonly found. To the latter neither time nor opportunity is afforded for "leading an easy out-door life in the country," or "fleeing to the sea-side or a Southern climate." They can not even, as one author recommends, "observe all the conditions of physical hygiene suitable to tubercular cases," and, as the same author fitly observes, "their case is sad indeed." All practical physicians know how small a proportion of those suffering from pulmonary phthisis receive any marked benefit from residence in a hospital ward: indeed, in many cases the moment of admission marks a fresh invasion of the disease or exacerbation of symptoms already existing. What is *generally* true of these cases is *especially* so in regard to tuberculous disease of the genito-urinary tract, and expectant or simply local treatment usually ends in disappointment.

It is for this reason that I believe the treatment of tuberculous testicle should be that of strumous disease of any other gland, and that early removal, either of the caseous masses or of the whole diseased organ, should be more generally practiced than at present.

The first indication—that of removal of the cheesy masses—may be easily accomplished by means of the blunt curette, used through an incision over the softened masses, and can be practiced at an early stage of the disease, and in cases where, for any reason, the more radical operation of extirpation of the testicle is not practicable. This has been recommended and successfully practiced by Professor Humphrey, of Cambridge. After turning out the masses, he thoroughly cleanses the cavity, applies nitrate of silver freely to its walls, and then plugs it with lint to encourage suppuration and healthy granulation. This treatment is an advance on the simple expectant plan, and in accord with modern ideas as to the infectious qualities of cheesy or tuberculous matter; and most excellent results are reported from its employment. It is, however, only adapted to a limited class of cases—those seen early enough to encourage the hope of complete removal of all diseased structures, or, as in case of disease of both testicles in an advanced stage, where it is practiced with the idea of modifying discharge, and so contributing to an improved condition of health. If this measure fails, it seems to me that, in all cases of those who are unable, for any reason, to avail themselves of every means generally used to combat tuberculous disease, extirpation of the testicle should at once be practiced, since, radical as the measure is, it is the one attended with least danger to the patient, and restores him most rapidly to complete health and usefulness.

How quickly and easily convalescence follows, even when the disease is progressing rapidly, the following case will illustrate:

A carpenter, nearly sixty years of age, while lifting a heavy package, noticed a sudden pain in his left groin. He paid but little attention to it at the time, but in two weeks the left testicle had enlarged to the size of a small hen's egg, and was tender to the touch. His general health had always been perfect, and there was no specific or tubercular history. March 27, 1884, *just six weeks after the accident*, he entered my service at St. Mary's Hospital. One week from the time of his admission, as his history and symptoms pointed toward acute strumous disease, I made an exploratory incision, having first explained to the patient the possibilities as to the loss of the testicle.

The epididymis was found converted into a sac, containing granular and cheesy *débris*, floating in flocculent pus. In view of the patient's age, his position as chief support to his family, and especially the danger to him of a prolonged residence in a hospital ward, I at once removed the testicle, using a catgut ligature upon the cord, and closing the wound with horse-hair sutures. A drainage-tube and the usual naphthalinated dressings were applied.

In spite of his age, and the fact that the wound did not heal so rapidly as is usual under more favorable circumstances, he was up and about the ward in two weeks, and was discharged from the hospital at the end of another, or just three weeks

from the day of operation, having never had a temperature higher than 99° during his convalescence.

The microscope showed the tubules which form the *coni vasculosi* of the epididymis completely choked with disintegrating strumous material, and the connective tissue of the organ in great excess. No miliary tubercle proper was found, probably because the inflammatory process was of so acute a character that it had not yet been deposited.

The patient was again at his work within a few days, and has been ever since, with no return of symptoms. Yet who shall say that the outcome of his disease would have been so fortunate a one for him if to a merely expectant and tonic treatment had been added the injurious influences of hospital life.

It certainly would seem that, in view of all that is known of the infectiousness of tubercle, of the danger to patients in whose tissues caseous masses are breaking down, and especially in view of the direct relations which have been shown between strumous testis and tuberculosis of the kidney or lung, some more effective treatment than that generally advocated should be adopted, and that the rules which are now applied to tuberculous or strumous glands and joints should be allowed at least equal weight in deciding the operative treatment of tubercular testis.

NOTE.—On the evening succeeding the one on which this paper was presented before the Medical Society of the County of Kings, Professor Dennis read his very practical paper before the New York State Medical Association, and it was published in this journal for December 27, 1884. In the presentation of his first illustrative case he gave a text quite as powerful as the one recorded above for the enunciation of the views here maintained. Surely the early removal of caseous testicles would do something toward lowering the mortality shown by the statistics alluded to in his closing remarks.—F. W. R.

THE SURGICAL TREATMENT OF LUNG CAVITIES.*

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THE want of success in treating lung cavities by internal remedies has induced some physicians to try local treatment by surgical means.

W. Koch, E. Fraenkel, Jablonowsky, Hiller, Pepper, and Mosler tried to cure lung cavities by making injections through the thoracic wall into the diseased part of the lung with solutions of carbolic acid, salicylic acid, and iodine.

These trials, made in different parts of the world and by different men, have all been unsuccessful, if applied to tubercular cavities or such as were complicated with tubercular disease.

Mosler and others tried to aspirate the contents of lung cavities, and injected medicines afterward, but had no better result.

After these failures Mosler took up the old plan of opening lung cavities. He hoped to obtain better results by evacuating their contents, establishing thorough drainage, and applying antiseptic dressing.

The opening of lung cavities had been first proposed by Baglivi, 1664 and 1696; again by E. Barry, of Dublin, 1726 and 1763, who professed to have cured several consumptive patients; Sharpe, 1766; Ponteau, 1783; and a number of others.

Lung cavities threatening to burst open were incised or punctured by Brechet, 1831; Macleod, 1836; Claessens, 1839; Hastings and Storks, 1844; Herff, 1844; Collins, 1855; Mosler, 1873; and Pepper, 1874.

At the request of Professor Mosler, Hueter operated on a patient, forty-nine years old, who had been treated about five years for a bronchiectatic cavity in the upper lobe of the right lung, who had had several attacks of hæmoptysis, was very much emaciated, and had albuminuria in consequence of amyloid degeneration of the kidneys.

Hueter operated July 2, 1873, in the following manner: He made an incision, through the integument and intercostal muscles, on the upper border of the third rib, about three centimetres long, and about five centimetres and a half from the sternum. He found the pleura adherent, and pushed a dressing-forceps slowly through pleura and lung until he reached the cavity; he then enlarged the opening. Hæmorrhage did not occur. A large silver drainage-tube was introduced into the cavity, and fastened externally by strips of adhesive plaster. Carbolized dressing was applied to the wound, and over it an ice-bag. Patient bore the operation well.

In the evening the temperature was 37·8° C., pulse 84, respiration 36.

Pus discharged freely through the tube, especially during coughing fits. The dressing was changed several times a day. Cough and expectoration diminished soon.

July 12th he had a slight hæmorrhage. A dilute solution of liquor ferri sesquichlorati was inhaled, and the hæmorrhage ceased. Subsequently a dilute solution of carbolic acid with iodine was passed through the tube into the cavity by means of an atomizer.

Injections of a solution of permanganate of potassium, made with an irrigator, were not well borne; they caused oppression and fever.

Mosler reported the case at the Medical Congress at Wiesbaden, 1873. The report drew general attention to the local treatment of lung cavities, and encouraged others to make new trials.

However, the strength of the patient failed, owing to albuminuria. His condition was much aggravated on October 3d He rapidly declined, and died October 5, 1873. Post-mortem examination revealed the presence of tubercles in the left lung, a large cavity in the upper lobe of the right lung, of irregular shape, communicating anteriorly with the channel which had been occupied by the drainage-tube. The cavity was filled with a yellowish, thick fluid. On pressure, the cut surfaces of the lower lobe discharged a watery fluid tinged with red, and tubercles were found. Spleen and kidneys showed amyloid degeneration.

January 14, 1875, Hueter operated on another patient of Mosler's. The patient had a large bronchiectatic cavity in the upper lobe of the left lung.

The operation was performed in the same manner as in the first case.

During the treatment, medicines in liquid and pulverized form were introduced through the drainage-tube. Granulations developed in the cavity; it became necessary to shorten the drainage-tube; finally it could not be introduced, and, after a short time, air and secretion ceased to be discharged from the wound.

* Read before the Medical Society of the County of Kings, November 18, 1884.

The tympanitic sound on percussion and gurgling râles had disappeared from the locality where the cavity formerly was. There was no tenderness on percussion. A gradual drawing in of the surface took place, and retraction of the lung from the heart, whose area of dullness increased. The patient gained strength and considerably in weight. He made no complaints, and was discharged from the hospital in the latter part of March, able to resume work.

Apparently the operation had been successful. Unfortunately, the disease returned after the lapse of eight months. The patient applied for readmission to the hospital.

On examination, it was found that the disease had returned in the left lung and extended to the upper lobe of the right lung. The cough was persistent, and the expectoration copious and puriform. Patient had albuminuria, and no appetite. Colliquative diarrhœa set in; the destructive action progressed rapidly in both lungs, accompanied by high fever and dropsical symptoms; his strength rapidly failed, and he died March 25, 1876.

Post-mortem examination showed general tuberculosis, with amyloid degeneration of many organs.

The fatal termination of this case seems to prove conclusively that lung cavities due to or complicated with tuberculosis can not be cured by incision and drainage.

Other diseases have been treated with more success, especially echinococcus, abscess, and gangrene of the lung.

Professor Mosler treated a patient in 1875, who had an echinococcus in the right lung, with injections of carbolic-acid solution, and cured him.

Another patient was admitted July 6, 1882, with fever, pain in the chest, hæmoptysis, and spasmodic cough, which brought up large cysts. Dullness on percussion over the base of the right lung from the axilla to the spine. Breathing indistinct, at some points bronchial, and some râles.

Liver not enlarged. After inhalation of eucalyptus oil he expectorated, from July 7th to 13th, nineteen cysts, from the size of a pea to that of a hen's egg.

Vogt operated July 18, 1882, at the request of Professor Mosler, in the following manner:

Removed about 4 cm. of the sixth rib by subperiosteal resection at the place indicated by the physical signs. The pleura was adherent. A trocar of medium size and about as long as a finger was thrust into the lung in three different directions, hoping to be able to evacuate the contents of the echinococcus cyst. Only a small amount of frothy blood appeared. The operation was suspended. The wound healed under antiseptic dressings, without further complication, in twenty-four days.

The cough was very much diminished. No more cysts had been expectorated. Apparently cured, he was discharged August 28th.

About the middle of September he coughed up a large cyst, and twice again during the following week. He was advised to return to the hospital, and had not the least hesitation in submitting to another operation.

October 20th Vogt operated again, after resection of a piece of the seventh rib. He used the thermo-cautery and pushed it through the pleura into the lung. The operator explored the fistula-like opening in the lung with his carbolized finger, and felt in the lower lobe what seemed to be a tense bladder. The thermo-cautery was pushed down deeper, hoping to reach the cavity and to evacuate it. This did not occur. The fistula-like opening in the lung was carefully syringed out, a large drainage-tube put in, and antiseptic dressing applied. The operation lasted about one hour. Evening temperature was 37·8° C., pulse 88, respiration 20. No elevation of temperature occurred later. The pneumonic fistula was washed out daily with a one-per-cent. salicylic-acid solution, followed by antiseptic dressing. Granulations developed very soon in the wound. No more echinococcus cysts have been discharged from the wound, or coughed up. On the 1st of December the wound had healed, and the patient was discharged on the 10th.

March 1st he was engaged as nurse in the hospital, and works hard without inconvenience from the lung.

Fenger and Hollister, of Chicago, reported a case of echinococcus of the lung, which caused a large abscess in the middle lobe of the right lung, complicated with gangrene.

The history of the case was published in the "American Journal of the Medical Sciences," and I will only state that the treatment was successful.

Two openings were made, a drainage-tube was drawn through, and the cavity washed out.

While this was done the patient had very severe paroxysms of cough, and the cyst of the echinococcus became loose, was discovered, and removed.

The cavity was washed out every day, and antiseptic dressing applied to the wound. Operation, December 26, 1880.

Patient was cured, and discharged from the hospital April 7, 1881.

There can be no doubt that the operation is indicated in many cases of abscess and gangrene of the lung, as there is but little prospect of recovery without it. It may be very difficult to form a correct opinion whether, at a given time, a spontaneous cure by the efforts of nature may be expected or not; but the operation should not be delayed until the vital powers are too reduced to admit of recovery. Cavities in the supra- and infra-clavicular regions, or in that part of the lung covered by the scapula, do not come within the sphere of operative interference.

Cavities in the mammary, axillary, and infra-scapular regions can be reached.

An important question is, whether the operation is to be continued or abandoned if no pleuritic adhesions are found.

It would be rash to open the pleural cavity and run the risk of causing an acute pyo-pneumothorax, which might result fatally.

Fortunately, adhesions are generally found in cases that require surgical treatment. Their presence or absence can be ascertained by pushing an exploring-needle through the intercostal muscles and pleura into the lung. If it does not move synchronously with the respiratory movements, it is certain that adhesions are present.

It is advisable to make several explorative punctures and aspirations before operating, in order to ascertain the exact position of the cavity, its depth, and the character of its contents.

If the cavernous signs are confined to a small area, the incision has to be made there.

If the cavity is large, it is preferable to make two openings.

One at the point of easiest access; it should be large enough to admit a finger, which should be introduced to

make a careful exploration of the cavity. It must be ascertained whether any loose pieces of dead tissue are in the cavity, and where the most favorable point is for the second opening, which should be as near as possible to the lowest part of the cavity.

If only one opening is made, a double drainage-tube should be used, as it facilitates the washing out of the cavity.

The incision through the integument and intercostal muscles should be about two inches long, to give ample room. After division of the integument and muscles, the knife should be used no longer; the pleura and lung tissue should be perforated with a blunt instrument.

Hueter and Fenger used a dressing forceps for the purpose. After reaching the cavity, they enlarged the opening by separating the blades of the forceps. The thermo-cautery is to be preferred for this part of the operation; its employment diminishes the danger of hæmorrhage.

The cavity has to be washed out, especially if fœtor is present.

Lyell used Condy's fluid. Most of the other operators used solutions of carbolic acid. Carbolic acid is so prone to cause poisoning, if used in this manner, that it is preferable to use salicylic-acid solutions; or, if more energetic action is needed, chloride-of-zinc solutions.

Thymol seems to be too irritating to the bronchial mucous membrane. In one of Professor Mosler's cases a sudden change for the worse occurred after an irrigation with a thymol and boric-acid solution.

The dressing should absorb the discharge readily, and must be changed as frequently as the amount of discharge necessitates. If possible, the dressing should be arranged in such a manner as to require but one change in twenty-four hours, because frequent changes disturb the patient too much.

Professor Mosler made out a list of nineteen operations on lung cavities performed and reported since 1873. As the list has not been published in English, I translate it, and add it here:

1. Mosler and Hueter, 1873—Bronchiectasis, incision, drainage.
2. S. Sutton, 1873—Abscess, incision, drainage.
3. Mosler and Hueter, 1875—Bronchiectasis, incision, drainage.
4. Radek, 1878—Abscess, incision.
5. Cayley and Lawson, 1879—Gangrene, incision, drainage.
6. Sedgewick, 1879—Abscess, paracentesis.
7. S. C. Smith, 1880—Gangrene, incision.
8. Douglas Powell and R. W. Lyell, 1880—Bronchiectasis, paracentesis, drainage.
9. Fenger and Hollister, 1881—Echinococcus, gangrene, incision, drainage.
10. E. Ball, 1881—Gangrene, incision, drainage.
11. G. Finne, 1881—Abscess, incision.
12. Albert, 1881—Bronchiectasis, thermo-cautery.
13. O. Sommerfeldt, 1882—Tubercular cavity, paracentesis, drainage.
14. H. Payne, 1882—Abscess, incision.
15 and 16. W. Koch, 1882—Bronchiectasis, gangrene, thermo-cautery.
17. Mosler and Vogt, 1882—Echinococcus, thermo-cautery.
18. Mosler and Vogt, 1882—Bronchiectasis with gangrene, thermo-cautery.
19. C. F. Williams, 1882—Bronchiectasis, incision, drainage, trocar.

NATURE OF THE CAVITIES.

Abscess of the lung, 5.
Gangrene of the lung, 5.
Tubercular cavities, 2.
Bronchiectasis, 5.
Echinococcus of the lung, 2.

MANNER OF OPERATION.

Once repeated punctures.
Twice paracentesis with trocar and drainage.
Eleven times incision and drainage.
Five times thermo-cautery and drainage.

Thirteen patients died a shorter or longer time after the operation.

Two patients were considerably improved.

Three patients were permanently cured (two of echinococcus and one of gangrene with empyema).

In one case the result is not known.

A CONTRIBUTION TO THE STUDY OF CHOREA LARYNGIS.*

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There is about chorea laryngis, as an independent affection, a vagueness and uncertainty which has attached to its prototype for more than four centuries. Chorea is, in fact, a term convenient but unfortunate; of dubious parentage, of uncertain application, and of unestablished pathology, There is, therefore, about almost any case room for two opinions, and I premise my remarks by the statement that the one now presented is not fully covered by the term chorea laryngis, although at one stage of its progress it would have been styled by an observer a typical case. The spastic inco-ordination, or inequipollence of muscular action, the insanity (as Watson has called it) of the muscles, was well marked, and particularly was the resemblance to ordinary chorea emphatic, in that the perturbance of motion was present without voluntary effort at phonation as well as during the attempt. The antecedent history of the patient gives the case a significance which I trust will justify its selection as a subject.

Dr. S., a physician, fifty-seven years of age, of healthful appearance, and of vigor sufficient, up to this attack, to carry a large practice, the personal management of a great number of rented houses owned and acquired by his profession, an active member of the City Aqueduct Board, and at the same time manager of a flourishing drug business (all of which are men-

* Read before the American Laryngological Association, May 14 1884.

tioned as bearing on the case), noticed, January 1, 1883, a gradually increasing dysphonia, and in two weeks became completely aphonic, without cough, difficulty of swallowing, or pain.

The first note on my record, made January 15th, two weeks after the first symptom, states: "pulse weak and small, posterior surface of epiglottis and anterior wall of larynx subacutely inflamed, all other parts of larynx normal." Four days later, under treatment, the inflammation had almost subsided, but a loss of power in the tensors of the cords was well marked. On the 22d this impairment was less notable, but the inflammation had returned, painless but bright in color, and with a margin as defined as is seen in erysipelas or erythema, still confined to the anterior wall and epiglottis, which were hyperæsthetic, and suggested herpes of the mucous membrane. There was some general debility. Twenty-two days from the first aphonia, examination showed irregular choreic inco-ordination clearly and singularly marked without effort at phonation, slightly quieted by an attempt to speak, but increased upon prolonged effort, hyperæmia gone, and the various parts of the larynx of normal appearance. Dysphonia now well marked, as might be expected, but at this time no phonetic spasm.

This condition persisted for several weeks, and for how much longer I am unable to say, as the doctor went to the seaside and subsequently to the mountains, and passed for a few months from observation; but, for the several weeks mentioned, the laryngoscopic appearances were singularly suggestive of the general chorea as seen in young people at puberty, especially as regards the irregular action when no volitional effort was directed to the parts.

The thyro-arytenoids, the arytenoids, and the crico-arytenoids seemed endowed with independent life, twitching and starting in a most erratic manner. There was no peculiar cough, barking or stridulous, for there was not sufficient co-ordination to produce these, nor was the patient conscious of this choreic condition, the inability to speak aloud being the only inconvenience.

In this there was no change at any of the localities visited, although the general health was manifestly improved; nor was there outward evidence of change for a year from the incipiency of the trouble.

At this time, January, 1884, the choreic incoordination had disappeared. There was still aphonia, and, although there was no actual paralysis, the tensors were evidently weak, and the laryngeal mucous membrane was of somewhat diminished sensitiveness.

This weakness was progressive, and, in March of the present year, fifteen months after the beginning of the trouble, in spite of a variety of treatment, there was paresis of the thyro-arytenoids and spasm of the lateral crico-arytenoids.

At this stage he was examined, at my request, by Dr. Elsberg and Dr. Lefferts, as he manifested the singular phenomenon of *inspiratory phonation*. Only with great effort and pain could he form a single syllable on expiration, and his efforts to do so while under examination by the gentlemen named, combined, perhaps with exposure to cold, produced so great exhaustion as to confine him to his room for nine days, at which time he took passage for Europe.

Omitting, for the sake of brevity, all unimportant features, I would state that I next examined on his return on the second of the present month. The following condition existed:

Slight redness of vocal bands, no paralysis, but upon protracted effort at phonation a tendency to spasm of the lateral crico-arytenoids. Phonation in a low tone, good for a few seconds, then effort expended, with tendency to facilitate respiration by elevating the arms over the head. General condition good; no cough. Careful examination of the thorax showed no evidence of aneurysm, enlarged glands, or cardiac disease, and a high-pitched percussion note and impaired respiratory sounds at the apex of the lung, formerly the seat of disease, were the only morbid or abnormal conditions.

There has been at times, however, a pain in the spine opposite the ganglion of Wrisberg, and also in the epigastrium, which seemed suggestive in connection with the tendency to elevate the arms already mentioned.

No evidence or suspicion of central cerebral disturbance. *A most important feature is this: In a dry, clear, elevated atmosphere all symptoms disappear.*

The previous history is important. On several occasions during the past twenty years the health has been impaired by overwork. The first attack that came to my notice was an apex pneumonia with hæmoptysis, not severe, but accompanied by the usual symptoms, and complete recovery with adhesions.

About ten years ago he had a prolonged and violent attack of the trouble originally well described by Da Costa as "irritable heart." For several days this was mistaken for endo-pericarditis, but sphygmographic observations, with careful physical examinations, eliminated the inflammatory element, and the affection was defined and ascribed with probable correctness to the inordinate use of quinine (twenty grains daily for six months) just prior to the attack. The action of the heart for several weeks was arhythmic and irregular, and corresponded to the description of cardiac chorea spoken of by some authors, but which seemed to me more correctly to be defined as "irritable heart."

Now, in reviewing this case, we have in a man past middle life a laryngeal hyperæmia and hyperæsthesia; a gradually developed inco-ordination peculiarly choreic, in that there was a long-continued insanity of the muscles persistent even without effort at phonation, slowly resulting in paralysis of one set of muscles and spastic contraction of another, the latter, as you are aware, being one of the possible results of long-continued chorea.

We even have the suspicion of cardiac disease so frequently connected with chorea, to which such manifestations have by some authors been ascribed.

Nor is the theory of Hughlings Jackson as to the pathology of chorea (the plugging of the vessels that supply the corpora striata) to be lost sight of in this connection, since we might well suppose lesion of the kinesodic tracts a factor in producing the paresis and spasm of muscle here exhibited.

More plausible still is the idea of chorea in connection with the views of Dr. Dickinson, with whose valuable paper, read in 1875 before the Medico-chirurgical Society, you are doubtless familiar. I beg leave to quote: "Post-mortem observations show a general tendency to dilatation of the smaller vessels, especially the arteries throughout the substance of the brain and cord, attended with exudation into surrounding tissues, in some cases patches of sclerosis, and in some small hæmorrhages most advanced in the corpora striata." His conclusion is that chorea depends on a widely spread hyperæmia of the nervous structures, and that the subsequent paralysis is explained by the tendency to sclerosis, a condition not unreasonably to be inferred in this case from the patient's history.

We are also reminded, by the localized herpetic hyperæmia of the larynx which accompanied and probably preceded the choreic disturbance, of the superficial spinal reflexes

which cause contraction of special muscles when the cord is healthy, and which, when the irritation is prolonged, may produce irregular action.

With all this, however, it is manifest that we should not clearly define the case by the term chorea laryngis, except in so far as it describes a condition grafted upon some other affection of the system, using the term precisely as we use the words aphonia, cyanosis, or anæmia.

In all cases of persistent and irregular action of the laryngeal muscles, irritation is an essential factor; but in our search for a cause we are not so restricted as in a general chorea, inasmuch as the anatomical nervous structure of the supply, while complex, is restricted in area.

Theoretically, the irritation should be either at the origin of or at some point in the distribution of the pneumogastric nerve, or in the course of its branches; and, as experience has demonstrated that most of the motor perversions from such irritation are symmetrical, we have the multitude of peculiar coughs, clonic spasms, or aphonias, and but few evidences of inco-ordinate action essential to chorea. If central, as from minute emboli, effusion, or hyperæmia, we should be quite likely to have development of symptoms at the ultimate distribution of the pneumogastrics, the heart, the lungs, or the stomach. If originating in the mucous membrane of the larynx, the apices of the lungs, the glandular structures which might press upon the laryngeal nerves, the stomach, or the heart, the motor distribution through the laryngeal nerves might alone be affected.

If we accept either of the prominent theories of Dickinson, Hughlings Jackson, or Brown-Séquard, as to chorea, the character of the central lesion could hardly affect alone the distribution of the laryngeal motor nerves, and in any given case, therefore, we should give preference to the belief that the trouble was reflex. In most cases, indeed, we should be justified in giving preference to a proximate and superficial, and not a remote or deep reflex, since in the latter case, as in enlargement of bronchial glands, aneurysm, cardiac hypertrophy, etc., we have a grosser irritation and the familiar short cough, or the not infrequent aphonia with no incoordinate action.

In reviewing a considerable experience with cases of chorea, I have been struck with the variety of localized choreic manifestations—for example, of the trapezius of one side; of the eyelids of one side; of groups of or single muscles in an arm or leg, on the thorax or abdomen; in boys and girls at puberty, in the levatores and tensores palati, where the contraction gives rise to the production of strange guttural noises; but in all these there has been either organic change, or the general condition and aspect of the patient have been suggestive of such trophic disturbance as justified the term chorea, and this in direct proportion to the avolitional character of the muscular motion.

Inco-ordination occurring when the will is directed to the parts suggests that still more indefinite affection—hysteria, or the lesion of sclerosis, where, indeed, the distinctive peculiarity is incoordination *only* upon volitional effort.

In any chorea we expect a lowered state of the nervous system, the absence of a direct irritant (for the convulsive twitching of the muscles of the shoulder from a bullet imbedded in the palm while choreic is certainly not chorea), and a choreic condition or tendency which would be manifested at times in other parts of the body; and to apply the term to a laryngeal inequipollence we might well proceed as in general chorea.

In the one case we eliminate the saltatory phenomena as belonging to emotional insanity or hysteria—the electric chorea of Dubini, the myelitis convulsion of Hörtel, the tarantism of the sixteenth century, and the tigretier of Abyssinia—as phenomenal, although choreic exhibitions of hysteria, and also the countless movements from the uncontrollable gigglings and grimaces most familiar, to the jerks and starts of the epileptic which have been included under the name.

In chorea laryngis we can, without violence, in a similar way eliminate most of the peculiar barking coughs often hysterically contagious—the asynergy of Krishaber common in laryngeal tumors, the spasmodic laryngeal cough arising in subacute laryngitis upon change of position, the laryngismus of tubercular meningitis or effusion, the reflex spasm from goître, and a multitude of temporary phenomena often conveniently termed chorea laryngis—and approximate the definition of a doubtful term as "a morbid manifestation or condition with two essential qualities":

1. Ability to produce, but inability to protract, co-ordidinate action.

2. Irregular and unequal action, without as well as with volition.

These may arise from either of three sources:

1. A choreic temperament and condition, with tendency to manifestation in other groups of muscles—i. e., a localized manifestation of general chorea.

2. A trophic impairment developed in the course of some other affection or disease.

3. Irritation of the laryngeal mucous membrane, or of the terminal filaments of the pneumogastrics—the one a superficial, the other a deep reflex.

To either, and, perhaps, to both the latter, the case today presented belongs—a chorea laryngis, yet presenting the idea of a symptom only, instead of a distinct disease.

Still, I do not believe with Massei that we should discard the term because it describes a condition and not a disease. Asthma is not the less a veritable affection because the term is misapplied to cardiac or gastric dyspnœa, to pulmonary œdema, bronchitis, or aneurysm; and chorea laryngis, while, like its prototype, most frequently a functional and symptomatic disorder demands nevertheless a name, and we will accomplish much if we secure for it correctness of application.

GONORRHŒA IN THE FEMALE.

By ANDREW F. CURRIER, M. D.

When we consider the frequency of this disease, the grave complications and sequelæ which attend and follow it, its extreme communicability, and the thought and attention which have been directed to its counterpart in the male sex, it seems very strange that the knowledge concerning it, as enunciated in the text-books, should be so comparatively

meager and unsatisfactory. Whether we consult the works on general surgery, venereal diseases, or gynæcology, there is everywhere the same evidence of unsatisfactory and imperfect investigation and knowledge.

With the development and subdivision of medical science, there was good reason for expecting more thorough work and better results than under the old plan. Such results have been obtained, and, in proof of this assertion, it is only necessary to point to the achievements of gynæcology. It remains for gynæcology to make a further contribution in the shape of an exhaustive and satisfactory treatise upon gonorrhœa in the female. The present moment is propitious for such a work, inasmuch as the limit seems to have been reached, in so far as operative gynæcology is concerned. I say that this work belongs to gynæcology, and a moment's reflection will reveal the correctness of the statement; for, first, the gynæcologist acquires a *peculiar* education with reference to the anatomy and pathology of the female pelvic organs; second, in these days in which gynæcological clinics are multiplied, females suffering with disease of the pelvic organs no longer go to a clinic for general medicine (I am speaking now of public practice, from which much of our most valuable experience and information comes). It is as reasonable that they should go to a gynæcologist for all such troubles as to an ophthalmologist for disease of the eyes.

To define my subject is not an easy matter. The most recent author upon the subject of gonorrhœa in general (Milton, "On Gonorrhœa," Wood & Co., New York, 1884) considers it as "a purulent discharge due to connection, or to the contact of infecting matter originally secreted by the mucous surfaces of the genital and urinary passages, and reproducing the same in another, who can give it to a third."

While this definition is faulty and lacking in comprehensiveness, the notable feature of the contagious character of the *disease* is sufficiently prominent. In addition to this characteristic, it may be considered as an inflammation of the mucous membrane of the genital tract, especially of the vagina, but also of the urethra, vulvo-vaginal glands, vulva, cervix and corpus uteri, and Fallopian tubes. It is susceptible of various complications, some of which are mild and others severe in character. It may run a very acute or a decidedly chronic course. It will be observed that I have refrained, in this definition, from any dogmatic utterance as to the so-called specific character of the disease, or any other peculiarities which may still be under discussion. One reason which is sometimes urged by writers upon this and kindred subjects, for the ignorance regarding female gonorrhœa, is the difficulty which is generally experienced in recognizing it. Without a clear history of infection, with a want of facility as to the phenomena presented by other morbid conditions of the female genital organs, especially with regard to their mucous discharges, the diagnosis is indeed difficult and furnishes additional reason for requiring from gynæcologists a solution of the question. It is to be hoped that this paper will at least furnish a stimulus to the investigation of a subject which is at once so interesting and so important. A typical clinical picture of the disease can not be given: its forms and phenomena are too varied. As a recent French writer said of one group of its forms, "*il y a vaginite, et vaginite*" (Gallard, "Gaz. des hôp.," 1883, p. 113). A very common picture resembles the following: Within two or three days after the infecting connection an exceedingly profuse discharge from the vagina annoys the individual, attended by frequent micturition and burning pain, and acute sensitiveness in the vagina, urethra, and vulva. Walking becomes difficult on account of pain and stiffness, and all motion increases the discharge. This is the extent of the physical sensations which are complained of, in many cases, by patients who present themselves for medical attention. An examination in Sims's position reveals a number of additional facts. To one who is accustomed to work with Sims's speculum, it is almost inconceivable that respectable results could be attained with any other, especially with that ancient and clumsy contrivance, the cylindrical speculum. This reasoning is particularly applicable, in examining a patient in whom gonorrhœa is suspected, when as extensive a field of view as possible, under the most favoring conditions of light, is to be exposed. Such an examination, according to my experience, is always very painful, and particularly when any but a Sims's speculum is used. Essential prerequisites, then, in beginning an examination, are good light, either natural or artificial (in the class for diseases of women, at the outpatient department of the New York Hospital, where I have the honor, not less than the pleasure, of assisting Dr. J. H. Emerson, artificial light is used with a forehead mirror, and with entire satisfaction), Sims's position, and Sims's speculum. However carefully the speculum is introduced, pain attends its introduction, and this is increased as the perinæum is retracted. The tissues which are thus brought into view are hot to the feel and œdematous; the mucous membrane is everywhere of a dark, dirty-red appearance, looking and feeling more like *wet hemlock leather* than anything to which I can compare it. A muco-purulent discharge, of a dirty-white or greenish-yellow color, tinged, in many cases, with blood, bathes the underlying surface of the vagina. A circle of erosion of varying diameter is frequently present, especially in multiparous patients, around the os uteri, and from the latter proceeds a somewhat tenacious discharge, less pronouncedly purulent in character than that which is seen upon the floor of the vagina. These phenomena, in my experience, have been tolerably constant when the disease is seen in its early acute stage. Less constant are venereal warts, tumors of sebaceous glands, and boils or abscesses upon and contiguous to the external genitals. Thomas, in an excellent short article upon female gonorrhœa (Thomas, "On the Diseases of Women," Philadelphia, 1880, p. 215), quotes Salmon's statement regarding the frequency of inflammation of the vulvo-vaginal glands as an accompanying condition, and Gross makes a similar assertion (Gross, "System of Surgery," Philadelphia, 1882, vol. ii, p. 912). The urethra may be tender and swollen, as appreciated through the anterior vaginal wall, and may yield a discharge like that from the vagina, or it may show no evidence of inflammation. (Upon this point see Erichsen, "Science and Art of Surgery," Philadelphia, 1878, vol. ii, p. 846; Ashhurst, "Principles and Practice of Sur-

gery," Philadelphia, 1882, p. 438; Gross, *op. cit.*; Thomas, *op. cit.*) Von Hagemann states that in his experience at the Strassburg clinic those forms of the disease in which the urethra and the vulvo-vaginal glands were involved exceeded all others in number. Thus, of 705 cases which were observed, there was urethritis in 439 and "Bartholinitis" in 383 (von Hagemann, "Wien. med. Wochen.," 1879, p. 606). As to the inguinal glands, they are rarely affected. I have never seen a case in which they were inflamed to any extent, and can find only one such case recorded. (See Bumstead and Taylor, "Venereal Diseases," Philadelphia, 1883, chap. on "Gonorrhœa in the Female.")

The laws which govern the development and duration of gonorrhœa in the female, if such laws exist, have not yet been discovered. Otis, in the chapters of his excellent lectures devoted to gonorrhœa (Otis, "Genito-Urinary Diseases," vol. ii, p. 299, New York, 1883), agrees with Bumstead and Taylor, and Van Buren and Keyes, in considering that genuine gonorrhœa can not be aborted nor recovered from (referring especially to gonorrhœa in the male) in less than four weeks. But he denies its so-called specific character, leaving the inference that it is a simple inflammation. We know that simple inflammations are often aborted, hence we must consider his reasoning faulty when he says that a supposed gonorrhœa which is cured in less than four weeks must be a spurious one. I do not presume to question his extensive experience and mature opinion that most cases of gonorrhœa in the male do, as a matter of fact, last four weeks. If, now, the disease, *per se*, be the same in the female as in the male—and it can only differ in so far as it is modified by differences in anatomical structures—it is *possible* that it may run a short and acute course, as has been suggested concerning male gonorrhœa—supposing that the foregoing argument is a sound one. Hence there is no incongruity with facts in the assertion which some authors have made, that acute gonorrhœa in the female *may* be limited to a few days in its duration. Again, if the argument as to duration is based upon the standpoint of the specific nature of the disease, and we accept the tempting parasitic theory, *that* duration will be governed, as Sternberg and Leistikow have reasoned (though from opposite poles of belief), by the power of the parasiticide which may be used. The great difficulty in deciding as to the possible duration of acute cases, especially in dispensary practice, rests in the fact that the cases can not be followed up. Fritsch has alluded forcibly to this fact, mentioning, in conjunction, what must not be forgotten, that very many of our patients are prostitutes, who, as soon as the annoying discharge is lessened, which may be within three or four days, disappear from observation (Fritsch, "Zur Lehre von der Tripperinfection beim Weibe," "Arch. f. Gyn.," x, 470). If we flatter ourselves that they have been cured, we are following a line of reasoning which is neither exact nor scientific; but it is not improbable that much of our statistical information rests upon such a basis. The following cases will illustrate the foregoing (I am much indebted to Dr. Emerson, who has kindly placed at my disposal the records of his clinic):

Case I.—Miss X. came to the clinic in the autumn of 1883, having just arrived in the city from California. She was weak and anæmic, and complained of a most annoying, most profuse vaginal discharge, which had troubled her during her entire journey, and was as abundant when she was lying down as when she was up and about. The circumstances of the case pointed to an infectious origin of the discharge, the diagnosis of acute gonorrhœa was made, and a line of treatment was suggested. She returned to the clinic within a week, saying that she was better. Since then she has not been seen.

Case II.—Miss Y. came to the clinic in the autumn of 1883, complaining of delayed menstruation and excessive vaginal discharge. She admitted a very recent sexual intercourse, for the first time in her life. The diagnosis of gonorrhœa was made, and treatment was begun. Immediate improvement followed, but, after one or two visits, she too disappeared from observation.

Whatever the duration of gonorrhœa may be at the one extreme, I mean in the acute form, most writers are agreed that at the other, in the chronic form, it may be prolonged indefinitely. Fritsch indeed speaks very lightly, almost flippantly (Fritsch, *op. cit.*), both as to its intensity, its complications, and as to its duration; and, since he is so good an observer, his experience can be reconciled with that of many other equally reliable observers only by considering that it has been exceptional. The systematic writers already quoted say that it may last for years, and in its severer forms and complications this is entirely credible. The following case illustrates its persistency, even without severe complications:

Case III.—Mrs. W. came to the clinic September 11, 1883, stating that she was married seven years ago, and that, after living with her husband two weeks, she left him, having contracted a disease with which he was suffering at the time of marriage. She said she had been troubled with a most offensive vaginal discharge since that time, and had employed doctors, without getting permanent relief, until her money was exhausted. No history of syphilis could be obtained, nor was there any evidence of it upon her person. Her story was doubted from the fact that an examination revealed evidence of what was believed to be a fresh and exceedingly virulent gonorrhœa. She has been continually under observation since that time, being seen from one to three times almost every week. Repeatedly the case has been considered cured, and as frequently the old symptoms have recurred, the recurrence generally taking place immediately after the cessation of the menses. The cervix and vagina alone are involved, and the most relaxed and intractable surface is the mucous membrane of the posterior fornix. The case is still under observation, after eight months' careful treatment.

There is a form of chronic gonorrhœa which was first described in 1872 by Noeggerath in a paper entitled "Die latente Gonorrhöe im weiblichen Geschlecht," and again by the same author in 1876, in a paper which was read at the first meeting of the American Gynæcological Society, entitled "Latent Gonorrhœa, especially with Regard to its Influence on Fertility in Women." The ideas in these papers were new and revolutionary, and met with the severest criticism from almost all sides. They were defended by Hennig and a few others, and Hennig quotes Delay, Siegmund, and other authorities (whose original papers upon the subject I have not been able to find) as to the reasonableness of the doctrine of latent gonorrhœa (Hennig, "Deutsche med. Wochen.," vi, p. 672, "Ueber Blenorrhœa virulenta corporis uteri et tubarum"), and Noeggerath himself prophe-

sied that observation and reflection for a few years would result in greater sympathy with his views.

As to the nature of gonorrhœa, the theorists may be divided into two camps—first, those who believe that it is simply a mucous membrane inflammation, with characteristics peculiar to the parts which it customarily attacks; second, those who believe that it is an *inflammation of a peculiar character, produced by a peculiar irritant.* It would seem as if there could hardly be any ground for discussion as to the identity of the disease in the two sexes. According to all natural laws, *like begets like;* scarlet fever can not breed diphtheria, however closely related they may seem to be, nor can gonorrhœa beget syphilis. Why should it be expected that gonorrhœa should beget anything but gonorrhœa, or, conversely, why should gonorrhœa come from anything but gonorrhœa? and yet many French writers, with Ricord at their head, insist upon the logical absurdity that a woman may communicate gonorrhœa to a man without possessing it herself. That a purely mucous or mucoid discharge in one person should induce in a sensitive mucous membrane of another, when applied to it, a condition of inflammation, is quite conceivable; but that it should produce the intense and protracted symptoms which are seen in unmistakable gonorrhœa of either sex is, at least, unreasonable. It is equivalent to considering all urethral and vaginal discharges as gonorrhœal in character, and this identity is expressly denied by such authorities as Bumstead and Taylor and Otis, the latter of whom quite rigidly insists on the so-called non-specific nature of the disease. To my mind the admission of Otis, and those who agree with him, that stricture of the urethra (of gonorrhœal origin) is responsible for a large portion of the purulent discharges which occur both in men and in women, is a virtual acceptation of the propositions of Noeggerath in regard to latent gonorrhœa, although I am conscious of their decided dissent from the same. Milton logically concludes (Milton, *op. cit.*) that only gonorrhœa can produce gonorrhœa, and quotes Durkee, Sigmund, and Auspitz in support of his position. Rollet ("Dict. encyclop.," "Blenorrhagie") and Guérin among French writers, sustain a similar position. Ricord thinks, furthermore, that gonorrhœa may be the result of *irritating discharges* which are communicated to a woman's vagina by man number 1, and are by her transferred to man number 2. In the light of present knowledge, thirty years from Ricord's time, this is a *begging of the question.* (See an article by Rosolimos in "Ann. de dermat. et de syph.," Jan., 1883.) At all events, the term *irritating* is too vague, and may mean what Ricord did not intend it should. Ricord, Fournier, Langlebert, and others affirm, again, that gonorrhœa is due to erosions or injuries in some women, and that in others it is purely an inflammatory condition. Rosolimos, commenting upon the foregoing (Rosolimos, *loc. cit.*), maintains that erosions alone can not produce the disease, other [illegible] Greek peasant countrymen would suffer [illegible] chaste lives, but as [illegible] are anything but temperate in the indulgence of the sexual appetite. It is frequently stated that the application of pus to the urethral mucous membrane will produce gonorrhœa, but Rosolimos meets that statement with the objection that pus from the kidneys and bladder does not have that effect, hence something more than pus must be necessary. The same author thinks that leucorrhœa alone is insufficient to produce gonorrhœa, but that it is competent when certain irritative properties or conditions are added. (Again I admit the indefiniteness of the term *irritative.*) Gallard remarks (Gallard, *loc. cit.*) that most Parisian young women suffer with leucorrhœa, and that it would be bad for their husbands and lovers if it were infectious.

The development of modern ideas in regard to mycology and the parasitic nature of disease is responsible for placing upon a substantial basis the theory as to the *specific* nature of gonorrhœa, by which is meant its development from and relationship to a particular cause, in place of the indefiniteness which has characterized its past history. Salisbury ("Am. Jour. of the Med. Sci.," 1868, p. 22) stated, as long ago as 1868, that epithelial tissue alone was suitable for the development and propagation of the *gonorrhœal virus*, and especially the mucous membrane of the urino-genital organs and the eyes. This virus is a cryptogam, to which he gave the name *Crypta gonorrhœa.* It was discovered by him in gonorrhœal pus in 1850, and consists of spore-like bodies, which multiply by duplicative segmentation in and out of the cells. In fresh gonorrhœal pus he found filaments, single and in knots, which emanated from the minute spores, sometimes the spores alone being found, and sometimes spores and filaments. The spores were seen, in some places in twos, in others in fours, undergoing the process of duplicative segmentation. He observed that they conduced to the rapid formation of muco-pus cells, which thus became a vehicle for their (the spores') transmission. The pus-cells, in many cases, appeared to be filled with the spores, displacing entirely the nuclei and granular matter. Drawings of the microscopical appearances of the different forms accompanied his article. This somewhat extended notice of Salisbury's paper is made as a matter of justice to an investigator whose claims in this particular field have been somewhat overlooked in the credit which has been given to more recent investigators. In 1879 Neisser, of Breslau, after a series of careful experiments, announced the *constant* presence in gonorrhœal pus of a particular form of bacterium, of the micrococcus variety, which was called *gonococcus* (Neisser, "Centralbl. für die med. Wissen.," 1879, p. 28, "Ueber ein der Harnröhrestrippers eigenthümliche Mikrokokkenart"). This parasite is identical with one which is found in purulent *ophthalmia neonatorum*, but Neisser failed to find it in pus from other sources. He usually found it in groups upon the surface of pus corpuscles, its shape being round at first, then developing into the form of a long oval. Next there was a division, with an interval between the two segments (the duplicative segmentation of Salisbury), and then elongation at right angles to the former plane of division. He (Neisser) found that this micrococcus differed morphologically and functionally from all other forms (see Neisser, "Die Mikrokokkus der Gonorrhoe," "Deutsche med. Wochen.," No. 20, 1882). Weiss was able to substantiate Neisser's statements by an analysis of pus from twenty three cases of females and nine of males with gonorrhœa, and he failed to find gonococci in the secretions from simple

urethritis, chancre, bubo, balano-posthitis, vaginal leucorrhœa, and suppurating arthritis (Weiss, "Gaz. hebdom.," "La microbe du pus blennorrhagique").

Additional confirmation was furnished by the experiments of Bokai, Brieger, Cheyne, Ehrlich, Rücker, Gaffky, Aufrecht, and others. Keyser, who has written an excellent review of the literature of this subject, to which I am indebted for much of the foregoing (Keyser, "Md. Med. Jour.," 1882–'83, ix, 481, "Is Gonorrhœa a Bacteria Disease, etc.?"), and who has also confirmed Neisser's views by his own experiments, found that the *gonococci* were most abundant in the thick, creamy discharges of the early stages of the disease. In the discharges of the vagina he found them (gonococci) associated with other bacteria, but he found no trace of them in simple urethritis. Eschbaum (Eschbaum, "Deutsche med. Wochen.," March 28, 1883, p. 187) alludes to Bokai's oft-quoted and much-doubted experiments with gonococci upon the urethral mucous membrane of six medical students, in three of whom gonorrhœa resulted, as trustworthy and reliable.

Bockhart (Bockhart, "Beitr. zur Aet. u. Path. des Harnröhrestrippers," "Sitz.-Ber. d. Wurz. phys. u. med. Gesell.," Sept., 1882) produced gonorrhœa in a paralytic, forty-six years of age, whose urethra at the time of the application was healthy. The material which was used was a culture-fluid of the fourth generation. On the second day after the application there was redness at the orifice of the urethra, and a small discharge of mucus; on the third day there was pus, and this was also found on each succeeding day. On the twelfth day the patient died from hypostatic pneumonia, and pus was found at the autopsy, being most abundant in the vicinity of the navicular fossa. Gonococci were found in all the specimens of pus which were examined, hence Bockhart considered them the *pathogenic bacteria of gonorrhœa*. Neisser and Leistikow state with positiveness that the presence of these bacteria *proves* gonorrhœa when they are found in the urethral, vaginal, or ophthalmic secretions. According to Eschbaum (Eschbaum, *op. cit.*), they are the only bacteria which are found in true gonorrhœal pus, though in other discharges from the vagina (he mentions particularly leucorrhœal discharges of malignant origin) both *rod* and *round* forms are discoverable. With regard to the identity of the bacterium of gonorrhœa and that of purulent ophthalmia, the question need not be discussed in this paper. It is sufficient to say that Sattler and other well-known ophthalmologists have established this identity.

(To be concluded.)

PENETRATING PISTOL-SHOT WOUND OF THE CHEST.

TWO CASES; RECOVERY.

By CHARLES A. POWERS, M. D.,
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The mortality in this injury is stated by various authors as being from 80 per cent. to 95 per cent., the dangers being primarily hæmorrhage, and secondarily inflammation of the chest contents. In view of this, the accompanying cases present interest, they being the only cases of penetrating shot-wound of the chest admitted during a period of four months to a hospital which affords an extensive emergency service.

In each of the cases a bullet of large size entered the lung, in the second case passing entirely through it; in neither was the injury accompanied by marked hæmorrhage or followed by acute inflammation, and in each the patient made a speedy and perfect recovery.

At this hospital the local treatment of pistol-shot wounds is essentially the same in all cases: but slight attempts at probing are made; no endeavors are made to hermetically seal the aperture; a light, but thoroughly antiseptic, dressing is applied, which, in many instances, is left on until the wound is entirely closed.

Case I.—C. Z., aged thirty-eight, single, native of Germany, a silversmith, was brought to the Chambers Street Hospital in an ambulance, at 10 P. M., May 18, 1884. He had been shot in the left chest about twenty minutes previously, his assailant employing a "bulldog" revolver of .44 caliber, and standing about fifteen feet distant.

On admission, the patient was conscious, surface cool and moist, muscles relaxed, face pale and anxious, temperature 97·5°, pulse 140 and feeble, respiration 36 and shallow. He was unable to draw a deep breath without great pain, which was indefinitely referred to the region of the left chest.

Examination revealed a punctate wound, four centimetres below the middle of the left clavicle, which admitted the end of the little finger; its edges were fairly regular, somewhat blackened, and there was but little hæmorrhage from it. The surrounding tissues for a space of six centimetres were emphysematous.

A probe, gently introduced, passed easily backward, inward, and somewhat downward about seven centimetres, and, being arrested, was withdrawn, and no further attempts were made with it. Careful palpation failed to locate the ball, though firm pressure over the inner border of the left scapula caused great pain. Physical examination of the chest gave a negative result.

The wound was dressed with iodoform gauze, peat, and borated cotton; the arm confined to the side; a light diet and perfect rest ordered.

Three hours after admission he had a violent fit of coughing, and expectorated a considerable amount of blood; neither hæmoptysis nor cough, however, recurred.

During the first three days the temperature was normal in the morning, and at 100° in the evening; but after the third day it was normal throughout. For the first ten days the pulse was 80, then it fell to 70, and continued at that rate. The respirations were 28 a minute for eighteen days, after which they were normal.

The patient made no complaint of pain after the first day. Physical examination of the chest, frequently made, gave no signs of change, and the dressing was undisturbed till the thirteenth day, when it was removed, and a granulating ulcer of about the size of a pea found at site of wound. This ulcer gradually closed. The patient was allowed to sit up on the fifteenth day; he soon after assisted in the lighter duties of the ward, and, physical examination continuing to give negative results, he was discharged cured, January 16th, thirty days after admission. Three months later the hospital record says: "Patient reports to-day. Examination of chest reveals no evidences of lesion. He says that he has been steadily at work since last discharge, and is as well as before being shot."

Case II.—F. J. C., aged fifty-four, married, a native of

the United States, a bank porter, was brought to the hospital in an ambulance, at 7 P. M., June 3, 1884. He had been shot in the breast about half an hour previously by a man standing some ten feet distant, and firing upon him full front; the weapon was a Colt's navy revolver, ·44 caliber.

On admission, his pulse and temperature were normal, but his respirations were accelerated and shallow, and it was impossible for him to inspire deeply. From time to time he coughed up small quantities of blood; he complained of much pain in the right chest, both anteriorly and posteriorly.

Upon examination, there was found a punctate wound two centimetres to the right of the sternum, and midway between the cartilages of the third and fourth ribs, which freely admitted the end of the little finger; its edges were blackened, and the tissues about it were emphysematous; there was no hæmorrhage from it.

Beneath the skin, over the middle of the infra-spinous fossa of the right scapula, was felt a hard, rounded object, of about the size of a bean; it was movable, and, by making firm pressure, it could be felt to grate upon the surface of the bone. The tissues all about this were emphysematous. Physical examination of the chest did not reveal evidences of fluid.

The wound of entrance was not probed, nor were any attempts made to extract the ball. The wound was dressed with iodoform gauze, peat, and borated cotton, a large cotton pad placed over the right scapula, and perfect rest ordered.

During the two following days there was occasional hæmoptysis and pain on forced inspiration. These ceased the third day, however, the pulse and temperature being practically normal throughout the month, the respirations averaging twenty-six a minute during the first ten days, when they resumed the normal rate. Daily physical examinations revealed no signs of chest lesions; the appetite continued good, the bowels were regularly moved, and on the twenty-first day the patient was allowed to sit up, and soon after was about the ward.

July 3d, thirty days after its application, the first dressing was removed. The wound was entirely closed, a reddish spot alone marking the point of entrance of the ball. An incision was now made over the bullet, which was found to be encysted and surrounded by a small quantity of blackish fluid; it was readily extracted, the cavity was thoroughly washed out, a few strands of catgut were inserted for drainage, the wound was sewed up with the same and dressed in the ordinary way with iodoform gauze and peat; this dressing was removed in eight days, and primary union found to have taken place throughout the wound.

July 10th, thirty-seven days after admission, he was discharged cured, having no chest symptoms, and being apparently well in every way.

I saw him again three months later, and he seemed as well as before the accident, except for occasional "catching" pains in the right side, where auscultation revealed evidences of a dry pleurisy in the mid-axillary line at the eighth rib, over an area about as large as a silver dollar.

Book Notices.

Osteotomy and Osteoclasis for Deformities of the Lower Extremities. By Carville J. Poore, M. D., Surgeon to St. Mary's Free Hospital for Children, etc. New York: D. Appleton & Co., 1884. Pp. x-182. [Price, $2.50.]

By reason of the simple and condensed style in which Dr. Poore has written this monograph, its moderate size can not be taken as an index either of the importance of the subject or of the amount of investigation and personal experience which it represents. For a number of years past the author has made excellent use of exceptional opportunities for a practical and critical study of the operative treatment of deformities of the lower limbs. In several lesser contributions to literature he has shown himself eminently clear-headed and fair in his estimation of facts, and his readers will not now be disappointed in their expectation of finding those qualities in his treatment of such important subjects as osteotomy and osteoclasis. While the book is one from which specialists may learn much, it is also one that will serve as a safe guide to the general practitioner, who is often called upon for advice in these cases.

Scarcely less noteworthy than Dr. Poore's strict adhesion to the logic of facts are his evident purpose to present the views of other authors with fairness and the pains that he has taken to get at pertinent facts in pathology as illustrated by rare specimens in the possession of his fellow-practitioners. He has taken great care, too, that the drawings in his book should be true to nature and illustrative of the most practical points relating to the subject under discussion. The volume is an excellent specimen of the publisher's art.

The National Dispensatory. Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with numerous references to the French Codex. By Alfred Stillé, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third Edition, thoroughly revised, with numerous additions. With Three Hundred and Eleven Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xv–1,755.

The fact that a third edition of this great work has been called for within the brief period of five years since it made its first appearance is a gratifying evidence of the appreciation it has met with at the hands of the professions of medicine and pharmacy. We commended the first edition to our readers, and the thorough revision that the book has since undergone justifies us in emphasizing that commendation. It is unnecessary to draw a comparison between it and the United States Dispensatory; both works are in the highest degree creditable, and both should be in the hands of every physician and every pharmacist. Reference to the work is much facilitated by the adoption of the patented index that runs through the volume.

Practical Manual of Diseases of Women and Uterine Therapeutics, for Students and Practitioners. By H. Macnaughton Jones, M. D., M. C. H., F. R. C. S. I. & E., Examiner in Obstetrics, Royal University of Ireland, etc. New York: D. Appleton & Co., 1884. Pp. xxiii–410. [Price, $3.]

Within a very moderate compass, this work covers the field of gynæcology quite fully, but it deals most prominently with the minor details of that branch—what may be termed every-day gynæcology. Methods of diagnosis are presented with much completeness, and so also are measures of treatment, including, as is apt not to be the case with books of this class, medicinal treatment. For these reasons, as well as because the author's views will be found to be eminently judicious, we think that the book deserves to be widely studied by general practitioners and students.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 10, 1885.

TUBERCULOSIS FROM THE SURGEONS' STANDPOINT.

THE fact that we are able to lay before our readers, in this issue of the journal, four papers bearing upon the surgical aspects of tuberculosis, all of which were read at one meeting of the Medical Society of the County of Kings, not only shows the general interest that is felt in the subject, but also illustrates a plan of work not uncommon with the society in question, and one that we have often taken occasion to commend. We have always held that the interest and usefulness of society meetings would be greatly increased by confining the papers and discussions to related topics; and we may add that it is an advantage when a medical journal is able to arrange its matter on the same plan.

Tuberculosis has been thoroughly discussed from a medical point of view, and we have now to thank the gentlemen to whose papers we have referred, as well as Dr. Dennis, whose paper on "The Relations between Tuberculous Joint Disease and General Tuberculosis" appeared in our issue for December 27th, for having collectively presented us with a clear idea of the surgical significance of the affection. In addition, we shall shortly publish an elaborate article covering the general subject of surgical tuberculosis, which was lately brought out at one of the New York societies. Of the articles given in this issue, Dr. Lewis's constitutes a brief and clear introduction to the study of surgical tubercular disease; Dr. Fowler's deals with the important matter of caseous lymphatic glands, presenting conclusions which, we think, will be accepted as expressing very fairly the most enlightened views now held, although colored with the enthusiasm of the German school, and perhaps not laying quite enough stress upon the dangers of the removal of large masses of glands from the neck (which dangers the experience of foreign surgeons has shown to be by no means insignificant); Dr. Wunderlich's sets forth the results of surgical interference with pulmonary tubercular lesions—a matter of which the present aspect can not be said to be flattering; and Dr. Rockwell's points to the danger of neglecting a prompt resort to operative measures in cases of genito-urinary tuberculosis.

While these several papers, we repeat, show the value of assigning particular phases of a subject to a number of essayists, they reflect the greatest credit on the authors.

AN ENGLISH VIEW OF THE AMERICAN DEGREE.

WE are so accustomed to the disparaging remarks of English journals on the defects of our system of medical education that we have become almost callous on the subject. Occasionally, however, a statement more unjust than usual does awaken a transient feeling of annoyance, and we are tempted to offer a word of protest, although well aware that it will be a profitless task to try to send the arrow of conviction home to those who constantly feel called upon to give public expression to their gratitude that they are "not as other men are."

The "Medical Times and Gazette" lately took occasion, while referring to the value of the English degree of M. D., to say: "In America every medical man, with the rarest exceptions, is an 'M. D.,' and it takes him only two years to attain the right to that distinction. Only three colleges in that country now demand the qualifications which were held requisite to the study of medicine a hundred years ago. A necessary result is that the stamp has lost much of its original significance"—and so on *ad nauseam*. This is severe enough without the additional sneer that, there being no visible distinction between educated and ignorant physicians in this benighted land, the unfortunate patient must discover the difference at his own risk. By reference to our "Students' Number," it will be found that upward of twenty of our schools distinctly specify that the degree of M. D. is granted only after three years of study. To the other remarks we have quoted we have nothing to say—they will be condemned by all medical *gentlemen*, of whatever country. We are not ashamed either of our institutions or of the men whom they have educated, and we only regret that it is so much the custom with our English friends to launch into a subject upon which they have no exact information. The cry against American medical schools has indeed become somewhat monotonous.

CONFECTIONERS AS DRUGGISTS.

A RECENT number of the "Lancet" contains a short paragraph, under this heading, in which it is stated that several children were poisoned by eating cough-lozenges into which a confectioner had put a dangerous amount of morphine. In this connection we would call attention to a forcible editorial, in one of our daily papers, upon poisoned candy. The officers of the Board of Health lately seized about five thousand pounds of confectionery which contained lead, arsenic, and various compounds of chromium. The writer of the article in question states that at least two hundred and fifty thousand pounds of candy are manufactured daily in New York during the holiday season. This represents a formidable amount of deleterious material thrown upon the community, and may well alarm the public.

This action of the Board of Health is a step in the right direction, but, in order to be useful, such measures must be systematic, and not spasmodic. There ought to be a regular system of supervision, under which no manufacturer should be allowed to escape the rigid scrutiny of the proper officers. If we must regard the inordinate consumption of candy as one of the necessary evils of our modern civilization, we should at least eliminate as many of its unpleasant results as possible. Now that the dangers of using arsenical wall-papers are beginning to be appreciated by the laity, it is to be hoped that the subject of harmful foods will receive the same consideration. This subject is not beneath the dignity of preventive medicine, and we regard the vigorous appeal in the "Times" as entirely appropriate.

THE NEW YORK DISPENSARY.

It will be seen by our advertising columns that a radical change in the system of medical service at this dispensary is contemplated. Three attending physicians are to be chosen by competitive examination, who shall serve three or four hours each day, and shall receive a salary of $800 per annum.

We are informed that for the present the three departments will be surgery (including dermatology and venereal diseases), medicine, and gynæcology and pædiatrics.

We can not express in too high terms our approval of this new plan, since we are confident that not only will a superior class of physicians be secured, but better work will be done. The dispensary will certainly gain in the end by this wise and liberal policy, and we hope that other charitable institutions will be encouraged to pursue a similar course.

Although there is the most eager competition for dispensary positions in New York, many men can ill afford to hold them at the cost of losing the best hours of the day without compensation. There is too much free labor in the medical profession, and, however valuable the practice may be to the younger members, they can not help recognizing at times the injustice of unrequited toil. With a conscientious man a sense of duty will keep him faithful to his thankless task, but we fear it must be said that a vast amount of careless and slipshod work is done in dispensaries by physicians who desire to retain the name of being connected with an institution, although they are weary of the duties which the office brings. We congratulate the trustees of the New York Dispensary upon their decision, and wish them all success.

MINOR PARAGRAPHS.

CHARCOT'S JOINT DISEASE.

A very important discussion of this subject has recently occurred at the London Clinical Society. The names of the prominent men who participated in the debate are a sufficient assurance that the question was illuminated with the light of the best minds of the profession.

The general tendency of the meeting was to consider the affection not as a distinct disease, but rather as a form of chronic rheumatic arthritis occurring in patients with locomotor ataxia. There was a disposition on the part of the surgeons present to regard the nervous theory of its production as rather an imaginative way of explaining a gross surgical condition.

Professor Charcot was invited to be present at the discussion, but was unable to attend.

THE RELATIONS BETWEEN PHYSICIAN AND PATIENT.

A recent number of the "Lancet" contains a thoughtful editorial upon the subject, called out by an unjust charge against a medical gentleman. The subject is a delicate one, but the writer has approached it in a most careful and unobjectionable manner. It is not always necessary to remind physicians that they can never be too cautious in dealing with a certain class of people, who may unscrupulously involve an innocent man in lasting disgrace. The recklessness with which some of the younger members of the profession rush into private practice, without providing the smallest loophole for escape in case of unjust accusations, is a constant matter of surprise to those who have learned caution from experience. Short visits, entire absence of familiarity, and a refusal to undertake any procedure in a questionable case without the presence (or knowledge) of a third party—these are the only safeguards.

"It is usually advisable to avoid mixing social with professional visits," says the article to which we allude; "a doctor visiting *as a doctor* should play the doctor and not the visitor; he may visit *as a visitor* at another time. In cases of domestic unhappiness or separation he should be doubly cautious."

Enough has been quoted to show the tenor of the remarks. No man who follows out these precepts can fail to conduct himself on every occasion in a manner worthy of the honor and dignity of his profession.

MR. TAIT ON THE CAUSATION OF LABOR.

In a recent article upon this subject, published in the "Medical Times and Gazette," Mr. Lawson Tait predicts that the real cause of labor will be discovered by a careful study of the phenomena of extra-uterine pregnancy. With our present evidence, however, he is inclined to regard the rhythmical contractions which continue during pregnancy as an important element in the matter. Although Mr. Tait's paper is mainly negative, it is interesting from the fact that he enters into a discussion of his favorite theme of ovarian and tubal physiology, and hints significantly that he expects to publish some very important facts in connection with his theory of menstruation. Anything that Mr. Tait may write on this subject will be read with the interest and consideration which his originality always provokes.

"CHAFF."

Our sprightly contemporary, the "Medical Times and Gazette," contains a spicy article, from a correspondent, on the peculiar London fashion of laying straw in the street in front of houses in which there is sickness. The writer cruelly hints that in many cases this is all for effect, and is to be regarded as only another concession to "ladies with highly strung nerves," for whom a dose of bromide would be sufficient. It is consoling to reflect that, however shattered the nervous systems of our American women may be, and however degenerate the old Puritan stock (as some writers would have us believe), they can still endure the rattle of a Broadway stage, and do not care for straw.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 6, 1885:

DISEASES.	Week ending Dec. 30.		Week ending Jan. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	9	4	13	3
Scarlet Fever	74	16	58	15
Cerebro-spinal meningitis	5	2	4	3
Measles	130	20	157	19
Diphtheria	51	35	59	28

The Medical Society of the State of New York will hold its next annual meeting in Albany on Tuesday, Wednesday, and Thursday, February 3d, 4th, and 5th. The following-named papers are announced as among those that have been promised: "Pelvic Abscess," by Dr. W. W. Potter, of Buffalo; "Jequirity as a Remedy for Granular Lids with Pannus," by Dr. David Webster, of New York; "Some Diseases of the Ear," by Dr. D. B. St. John Roosa, of New York; "Some of the Tests for

Unilateral Deafness," by Dr. O. D. Pomeroy, of New York; "An Analysis and Refutation of the Theory of the Germinal Original and Propagation of Disease," by Dr. J. B. Graves, of Corning; "Meningitis as a Sequel of Pott's Disease," by Dr. G. G. Monroe, of Crary's Mills; "Sane or Insane?" by Dr. E. H. Parker, of Poughkeepsie; "Uses and Limitations of Hydrochlorate of Cocaine," by Dr. C. R. Agnew, of New York; "Catalepsy in very Young Children"; "Digitalis—its Many Indications;" and "Typhoid Fever in Infancy and Childhood," by Dr. A. Jacobi, of New York; "Trichinæ and Trichiniasis," by Dr. Harvey Jewett, of Canandaigua; "Treatment of Pelvic Abscess," by Dr. Paul F. Mundé, of New York; "Culture Experiments on Bacteria," by Dr. William Hailes, of Albany; "Senile Hypertrophy of the Prostate," by Dr. A. C. Post, of New York; "The Element of Perturbation in Uterine Therapeutics," by Dr. Frank P. Foster, of New York; "Some Observations on the Use of Hydrochlorate of Cocaine," by Dr. Thomas R. Pooley, of New York; "Arteritis or Phlebitis the Sequel of Enteric Fever," by Dr. Robert K. Tuthill, of Poughkeepsie; "Some Practical Points on the Treatment of Granular Lids," by Dr. W. F. Mittendorf, of New York.

The American Neurological Association will hold its eleventh annual meeting in New York, beginning on Wednesday, the 17th of June.

The New Haven Medical Association held its annual meeting Monday evening, January 5th. The secretary reported that during the past year six gentlemen had become members, and that one member, Dr. Pliny A. Jewett, had died. The membership at present numbers fifty-six. Twenty meetings were held during 1884, at which the average attendance was 15·75. Four papers were read, and fourteen questions were discussed. The following-named gentlemen were elected officers for the coming year: Dr. M. C. White, president; Dr. W. O. Ayres and Dr. M. C. O'Connor, vice-presidents; Dr. Henry Fleischner, secretary; Dr. W. O. Ayres and Dr. M. C. O'Connor, prudential committee; Dr. Francis Bacon and Dr. T. B. Gibbons, finance committee.

The Hudson County, N. J., Medical Society held a special meeting on Tuesday afternoon, the 6th inst., at which Dr. John V. Shoemaker, of Philadelphia, gave a lecture on psoriasis, illustrated with microscopic specimens, diagrams, and cases.

The Health of the State of New York.—The State Board of Health's "Monthly Bulletin," for the month of November, 1884, shows a total reported mortality of 5,682, the percentage of infant mortality being 32·2. Diphtheria was noted as specially prevalent in various localities. The returns from Buffalo, Watertown, Utica, and Long Island City are lacking, and those from Troy and a number of other places are stated to be very incomplete.

The Lacaze Prize (10,000 f.) has just been awarded to Dr. Debove for his lectures on tuberculosis, which were published in the "Progrès médical."

"Our Invisible Foes" was the title of a paper announced to be read before the Military Service Institution last Thursday evening by Dr. George M. Sternberg, of the army.

An Attempt at Murder and Suicide by a Physician was made on Sunday evening, the physician being Dr. Rudolf Tauszky, a native of Hungary. He shot his wife and then himself. The wife does not seem to have been seriously injured, but the doctor's skull was fractured, and it is thought that he will not long survive. He had been looked upon as eccentric, and there can now be little doubt that he finally became insane.

The "Faith Cure" seems to have met with a check, if we may judge by the report of a recent recommendation by the Grand Jury of Denver that an asylum in that place, devoted to carrying out this particular form of foolishness, should be closed, on account of three deaths having taken place in it from inanition since Christmas.

The Hospital Saturday and Sunday Collection is reported to show, thus far, an increased number of contributors, but a decrease in the amount realized.

A Typhus Nest has been unearthed within the past few days in a tenement house in West Thirty-second Street, largely occupied by Italians. In all, fourteen of the occupants have been removed to the Riverside Hospital. The premises are described as in a most insanitary and revolting condition.

Changes in the Paris Hospitals.—According to the "Union médicale," M. Gosselin has retired, M. Trélat takes the clinical chair at La Charité, M. Le Fort assumes the same position at the Necker, M. Tillaux becomes surgeon to the Hôtel Dieu, M. Duplay will take the service at the Beaujon, and M. Horteloup that at the Lariboisière.

The Death of Dr. John Davidson, of Hempstead, N. Y., took place on the 26th of last month. He was a licentiate of the Medical Society of the State of New York. Although he was over ninety years of age, it is said that he made professional calls until within a few days of his death.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 28, 1884, to January 3, 1885:*

GIRARD, A. C., Captain and Assistant Surgeon. Ordered from Department of the Missouri to Department of the East. S. O. 304, A. G. O., December 29, 1884.

EWING, CHARLES B., First Lieutenant and Assistant Surgeon (Fort Stanton, New Mexico). Granted leave of absence for two months. S. O. 304, A. G. O., December 29, 1884.

Society Meetings for the Coming Week:

MONDAY, *January 12th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *January 13th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual), Erie (annual—Buffalo), Genesee (semi-annual—Batavia), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Oswego (semi-annual—Oswego), Rensselaer (annual), St. Lawrence (annual), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Norfolk District, Mass., Medical Society (Hyde Park).

WEDNESDAY, *January 14th:* New York Pathological Society (annual); American Microscopical Society of the City of New York; New York Medico-Legal Society (private); Medical Societies of the Counties of Cayuga, Delaware (semi-annual), Dutchess (annual—Poughkeepsie), and Seneca (semi-annual), N. Y., Tri-States (New York, Pennsylvania, and

New Jersey) Medical Association (Port Jervis); Hampshire District, Mass., Medical Society (Northampton); Worcester District, Mass., Medical Society (Worcester); Bennington County, Vt., and Hoosick, N. Y., Medical Society (annual—Arlington, Vt.).

Thursday, *January 15th:* New York Academy of Medicine (annual); New Bedford, Mass., Society for Medical Improvement (private).

Letters to the Editor.

PROFESSOR FLINT ON THE PARASITIC THEORY OF CHOLERA.

Friendship, N. Y., *November 12, 1884.*

To the Editor of the New York Medical Journal:

Sir: Professor Flint's communication on the subject of the "Parasitic Doctrine of Epidemic Cholera," published in your issue of October 25th, is so conservative, so full, and yet so brief and comprehensive, taking and applying testimony so much like an unbiased judge, that I feel that I must commend it to the careful study of the medical fraternity. This I call a masterly review of Koch's theory, and I am hopeful that the whole subject of cholera and its cause may be fully considered and reconsidered. Whether Koch's theory of the comma bacilli be true or not, investigation will provoke discussion, and discoveries will yet be made which will probably establish epidemics as due to bacteria and allied organisms of some kind. Time and patient investigation must establish facts to make the basis of conclusions and inferences. It must take other and further investigation to show whether, in certain cases, it was the disease that made the blood acid, or an acid state of the blood that gave rise to the disease, and whether bacteria had any part in the change. I must congratulate the profession, and render thanks to such as Koch and Flint for pioneering and reviewing.

Inquirer.

HYDROCHLORATE OF COCAINE.

New York, *December 12, 1884.*

To the Editor of the New York Medical Journal:

Sir: The reputation of the new anæsthetic, cocaine hydrochlorate, is thoroughly established so far as its application to the eye is concerned. But much remains to be determined with regard to its usefulness in other branches of surgery. As a contribution, therefore, to the general fund of knowledge concerning the action of this valuable drug I herewith offer a brief account of several different cases in which I have very carefully noted its effects:

Case I.—Three weeks ago I was called upon to operate upon a very large and painful hydrocele, complicated with inguinal hernia. The patient agreed to allow me to operate without ether. Accordingly, I brushed a few drops of a four per cent. solution of Merck's cocaine hydrochlorate over the right side of the scrotum, and, two minutes after, I thrust a point one inch apart, by means of a very fine hypodermic needle, three drops of the four-per-cent. solution. At the end of ten minutes I made an incision one inch in length through the tissues into the tunica vaginalis, and then removed by excision a considerable mass of the [illegible]. The operation was entirely painless, the patient being unaware of the time of the several incisions, etc.

Case II.—Miss H., aged twenty-two, presented herself at my office, on account of [illegible], which, she said, interfered with her walking. I found a small tumor of the left labium minus as large as a hen's egg. I did not warn the patient of my intention, but painted the ostium vaginæ and the left labia with the four-per-cent. solution. In *five* minutes I cut through the mucous surface of the labium, and emptied and cleansed the sac. The patient was not aware that *any operation whatever* had been done.

Case III.—A child a few months old had symptoms of periosteal abscess of the left humerus. I inserted two drops of a four-per-cent. solution hypodermically on the outer aspect of the arm, which, of course, caused the child to cry somewhat, as the whole arm was much swollen and very tender. In *three minutes* I carried a sharp-pointed bistoury down to the bone, incising the periosteum and evacuating pus, without producing evidence of pain. There was no catching of the breath, nor sudden outcry, such as we observe when an infant is suddenly hurt.

Case IV.—Mrs. P., aged twenty-five years, has an infant four weeks old. She has been suffering for several days with pains in her right breast, high fever, night-sweats, etc. To-day I painted a small space on the lower segment of the breast with the four-per-cent. solution, and in two minutes I inserted hypodermically, without pain, three drops of the same solution, and in three minutes more I made a free and deep incision, discharging a teacupful of pus. The patient was exceedingly nervous, but said emphatically that the operation was *absolutely painless.*

These cases seem to me to suggest a wide field of usefulness for this new boon to humanity, as the hypodermic applications seem to offer great possibilities.

Malcolm McLean.

THE QUESTION OF MIDWIVES.

To the Editor of the New York Medical Journal:

Sir: At the recent session of the New York State Medical Association a paper on "Women as Midwives" was read, in which the author advocated their employment among the working classes, and the opening of schools for their instruction. The next Legislature will undoubtedly have several bills presented for the incorporation of such schools, and possibly the granting of a license to their graduates to practice midwifery. In connection therewith, I desire to bring to the notice of the profession the following circular, the name of the consulting physician having been used without his authority or knowledge:

"Mrs. ———, Mid-wife & Doctress, first graduate of the College of Mid-wifery, New York. Diseases of women a specialty. Disease of long standing carefully treated. Consulting Physician, Prof. ———, New York. Confinements taken in the house. Good care. Children adopted. Terms—$18.00 for nine days. Consultation free and discreet. Good nurses supplied free of charge. Office hours—Before 9 o'clock in the morning and from 3 o'clock in the afternoon."

Now, while I am heartily in favor of checking the practice of midwifery by incompetent midwives, and providing for their education, yet personal contact with the class of women applying for instruction, and their conduct after obtaining such instruction, has caused me to change my views as to the advisability of giving them a legal standing in the community. Eight of the fourteen graduates of the "College of Midwifery," not satisfied with the title of "Graduate in Midwifery," have affixed to their cards and signs the word "Doctress" or "Female Doctress," and are practicing as such. In Europe the midwives are taken from the peasant class, and are taught to properly manage a normal case of labor. Habit and the position they occupy in the community lead them to assume no higher responsibility. In this country it is a difficult matter to say how much or how little a midwife should be taught. I therefore beg to submit to the members of the profession, for their consideration, the following questions: Are midwives necessary in this country? If so, how much of a medical education should they receive? Will the cause of higher medical education be advanced by granting them a license to practice?

Obstetrician.

DEMONSTRATIONS OF KOCH'S CHOLERA BACILLI.

"The Kensington," 102 East Fifty-seventh Street.

To the Editor of the New York Medical Journal:

Sir: I have received from Dr. Robert Koch, of Berlin, a specimen of cholera bacilli which he himself prepared from a pure culture. It shows well the characteristic curved shape of the so-called comma bacilli.

In order to give those members of the profession who may wish to see this specimen an opportunity to do so at their leisure, I have arranged to exhibit it at the New York Post-Graduate Medical School, No. 224 East Twentieth Street, on Wednesday, the 14th, and Friday, the 16th inst., at 5 P. M.

Respectfully yours,

Edmund C. Wendt, M. D.

Proceedings of Societies.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of December 20, 1884.

Dr. Benjamin F. Dawson in the chair.

[From notes furnished by the Executive Committee.]

A Discussion on Diphtheria was opened by Dr. M. Putnam Jacobi, who chiefly proposed to give an account of the recent experiments which had been made in regard to the parasitic ætiology of diphtheria. For it was the ætiology which was still the most important and interesting subject in connection with it. As Calvet de Gassicourt remarked, "we stand in relation to diphtheria where our ancestors stood in regard to variola. They had an admirable and extensive knowledge of the clinical history and even the pathological lesions of small-pox; but, ignorant of its nature, they stood unarmed before it, as we are to-day before the modern plague—diphtheria; then came Jenner." He did not, indeed, discover the essential cause, but approximated to it by the still more important discovery of the specific remedy. Diphtheria still awaited its Jenner. For, such was the sad conclusion of the French clinician, there was no treatment which could be relied upon to cure, every case being simply a struggle between the vitality of the patient and that of the diphtheritic poison. That this poison was due to a living organism, there could, said Loeffler, be to-day no doubt; and it was unnecessary to repeat reasons for this doctrine which have been already so often alleged. The question was simply to find and isolate this organism, and then to prove its causal relation to the disease by a demonstration of the three fundamental conditions: 1. The organism must exist in typical abundance at the seat of the characteristic lesions of the disease. 2. It must be isolated, and submitted to a "pure" culture. 3. By inoculation of products of this culture, it must be possible to excite the typical disease in one or more species of animal.

The remark had often been made that an almost irresistible tendency to the acceptance of the "germ" theory of infectious diseases arose from observing how completely it harmonized with the great doctrine of the universal struggle for existence, which was *the* philosophical achievement of the nineteenth century. Upon the basis of that doctrine, and in recognition of the frightful impartiality of the forces of life, one might easily seem to discern the rise and fall of vast empires of micro-organisms intersecting the course of human history as successive epidemics. Thus, the flourishing period of one such empire, now extinct, would be represented in the plague of Thucydides, that literally triumphed over the splendor of the age of Pericles. It might have been the age of Pericles of another empire of infinitesimals that appeared to human eyes as the Black Death, which ravaged Europe for three years, and swept off one half of its inhabitants. The migrations of the barbarians were simulated exactly by the migrations of cholera, which emerged like them from Asia. Darwin had told of the disappearance of certain breeds of antelopes from the pampas of South America when a certain minute fly gained the ascendancy in the vital struggle—an insect which was accustomed to lay its eggs in the navel of the superior animal. Human beings disappeared as readily before even minuter organisms; the destiny of either was determined by the questions of nutrient soil and of adaptation to it of the larger or smaller species of living things. It had been said that Laycock, in 1858, first suggested that a vegetable organism excited diphtheria; but he supposed this unknown plant to be a product of the *Oïdium albicans*. The majority of observers who had looked for such organisms in diphtheritic membranes had found micrococci in them. Minute micrococci were described by Buhl in 1867, by Hunter and Oertel in 1868, by Nassiloff and Eberth in 1872, by Basenbach in 1877, by Brown in 1878, and by Letzerich in 1880; while in 1882 Wood and Formad found and cultivated numerous micrococci, but considered them to be merely the transformation of the ordinary micrococci of the mouth from a latent to an active state.

On the other hand, Cornil and Ranvier (1881) observed both micrococci and rods in the diphtheritic pseudo-membranes, and Klebs (1883) communicated to the International Medical Congress the description of a species of bacillus with which Loeffler's most recent researches essentially agreed. ("Mittheilung aus dem kaiserl. Gesundheitsamte," 1884.) But in 1881 Talamon created a sensation in France by the alleged discovery of a fungus with a mycelium composed of long tubes mingled with short rods and also with round or oval spores, the cultivation and inoculation of which upon animals caused death with various lesions. It was well known that the causal relations of micrococci to diphtheria had been energetically contested by many observers. Weigert was reserved in regard to them. Senator (1872) insisted that the micrococci were accidental complications, foreign organisms, implanting themselves on the favorable soil of diphtheritically inflamed tissues, and that it was on this account that they were found limited to the most superficial part of these, or even of the pseudo-membranes. The most sweepingly negative experiments were made by Satterthwaite and Curtis (1879), who found that inoculation with fragments of diphtheritic membranes yielded such varying results that no positive conclusions could be shown as to the ætiological relation of the membrane to the disease. Sometimes the inoculated animals remained unaffected; sometimes presented local inflammations and abscesses; sometimes died with symptoms of general infection, but never with either symptoms or lesions characteristic of diphtheria.

Heubner (1883) had furnished a new basis for criticism by experiments tending to establish the relation to be expected between pseudo-membranes and bacteria which might be present in the circulation. He produced non-specific pseudo-membranes upon the mucosa of the bladder in rabbits by tying a temporary ligature around its neck, so as to completely interrupt the circulation for about two hours. On withdrawing the ligature the circulation was restored, but the interruption had sufficed to destroy the vitality of the epithelium, which desquamated, and to impair the integrity of the blood-vessels, so that fibrin transuded on the abraded surface, and a pseudo-membrane was formed resembling that of diphtheria in every respect ex-

cept in the presence of micrococci. The lesion remained local, and the health of the animals was scarcely affected. In a second series of experiments, at the time that the pseudo-membranes began to form, Heubner injected into the jugular vein fluid holding in solution anthrax bacilli. The animals died of anthrax, and at the autopsy the pseudo-membranes of the bladder were found infiltrated with the bacilli, which were also present in great abundance in the subjacent blood-vessels.

Heubner concluded that, if in diphtheria any micro-organism which our present resources enabled us to recognize was really present in the circulation, it would be found in abundance in the blood-vessels subjacent to the pseudo-membranous exudation, whereas none had been found in this locality.

Loeffler had summed up the results hitherto obtained from investigations as follows: All observers had found bacteria in diphtheritic pseudo-membranes, although many had contented themselves with searching for them by means of the dilaceration method, which prevented the exact relations of the tissues from being ascertained. In the majority of cases the bacteria described had been micrococci, usually in colonies, and these nearly always on the most superficial part of the membrane. Only occasionally had they been found in the lymphatics of the affected parts; still more rarely (Letzerich) in internal organs. To examine these, the modern resources of aniline staining, Abbe's condenser, and oil-immersion lenses had, so Loeffler asserted, been only insufficiently employed. Cultures had been made in fluid media, and thus it had been impossible to isolate from each other the different species of bacteria, of which every diphtheritic pseudo-membrane contained several. In the coincident evolution of these different species, the physiological action of each became neutralized, and even the development of some completely hindered by that of others. This circumstance accounted for the negative or atypical results of inoculation with the products of such fluid cultures; and, likewise, for the uncertainties consequent upon inoculation with fragments of the membrane itself, as in the experiments of Satterthwaite and Curtis. The lesions produced by experimental inoculations, those effected by Talamon being among the most celebrated, included hæmorrhagic infiltration of muscles, localized œdema, serous and hæmorrhagic effusions into serous cavities, with reddish-brown hepatization of the lungs, and radial keratitis, but neither the pseudo-membranes nor the local necrosis of tissues characteristic of diphtheria.

Loeffler's own experiments were divided into three parts: 1. Histological examinations of the tissues of patients who had succumbed to diphtheria (the tonsils, the pharyngeal and laryngeal mucosa, and the internal organs). 2. "Pure" cultures on a solid substance of two species of bacteria discovered during the examinations—namely, micrococci in chains and a species of bacillus. 3. Inoculations, subcutaneous, muscular, corneal, or tracheal, of products of such culture from the fourth to the twenty-fifth generation, upon several species of animals (mice, guinea-pigs, rabbits, and pigeons). The micrococci sufficiently resembled those which had been so often previously described, but were found not only in colonies but in long, elegant chains. These were abundant in cases of diphtheritic ulceration without pseudo-membrane, but coincided also with that, and then were found [illegible] sections from ulcerated tonsils, stained with aniline, the micrococci were found in a narrow [illegible] on the outside of a broad zone of uncolored tissue. Associated with these were numerous bacteria and rodes. The uncolored zone was marked by fine streaks where colored tissue had penetrated. In many but by no means all, even the capillaries of the colored zone were filled or even distended by these micrococci, and these were sometimes found in the lymphatics of the lungs and sometimes in those of the tonsils or those of the pharynx, though in many cases these tissues were expressly declared to have been free from them. Still, in the general summary of his results, Loeffler admitted that the micrococci entered the organism through the open portals of the local lymphatics.

But these micrococci were morphologically identical with those found with any infectious disease associated with lesions of mucous membranes, such as variola, typhus, or puerperal fever. In these diseases they were unquestionably accidental complications, and must therefore be supposed to be so in diphtheria. So far as micrococci were concerned, Loeffler agreed with the critical opinion of Senator. They were frequent in scarlatinous diphtheria, the "pultaceous" exudation of which differed from that of true diphtheria in containing very little fibrin, consisting chiefly of epithelial cells, leucocytes, and fat globules.

The other principal form of micro-organism observed consisted of bacilli considered by Loeffler to be identical with those described by Klebs, in 1883, at the International Medical Congress. These were motionless rods, partly straight, partly curved, of about the length of the tubercle bacillus, but of double the breadth; they were colored intensely with methyl-blue-potassa solution,* but were decolorized again with dilute iodine, except at both extremities, which remained blue. These blue poles were thought by Klebs to be spores, but Loeffler denied this.

These rods were present in great abundance in diphtheritic pseudo-membranes, and did not lie on the surface, like a mass of heterogeneous, accidental bacteria, but underneath this outer layer, and accompanied by a rich abundance of cells. Both cells and bacilli disappeared from the deeper broad fibrinous layer, placed directly upon the enormously dilated blood-vessels. These bacilli were never found in the internal organs, in the blood-vessels, or in the lymphatics. Thus there was no reason to suppose that they acted by penetrating the organism, but, if they were really the diphtheritic virus, produced a poison at the seat of their implantation, which first caused necrosis of the tissues in immediate contact with them, then enormous dilatation of paralyzed vessels, through the injured walls of which the fibrinogenic lymph exuded, infiltrating the necrosed tissue. The same poison, passing into the circulation elsewhere, injured the blood-vessels in like manner, causing parenchymatous congestions, fibrinous exudations on free surfaces, and ultimately paralysis of nerve-centers, and death.

In a certain number of cases of typical diphtheria no such bacilli were found, although other bacteria were present. Loeffler suggested that they might have died and been eliminated before the death of the patient. Still, the anatomical investigations alone would lead to no positive conclusions, and hence the importance of the second series of experiments with cultures. The micrococci were isolated by the usual devices, and cultivated upon meat, water, peptone, and gelatin. When they were taken from internal organs, the latter were previously washed, first in a five-per-cent. solution of carbolic acid, then in a one-per-cent. solution of corrosive sublimate. The results of inoculation with the products of the culture were negative upon guinea-pigs. In mice and rabbits death usually occurred after subcutaneous injection; not after inoculation, nor after injection into the veins. Injection into the lung was followed, in one mouse, by death only on the thirty-fourth day. Fibrino-purulent exudations were frequently observed over the spleen, the

* Thirty c.c. of concentrated alcoholic methyl-blue solution to 100 c.c. of a watery solution of potassa, 1-10,000. Pseudo-membranes were cut on a freezing microtome, then hardened in alcohol, and stained by a few seconds' contact with the solution, washed in a one-half-per-cent. acetic-acid solution, and mounted, as usual, in balsam.

liver, and the lungs; and over the intestine when injections were made into the peritoneal cavity. The exudations contained many micrococci, and they were also abundant in the visceral capillaries. In some rabbits, after injection into the aural vein, a multiple arthritis, resembling that of scarlatina, was developed, and, when the animals were sacrificed, purulent masses, infiltrated with micrococci, were found in the joints.

Loeffler concluded: "Since the chained micrococci excited in no animal an artificial disease even resembling diphtheria; since they were only observed in a limited number of cases of human diphtheria, and then associated with bacilli; since they exactly resembled the micrococci of erysipelas and other infectious diseases, we must conclude that they are only accidental complications of diphtheria, but may sometimes excite a disease resembling it." Cultures were then made with the other micro-organisms, the bacilli, which were isolated and cultivated upon stiffened blood serum. They would not develop on the meat, water, peptone, and gelatin, partly at least because this softened at a temperature of about 20° C., and a temperature higher than this was essential to the development of this species of bacillus. A temperature of 60° C. killed them. The duration of their life seemed to be about three months. Upon the first sowing of the blood serum with fragments from diphtheritic membranes, colonies of micrococci developed coincidently with colonies of bacilli. A fragment of one of the latter colonies was shaken in 10 c. c. of sterilized water, and a drop of the solution used for new cultures. Inoculation of the product of these cultures upon mice and rats was completely without effect. This fact was rendered more striking from the circumstance that the bacilli resembled the septicæmic bacilli of mice in that they would not grow upon potatoes. Guinea-pigs, rabbits, and birds proved, on the contrary, to be very susceptible. Inoculation of the skin of guinea-pigs was followed at the point of infection by a grayish-white exudation, surrounded by œdematous infiltration, often hæmorrhagic; hæmorrhages into subjacent muscles; swelling of the lymphatic glands; pleural effusions; and red hepatization of the lungs. Upon rabbits, inoculations were also made in the trachea. They were without effect if the trachea wound was left open, but followed by the formation of pseudo-membranes in the trachea if the wound was closed. These membranes were extended to the pharynx. The inner organs were usually found to be intact, but the lungs were occasionally hepatized. Injections into the veins were without result. In all cases, bacilli were found entirely absent from the internal organs, and sometimes even from the tracheal membranes. When they were present in these they were never so abundant or so typically arranged as in the human specimens. Bacilli from the rabbit did not color so well with methyl-blue as those from the original diphtheritic membrane, and monstrous forms were often observed, as after cultivation of the bacilli upon unfavorable nutritive media. The inference was that the rabbit was not an extremely favorable soil for their cultivation. Pigeons and chickens gave less favorable results than smaller birds, such as sparrows.

Loeffler examined by cultivation the buccal mucus of thirty healthy persons—twenty children and ten adults. Although several varieties of bacteria developed from this culture, in only four cases were bacilli found at all resembling those which had been described. Inoculation experiments with three of these, however, gave negative results. In the fourth case the bacilli were exactly like those of diphtheria in appearance; these were cultivated to the fourth and fifth generations; when the inoculation of five guinea pigs caused death with all the characteristic lesions, Loeffler inferred that the bacillus was really the diphtheritic bacillus, carried in the buccal mucosa of a child in whose organism it did not happen to implant itself. This experiment opened a wide range of possibilities in regard to modes of conveying infection.

Loeffler summed up the following evidence in favor of the specific significance of the new bacilli described: They were found in thirteen cases of diphtheria with fibrinous exudation. They lay in the oldest part of the membrane and penetrated farther toward the tissues than the other products of the bacteria cultures. Cultures of them carried to the twenty-fifth generation, when inoculated under the skin of guinea-pigs or small birds, killed the animals, after the production of a whitish or hæmorrhagic exudation at the point of infection, and extensive subcutaneous œdema. The internal organs were found intact, like those of diphtheritic patients. Pseudo-membranes were generated by inoculation of the trachea of rabbits, chickens, and pigeons, or of the vagina of guinea-pigs. There were then also evidences of several vascular lesions, manifested by hæmorrhagic œdema, by hæmorrhages into lymphatic glands, and by effusions into the pleural cavity. The bacilli had, thus, the same effects on the animal organism as the diphtheritic virus.

The objections to be urged against the identity of the two were: That the bacilli were absent in some cases of diphtheria (having possibly been destroyed); that in the artificial pseudo-membranes they were not present in typical quantity; that they had no effect upon animals by simple contact with their mucous membranes, except when there was an abrasion; the animals which survived were not paralyzed [but diphtheritic paralysis occurred only in from five to eleven per cent. of the cases]; finally, that identical bacilli had been found in the buccal mucosa of healthy persons [possibly carried in it, and for some reason not developing in the tissues of the person]. It seemed as though Loeffler's experiments had approached nearer than any others to the solution of the preliminary question, What was the micro-organism which was the causal agent in diphtheria? It was noteworthy that, so far, only in one instance had the positive discovery of a causal parasitic organism led to therapeutic results; namely, the discovery of the *Acarus scabiei* as the cause of the itch.

Dr. G. B. Hope said that diphtheria came more under the notice of the general practitioner than that of the specialist, yet recently he had seen a case, in a boy of seven years, who, without constitutional symptoms, had presented two distinctly diphtheritic patches as large as a ten-cent piece upon the tonsils. The speaker applied a strong solution of the nitrate of silver, ℥ jss.–℥ j, and afterward learned that the boy died several days later with diphtheritic croup, the patches in the fauces never having extended. The case was of interest on account of this independent development of membrane upon the two parts.

Dr. E. S. Dana remarked that, as was well known, diphtheria caused paralysis oftener than any other infectious disease. He related the following peculiar case, in which permanent muscular atrophy followed this disease: A young man of twenty-two years, with the appearance of good health, presented himself a year ago, stating that he was a bar-keeper, and that he could stand without inconvenience seventeen hours out of the twenty-four, but that if he sat down he could not get up without using his hands to drag himself from his seat, and that if he were thrown upon the floor he could not get up at all without assistance. Upon examination, wasting of the quadriceps extensor and of the leg muscles upon both sides was found. There was in these muscles a diminution of electrical excitability, slight to galvanism, but to faradism very marked. There was no diminution of the sensibility. There was no bladder or rectal trouble. He was married and had children. Five years previously he had had diphtheria, following which he had pains

in the arms and legs, with a loss of power which affected principally the lower extremities. At the end of two or three weeks he got up, and at the end of three or four weeks began to walk. He never fully regained his power, and it was after this time that the atrophy occurred. He had had no other disease. It seemed probable that connected with the diphtheria he had had a myelitis of the anterior horns, like that which occurred in infantile paralysis. It should be borne in mind that, during epidemics of diphtheria, cases of diphtheritic paralysis occurred where there had been no local signs of the disease.

Dr. W. O. Moore said that in eye practice two classes of cases of diphtheria were encountered, the first and rarer being an acute affection of the conjunctiva, characterized by the formation of a pseudo-membrane on its surface, and also an infiltration of the lid substance. This diphtheria of the conjunctiva was very rare in this country, although quite common in Germany, especially in Berlin. Out of 36,302 cases of conjunctivitis treated during thirteen years, at the New York Eye and Ear Infirmary, only sixty-nine were diagnosticated as of diphtheritic origin, and he had no doubt some of these were improperly so called. He had himself seen only fifteen cases that were positively of this form. They presented an entirely different appearance from the ordinary membranous forms of purulent conjunctivitis. The lids were hard and branny, more or less pale, hard to evert, and furnishing very little secretion. Chemosis and moderate injection of the conjunctiva existed, and the palpebral conjunctiva was covered by a grayish-white membrane that extended into the tissue beneath the mucosa. The prognosis was bad unless the patient was seen early. The treatment differed from that of the more ordinary purulent conjunctivitis in that we used no astringents, simply keeping the parts clean, with bichloride solutions (1–400), or a saturated solution of boric acid. Later in the disease, after the disappearance of the pseudo-membrane, we treated it exactly like other cases of conjunctivitis. Most reliance was to be put on general tonic treatment. The more common affections of the eye resulting from diphtheria were the paresis that occurred. Paresis of accommodation might come on shortly after diphtheria or, in rare cases, at the same time with the paresis of the throat. It usually affected both eyes, and was due to disturbance in the short root of the ciliary ganglia. In other cases the motor oculi was affected, and more rarely the abducens. These pareses usually yielded to treatment in a short time, tonics and applications of electricity being of great service.

The Chairman had observed an outbreak of puerperal fever in the maternity ward of the New York Foundling Asylum at a time when there was diphtheria in the children's wards. It was required that the *internes* should change their clothing and bathe carefully before going from the diphtheritic patients to the puerperal patients. The first case of puerperal infection had dated from a violation of this rule. He considered that [illegible] had been carried in this way, although three hours had intervened between the visits to the two wards. He had today seen a characteristic diphtheritic patch in a boy who was playful and absolutely without constitutional signs, but the speaker did not doubt that these signs would develop hereafter.

Dr. S. S. Burt had seen cases where there was apparently no local [illegible] but which had proved fatal, the autopsy showing that the lower trachea and bronchi were choked with membrane.

Dr. Lewis B. Carpenter presented a specimen accompanied with the following history: A child, about two years of age, had been in the usual good health until Tuesday, the 9th inst., when slight coryza and cough appeared. These symptoms increased, until on Wednesday the nasal discharge had become muco-purulent, the cough had grown stridulous, and dyspnœa was noticed. From that time the respirations grew gradually more obstructed, and the obstruction was only slightly relieved by the emetics and other domestic remedies that were used. When he first saw the patient, on Friday, the fourth day of the disease, this dyspnœa was severe, the character of the respirations clearly showing laryngeal stenosis. The submaxillary and cervical glands were but little enlarged. The tonsils were somewhat swollen and the whole throat was congested, but did not have the dark-red congestion, occurring in patches, usually found in diphtheria. A careful examination of the fauces and nares failed to reveal any diphtheritic membrane in those parts, nor did any develop there during the course of the disease. In short, this case presented the clinical features of membranous croup as it was usually described, rather than those of diphtheria. On this account it occurred to him that it might be of sufficient interest to warrant its mention, bearing as it did on the relation of croup to diphtheria. In view of the prevalence of the latter disease, the insanitary condition of the place, and his belief that there was a very intimate relation between croup and diphtheria, if they were not in fact identical, he treated the case as diphtheria, taking the precautions usually deemed necessary to prevent the spread of the disease. Subsequent events seemed to have justified this course. On the following day a child in the same family, seven months of age, began to show symptoms of diphtheria, which developed rapidly. The submaxillary and cervical glands became swollen, and a characteristic membrane appeared on the tonsils, together with other symptoms which showed conclusively that the case was one of diphtheria. The child first attacked gradually grew worse, and tracheotomy was advised, but it was not allowed by the mother. Death occurred on Sunday, the sixth day of the disease, of apnœa.

In reply to the question, "What treatment do you employ in diphtheria?" he would say that, while he had no specific for the disease, he was convinced that much could be done by *early* and *thorough* treatment, that the local lesion always preceded the general infection, and that, in all cases where the constitutional symptoms appeared first, the early local lesions had been present on some portion of the mucous membrane, but had escaped observation. As it was impossible to say just when the transition occurred from a local to a general disease, and as in the majority of cases to which we are called constitutional symptoms had developed, it was well to begin both local and internal treatment at once. In a disease like this, which had no typical course, which was so insidious in its advent, so uncertain in its development, and so fatal in its results, no delay was admissible and no detail of treatment that offered any hope of success could safely be ignored. The nasal cavity should be thoroughly cleansed with a mild antiseptic solution, and all mucus cleared from the throat, so that a clear view of both could be obtained. If any patches of diphtheritic membrane could be seen, they should be brushed with some mild antiseptic preparation, care being taken not to irritate the already inflamed membrane of the throat. The oil of eucalyptus answered the indication here, being unirritating and remaining in contact with the mucous membrane. As this oil was also a good deodorizer, it was especially useful in cases where the discharges were fetid. Hot fomentations or poultices should be applied to the neck and covered with oil-silk to retain the heat and moisture and prevent chilling the patient. The medicated steam spray should be freely used. As to constitutional treatment, *pure air* at an equable temperature of about 75° F., a plain nutritious diet and tonics, such as tincture of chloride of iron and bichloride of mercury, which also produced a local effect, in the way they were now prescribed, appeared to meet the indications. Stimulants should be used as soon as the slightest evidence of cardiac weakness appeared.

He had given these points in treatment not as anything new, but only to emphasize the importance of early and thorough treatment, feeling confident that we could sometimes prevent the development of constitutional symptoms, and often forestall the disease and mitigate its severity. Cases occurred where the disease was well advanced before medical aid was called, and others which, though seen early and treated vigorously, rapidly became worse, until asphyxia threatened to destroy life. In these cases, as soon as it was probable that we could not otherwise control the disease, tracheotomy should be performed; and here, again, as in the treatment of the early local lesion, there was no time to be lost. The success of this operation would depend very much upon its being done early, while there was time to work slowly and carefully, before lung complications had appeared, and before the child was overwhelmed by the poison of the disease and exhausted by the intense dyspnœa.

Dr. H. M. Guild, of Vermont, considered the infection of diphtheria to be by direct contagion; frequently through the sputa, the hand touching the mouth and afterward the door-handle or some other object. He relied upon frequent syringing with salt and water or lime-water, using a tube which was passed into the nostril, the operator standing behind. If he could have but three remedies to combat this disease, he would choose a syringe, water, and whisky. In cases where the temperature had been 103° to 103·5°, he had, by injecting the nasal passages and throat, reduced it 2·5° to 3° in one hour.

Dr. Rhodes referred to the case of a patient of twenty-three years, who had had patches on both tonsils and on the pharynx, but none of the constitutional symptoms except malaise. Tonsillar suppuration being also present, he had removed the tonsil, having previously applied cocaine, without pain.

Dr. T. E. Satterthwaite referred briefly to the observations that had been made by himself, in conjunction with Dr. Edward Curtis, for the Metropolitan Board of Health, a synopsis of which could be found in the "Treatise on Diphtheria" by Dr. A. Jacobi. Though considerable time had elapsed since those observations were made, he did not find that their conclusions were invalidated by the more recent evidence which the speaker of the evening had presented, according to which a number of investigators had found peculiar bacteria, and a number had not found them in the diphtheritic membranes. Certainly he failed to see wherein they had collected evidence sufficient to justify us in believing that the specific organism, if there was one, had been found. In their own experiments they had utterly failed, by injecting the diphtheritic deposit into irritated air-passages, and by inoculation beneath the skin, to produce results which in any way differed from those which were obtained from the injection of any putrid material. As a rule, abscesses were produced in animals, with a residual cheesy mass. The animals became emaciated, but did not always die. He then exhibited a series of microscopic specimens taken from a diphtheritic larynx, showing the membrane *in situ*. He also showed sections taken from a larynx in a case in which a diagnosis of membranous croup had been made by a well-known authority in children's diseases. He could not discern any essential difference in minute structure between the two membranes, and in this view he believed he was sustained by the general opinion of pathologists in New York. He also called attention to the old-time definition of a croupous deposit as one which reposed upon the surface, while the diphtheritic deposit was one which also infiltrated the mucous tissue of the part, so as to be separated with difficulty. As a matter of fact, he held that every diphtheritic membrane would at times be found tightly attached at some places and loosely attached at others. In Dr. Carpenter's specimen the membrane was tightly attached upon the epiglottis and the larynx, but below it could easily be removed. The speaker considered that this loosening had been largely due to the action of the muciparous glands, as had been pointed out by Dr. Jacobi, the glands being absent where it still adhered. Specimens were exhibited showing how the separation was accomplished. He did not consider that the mucous membrane was materially altered where the exudation occurred. He had seen ciliated epithelium immediately underlying the membranous deposit.

The speaker then referred to the experiments already alluded to, and especially to the attempt made to separate the poisonous elements from the inert in the diphtheritic membrane. By filtration through porous clay, it was shown that the poison resided not in the liquid, but in the solid particles. Whether the poison was bacterial or not, he was not prepared to say. He considered that the question had not yet been decided.

Dr. Putnam Jacobi objected to Dr. Satterthwaite's methods in that he inoculated with the composite membrane, for it had been particularly remarked that, in the inoculation of such a mixed mass, the development of one germ would prevent the development of another. Further, Dr. Satterthwaite had no methods for discriminating in regard to the degree of his culture. It was well known, in regard to the poison of puerperal fevers, that at a certain grade of evolution it was poisonous, while at another grade it was not.

Dr. Satterthwaite replied that the experiments were performed a number of years ago, in order to demonstrate the truth or falsity of some statements made by German writers, notably Oertel, Eberth, and Klebs. He had not performed experiments since then by the "pure-culture" method, which, theoretically, ought to establish certain facts in proof or disproof of the bacterian theory. As yet, however, they had not done so. He suggested employing dogs for experiments, as they both had the disease and acted in many respects more like the human being than mice, guinea-pigs, or rabbits.

(*To be concluded.*)

CHICAGO GYNÆCOLOGICAL SOCIETY.

Meeting of December 19, 1884.

The President, Dr. H. P. Merriman, in the chair.

[From notes furnished by the society's editor, Dr. W. W. Jaggard.]

A Case of Mural Pregnancy was related by Dr. W. H. Byford. The history of the case was obscure. The patient, twenty-eight years old, had been married seven years, and had one child, six years old. She supposed that she became pregnant for the second time in February, 1883. In April she became fatigued, and had hæmorrhages, which continued until May 9th. October 14th a discharge of about a gallon of yellow fluid occurred. A putrescent, sero-sanguineous discharge followed for three months. In January, 1884, a large brownish mass, with a very fœtid odor, was expelled. After this, menstruation occurred until July. In May she was quite large, and had bearing-down pains. She entered the hospital October 6, 1884. She was tapped on the 18th, and about four quarts of thick, tenacious fluid, resembling that of an ovarian cyst, were removed. This fluid coagulated on the addition of nitric acid, and on boiling. With the assistance of Dr. R. Tilley, a microscopical examination was made, with negative results. The Drysdale cell was not found. Laparotomy was performed, and a fœtus and placenta were removed without hæmorrhage or difficulty. In order to secure perfect drainage, it was considered best to remove the uterus. The operation was performed on October 30th; the patient did not react, but died within twenty-four hours. Prior to the operation she was extremely

reduced by her protracted sufferings. In a similar case Dr. Byford would now prefer the vaginal operation. The specimens removed from the woman were exhibited as supporting the diagnosis of mural pregnancy.

This was the second case of mural pregnancy that had come under the reader's observation within a period of five years. The first case was reported to the society some time ago. The patient was in labor and moribund when Dr. Byford saw her. She had been in labor until she was exhausted. There was no difficulty in making a diagnosis. The head was low in the pelvis, almost on the perinæum. The os uteri was well-nigh inaccessible, behind and above the symphysis. The body of the uterus, somewhat enlarged, could be felt in the lower and anterior part of the abdomen, attached to the tumor containing the fœtus. The fœtus could be felt through the abdominal walls, surrounded by a thick involucrum, apparently as thick as the uterine walls. Fœtal extremities could be distinguished. When dissected, the sac in which the fœtus was contained was found to consist of a thick layer of muscular fibers. These fibers were directly continuous with those of the uterus. The tubes and ovaries lay on either side of the lower portion of the sac. The fecundated ovum had made its way down the tube, had become lodged in a diverticulum in the uterine wall, and was gradually extruded into the cavity of the abdomen. The fœtus was thus developed within the uterus, though not within the uterine cavity. The resemblance to normal pregnancy was great in the presentation and position of the fœtus, deep down in the pelvic cavity behind the vagina. The head, in this case, was fixed by the concentric contraction of the uterine fibers by which it was surrounded, and could be easily outlined as it lay there covered by the posterior vaginal wall.

The specimen presented was much less perfect than the one described, because of the numerous effects wrought upon it during the long time it had remained in the maternal body, and the mutilation consequent upon enucleation.

The treatment of these cases ought to be considered apart from that of extra-uterine pregnancy at term. It was always a matter for special consideration, in connection with each case, whether or no the removal of the fœtus at term should be attempted in extra-uterine gestation. The dangers of laparotomy were greatly increased by the inability to remove the placenta. The surface to which it was attached had no contractile power, so that the divided vessels were left patulous. If hæmorrhage did not immediately prove fatal, the blood was a source of sepsis that must almost certainly destroy the patient. Laparotomy would more likely prove successful if performed some days after the death of the child. In these cases of interstitial extra-uterine pregnancy the fœtus might easily be removed through the vagina. An incision through the posterior vaginal wall would completely uncover the presenting part, and enable one to apply the forceps, or attack it with the perforator and crotchet, as in ordinary labor. After the removal of the fœtus, the placenta should be allowed to separate spontaneously.

Since writing this report, Dr. Byford had seen a case reported in the "Annales de gynecologie" for July, 1884, which occurred in the practice of Mr. Matheson, of England, and illustrated the execution of this plan. The case was reported to the Obstetrical Society of London under the title, "Extra-uterine Pregnancy: the Extraction of a Living Fœtus through the Vagina." The child was slightly asphyxiated, but survived. A sponge, saturated with perchloride of iron, was introduced into the sac after removal of the placenta. The mother recovered. It would seem that the author did not suspect his case to be one of interstitial pregnancy. During the discussion that followed, only one of those present expressed the opinion that it was of that variety. Mr. Griffith thought it was either interstitial pregnancy or one in which the fœtus was developed in one portion of a double uterus.

Dr. Edward Warren Sawyer thought that interstitial pregnancy meant the development of the ovum in the uterine portion of one of the tubes. In Dr. Byford's case the uterine portions of the tubes were not involved. It reminded him of a case he had seen in which a secondary uterus, with muscular walls, had been developed; but, as the tubes were not involved, he did not feel justified in designating the case as one of interstitial pregnancy.

Dr. D. T. Nelson said, with reference to the treatment of the placenta, that Dr. Byford's advice was that usually recommended in the text-books. The placenta should be left alone in those cases in which the walls of the secondary uterus were not muscular. He had seen a specimen in the Museum of the Chicago Medical College in which no muscular fiber could be detected in the walls. When the walls of the adventitious uterus were muscular, it was questionable whether or no the placenta should be left alone. If it was removed, there was danger of hæmorrhage; if it remained, there was danger of sepsis. When there was reason to suppose that contractions of the adventitious uterus would check hæmorrhage, he thought the placenta should be removed. He had had no experience in these cases.

Dr. E. C. Dudley replied to Dr. Nelson. In cases of extra-uterine pregnancy in which the placenta had been allowed to remain, the women did not die of sepsis. He had seen two or three cases in which the sac had been united to the abdominal incision. Whenever evidence of sepsis occurred, the sac was washed out and the temperature immediately fell to the normal. The placenta, under these circumstances, was eliminated spontaneously in about three weeks. It required phenomenal powers of diagnosis to tell in the concrete case whether or no the sac had sufficient muscular fibers to prevent hæmorrhage. The placenta should be permitted to remain within the sac.

Dr. J. H. Etheridge thought that if, on microscopical examination, it was found that the muscular fibers of the normal uterus were continuous with those of the adventitious uterus, the case was one of mural pregnancy. In cases of abdominal pregnancy there was a line of demarkation between the normal and the adventitious uterus.

Dr. A. Reeves Jackson thought, with Dr. Sawyer, that the results of the anatomical investigation did not support the author's diagnosis. The uterine portions of the tubes were not involved. So valuable a specimen deserved very close microscopical and macroscopical examination. It ought to be referred to a competent pathological anatomist.

Dr. John Bartlett thought the ovum had not passed through the tube, but had been developed in the broad ligament beneath the peritonæum, and had, in this manner, derived muscular fibers from the uterus.

Dr. W. W. Jaggard referred to the fact that, next to ovarian pregnancy, interstitial pregnancy was of most infrequent occurrence. Up to the present time about thirty cases had been reported in regard to which the diagnosis was positive. Interstitial or mural pregnancy included other sites of development than the uterine portions of the tubes. Dr. Gilbert's case, reported in the "Boston Medical and Surgical Journal" for March 3, 1877, and alluded to by Professor Lusk in his treatise on "Midwifery," was a case in point. The ovum in this case was developed in what seemed to be a bifurcation of the Fallopian tube. In Dr. Byford's case the tubo uterine orifices were not involved. The sac was extrinsic to the uterine walls. It was probably a case of abdominal pregnancy in which the ovum became attached to the posterior uterine wall, and derived muscular fibers from this locality. The fact that a continuity of

muscular fibers from the normal uterus to the adventitious uterus might be ascertained upon microscopical examination would prove nothing as to the nature of the pregnancy. Dr. Byford's case resembled that of Janvrin, in which the ovum lodged on the posterior uterine wall and developed in that situation, involving the posterior wall in its sac. The specimen was worthy of more exact investigation, and should be placed in the hands of a competent pathological anatomist.

Dr. Sawyer said that abdominal pregnancy with the ovum situated on the posterior uterine wall was not at all improbable. He then referred to Bischoff's and Leopold's observations and experiments with relation to the "external migration of the ovum." Beigel had ridiculed this idea. It was like a blind man, introduced into a large, empty room, with a thread in his hand, seeking to find and thread the eye of a needle located in some indefinite quarter of the room. Notwithstanding this sarcasm, the fact of the external migration of the ovum was a matter of positive knowledge. It might pass from one ovary to the opposite Fallopian tube through the abdominal cavity. He thought the specimen exhibited was one of abdominal pregnancy.

Dr. Dudley thought the fact of the external migration of the ovum was not disputed at the present time. Playfair, in his "Treatise on Midwifery," gave a clear exposition of the subject.

Dr. Charles Warrington Earle said that the fact of external migration of the ovum was fully recognized twelve years ago.

Dr. Sawyer said the ovum in abdominal pregnancy might be attached to the posterior wall of the uterus, to the mesentery, to the lower surface of the liver, or to other viscera.

Dr. Nelson made the remark that, in both of the cases cited by Dr. Byford, deciduæ had been cast off.

Dr. Jackson said it was well known that the formation and extrusion of a decidua was a constant occurrence in extra-uterine pregnancy. It was pathognomonic of the condition.

Dr. Byford was not surprised that certain members did not agree with him in his diagnosis. He thought that in the first case the fecundated ovum passed through the tube, but had found some diverticulum in the uterine cavity, had passed into the posterior wall, and had developed in this region, pushing the wall before it. Some of the reasons for this position were as follows: The muscular elements of the sac were directly continuous with the uterine muscle. He did not believe that such a muscular sac could develop adventitiously in the abdominal cavity. He had seen cases of abdominal pregnancy with no muscular fibers in the sac. The head presentation, deep down in the pelvic cavity, in the direction of the resultant of the forces developed by uterine contractions, supported his view of the case.

It was not necessary for the production of mural pregnancy that the tubes be involved. He thought there was much in the remarks of Dr. Nelson and Dr. Dudley. In cases in which there was sufficient contractility it was best to remove the placenta. Even under these circumstances it was not absolutely necessary. There was no danger in allowing the placenta to remain. Finally, he was very positive that the two cases referred to in his paper were examples of mural pregnancy. The peritonæum was a boundary-line between mural and abdominal, or peritoneal, pregnancies.

Dr. Sawyer asked if the peritonæum was a boundary-line of importance in the macroscopical or microscopical differential diagnosis between abdominal and mural pregnancies.

Dr. Jaggard, in reply, said that the peritonæum was no barrier. What was the peritonæum? Dr. Etheridge, in an article on "Chronic Adhesive Perimetritis," published in a recent number of the "Chicago Medical Journal and Examiner," had ably sketched the anatomy of this membrane. It was developed out of connective tissue, according to Rindfleisch and other distinguished anatomists. It offered absolutely no barrier to the attachment of the ovum to the posterior uterine wall, and its development in this situation, with the derivation of muscular elements from the normal uterus.

On motion, Dr. Byford, Dr. Merriman, and Dr. Jaggard were appointed a committee to select a competent pathological anatomist, who did not belong to the society, to examine the specimen and report at the next regular meeting. It was specified in the resolution that the *pathologist should be amply paid for the labor.*

A Placenta with Calcareous Deposits was then exhibited by Dr. Etheridge. It was removed from the body of a primipara, who had probably carried the fœtus two hundred and ninety-two days. The calcareous deposit was probably the result of fatty metamorphosis of the upper layers of the decidua serotina.

Dr. Sawyer said the placenta was interesting, but not uncommon. It had erroneously been believed that the degeneration was of syphilitic origin. He thought the connection with prolonged gestation was established.

Dr. Dudley referred to the calcareous deposit in the walls of the arteries supplying an ovarian cyst which he had removed some years previously.

Dr. Jackson related the history of a case in which he had removed a mass of calcium carbonate situated in the recto-vaginal septum, an inch and a half from the vulvo-vaginal orifice. There was no fatty metamorphosis in this case.

Dr. Earle thought there was an unreasonable tendency to ascribe such cases to the effects of syphilis. Hydatidiform degeneration of the chorionic villi and hydrops amnii received a similar erroneous interpretation.

Dr. Etheridge said that the deposits were composed of the phosphates and carbonates of calcium. These substances had an affinity for albumins and fatty acids present in the cotyledons. Similar calcareous changes were met with in fibroids, thrombi, encysted trichinæ, and the lithopædia of extra-uterine pregnancy.

Dr. Byford thought the connection between prolonged gestation and calcareous deposits in the placenta was established. He thought that Dr. Etheridge would find, on microscopical examination, that the changes had occurred exclusively within the vessel-walls.

Miscellany.

THERAPEUTICAL NOTES.

The Disadvantages of Glycerin as a Solvent.—Vigier ("L'Union pharm.;" "Memorabil.") calls attention to the fact that, although glycerin is a valuable solvent, it should not be allowed to supersede fats in the preparation of ointments, for it is not absorbed through the skin. As a result of numerous experiments upon himself, he states that strong solutions of potassium iodide, morphine, atropine, and corrosive sublimate in glycerin not only fail to produce constitutional effects when rubbed into the skin, but do not appear in the urine; whereas, when incorporated with fat in like proportion, they are rapidly absorbed.

Arsenic in Leuchæmia and Pseudo-leuchæmia.—Wartinge ("Nord. med. Ark."; "Memorabil.") reports several successful cases of the direct intra-splenic and intra-glandular injection of Fowler's solution. Four drops was the dose invariably employed. The spleen and glandular swellings diminished rapidly in size, and the excess of white corpuscles gradually disappeared from the blood. He insists on the necessity

of using small doses, repeated thrice daily, in order to avoid local inflammation and general intolerance of the drug. No unpleasant results followed the treatment in his cases.

Galvanism in the Treatment of Nervous Dyspepsia.—Semmola ("Arch. gén. de méd."; "Memorabil.") recommends the use of the constant current in cases of dyspepsia of purely nervous origin. One pole is to be placed on the neck, and the other on the epigastrium; the application is to be continued from five to ten minutes, and repeated at intervals of twelve hours. The most suitable time for it is just before meals. The writer explains that by "nervous" dyspepsia he refers to that form which is due to hyperæsthesia of the gastric mucous membrane or to emotional or other reflex causes—in fact, to various phenomena which can only be explained on the theory of faulty innervation.

Sulphurous Acid in the Treatment of Lupus.—Collier ("Wien. med. Blätter"; "Memorabil.") recommends a solution of sulphurous acid in castor-oil or olive-oil (varying in strength from one part to two to one part to four) as especially useful in cases of lupus of the face, as it does not cause serious disfigurement.

The Physiological Action of Hydrastis Canadensis.—Fellner "Centralbl. f. d. med. Wiss."; "Bull. gén. de thérap.") has studied the effects of this drug when administered to dogs, and draws the following conclusions: It acts directly upon the vaso-motor centers, paralyzing them and thus causing a marked diminution of the general blood pressure. The heart's action is weakened, and, after large doses, it becomes irregular. Contractions of the uterus are caused, which correspond in intensity with the variations in the blood-pressure.

The Use of Electricity in Midwifery.—Bayer contributes an elaborate article on this subject to the "Zeitschrift für Geburtshülfe und Gynäkologie." His deductions are as follows: 1. The constant current is a safe and sure means of provoking uterine contractions. 2. The contractions thus produced are normal and not spasmodic in their recurrence. 3. A similar effect is produced upon the empty uterus. 4. The constant current is a useful agent for eliminating all irregular and painful contractions of the organ. 5. In cases of rigidity of the cervix, electricity sometimes acts very favorably by causing dilatation.

Salicylic Acid in Acute Cystitis.—Borgehold ("Deutsche med. Woch."; "Memorabil.") speaks highly of this drug in the treatment of acute inflammation of the bladder. He gives eight grains every two hours for the first three or four days, and then three times a day, and continues the latter for a week.

Aseptol.—Trauser ("La France méd."; "Centralbl. f. Chir.") assigns to this substance the following formula: $C_6H_6SO_4$, and describes it as a brown, syrupy liquid, having an aromatic odor and a specific gravity of 1.400. It is soluble in ten parts of water, and is without poisonous properties. Clinical observations as to the usefulness of the drug are limited as yet, but it is recommended as an excellent addition to surgical dressings.

Formic Acid as an Antiseptic.—Schnetzler (quoted in the "Centralbl. f. Chir.") asserts that the bacteria which are most tenacious of life are always destroyed by a one-per-cent. solution of formic acid. Since this solution can be applied without injury to the alimentary tract, it follows that we possess in this drug an important agent in the treatment of cholera.

Naphthalin.—Dr. Emil Schwarz ("Centralbl. f. klin. Med.") publishes a series of observations made by him at the Zurich clinic. He confesses that naphthalin is an excellent disinfectant and deodorizer, but its application to the mucous membrane of the bladder and alimentary canal occasioned such severe burning sensations that he concludes that it is a drug to be used with great caution.

Hæmostatic Pills.—M. Bucquoi ("Lyon méd.") uses pills prepared according to the following formula for hæmorrhages from whatever cause:

Ergotin	each, 30 grains;
Acetate of quinine	
Powdered digitalis	each, 3 grains.
Extract of belladonna	

Divide into twenty pills, of which from five to ten are to be taken daily. The ergotin and quinine are introduced because of their vaso-constrictor action; the digitalis and hyoscyamus with the double view of regulating the heart and diminishing the nervous irritation.

The Treatment of Cold Abscesses by Injections of Iodoform Emulsion.—Fränkel reports in the "Wiener med. Wochenschrift" ("Centralbl. f. Chir.") the result of this treatment as pursued at Billroth's clinic. The abscesses were first punctured, and their contents evacuated, under antiseptic precautions; they were then filled with an emulsion consisting of ten parts of iodoform dissolved in one hundred parts of glycerin. Eighteen of the twenty cases thus treated were entirely cured, although in every instance well-marked bone disease was present. In a few cases it was necessary to repeat the injection. The writer adds the caution that this procedure is not suitable for abscesses which are on the point of rupturing.

Arbutin in the Treatment of Catarrh of the Bladder.—Schmitz ("Centralbl. f. klin. Med.") says that arbutin, which becomes changed within the system into hydroquinone, a body having the formula $C_6H_6O_2$, is a valuable remedy in vesical catarrh. He suggests the following as a convenient preparation:

Arbutin	75 grains;
Distilled water	7 ounces.

Dose, one tablespoonful every two hours, containing about eight grains of the drug. A marked improvement in the condition of the urine is noticed within two or three days after beginning the treatment. The writer speaks in rather a guarded way concerning the usefulness of this remedy, and admits that its high price forms a decided objection to its general use.

A Point in the Early Diagnosis of Pregnancy.—The "Medical Chronicle" quotes from a paper published by Hegar, in the "Prager med. Wochenschrift," to the effect that this writer has noticed what he considers an important early sign of pregnancy. Hegar calls attention to the fact that during pregnancy the lower uterine segment becomes thinner and softer than in the non-gravid organ. This condition can be made out easily by bimanual palpation, especially if one finger is placed in the rectum while the uterus is depressed from above with the other hand. The sign is said to be nearly constant, but its absence is by no means a proof that pregnancy does not exist.

The Chicago Gynæcological Society.—At the next regular meeting, to be held Friday evening, January 16th, the proceedings are expected to include a report by the pathologist, Dr. Christian Fenger, on Dr. W. H. Byford's specimen of extra-uterine pregnancy; the exhibition of specimens from a case of double ovariotomy, by Dr. E. C. Dudley; and a paper entitled "Discussion of Certain Methods by which the Second Stage of Labor may be rendered easier," by Dr. Henry F. Byford.

The French Congress of Surgery.—We learn from the "Union médicale" that an organization to be termed the *Congrès français de chirurgie* has been formed by a commission consisting of Professor Trélat (president), Professor Verneuil, M. Horteloup, M. Chauvel, M. Bouilly, M. Ch. Monod, and M. S. Pozzi (secretary), the avowed object of which is to establish scientific relations between French and other practitioners of surgery and all who are interested in the progress of French surgery. The meetings will be held annually in Paris, during Easter week, unless the Congress decides to the contrary. All doctors in medicine may become members by registering and paying the dues, which have been fixed at 20 f. a year. A single payment of 200 f., made before the 15th of February, 1885, gives the person the title of founder; a like payment made after that date constitutes the person a perpetual member. This payment is in lieu of the annual dues. The following subjects will be discussed at the approaching meeting: 1, the ætiology and pathogeny of surgical infections; 2, the surgical indications drawn from urinary examinations; 3, the best dressings for army use in the field; 4, the treatment of cold abscesses; 5, the operative indications in penetrating wounds of the abdomen. The commission asks also for communications upon the following topics: 1, the comparative value of iliac and lumbar colotomy for cancer of the rectum; 2, the indications for gastrostomy; 3, the origin and nature of hip-joint disease; 4, the indications for trephining in injuries; 5, the treatment of the pedicle in ovariotomy and hysterectomy; 6, the operative treatment of tumors of the broad ligament.

Original Communications.

EXCISION OF THE SUPERIOR MAXILLA, WITH REMARKS.*

By DR. GEORGE A. PETERS,

ATTENDING SURGEON TO ST. LUKE'S AND CONSULTING SURGEON TO THE NEW YORK HOSPITAL, ETC.

J. J. M., aged fifty-five, married, born in Canada. Has been a planter on the Island of Cuba for several years past. Came to New York for surgical relief, and placed himself under my care. He was seen in consultation by Dr. T. M. Markoe, Dr. R. F. Weir, and Dr. Charles McBurney, my hospital colleagues. Not being willing to do a grave operation in a hotel, I persuaded him to enter St. Luke's Hospital, which he did May 4, 1884.

The history of his case is as follows, viz.: No history of any hereditary disease in his family. General health has always been good. No history of venereal disease. About two years ago, while riding over his plantation on the back of a mule, superintending some laborers, he was thrown to the ground, striking heavily upon the left side of his face, bruising it severely. At the same time he suffered severe contusions of the leg and back. His recollection is that the contusions of the lower limbs occasioned much more pain and inconvenience than the injuries of his head and face.

Before any tumor of the face was observed, the sight of the left eye "became poor," and there was an increase in the lachrymal secretions. "The eye itself seemed to be stiff." At night there was a slight discharge, which dribbled over the face during sleep. Has never had epistaxis. Began, soon after this, to complain of frequent attacks of pain above and around the left orbit.

About eight months ago he observed a small swelling on left alveolar process, above the first molar tooth. This tooth was extracted by a dentist in Cuba, who stated that there was some discharge from the cavity, and that the root of the tooth was diseased. This operation afforded some relief for the time.

Two months later he had a severe chill, followed by a high fever. He then noticed a swelling on the roof of the mouth, to the left of the median line, about the size of a hazel-nut, and the left cheek now became much swollen; this, however, soon subsided, except for a small swelling which remained in the center of the cheek. This tumor has gradually increased in size, forcing the cheek outward, projecting into the nasal cavity, and pressing down the hard palate. At about this time he came under the care of a surgeon in Havana who had great local reputation. He told him that he had a polypus in left nares, which he then and there proceeded to remove with forceps and scissors. The result of the operation, as described to me by the patient, was a few shreds of mucous membrane, but no well-defined growth; he also plunged a bistoury into the tumor on the roof of the mouth, and removed a small section for future examination. On the following day his surgeon called and informed him that a thorough microscopic examination confirmed his diagnosis, and assured him that the whole affair was merely a polypoid growth and was not at all malignant; in fact, that he was virtually cured.

Notwithstanding this, the tumor continued to increase in size and to give him much pain. About the middle of the month of February, 1884, I found myself in Havana in search of health. I was asked to see Mr. M. professionally. Recognizing the presence of a malignant growth, I arranged with him that he should "put his house in order" and follow me to New York, prepared to submit himself to whatever treatment should there be advised. Late in the month of March he was in Havana, expecting to come immediately on to New York as agreed. At this time he fell again into the hands of the surgeon who removed his "polypus."

He now told him that the progress of the disease had at length revealed that the tumor was an aneurysm, and proposed to cure him by electrolysis.

The needles were introduced and the current was applied. The result was an immediate increase in size and a very rapid growth. He was now utterly discouraged, and, as soon as he was able to travel, "took ship" and presented himself to me for treatment. Condition when admitted into hospital as follows, viz.:

Since the introduction of the needle there has been a continuous discharge from the old cavity in the alveolar process into the mouth, which discharge has some odor. Breathing through the left nostril is somewhat obstructed. General condition of health is very good, appetite fair, bowels regular. On examination, the whole of the left superior maxilla is found to be occupied by a tumor about the size of a large peach, which protrudes outward just below the prominence of the cheek, and extends upward to the ridge of the orbit. The left eye protrudes slightly. In the mouth a prominence is discovered from the palatal process just below the antrum. The first and second molar teeth upon that side have been extracted, and into the cavity formerly occupied by the first molar a probe can be passed for a short distance, and there is a continuous discharge from it. The skin of the face is normal in color and feel. The surface of the tumor is perfectly smooth, and feels soft to the touch, as though the bone had been absorbed.

May 7, 1884.—Operation at 2.30 o'clock P. M., assisted by Dr. Bull and Dr. McBurney.

Patient was etherized by the rectum, so that I should have no delay or obstruction caused by the apparatus used in etherization by inhalation. The flap for exposure of the bone was made after Furgusson's method—an incision through the skin well down upon the surface of the bone, extending from the inner angle of the eye to the outer limit of the orbit parallel with and a little below the infra-orbital ridge; and the other commencing at the nasal extremity of the first, and carried down along the side of the nose, around its ala to the columna nasi, from thence down to the middle of the lip, including its entire thickness. The flap was dissected up rapidly and turned down. The bleeding points were secured with clamps, the soft parts dissected away from the nasal process, and also the cartilage of the nose from the nasal notch of the maxilla. The left middle incisor tooth was then extracted. The malar bone close to its junction with the maxilla was notched with a small saw. The nasal process of superior maxilla at the inner angle of the orbit was treated in the same manner with the saw. The strong-cutting bone pliers were now used for completing the sections of the bone; at the outer angle through into the spheno-maxillary fissure, at the inner angle just below the groove in which lies the lachrymal sac. Two incisions were now made over the hard palate, one posterior and transverse, along the suture between the palatine bone and the horizontal plate of the maxillary bone, the other extending from the inner extremity of the first, along the longitudinal suture uniting the horizontal plates of the upper maxillæ to the alveolus from which the incisor tooth was extracted. The hard palate was now divided by the large, straight pliers, one blade through the nose and the other through the mouth. The whole tumor mass, which was soft and friable was seized with the fingers and thumb and twisted loose from

* Read before the New York Surgical Society, December 23, 1884.

its attachments, the scissors being used when required. All suspicious-looking tissue was scraped away with sharp-edged spoon until all the surface in view looked healthy and normal. The periosteum was detached with a "scraper" and lifted up from the bone forming the floor of the orbit, so that, after the bone was removed well back in the orbit, there should be a support left for the eyeball. The palate bones were left *in situ* with an uninjured uvula and curtain.

The hæmorrhage during the operation was but little, although the tumor itself was exceedingly vascular. Only three animal ligatures were required. The walls of the cavity were covered with iodoform gauze, and the cheek was filled out with three tampons of carbolized gauze, the strings attached to them being brought out through the mouth. The wound through the lip was secured with one hare-lip pin suture and one silver-wire suture. The remainder of the flaps were held in place with continuous and interrupted sutures of fine black silk, and the line of incision was painted over with flexible collodion in which iodoform had been dissolved (ʒ ss. ad ℥ j).

Patient was sent to his room. At 4.50 o'clock P. M. he raised himself in bed and appeared partially conscious. At 5.15 P. M. he attempted to speak. Had a movement from the bowels at 5.20 P. M. which had some form. Another at 6.30 P. M. which was thin and slimy. Neither passage contained any trace of blood. All oozing of blood from wound ceased at 9.30 P. M, There was no vomiting. Rested very quietly during the night. sleeping most of the time. Swallowed small quantities of ice-water.

Went on to recovery without any drawback. The mouth was frequently cleansed with boric-acid solution. The tampons were removed from the cavity at end of third day, and the cavity packed loosely with carbolized gauze.

Hare-lip and silver sutures removed on third day. Union by first intention took place throughout entire incision, and all sutures were removed before the expiration of a week.

Was discharged cured May 22, 1884, two weeks after the operation.

On only two days during his residence in the hospital did his temperature reach 99°, and the highest pulse-beat recorded was once 104.

Pathologist's Report.—"Tumor, received from St. Luke's Hospital on May 7, 1884, is connected with the alveolar process of the superior maxilla, left side, and as large as a hen's egg. It is soft, friable, and differing in consistence in different places. It destroys for a considerable extent the bony alveolar process, and some of the teeth. It is composed of lobules of epithelial cells of unequal size, supported by a very delicate stroma. The epithelial cells at the periphery of the lobules, next to the stroma, are low and cylindrical; elsewhere they are small, flat, or cuboidal, and distinctly nucleated. Numerous small, round, and spindle cells are seen in the stroma, which also show a goodly supply of blood-vessels.

"Diagnosis: Lobulated epithelioma.

"Ferguson."

After leaving St. Luke's Hospital, the patient recovered his health and strength rapidly. The deformity resulting was very little. The lines of incision were scarcely perceptible. His chief inconvenience was from the opening in the roof of the mouth, communicating with the nose, which rendered his voice indistinct, and permitted regurgitation of food, so as to annoy him somewhat.

A dentist was consulted, who made a thin plate of gold, with teeth attached, which, when in place, obviated the embarrassment, and was worn with much comfort. It was a difficult matter to secure the plate in position, so that it would not "drop down." A piece of mechanism was contrived which was very ingenious and effective. To the upper, or convex, surface of the gold plate a button was attached by a hinge; the button stood up from the surface at a right angle. When the plate was placed in position this button projected into the cavity; it was then made to hook over and clasp the bony palatine plate of right maxilla at edge of the wound by pressing upon one of the molar teeth in the plate, which was connected with the button by means of a spring. The plate was easily removed for purposes of cleansing, and held very firmly in place. This apparatus he was enabled to wear during the entire time between soon after the first operation and the time he returned to his home in Cuba.

(Copied from Case-Book, New York Hospital.)

"Recurrent Carcinoma of the Face (service of Dr. George A. Peters).—J. J. M., aged fifty-five years, born in Nova Scotia, married, planter, admitted to New York Hospital August 27, 1884. Family history negative. Has always enjoyed good health until two years ago, when he fell from his horse, striking the side of his face. Last November a swelling appeared in inner side of left hard palate, and gradually increased in size.

"Patient was operated upon, on the 7th of last May, in St. Luke's Hospital, by Dr. George A. Peters, and the left superior maxilla removed. Recovery good. Three weeks ago a tumor reappeared in left malar region, and has been growing rapidly ever since.

"On admission, general condition good. Examination shows a tumor about the size of half a pullet's egg, situated below the outer half of left eye, over malar region. The mass is hard, firm, elastic to the feel, and occasionally painful; is attached to subjacent tissues. Skin over the tumor is discolored, but not adherent to it.

"*Operation, August 27th*, was done by Dr. Peters. Etherization was started by inhalation, and continued *per rectum*. A curved incision was made through the skin over the swelling running toward the nose, flaps raised, and fleshy mass of the tumor removed. With the *rongeur* a considerable portion of the zygomatic process was gnawed away, and the prolongations of tumor-tissue were scraped away from beneath that process and from the temporal fascia. Hæmorrhage during the operation was considerable. Several small-sized and one large bleeding point were tied with animal ligature. Rubber drainage-tube was inserted; the wound was sutured with fine black silk. Three ounces of ether were used by the rectum during the entire operation, which lasted for an hour and a half. The second operation did not open into the cavity left as a result of the first one. Rallied well from the ether and operation. No vomiting and no rectal symptoms. There was considerable œdema of conjunctiva and eyelids; no pain.

"Drainage-tubes removed about thirty-six hours after operation. On the third day the sutures were removed. Union was complete except where the tube emerged; here a small sinus remained open for a few days, when it closed. At the end of a week from time of the operation the patient left the hospital and went to his hotel. Returned to his home in Cuba, September 13, 1884."

Pathological Report by Dr. Ferguson, of New York Hospital.—"Examination of the tumor shows it to be a typical epithelioma. Large masses of flat cells are seen in a small amount of fibrous stroma, in which are many young cells of inflammatory origin."

Believing that rectal etherization would be especially desirable in this case, by leaving the face unobscured by cone or any apparatus, I devoted some time to contriving a method which should be both safe and sure. Administra-

tion of ether by this channel had been but little practiced, although, fortunately, comparatively much had been recorded in the journals. The chief danger seemed to be either from over-distension of the bowels with ether vapor, or tenesmus with bloody discharges from the rectum, caused probably by fluid ether being forced through the tube and deposited in contact with the mucous membrane, causing inflammation.

Experiments had demonstrated that the cool rubber tube produced rapid condensation of the vapor driven through it. The amount or rapidity of condensation did not seem to depend either upon the length or caliber of the tube. Ether boils at temperature of 96° F. Theoretically, it seemed that if the vapor were superheated it would condense less rapidly. The temperature of the water in which the vaporizer was immersed was kept as nearly as possible at a temperature of from 103° to 105° F. If the temperature is raised to 120° or 130°, the ebullition becomes so active as to drive over the fluid ether in considerable quantity.

Dr. Ogden C. Ludlow, who occupied the position of Senior Walker in St. Luke's Hospital, contrived a very simple and ingenious apparatus by means of which we were enabled to secure the desired results.

It may be described as follows, viz.: Two glass phials of a capacity of from six to eight ounces. One phial, intended as the reservoir for containing a supply of ether sufficient in quantity to last throughout the entire operation, should be marked with graduate lines, so that the amount used may be accurately measured. This is connected with the second phial, intended to be used as the vaporizer, by a rubber tube with a forcing bulb, as in Davidson's syringe. Phial No. 2 is placed in a jar of water with a thermometer, so that the water may be kept at the required temperature. To a curved glass tube projecting through the stopper of phial No. 2 is attached a rubber tube, about two feet long, on the distal end of which is a rubber nozzle for introducing well into the rectum. Into this rubber tube, about eight inches from the nozzle, is inserted a short glass tube, from which the apparatus can be easily detached when the vapor is not needed; the glass also enables one to discover when fluid ether is driven through it. Through the cork stopper of phial No. 2 a second glass tube is passed, which tube receives the rubber from phial No. 1, through which ether is fed as required from the reservoir.

Here we have a very simple and easily managed apparatus.

When a sufficient quantity of vaporized ether has passed into the rectum, the tube is slipped off from its glass attachment near the anus and left *in situ*. The connection can be readily re-established when more vapor is needed. This tube left in the rectum has also the advantage of affording a ready escape for any excess of ether vapor which may have been driven on, or for gases generated in the bowels. To show how satisfactorily the apparatus works, I will here read the report of what was very carefully observed and recorded at the time by Dr. Ludlow, who had sole charge of the administration of ether in M.'s case:

"*May 7th, at 2.30 P. M.*—Patient was etherized *per rectum*, ℥ss. of brandy having been given previously; at the beginning, pulse 104; ℥jss. of ether was then forced into the vaporizer. Within half a minute he tasted the ether in his mouth, and was at once seized with a desire to evacuate the contents of his bowels, although two enemata had been given in the morning. In five minutes the muscles of his arms were relaxed and the conjunctiva but slightly sensitive. After another minute he opened his eyes, spoke, and turned over on the table. Another ounce of ether was then forced over into the vaporizer. The ether cone was then placed over his face; he struggled for a short time, but was completely anæsthetized in eleven minutes from the commencement, when the cone was removed. Ether was administered *per rectum* for fifteen minutes, when the tube was disjointed. This was followed by a discharge of ether and foul-smelling gas through the tube. After this the tubes were connected for one or two minutes at a time, making the total time of actual etherization thirty minutes. The last charge of ether vapor was given one hour and thirty-two minutes from the start, but the operation was not completed for thirty minutes more. At the end of two hours and ten minutes the conjunctiva became sensitive and the arms commenced to stiffen. Pulse 120 and fairly strong. Amount of ether used, three and a half ounces."

For the second operation, done August 27, 1884, the ether cone was applied over the face until he came perceptibly under its influence, when it was removed. The tube was then introduced into the bowel, and rectal etherization was employed throughout the time of the operation. The apparatus used at the New York Hospital was extemporized from the materials at hand, and was by no means so complete as the one described above.

It answered the purpose, however. Patient was kept anæsthetized for an hour and a half, only three ounces of ether were used, and this only for a few minutes at a time, connecting the apparatus only when the effect of the anæsthetic seemed to be passing off.

My experience in operations upon the mouth or its neighborhood, involving either complete or partial excision of the jaw bone—notably in several cases of extirpation of pharyngeal tumors of a malignant nature, reports of which have been made before this society—led me to appreciate the great hindrance to rapid or thorough removal caused by the presence of the ether cone as generally employed. The operator is frequently obliged to interrupt his manipulations at a critical point in order that more ether may be given, or the mouth and throat cleansed of accumulated blood, etc. In order to obviate these hindrances, and also to render it safe to use the actual cautery when required, I had on several occasions performed laryngotomy as a preliminary step. This enabled me to administer the ether through a tube inserted in the wound, and extending to the reservoir of ether at any chosen distance; this procedure also enables the operator to plug the fauces, and thus prevent the influx of blood, etc., into the air-passages. The cases in which I had used this procedure were so entirely satisfactory that I resorted to it without any hesitation. I have seen no bad results from the opening in the wind-pipe, which opening I always close before the patient is removed from the table. When rectal etherization was first brought to my notice I recognized in it a less formidable adjunct, provided it should be proved reasonably safe. By it we accomplish all that is afforded by laryngotomy, save that it will require much greater care in packing the posterior fauces.

The use of the rectal method in the two instances above recorded encourages me to believe that, with proper precautions in its use, we have a method which is both safe and sure.

Previous to the year 1826 considerable portions of the upper jaw had been removed by surgeons in various countries, notably by Dr. Alexander W. Stevens, of this city, who, in August, 1823, removed a large portion of the upper jaw for a disease of the antrum, and seven years afterward his patient was in perfect health. Dr. Stevens maintained that he was the first to operate upon the principle of cutting through the sound and not the diseased parts.

Dr. David L. Rodgers, of New York, in May, 1824, successfully removed the greater portion of the superior maxilla for osteo-sarcoma.

Mr. Lizars, of Edinburgh, in 1826 first *proposed* the entire removal of the upper jaw. In 1827 he attempted to carry his plan into execution for removal of a medullary sarcoma of the antrum, but was obliged to desist on account of the hæmorrhage.

On May 26, 1837, Gensoul, of Lyons, removed the entire superior maxilla with the whole of the palate bone. Patient recovered.

At length, in August, 1829, Mr. Lizars performed his second operation, which was successful. Surgeons of the present day do this operation as opportunity offers, with generally good results.

Resection of portions of the superior maxilla, for the purpose of securing access to tumors in posterior nares or fauces, is frequently practiced. The method of incision of the soft parts in order to reach the bone is a matter of importance, and deserves consideration.

Mr. Lizars used an incision across the cheek from the angle of the mouth to the malar bone, or, when the tumor was very large, employed an incision through the lip into the nostril, with a vertical cut at the malar bone. With the saw and bone-forceps the maxilla was separated and removed. This was the cut made by most surgeons until Sir William Fergusson proposed an important modification in the method of procedure. The deformity resulting from the methods in vogue led him to devise the plan of carrying the incision solely through the medial line of the lip into the nostril in the manner used by me, and described in my note of the operation.

In operations in this region the hæmorrhage is, in some cases, very profuse; but, if done rapidly and dexterously, securing the larger bleeding vessels with clamps, the surgeon need not fear fatal bleeding.

I will bring my paper to a close with a few remarks as to the [illegible] in which the operation is justifiable.

Necrosis of the upper jaw, whether as the result of injury or disease in neighboring soft parts, syphilis, etc., requires operation, sometimes even to the extent of removal of the entire jaw.

Non-malignant tumors of the upper jaw, as fibroma and enchondroma, occasionally attain a size requiring removal of the entire bone.

Hyperostosis of the jaw, which consists primarily in periosteal inflammation, leading to the deposit of new bone and the expansion and filling up of the original osseous structure, is unconnected with syphilis or struma, and appears to be beyond the control of remedies, and not infrequently reaches so great a size as to cause much deformity and justify the removal of the entire maxilla.

It is in connection with malignant tumors of the upper jaw that the surgeon is often called upon to decide as to the propriety of removal.

It is now well established by a large experience that the operation for cancer, even when so radical as the removal of the entire jaw, does not result in a cure, the disease being almost certain to recur. Nevertheless, the possibility of a non-recurrence, and the positive temporary relief afforded, in connection with the moral effect of the operation, will, in my opinion, justify surgical interference.

In the case above narrated, both the patient and his wife declare that, although the disease has again appeared, and no further operation is contemplated, the relief from pain and horror experienced after the operation renders them satisfied that it was done.

When the patient sailed for Cuba, about the middle of September last, a careful inspection of the cavity, seen through the opening in the roof of the mouth, revealed a recurrence of the disease to a slight degree. Under date of December 16th, I have heard by letter that the disease is progressing slowly. Mr. M. is decidedly of the opinion that the growth is retarded by the use of the fluid extract of red clover-blossoms, which he has used diligently ever since the operation in half-ounce doses three times a day.

ON SURGICAL TUBERCULOSIS.*

By R. J. HALL, M. D.

Since Koch's announcement of the discovery of the *Bacillus tuberculosis*† the medical press has devoted more time to this subject than perhaps to any other in the whole range of medical science. To those who had not followed the steps by which the problem had been brought day by day nearer to its solution, Koch's announcement seemed either an audacious theory, opposed to the results of all previous clinical and pathological research, or a stroke of genius, answering at once the question which had baffled all others.

Many, however, who had followed the subject from the beginning, saw in Koch's discovery but the absolute proof of that which, on other grounds, they had long held to be practically certain.

Although, on account chiefly of the immediate value of the discovery for diagnostic purposes in diseases of the lungs, most of the recent contributions have had reference to cases lying rather in the domain of medicine than of surgery, yet the latter has been by no means entirely neglected. In this country, however, the recognition of the tubercular nature of many surgical affections has been extremely slow. Thus, while so great an authority as Koenig, in Germany, does not hesitate to say that the surgeon, when speaking of

* Read before the New York Surgical Society, November 11, 1884.

† "Ber. Klin. Wochensch.," 15, 1882; "Arch. fur Anat. u. Physiol.," physiol. Abth., S. 199, 1882.

chronic inflammation, scarcely thinks of anything but tubercular disease,* in an edition so recent as 1883, of a widely read American work on diseases of the joints, tuberculosis is not mentioned as a factor in pathology or ætiology; and it is not too much to say that numbers of surgeons of considerable experience never get beyond the terms "strumous" or "scrofulous" in their diagnosis of these same affections.

I do not hesitate, therefore, to present the results of my own examinations of material from cases of surgical tuberculosis, with reference to the presence and histological relations of the bacillus. It will be necessary first to sketch briefly the arguments which, in my opinion, render the mycotic origin of tubercle an established fact in medical science, and no longer a mere theory. The subject has been so conclusively dealt with by Koch himself † that but little is left except to give a *résumé* of the argument as presented by him.

The idea that tuberculosis is an infectious disease is by no means new. Klencke, as has been pointed out by Spina‡ and Koch,* first successfully inoculated animals with human tuberculosis in 1843. Villemin, however, was the first to attract general attention to the subject by a series of successful inoculations, accompanied by a number of carefully conducted control experiments with non-tubercular material, the latter giving always negative results.‖

At first these views were received with general favor; but soon a large number of experimenters announced that they had arrived at very different results, that inoculations with the most varied non-tubercular animal and vegetable substances also produced tubercular lesions, especially in animals predisposed to the disease. Among these, the reports of Burdon Sanderson,△ Wilson Fox,◊ and Cohnheim and Fränkel,‡ may be mentioned as having appeared especially conclusive, and having been most extensively quoted.

When these experiments, however, are examined in detail, they are found, as has been well pointed out by Raymond and Arthaux, in an exhaustive article on the subject,‡ to have fallen into errors due to neglect of precautions especially insisted on by Villemin. It is unnecessary now to discuss the cause of failure in those cases where tubercular material was inoculated and no tuberculosis produced, since not the strongest opponents of the theory of a specific poison would now deny that tuberculosis can be produced by inoculation with tubercular material. In those cases where it has been alleged that tuberculosis has been produced by inoculation with indifferent non-tubercular substances, the observers have sometimes trusted to the macroscopic appearances, calling any nodules found on autopsy of the animals experimented on tubercles. In this way the nodules in the livers of rabbits—due to the eggs of strongylus, tænia, and other parasites, and so common that, in three hundred otherwise healthy rabbits examined by Raymond and Arthaux,* almost all contained them—have undoubtedly been taken for miliary tubercles; and the same has, probably, been the case with small foci of broncho-pneumonia and miliary abscesses in the lungs, in experiments by inhalation. Or the observers have depended on an insufficient histological examination of the inflammatory products. Or, perhaps the most frequent error of all, they have operated with a total neglect of all precautions in selecting healthy animals, having clean knives, hands, and operating-rooms, keeping the animals separate from others already infected, and under good hygienic conditions. No single observer has yet inoculated animals with non-tubercular material, using the necessary precautions mentioned above, produced a progressive tuberculosis, *and proved that it was tuberculosis by further inoculations in* series on other animals; yet nothing less than this would be necessary to outweigh the overwhelming evidence on the other side, for all this can be accomplished with certainty by the use of tubercular material. It is important also to note that Cohnheim, feeling doubtful of the reliability of his own experiments in the crowded and dirty laboratories in Berlin, repeated them in Breslau, with proper precautions, using chiefly the anterior chamber of the eye for inoculations, and with entirely opposite results, producing tuberculosis invariably with tubercular material, and never with any other;† and recently Dr. Dawson Williams, at the request of Dr. Sanderson and Dr. Wilson Fox, repeated their experiments, using every precaution against accidental infection, and also with entirely negative results. These experiments were controlled by Dr. Wilson Fox himself, who was present when Dr. Williams read his paper.‡ Among many others who have made extensive observations, with the same results, may be mentioned H. Martin,* P. Baumgarten,‖ K. Schuchardt,△ Damsch,◊ Tappeiner,‡ Dieulafoy et Krishaber,‡ and Koch himself.‡

Having been led to the conclusion, on the foregoing and other grounds, that tuberculosis was possibly due to a specific poison of a parasitic nature, the steps pursued by

* "Die Tuberculose der Knochen u. Gelenke," etc., "Samml. klin. Vortr.," No. 214.

† "Mittheilungen aus dem kais. Gesundheitsamt," B. II.

‡ "Studien über Tuberculose," S. 30, Wien, 1883.

* "Die Actiol. der Tuberculose," "Mittheil.," etc., B. II. S. 2.

‖ "Gaz. hebdom.," 1866, Nos. 42–49; "Études sur la tuberculose; preuves exper. de sa specificité." Paris, 1868.

△ "British Med. Journal," 1868.

◊ "A Lecture on the Artificial Production of Tubercle," Royal College of Physicians, May 15, 1868.

‡ "Exper. Untersuch. über die Uebertragbarkeit der Tuberculose," Virchow's "Arch.," B. 45, 1869.

‡ "Recherches expérimentales sur l'étiologie de la tuberculose," "Arch. gén. de méd.," p. 25, 1883.

* *Op. cit.*

† Cohnheim u. Salomonson, "Sitzungsber. der schles. Gesell.," 1877; Cohnheim, "Allgemeine Pathologie," Die Tuberculose vom Standpunkte der Infectionslehre.

‡ "Lancet," December, 1883, p. 991.

* "Nouvelles recherches sur la tuberculose spontanée et expérimentale," etc. "Compte rendu de séances et mém. de la soc. de biol.," 1880, p. 373.

‖ "Ueber Tuberculose," "Deutsche med. Wochenschr.," No. 22, 1882.

△ "Impftuberculose des Auges," etc.; Virchow's "Arch.," 88, S. 28.

◊ "Ueber die Zuverlässigkeit von Impfungen in die vordere Augenkammer," etc. "Deutsche med. Wochenschr.," 1883, p. 247.

‡ "Tappeiner," "Wien. med. Presse," 1877.

‡ "De l'inoculation du tuberc. sur le singe," "Arch. de physiol.," i, 1883, p. 424.

‡ *Op. cit.* See also Watson Cheyne, "Fortschritte der Med.," 1883, No. 8.

Koch,* as described by himself, were as follows: 1. To determine whether in tubercular tissues elements occurred foreign to the tissues and not produced by them. 2. Having found such elements, to prove that they were living organisms which could be distinguished from others of the same family, and capable of indefinite multiplication. 3. To show that tissues containing these organisms, as we may now call them, when used for inoculation, produced the disease, and that no other tissues did so. 4. To cultivate these organisms on suitable soil and with suitable precautions against contamination, through successive generations, until it was absolutely certain that none of the original material was present, and with these pure cultures to produce the same disease; and, lastly, to show, by a sufficient number of control experiments, that inoculation with indifferent substances never does produce tuberculosis. All this has been accomplished by Koch, with marvelous accuracy and minuteness of detail, in such a way as not to leave a loophole of escape from his conclusions. His experiments and observations extend over hundreds of cases with the most uniform results. As has been well said by a recent reviewer, "it is fair to predict that, among the future assailants of Koch's work, there will be very few men of judgment who have read the work in the original.† As for the various attacks that have been made upon Koch, they have been so conclusively answered by himself that it is scarcely necessary to do more than refer to his own article in answer to his opponents.‡ It is worthy of note that among the numerous adverse critics, with the exception of some quite inconclusive inhalation experiments by Balogh # and Schottelius, ‖ only two, Spina and Formad, profess to have repeated Koch's work. Spina's △ two or three experiments fail so utterly to comply with the conditions necessary in such an investigation as to be absolutely puerile, and quite worthy of the contempt with which Koch treats them, while I can not discover that Formad has made any experiments on the subject except those implied in the statement ◊ that almost all animals in laboratories acquire tuberculosis, no matter what operation has been performed on them. This, in the present state of scientific knowledge on the subject, produces, as a critic has remarked, somewhat the same effect on the mind of the reader as if a surgeon should say that pyæmia could not be due to a specific poison, because all the patients operated upon in his wards died of it. It is perhaps of purely historical interest that, while Formad gives abnormal narrowness of the lymph-spaces as one of the anatomical causes of tubercle, Hueter had already suggested an abnormal wideness of the lymphatic system as the probable cause of the same.*

Assuming, then, as proved, the ætiological relation of the tubercle bacillus to tubercular processes, let us consider what interest this has for surgeons. From a pathological point of view, the identity of the inflammatory products, in the more important surgical diseases, with the pulmonary tuberculosis of Bayle and Laennec was very early recognized. Delpech ⁋ maintained the tubercular nature of Pott's disease, as did Nichet,‡‡ very shortly after the publication of Laennec's views. Nichet also describes cold abscesses independent of bone disease formed by the confluence and breaking down of tubercle. Nélaton,* in 1836, describes tubercular osteitis, encapsulated and diffuse, its various terminations, and the ways in which it affects the joints, almost as minutely as Koenig has done recently in his admirable monograph on the subject.‖ All these investigations, however, were founded chiefly on the macroscopic appearance of the miliary tubercle. It was not until the description of the giant-cell by Langhans,△ and the demonstration of epithelioid cells, surrounded by a fine reticulum and forming a nodule inclosing usually one or more giant-cells, by Schüppel,◊ gave a firm anatomical criterion for the diagnosis, that exact investigations could be made. Then followed the demonstration of tubercular disease in almost every tissue and organ of the body. Among the most important, from a surgical point of view, the following may be mentioned: K. Köster,‡ in 1869, founding his conclusions on a careful examination of nine cases, first described miliary tubercles as a constant occurrence in fungoid joint diseases. Ranvier ‡ had already described tubercular osteitis. Friedländer ‡ found tubercles in caries of bone, in scrofulous skin diseases, lupus, the os uteri, the wall of a mammary cyst, and other unexpected places. Schüppel,** in 1871, described tubercular lymphadenomata so minutely that pathologists have had scarcely anything to add and nothing to alter since, and declared the tubercle-like lymphadenomata of E. Wagner †† to be really tubercle. Köster ‡‡

* "Mittheil. aus dem kaiserlich. Gesundheitsamt," B. II. Die Aetiologie der Tuberculose.

† "American Journal of the Med. Sciences," No. clxxv, p. 191.

‡ "Kritische Besprechungen der gegen die Bedeutung der Tuberkelbacillen gerichteten Publicationen," "Deutsche med. Wochenschr.," 10, 1883.

"Wiener med. Blätter," 49, 1882. Die Tuberkelbacillen in Budapest; Ref. in "Centralbl. f. klin. Med.," 6, 1883.

‖ "Virchow's "Arch.," 91, S. 129. Zur Kritik der Tuberculose-Frage.

△ *Op. cit.*

◊ "Proc. Med. Assoc.," November 18, 1882. The Bacillus Tuberculosis, etc., etc., also "N. Y. Med. Jour.," February 16, 1884. The Bacillus Tuberculosis. H. F. Formad. "N. Y. Med. Jour.," May 24, 1884. The Amer. Med. Ass'n. Tuberculosis, H. F. Formad, and discussion: "N. Y. Med. Jour.," June 14, 1884. Report of Phila. Co. Med. Soc., discussion of Dr. Formad's paper on the Bacillus Theory of Tuberculosis. "N. Y. Med. Jour." June 28, 1884. Letter from Dr. H. F. Formad. A criticism of Dr. Formad's printed statements and conclusions concerning the Etiology of Tuberculosis. L. O. Shakespeare. "N. Y. Med. Jour.," August 9 and 16, 1884. "Centralblatt f. klin. Med.," No. 6, 1883. Criticism of Dr. Formad's first article.

* "Die Scrophulose und ihre lokale Behandlung als Prophylaxe gegenüber der Tuberculose." Volkmann's "Samml.," 49.

† Ref. in "Schmidt's Jahrbücher," No. 13, 1837, p. 309. ‡ *Ibid.*

Inaug. dissert., Paris, 1836, No. 376.

‖ "Die Tuberculose der Knochen und Gelenke," Berlin, 1884.

△ "Ueber Riesenzellen mit wandständigen Kernen in Tuberkeln, und die fibröse Form des Tuberkels." Virchow's "Arch.," B. 42, 1868.

◊ "Untersuchungen über Drüsentuberculose," etc., Tubingen, 1871.

‡ Virchow's "Archiv," xlvii, 1, p. 94.

‡ Article on Osteitis, Caries, and Tubercle of Bone. "Arch. de physiol.," 1868; ref. by Kiener and Poulet, *ibid.*, i, 1883, p. 284.

‡ Volkmann's "Samml.," 64, 1873. Ueber locale Tuberculose.

** *Op. cit.*

†† "Das tuberkelähnliche Lymphadenom."

‡‡ "Med. Centralbl.," 1873, 58. Ueber locale Tuberculose; ref. in "Schmidt's Jahrb.," B. 162, 1874. Aufrecht, "Ueber Tuberculose,' p. 391.

found tubercles in fungoid osteitis and osteomyelitis, independent of joint disease, in almost every portion of the male and female genito-urinary tracts, in the larynx, the mamma, and the tongue. R. Volkmann,* in 1879, and Lannelongue,† in 1880, describe in detail the tubercular character of cold abscesses, the latter including those not dependent on tubercular disease of bone. G. Feurer‡ examined twelve cases of vertebral caries and found nine certainly, the remaining three probably, tubercular. Koenig# has recently called renewed attention to the frequently tubercular character of the common chronic hydrops of joints and sheaths of tendons, in the latter especially when accompanied by rice-bodies, and also of some fibrous foreign bodies in joints. The joint affections had already been carefully studied by Riedel,‖ but, in the increasing skepticism as to the common origin and pathological importance of tubercular products, had been almost completely lost sight of. Bizzozero,△ in 1874, described tubercular disease of the skin, of the sheaths of tendons, and other regions. K. Ohnacher ◊ has recently published two cases of tuberculosis of the mamma with great detail, and a complete account of all previously observed cases. Nedopil,‡ though by no means the first, has discussed tubercular disease of the tongue more fully than any other author. For a more complete literature I would refer to the works of Virchow ↕ and E. Aufrecht ‡ for the older observations, and to the elaborate articles of Neisser,** Mögling,†† and Charvot,‡‡ for the more recent. In spite, however, of the enormous amount of work done in this direction, the absence of what could be considered as direct proof of the ætiological unity of all tubercular products made it difficult to draw any very practical conclusions from the knowledge obtained, and many of the authors mentioned above considered the frequency with which tubercle could be demonstrated in diseases clinically so utterly unlike as the strongest argument against the theory of its specific character. Rindfleisch's view, so widely accepted, of tubercle as merely an ordinary inflammatory process, modified by the constitution of the individual in whom it occurred, and the great authority of Virchow,## who, defining tubercle as a neoplasm and scrofula as an inflammatory process, running a peculiar course from local or constitutional causes, affecting the nutrition of the part, designated a very large proportion of surgical tuberculoses as scrofulous—tended to deprive these observations of their true importance.

In 1879 Volkmann's * article, "Ueber den Charakter und die Bedeutung der fungösen Gelenkentzündungen," appeared. Founding his conclusions on examinations made by himself and his assistant, Friedländer, he declared the whole class of fungoid joint diseases—caseous lymphomata, cold abscesses, scrofulous ozæna, many rectal fistulæ, and obstinate ulcers of mucous membranes and of the skin—to be tubercular. He accepted fully Villemin's theory, which has been so much disputed, of the specific character of tubercle, and pointed to the frequent infection of all the parts surrounding a tubercular center, as most strongly confirmatory of this. Acting upon these views, he advocated the complete extirpation of all tubercular material, wherever accessible, as the only reliable means of curing the local disease, and guarding against general infection. Hueter † had already advocated the same principles with great earnestness, though with less clear views as to the nature of the pathological processes; and Koenig, as he himself informs us, in the dedication of his monograph, already mentioned, while on a visit to Halle some twelve years ago, became an enthusiastic convert to the doctrines of his friend Volkmann. Under the guidance of these three great men, German surgeons accepted the new teaching almost universally, and applied it so widely in operative practice as to have brought about at the present day a quite decided reaction. In France, however, it found few adherents; this is well illustrated by a discussion of the subject, as applied to diseases of the joints, so late as 1882, in which many of the prominent French surgeons took part, and Lannelongue, whose work has been already referred to, almost alone supported the German opinion. In England and America a reference to almost any of the most recent surgical works will show that it can scarcely be said to have made progress at the present day.‡

Even in Germany, dissenters were not wanting among surgeons. Lücke, in 1880 * and 1881,‖ denied the ætiolo-

* Volkmann's "Samml.," 168, 169. Ueber den Charakter und die Bedeutung der füng. Gelenkentzündungen.

† "Bull. de la soc. de chir.," 1880.

‡ "Anat. Untersuch. über Spondylitis," Virchow's "Arch.," B. 82.

"Die Tuberculose der Knochen und Gelenke," Berlin, 1884, pp. 17 and 25.

‖ "Deutsche Zeitschrift f. Chir.," B. x. Zur Aetiologie der fibrinösen Fremdkörper im Knie, etc. *Ibid.*, B. xii. Ueber isolirte tuberculöse Geschwülste des Kniegelenks.

△ "Centralbl. f. Chir.," 1874, p. 278. ◊ Langenbeck's "Arch.," 28.

↕ "Wiener Klinik," 1881, H. ix. Ueber tuberculöse Erkrankungen der Zunge. ‡ "Geschwülste," B. ii, 1864–'65.

‡ "Schmidt's Jahrb.," 144, P. 213 and 162, p. 297. Zur Lehre von der Tuberculose.

** Von Ziemssen's "Handb.," B. xiv. Handb. der Hautkrankheiten Neisser, "Die chronisch. Infectionskrankh. der Haut," 1883.

†† "Mitth. aus der chirurg. Klinik zu Tübingen," H. ii, p. 248, 1884. Ueber chirurg. Tuberculose.

‡‡ "Rev. de chir.," Nos. 5, 6, and 8, 1881. De la Tuberculose chirurgicale. (Not yet completed at the time of writing.)

"Geschwülste," vol. ii. See also Waldenburg, "Die Tuberculose, Lungenschwindsucht und Scrophulose," Berlin, 1869; Spina, "Studien über Tuberculose," Wien, 1883; A. Johne, "Die Geschichte der Tuberculose," Leipzig; A. Johne, "History of Tuberculosis, with a special consideration of Tuberculosis in Cattle," "Journal of Comp. Med. and Surg.," Jan., 1884, p. 44.

* Volkmann's "Samml. klin. Vortr.," 168, 169.

† "Die Scrophulose und ihre locale Behandlung, als Prophylaxe gegenüber der Tuberculose." Volkmann's "Samml.," 49.

‡ "Discussion sur les variétés des tumeurs blanches," "Bull. de la soc. de chir.," 7, 21, 1882; Macnamara, "Tuberculous Disease of Bone," "Brit. Med. Journ.," 1883, ii, pp. 1119 and 1180; H. T. Butlin, "Scrofula and Tubercle," "Internat. Encyc. of Surg.," vol. i, p. 231; Howard Marsh, "Abscesses," *ibid.*, vol. ii, p. 257; R. Barwell, "Diseases of the Joints," *ibid.*, vol. iv, p. 261; Bryant's "Surgery," 3d American ed., p. 869, and note by American editor; Lewis A. Sayre, "Orthopædic Surgery and Diseases of the Joints," 2d ed., 1883; V. P. Gibney, "Diseases of the Hip," 1884, The Ætiology of Chronic Articular Osteitis, p. 303, etc.

* "Deutsche Zeitsch. f. Chir.," B. xiii. Die Aetiologie der chron. Ostitis und Periostitis.

‖ "Deutsche Zeitsch. f. Chir.," B. xiv. Einige weitere kritische Worte über die Aetiol. der chron. Ostitis und Periostitis.

gical unity of the chronic bone diseases in which the histological tubercle is found, attributing them to five different causes, as follows:

1. Hereditary and acquired tuberculosis and scrofulosis.
2. Hereditary and acquired lues.
3. Former attacks of infectious diseases, as pyæmia, osteomyelitis, typhus, etc.
4. Trauma.
5. Gout.

Sonnenburg, in 1881,* headed what promised to be a formidable revolt, among the younger men, against the specific theory, had not Koch's discovery, so shortly afterward, afforded the means of placing it in an unassailable position.

In Koch's earliest publications on the subject, already referred to, the occurrence of the bacilli in surgical tuberculosis was demonstrated, and the extraordinarily small numbers in which they are usually found was noticed. Shortly afterward more extensive observations were published by Schuchardt and Krause,† showing, on the evidence of a large number of cases, the constant occurrence of the bacillus. It will be more convenient to give the particulars of these and other reports hereafter, when discussing the tuberculoses of different regions.

(*To be continued.*)

FALSE ALBUMINURIA.‡

By GASPAR GRISWOLD, M. D., M. R. C. S.

Under the title of "false albuminuria" this paper will include two distinct classes of cases:

1. Cases in which the urine does *not* contain albumin, but in which a precipitate resembling albumin is caused by the ordinary tests; and

2. Cases in which albumin is actually present in the urine, but does not come from the kidney.

The detection of slight degrees of albuminuria is often more important in practice than the determination of larger amounts, for the cases in which the albuminuria is so ill-defined as to be doubtful are just those in which dropsy and other characteristic symptoms are least marked and in which we are most dependent upon urinary analysis in making a diagnosis. It is very easy to determine the existence of renal disease when the urine contains albumin and casts in abundance, and the patient presents the familiar dropsical appearance; but where there are no symptoms beyond a somewhat persistent headache with restlessness and [illegible] digestive disturbances—just enough to suggest the possibility of kidney trouble—it becomes a very difficult problem to determine the importance of a faint trace of albumin in the urine. We ascertain the specific gravity and the quantity passed—both are not far from normal. In such a case we then examine carefully for casts, but very rarely find them; for, even if they are present, they are usually so scarce that it is a matter of remote chance to hit upon one. While the discovery of casts is conclusive evidence that the kidneys are affected, the failure to find them certainly can not be taken as proof that the kidneys are sound. This brings us face to face with the question whether, the urine being normal in all other respects, we may not have been mistaken about the trace of albumin? The patient may be suffering only from dyspepsia after all, and the slight precipitate which we obtained may not have been due to albumin, but to some error in testing the urine? Or may not some peptone, imperfectly elaborated in the course of the indigestion of which the patient complained, have got into the urine and given us a precipitate resembling albumin? Or, even further, supposing the precipitate to be albumin, may not the small quantity which we observed have come from some irritation of the bladder or prostate? It is obviously of the greatest importance, as regards both prognosis and therapeutics, to be able to decide whether a slight cloudiness or deposit which occurs in a specimen of urine when tested is really albumin, and, if so, whether the albumin comes from the kidney or not. In discussing these questions only the tests with heat and nitric acid will be referred to, but it will be assumed that in all doubtful cases scrupulously clean test-tubes are used, the urine filtered before testing, and the presence or not of a precipitate determined by looking through the urine at a black background in a good light. *The accurate compliance with all these detailed requirements is absolutely essential, and no results are reliable in obtaining which they have been neglected.*

The test spoken of in this paper as the "cold nitric-acid" test is performed as follows: Into a test-tube of small caliber is first poured one drachm of pure colorless nitric acid. About one drachm of the suspected urine is then allowed to flow down the side of the tube, drop by drop, from a pipette, so as to float upon the nitric acid without mixing with it. If albumin is present, a sharp white band appears at the point where the acid and urine are in contact. This is often spoken of as Heller's test, and is generally admitted to be the most certain and satisfactory method of determining the presence of small quantities of albumin.

The substances which may precipitate so as to simulate the presence of albumin claim consideration first; they are phosphates, mucus, uric acid, peptones, and resinous drugs like copaiba.

Phosphates.—The old familiar statement that phosphates are precipitated when *alkaline* urines are heated has done harm in making many forget that the same thing may occur with distinctly *acid* specimens. It frequently happens that urine which turns blue litmus red gives a precipitate on boiling which disappears when a few drops of nitric acid are added. In such a specimen, if sufficient acid is added previous to boiling, to prevent the precipitation of phosphates, the precipitation of albumin may also be thereby interfered with; for in very acid urine small quantities of albumin are often converted into acid albumin and will not then be precipitated on boiling.

* [illegible] Bedeutung der Tuberkel [illegible]

† [illegible] Vorkommen der Tuberkelbacillen bei [illegible]

‡ Read before the New York State Medical Association, November 20, 1884.

The best test for urine which deposits phosphates on boiling, in spite of being acid, is the cold nitric-acid test. In this way the presence of albumin will be distinctly shown without any precipitation of phosphates to obscure it.

Mucus.—Normal urine often contains a considerable quantity of mucus, more or less dissolved at first, but separating as the urine cools, and producing a cloudy appearance. Mucus is not precipitated either by boiling or by nitric acid, and therefore does not usually interfere with the tests for albumin. There are two exceptions to this rule: 1. When the urine is alkaline. 2. When so much mucus is present that the urine is too cloudy for a slight precipitate of albumin to be seen distinctly. Before discussing the former exception, it will be necessary to recall the fact that if a small quantity of albumin is present in alkaline urine it is apt to be converted into *alkali-albumin*, and will not then be precipitated on boiling. If the specimen be first neutralized by adding to it a few drops of acetic acid, and then boiled, the albumin will be precipitated as usual. It is therefore necessary to neutralize alkaline urine before employing the heat test for albumin; and it is further necessary that acetic acid should be used for this purpose and not nitric acid, for the addition of a few drops of nitric acid previous to boiling will sometimes prevent entirely the precipitation of albumin, even in specimens which contain it in abundance. The author has had under his care one case in particular of advanced Bright's disease with extensive dropsy and casts, in which the previous addition of a few drops of nitric acid prevented any precipitate on boiling, although the urine contained a large quantity of albumin. In this case the presence of albumin was always plainly shown by the cold nitric-acid test, or by boiling after neutralization with acetic acid instead of nitric. Now, if a specimen is to be examined which is alkaline and also contains mucus, a difficulty presents itself in the fact that acetic acid precipitates mucus. If we boil the alkaline urine without neutralizing it, the albumin contained may not be precipitated. If we add acetic acid to neutralize the urine, the mucus may be precipitated so as to resemble albumin; and we can not neutralize the urine with nitric acid, because this again may prevent the albumin from being precipitated. From these considerations it is evident that we can not depend upon the heat test to show a small quantity of albumin in an alkaline urine which contains mucus. Under the circumstances, it is best to employ the cold nitric-acid test, which precipitates albumin equally well in alkaline urine, and does not precipitate mucus.

Under the latter exception, when so much mucus is present that the urine is too cloudy for a slight precipitate of albumin to be seen distinctly, the mucus should be removed by the following process: Add two drachms of urine to an equal quantity of *liquor potassæ* in a test-tube, warm gently, and then filter. The fluid which comes through will be free from mucus, and may be tested for albumin by the cold nitric-acid test. The author has satisfied himself by experiment that the removal of mucus in this way does not interfere with the subsequent detection of small quantities of albumin. The experiment was as follows: In one test-tube were put *one drachm of an albuminous urine, one drachm of non-albuminous urine cloudy with mucus, and two drachms of liquor potassæ;* the mixture was then warmed and filtered in the manner described. Into another test-tube were then poured *one drachm of the same albuminous urine, one drachm of normal urine without mucus, and two drachms of water.* Both test-tubes, therefore, contained the same amount of albumin, and the same proportion of other constituents, the only difference being that the contents of one had been put through the *liquor potassæ* process for removing mucus, while the other had not. When these two specimens were subjected to the cold nitric-acid test, they each gave the same amount of albumin precipitate, showing that the mucus-removing procedures which one had undergone had not modified its subsequent reaction.

Uric Acid.—If a specimen of urine contains uric acid or urates in considerable quantity, a mistake may be made as follows: A specimen of acid urine is boiled, and a few drops of nitric acid then added, without the appearance of a precipitate. The test-tube is put aside for perhaps fifteen minutes, and then looked at again and shaken. A precipitate may now be present, which is apt to be mistaken for albumin. It is probably composed of urates and uric acid, which have been deposited as the urine cools, because the specimen has been rendered more concentrated by boiling and more acid by the addition of nitric acid. To settle the question, boil the urine again; if the deposit is albumin, it will remain unchanged; if it is anything else, it will redissolve and disappear.

There is also a possibility of error when concentrated urine is tested by the cold nitric-acid method. In this case a precipitate of uric acid and urates, somewhat resembling albumin, may form near the point where the urine and nitric acid are in contact. This is best avoided by diluting the urine with three or four parts of water before pouring it upon the acid. The urine will then no longer be concentrated enough to yield a precipitate of uric acid and urates, and the reaction for albumin will not be interfered with.

Peptones.—These more or less digested forms of albumin are often present in the urine, both in cases where the urine also contains ordinary albumin, and in cases where it does not. True peptone, or completely digested albumin, is not precipitated by nitric acid, nor by heat, and, consequently, does not claim discussion in this paper; but there is a form of incompletely digested albumin, called hemipeptone, which is precipitated by cold nitric acid, and, therefore, must be mentioned here. It was first described by Bence Jones, and from this is commonly called "Bence-Jones albumin." He found it in the urine of a case of osteomalacia. It is not precipitated by boiling; it gives a precipitate like ordinary albumin with cold nitric acid, but this is redissolved on the application of heat. In this way it may be easily distinguished from ordinary albumin, and here lies its sole importance; it possesses no established clinical significance.

Resinous Drugs, like Copaiba.—Nitric acid often causes a precipitate in the urine of those who are taking copaiba, turpentine, or other resinous drugs. The odor of the urine, with the history of the patient, is generally sufficient to

avoid error; but, in case of doubt, the addition of alcohol will dissolve the resinous precipitate and thus distinguish it from albumin.

When the urine contains blood, pus, prostatic fluid, or spermatic fluid, albumin will be present which must be distinguished from albumin coming from the kidneys.

Blood.—Urine containing a small quantity of blood has a smoky appearance; when a large quantity of blood is present, the urine is reddened and may contain clots. Even a very slight admixture of blood renders the urine highly albuminous. It is inferred that the albuminuria is dependent entirely upon the blood mixed with the urine, when the daily quantity and specific gravity of the urine remain normal, and no symptoms of renal disease are present. The presence of blood is usually determined by the microscope. In some cases, however, the corpuscles are dissolved in the urine, leaving only albumin and coloring matter to prove the hæmorrhage. In such a case, having found albumin, and suspecting, from its smoky appearance, that the urine contains blood, test for hæmoglobin as follows: Wet a piece of white blotting-paper in the urine, and dry it slowly over a spirit lamp. When it is dry, drop upon it two drops of tincture of guaiacum, and a moment later one drop of ozonic ether. If the urine contains hæmoglobin, a blue color will develop in a few minutes as the spirit evaporates and leaves the paper dry. This test can not be relied upon if the patient is taking iodine in any form.

It should be remembered in this connection that the urine often contains albumin in the course of jaundice. A urine containing bile coloring matter and albumin is to be distinguished from bloody urine in which the corpuscles have disappeared by solution. The distinction is made by testing for hæmoglobin as described above, and then for bile pigment with the familiar nitrous acid, or Gmelin's test.

Pus.—Urine containing pus in any quantity is always albuminous, the albumin coming from the pus serum. The only problem which is of interest to us in this connection is the discrimination between albuminuria from renal disease and albuminuria from bladder catarrh. If a specimen of urine, otherwise normal, contains a trace of albumin and a few pus cells, can we say that the presence of pus cells shows that the albuminuria is due to catarrh of the urinary passages? The books tell us that, if more albumin is present than would correspond with the quantity of pus cells in the urine, this excess must be referred to the kidney and be taken as evidence of renal disease. This statement is based upon the assumption that the relation between pus cells and pus serum is a constant one, and that so much pus serum is always exuded with so many pus cells. This is a mistake; there is thick pus, and thin, watery pus. Thin, watery pus contains more albumin in proportion to its cells than thick pus does; this may easily be proved by adding them to two specimens of normal urine until there is an equal deposit of cells at the bottom of each. The specimen to which thin pus has been added will then be found to contain much more albumin. This is further shown by the clinical fact that while one day a specimen may be seen containing a little albumin and a few cells, the next day one may be met with which contains just as many pus cells with no albumin. The albumin contained in the former specimen can not with certainty, therefore, be attributed to the pus present. Except in extreme cases, it is not possible to be sure that in pus-containing urine more albumin is present than the pus can account for. In such cases, the co-existence of renal disease can only be inferred from the presence of casts, and from morbid variations in the daily quantity and specific gravity, with appropriate associated symptoms.

Prostatic or Spermatic Fluid.—If a specimen of urine contains prostatic or spermatic fluid it will be slightly albuminous. In the London "Lancet" for May 13, 1882, Dr. Bradbury describes some cases of slight and intermittent albuminuria, in which he believes that spermatic and prostatic fluid was squeezed into the urethra during efforts at defecation, and so imparted an albuminous reaction to the urine. Senator also speaks of this in his work on albuminuria, and recommends that the urine first passed be thrown away, and a specimen taken from the later flow. In this way only that urine would be examined which was passed after the urethra had been washed out, and all such sources of error removed.

In conclusion, it may be said, by way of moral, that attention paid to the details of ordinary urinary analysis is time well spent, for there are few greater mortifications in the experience of a physician than to see albuminuria demonstrated where he has positively denied its presence, or to see its absence proved in a case where he has confidently affirmed its existence.

MARIENBAD

AND ITS WATERS AND BATHS.

By HENRY B. MILLARD, A. M., M. D.

As a matter of therapeutics, it is to be regretted that so little attention is given in America to the study and use of mineral waters. Accurate analyses have, indeed, been made of many of our springs, while those of others are vague or only qualitative, and are made, some of them, by chemists without repute and apparently in the interests of proprietors. In Europe, on the contrary, every spring of renown has been repeatedly analyzed by competent authorities, and great attention is paid to the study of mineral-waters. In France every spring has its *médecin inspecteur* appointed by the Government, prizes are awarded by the Academy of Medicine for essays on waters, and in nearly all medical societies there is a section in mineral waters. In France and Germany the literature of this subject is large and important. At home the appliances in the way of baths are usually imperfect and primitive; abroad they are often on a vast scale, luxurious and in magnificent buildings, comprise every variety, and are usually intelligently employed. The experience of my patients at home is to the effect that the resident physicians do not always address themselves with sufficient zeal to the employment of waters, hygiene, etc. To this, however, there are notable exceptions. I have passed altogether many sea-

sons abroad at the various springs in France, Germany, and Switzerland, and know them to be, when suitable to the cases, of great value from a therapeutic standpoint. In addition, they nearly all possess the no small advantage of being situated in beautiful localities, while the comforts of living, as to food, lodging, attendance, etc., are very great—no small consideration whether one is sick or well.

I will not here specify springs that are of known value in complaints of the throat, nervous system, spinal cord, kidneys, etc., but will limit myself to a brief consideration of the features of Marienbad, where I have passed considerable time. Bohemia is rich in mineral waters; in addition to those of Marienbad, there are the well-known springs of Carlsbad, Franzensbad, Teplitz, Sedlitz, Pullna, the waters of Bilin, and others. Each summer finds at Marienbad about ten thousand visitors, the great majority of whom come for the "cure." It can be reached in twenty-seven hours from Paris; by taking one of the German steamers from New York and going to Hamburg or Bremen, it can be reached from these two places in about seventeen hours. Its situation and climate as a summer resort seem to me almost perfect. It is at an elevation of about nineteen hundred feet, in a broad valley, on each side of which rise lofty pine-clad hills; the village is surrounded, in such close proximity as to be but a few steps, on every side by pine forests interspersed with beautiful paths. The neighborhood affords an abundance of agreeable excursions. The air is highly invigorating, and, except for a few hours in the day, cool. There are a number of springs, some of them chalybeate, but most of them possessing, like those of Carlsbad, sulphate of sodium (Glauber's salt) in greater or less amount. To the first of these belong the Carolinen and Ambrosiusbrunnen, which contain a large proportion of iron to that of other ingredients, and the Alexandrin, which is a strong chalybeate; to the second belong the Kreutz and Ferdinandsbrunnen. Then there is the Marienbrunnen, containing only a very little solid matter, but highly impregnated with carbonic acid; it is used for baths; and the Rudolfsquelle, which contains lime and strongly resembles the waters of Wildungen (Germany). The following is the analysis of six of the springs:

	CONTAIN IN 16 OUNCES OF WATER	
	The Kreutzbrunnen.	The Ferdinandsbrunnen.
	Grains.	Grains.
Sulphate of sodium	38·040	38·766
" " potassium	0·401	0·326
Chloride of sodium	13·065	15·307
Carbonate of sodium	9·024	9·899
" " lithium	0·036	0·069
" " lime	3·990	4·183
" " strontium	0·006	0·006
" " magnesium	3·332	3·494
" " iron	0·270	0·471
" " manganese	0·024	0·121
Phosphate of aluminium	0·038	0·014
" " lime	0·014	0·015
Silica	0·630	0·741
Extractive matter, bromine and fluorine combinations	0·056	traces.
Total	68·926	73·502

	CONTAIN IN 16 OUNCES OF WATER			
	The Waldbrunnen.	The Carolinenbrunnen.	The Ambrosiusbrunnen.	The Rudolfsquelle.
	Grains.	Grains.	Grains.	Grains.
Sulphate of sodium	7·371	2·786	1·451	0·810
" " potassium	1·995	0·012	traces.	0·172
Chloride of sodium	2·815	0·844	0·384	0·450
Carbonate of sodium	4·823	1·964	0·737	1·067
" " lithium	0·007	0·004	traces.	traces.
" " lime	2·611	3·557	1·862	8·573
" " magnesium	1·889	1·395	0·848	5·148
" " iron	0·179	0·310	0·338	0·319
" " manganese	0·035	0·028	0·023	0·057
Phosphate of lime	.....	0·012	0·010	0·026
" " aluminium	0·015	.....	.....	0·096
Silica	0·676	0·536	0·361	0·096
Extractive matter	traces.	0·180	0·012	.....
Total	22·416	11·628	6·026	16·718

The *Alexandrinenquelle* is a strong chalybeate. It contains 11·3 grains of sulphate of potash and 2·24 of the carbonate of oxide of iron to sixteen ounces.

Their temperature is about 49° F., and they are all, as they issue from the granite mountains, rather agreeable, though the Kreutz and Ferdinandsbrunnen are somewhat bitter. It is apparent that the Glauber's salt in these two last (the strongest in sulphate of sodium, I believe, of any springs) is the most important ingredient, though other elements, as the other salts of sodium, potassium, lithium, iron, etc., have also an important action in many pathological conditions. The mud-baths are of great value, but their English appellation is rather misleading. Mud, when made up, they undoubtedly are, but of mother Earth they do not contain much, one kind containing only two and a half, the other less than five per cent. The earth from which the baths are prepared is found in the forests, within a mile or two of Marienbad. It is permeated with springs of carbonic-acid and chalybeate waters. The earth is finely ground, and mixed (freshly for each bath) to the consistence of thick treacle, with water, at a temperature of about 90° F. After immersion in the bath for from fifteen to twenty minutes an attendant washes off the mud, which is only slightly adherent, and a bath of fresh water is employed. That these baths may possess medicinal properties is evident from the following analysis, by Professor Lehmann, of Jena, of one of the varieties used:

a. Substances soluble in Water:

	Parts.
Potash	2·06
Soda	1·28
Ammonia	2·78
Lime	18·92
Magnesia	3·66
Alumina	35·37
Protoxide of iron	73·51
Sulphuric acid	212·96
Silica	1·03
Quellsaure	21·44
Other organic substances and loss	47·59
Formic acid	4·28
Other volatile acids	14·51
Total	458·41

b. Substances soluble in Muriatic Acid:	
Alumina	1·84
Oxide of iron	20·41
Sulphur	39·79
Phosphoric acid	6·02
Silica	0·79
Water, and organic substances	6·13
Total	52·80
c. Insoluble Organic Substances:	
Humus substances	42·53
Wax	10·34
Resin	24·52
Vegetable residue	404·23
Total	469·08
d. Mineral Substances not decomposed	17·71
Total	1,000·00

The same celebrated chemist declares that the new Marienbad mud considerably exceeds all the muds hitherto analyzed, including that of Franzensbad, in the amount of iron contained; and a mud-bath (10 cubic feet), according to his calculation, contains the immense quantity of ten to twelve pounds of sulphate of iron, seven ounces of formic acid, and eight ounces and a half of other volatile organic substances.

Therapeutic Uses of the Waters.—The Kreutz and Ferdinandsbrunnen are suitable in stases of the system of the vena porta, also to tympanites abdominalis, chronic gastro-intestinal catarrh, enlargement of the hæmorrhoidal veins, hyperæmia of the liver, etc. These waters bring about increased activity of the intestinal canal and the secretion and excretion of the glands connected with it, and the circulation of the blood is facilitated by the greater increased transudation and diminished pressure.

Obesity (*pimelosis nimia*) is a condition for which Marienbad is much resorted to. The large number of fat men and women, with protuberant abdomens and over-exuberant mammæ, that one meets constantly, is very curious. Ladies who weigh three hundred pounds are very common. That obesity and abdominal plethora may be often, and usually are, diminished here, is certain, as I have seen many cases where from ten to thirty pounds have been lost in one season. The sulphate of sodium is shown, by physiological experiments, to diminish the transformation of substances rich in nitrogen, and to direct the process of oxidation more to the fatty parts. For persons leading sedentary lives, who suffer from venous plethora, for indolent rich people, where there is a tendency to excessive fat, and women at the climacteric period, with a tendency to obesity, general or local, these waters are well suited.

They should not, however, be employed in stases produced by incurable tumors in the abdominal cavity, or by defective action of the valves of the heart, or which are produced by stoppage of large veins, or in greatly advanced pulmonary emphysema.

The special indications for their use are chronic catarrh of the stomach, a pasty tongue, eructations of wind, thirst, fetid breath, etc.; these gastric symptoms will be the more likely to be helped if they form part of the general abdominal stases, and are associated with hyperæmia of the liver, turgescence of the hæmorrhoidal veins, etc. Gastric complaints characterized by gouty complications, hyperæmia of liver, acute cardialgia, biliary concretions, chronic affections of the liver, tumors of the spleen, etc., are likely to derive great benefit.

Chronic ulceration of the stomach is often cured by these waters, as well as chronic catarrh of the intestines, characterized either by diarrhœa or constipation. Hæmorrhoidal conditions are greatly helped, and I have known several severe cases of hæmorrhoids apparently quite cured. In chronic hyperæmia of the liver, accompanied by evidences of high living, constipation, and venous plethora, the waters are specially appropriate.

I have known, this summer, a case of considerable hypertrophy of the liver, the result of intermittent fever, completely cured by the waters and poultices of the mud. When, however, the hypertrophy or congestion has its origin in valvular deficiency, or in stenosis of the bicuspid or tricuspid valves, or in disorders of pulmonary circulation, the waters are contra-indicated, as also in cirrhosis or chronic inflammation of the liver. In *fatty liver* (not fatty degeneration) the waters are particularly efficacious, as they also are in amyloid degeneration of the liver following intermittent fever. *Icterus and catarrh* of the biliary ducts likewise find their remedy here.

Biliary Calculi.—The waters are very efficacious in aiding the removal and preventing the formation of these; the number of biliary calculi voided at Marienbad each season is considerable, sometimes by people in whom their existence was not suspected. *Chronic enlargements* of the spleen often derive great benefit when due to long-standing congestion caused by malaria, by hepatic stases, and by obstruction of the circulation of the vena porta.

Urinary Concretions.—These waters are strongly diuretic, and are specially suited to the uric-acid diathesis, and prevent the formation of acid; the benefit is greater when the excessive uric-acid formation accompanies, as it usually does, gout or the gouty disposition, or rheumatism, with acid urine. One of my own patients, who had suffered for a long time from uric-acid gravel (nephritic calculi), producing severe hæmorrhages from the kidney and great pain, has been completely cured here. The lithic acid they contain is undoubtedly of use.

In *gout* the waters have a beneficial influence, as indeed they should when it is considered how much this affection is dependent upon abdominal stases, and if the statement of Garrod is correct, "that the venous constitution is the first and most essential point of development of the gouty diathesis," not only this, but nearly the entire class of symptoms induced by gout is benefited by these waters, acting by resolution of the uric acid and by stimulating the intestinal canal. The baths are of special use in concretions, chalk stones, and ankyloses. Bronchial asthma and emphysema occurring in persons suffering from obesity, abdominal derangements, and congestion or constipation, are often greatly benefited, while the Waldquelle is of great use in chronic catarrhs of the respiratory organs. The waters are suitable also in hypertrophy of the heart with general plethora, blood stases being diminished, the circulation

rendered freer, and the activity of the heart diminished, while excretion and secretion on the part of the intestinal canal are greatly increased. The tendency to apoplexy in this ailment, with great plethora, is diminished, especially in persons leading sedentary lives, whose venous system is distended, and with whom there is an excess of adipose tissue. The adipose heart—that is, accumulations of fat about the heart—yields, *pari passu* with the diminution of fat throughout the rest of the system, to the use of the sulphate-of-sodium waters.

In *female ailments* caused by excessive obesity the waters and baths are particularly efficacious, as also in derangements of menstruation and the disorders of the climacteric period. In chronic metritis, by exciting diuresis and moderate catharsis, diminishing abdominal congestions and relieving constipation, much good is effected; also in the scanty menstruation of fat women, and at the menopausis, where local and general congestions, heat of the skin, with perspirations, etc., are so common. Menorrhagia is greatly diminished at the climacteric period, and indeed at any time. I have seen some remarkable instances of amelioration; scanty menstruation, so common in fat women, finds one of its best remedies in these waters. The sterility of fat women, which is frequently dependent on anomalies of menstruation, chronic catarrh of the uterus, or changes in the position of the uterus caused by excessive fat, is often cured.

In some cases of pyelitis and of chronic albuminuria I have known the waters, especially the Rudolfsquelle, to accomplish a great deal of good. When the albuminuria is accompanied by the uric-acid diatheiss or hepatic disorders, the Ferdinand or Kreutzbrunnen will be more likely to be of use. An advantage of Marienbad is that its waters offer a great variety as regards constituents and strength; in many instances it is desirable to combine them—as in anæmic cases—the Alexandrinen with the Rudolfsquelle, or, where the uric-acid diathesis is marked, the Kreutzbrunnen, etc. Certainly several cases of chronic nephritis that I have sent here have been greatly benefited.

The Baths.—The mud baths produce a decided elevation of temperature, and are highly stimulating; the pressure and friction caused by the mass of mineral mud (about six cubic feet are used for each bath), acting like a huge poultice, with their chemical and gaseous constituents, often produce resolution of inflammatory products. They are of use in neuroses proceeding from anæmia, especially in women suffering from sexual maladies; in paralyses where the nervous affection is caused by exudations; in rheumatic and arthritic paralysis; in rheumatism of the muscles and in gout; in local stases of the abdominal organs; in deficient menstruation; in abdominal enlargements, and in enlargements of the liver and spleen. The mud is also applied locally in the form of poultices, sometimes being mixed with one of the iron waters. The *gas baths* are highly stimulating, increasing the menstrual flow, accelerating the circulation in peripheric paralyses and cutaneous anæsthesia; they are especially useful in conditions of the genital organs characterized by debility, in fluor albus, amenorrhœa or passive metrorrhagia, and in diminished sexual power. The Marienquelle baths are employed to second the effects of Ferdinands and Kreutzbrunnen waters. The iron baths (Carolinen and Ambrosius) correspond somewhat in their effects with the gas baths.

Some comparison between the Marienbad and Carlsbad waters is of interest. The principal ingredient of the Sprudel of Carlsbad and of the Kreutz and Ferdinandsbrunnen is the sulphate of sodium. As the following analysis shows, the Marienbad waters contain twice as much of this salt as the Carlsbad, besides being stronger in all the other ingredients, the other and principal point of difference being that the Marienbad are more stimulating and are cold, while the Carlsbad are warm or hot, their temperature ranging from 108° to 164° F., the latter being the temperature of the Sprudel. Hufeland called Marienbad the "cold Carlsbad." They are suited to very much the same class of ailments, except that it may be stated in a general way that the hot waters of Carlsbad are probably more effectual in catarrh of the bile-duct and biliary concretions, and especially in diabetes mellitus.

	CONTAIN IN 16 OUNCES OF WATER	
	The Kreutzbrunnen.	The Sprudel.
	Grains.	Grains.
Sulphate of sodium	38·040	19·869
" " potassium	0·401	.....
Chloride of sodium	13·065	7·976
Carbonate of sodium	9·024	9·695
" " lithium	0·036	.....
" " lime	3·990	2·370
" " strontium	0·006	0·007
" " magnesium	3·332	1·369
" " iron	0·270	0·027
" " manganese	0·024	0·006
Phosphate of aluminium	0·038	0·002
" " lime	0·014	0·002
Silica	0·630	0·577
Extractive matter, bromine and fluorine combinations	0·056	0·024
Total	68·926	41·924
Free carbonic-acid gas in a hundred parts of water	105	26
Temperature	50° F.	164° F.

I have often been asked if the waters of Marienbad or Carlsbad can not be taken with equal advantage at home, in place of making a long and somewhat expensive journey. I have invariably answered "No." Where the Marienbad waters are taken, from three to five glasses are usually required daily, most of which should be taken before breakfast. Nor should they be swallowed at once; twenty minutes should be allowed to each glass, and exercise taken at the same time. All this is easy when hundreds are doing the same thing with a musical accompaniment by a splendid band, invigorating air, beautiful surroundings, and abundant leisure. Each person usually devotes an hour before breakfast and an hour before supper or dinner to drinking the waters. Again, when the treatment is to reduce adiposity, four or five hours' exercise daily should be taken. The diet, too, is strict—sweet, starchy, and fat food being mostly prohibited—fish, eggs, light red or white wine, tea and coffee without much sugar or milk, cooked fruit and vegetables, animal food, and fish and plain soups being allowed. It is impossible to have all the above circumstances and diet at

home for three or four weeks, the average time required for treatment, although two of my patients have followed out the treatment here thoroughly and with advantage. Again, the waters, though exported, are more flat and less agreeable than when drunk at the springs, and, in addition, the carbonate of iron they contain is precipitated. The salts, which can be obtained here, prepared by the evaporation of the Ferdinandsbrunnen are, however, reliable.

An advantage of the springs of Bohemia is that there are in attendance, during the season, competent and thorough physicians. They are strict in the treatment of patients and careful in their diagnosis and in the selection of the waters to be used. At Marienbad there are about thirty physicians during the season, among whom I may mention Professors Ott and Kisch, of the University of Prague.

I present this paper not as an elaborate one upon the Marienbad waters, but as a rough sketch of them and the general characteristics of the watering-places of Bohemia. I am indebted to the work of Dr. Kisch* for much of the information contained in this article.

Marienbad is cooler than the other health resorts of Bohemia, and its pure and invigorating air, its tranquillity, the regularity of the life pursued, and the good hours kept (almost every one is in bed before ten), make it attractive and desirable for those needing the treatment and rest.

I should add that some precautions should be taken as regards securing accommodations; the season is from May 1st to October, and is at its height from the latter part of June to the middle of August. During the height of the season it is almost impossible to obtain rooms, unless they are ordered a considerable time in advance, though a *single* individual can always get quarters. Before and after the period mentioned rooms can always be had; the price of rooms is then considerably lower.

Finally, from these waters and baths *too much* must not be expected. Failures there will be, as from all modes of treatment. Again, women of moderate *embonpoint* only, in perfect health, had better let them alone, as a moderate excess of fat occurring in persons in good haleth can not always be reduced without some derangement of the system being produced. The waters and treatment prove sometimes severe, and, without care, are apt to produce gastric catarrh and gastralgia. It is of extreme importance to take them under the strict directions of the resident physicians.

* "Marienbad, seine Umgebung und Heilmittel." Marienbad, 1882.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A Manual for the Practice of Surgery. By Thomas Bryant, F. R. C. S., Member of the Council and Court of Examiners of the Royal College of Surgeons, etc. With Seven Hundred and Twenty-seven Illustrations. Fourth Edition, thoroughly revised. Philadelphia: Henry C. Lea's Son & Co., 1885. Pp. xx 17 to 1039, inclusive.

Correspondence.

LETTER FROM WASHINGTON.

Washington, *January 12, 1885.*

Medical and Scientific Societies.—A Proposed National Bureau of Health.

The Medical Society of the District, at its last annual meeting, elected Dr. W. W. Johnston, president; Dr. C. H. A. Kleinschmidt, vice-president; and Dr. Thomas McArdle, secretary.

The Biological Society of Washington elected the following officers: President, Professor G. B. Goode; vice-presidents, Professor C. V. Riley, Professor L. F. Ward, Professor O. T. Mason, and Mr. W. H. Dale; secretaries, Mr. R. Rathbun and Dr. Frank Baker; treasurer, Mr. F. W. True; members of the council, Dr. J. H. Kidder, Mr. C. D. Walcott, Mr. Romeyn Hitchcock, Dr. George Vasey, and Mr. J. L. Wortman. The president announced the following committees for services during the ensuing year: On communications, Mr. F. W. True, Mr. R. Rathbun, and Mr. F. Baker; on publication, Mr. Rathburn, Mr. C. V. Riley, Mr. W. H. Dall, Dr. Elliott Coues, and Mr. R. Hitchcock; on lectures, Mr. O. T. Mason, Mr. L. F. Ward, Mr. Theodore Gill, Mr. William Birney, and Dr. J. H. Kidder.

The Public Health Committee of the House held a meeting last week, but took no action on the bill of the Health Conference, introduced by Mr. Beach, of New York. In the Senate, a new bill has been introduced by Senator Palmer, of Michigan, which, by its terms, will create a Bureau of Health in the Treasury Department. The chief of the new bureau is to be styled the Commissioner of Health, and is to receive a salary of $4,500 per annum. There are to be seven superintendents, and each superintendent is to have a district assigned him under the general direction of the commissioner. An "inspector of ventilation and plumbing" is also to be appointed, who shall examine all plans for public buildings with reference to their sanitary arrangements. There is also to be appointed a "public analyst," as chemist to the bureau. The bill provides that the commissioner, with the surgeon-generals of the army, navy, and marine-hospital service, shall frame a code of sanitary regulations for the army, navy, and merchant marine, and all schools under the jurisdiction of the United States.

The commissioner shall, with the president of the American Medical Association, prepare a code of regulations for the practice of medicine, surgery, and midwifery in places within the jurisdiction of the United States.

All goods designed for food or drink of man, for wearing apparel, or for furniture or decoration of habitations, so poisoned by adulterations as to be dangerous to human life or health, are declared to be contraband of commerce anywhere within the United States, and may be seized and destroyed. On the application of the commissioner, the President shall detail surgeons of the army and navy for the investigation of special diseases. During the invasion of epidemic diseases the commissioner may employ competent physicians to aid the superintendents, such physicians to receive $10 a day and expenses. A weekly bulletin, containing useful sanitary information, shall be distributed free to different parts of the country. A penalty of $100 to $1,000, or imprisonment from thirty days to one year, is provided for violations of this act or the regulations authorized by it. The sum of $100,000 is appropriated to carry the act into effect.

The bill is the most elaborate and practical of any yet introduced, but there is little probability of any health-bill passing at this session.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 17, 1885.

MALARIAL SYMPTOMS FOLLOWING SURGICAL OPERATIONS.

M. VERNEUIL has already called attention to this subject which is one that should be of special interest to New York surgeons, seeing that it is the fashion in this city to ascribe to "malaria" a number of obscure symptoms which can not be conveniently assigned to any other cause. Dr. Baruch has alluded to the fact that much of the "malarial disease" of New York is wrongly so called, since the most striking phenomenon of this affection, its periodicity, is frequently absent. But, while he insists upon the desirability of making a positive diagnosis to that effect only in cases of frank intermittent fever, perhaps he does not lay enough stress upon the peculiar masked forms of the disease which undoubtedly abound among us.

It is a common experience with our surgeons to meet with sudden and unaccountable elevations of temperature after operations, elevations which can not be attributed to the condition of the wound, or to the occurrence of inflammatory complications. This phenomenon is apt to cause no little uneasiness, especially in peritoneal surgery, in which a sudden rise of the index at an early period is well known to presage the invasion of peritonitis. But this occurrence is not confined to major operations, since trifling manipulations of the uterus, such as trachelorrhaphy and curetting, may be followed by fever, which is equally alarming, being suggestive of parametric inflammation. Now, a peculiarity of this rise of temperature (which is often accompanied by a rapid pulse and a good deal of constitutional disturbance) is that it observes a sort of periodicity. In the morning the thermometer will register as usual in uncomplicated surgical cases, while toward evening, on visiting his patient, the attendant will be surprised, and often alarmed, to find a reading of 103° or 104° F. The wound is examined, the patient is interrogated, but, aside from a confession of restlessness and nervousness, nothing can be elicited to explain the fever. There may or may not have been a preceding chill; generally it will not have been recognized. As the patient convalesces, these mysterious symptoms will disappear. With the administration of full doses of quinine, according to the ordinary rules observed in using this drug for the cure of intermittent fever, the attacks will generally be cut short in two or three days. In most of the cases which have fallen under our observation, either a history of malarial exposure could be obtained, or subsequent observation of the patient after complete recovery from the operation showed that the disease was present.

The interesting point in this question is, What peculiar condition of the system is induced by a surgical operation whereby latent, or masked, malarial disease becomes actively developed? This we do not pretend to answer. It is akin to the sudden appearance of delirium tremens after injuries. The practical interest of the subject lies in the inference that the surgeon should not allow a rise of temperature *per se* to disquiet him—indeed this is only another phase of the question which Nothnagel has lately brought into prominence.

THE REPORT OF THE SURGEON-GENERAL OF THE NAVY.

THIS pamphlet, although not quite so attractive in its appearance as a document of like character presented by the Surgeon-General of the army, on which we lately commented, represents a considerable amount of work, and work of an excellent quality. We learn that the number of deaths in the service during the year was forty-five, of which twelve were due to zymotic diseases, while fourteen are ascribed to "violent diseases and deaths." Some changes are reported in the arrangement of the naval hospitals and quarantine stations. The Museum of Hygiene is said to be in a flourishing condition; the collection of specimens has been increased to 650, and the library now contains 7,049 bound volumes and 131 periodicals. The laboratory attached to the Museum is in thorough working order, as may be inferred from the description of its apparatus. Mention is made of the increased interest in sanitary science which has been aroused among the medical officers of the navy during the past few years, and of the systematic manner in which reports are forwarded from distant stations.

The report closes with a paragraph upon practical instruction for naval surgeons, which will be read with special interest by all who are careful observers of the schools for practitioners that have been established during the past few years. The Surgeon-General recommends that tickets be furnished to officers stationed at the "great medical centers of New York, Boston, and Philadelphia," so that they may attend the courses for practitioners given in those cities. This testimony in favor of such schools, coming from such a high source, is very gratifying.

THE TRANSACTIONS OF THE LONDON MEDICAL SOCIETIES.

THE "Medical Times and Gazette" reviews these volumes at length, so that, while we have not yet had an opportunity of perusing the transactions in the original, we gain a very fair idea of their scope. We confess to a certain feeling of mortification as we compare the actual work (not to speak of the printed reports) of some of our New York societies. Why is it that they do not do us more credit? Is there a lack of material, of brains, or of enthusiasm? The first two elements are certainly not wanting, so that we are compelled to fall back upon the latter explanation.

It is certainly *apropos*, at the threshold of a new year, to ask ourselves how many actual additions to the scientific knowledge of the world are made by our local societies, and how much of that knowledge is hidden away in neglected records, or strewn piecemeal throughout the pages of journals.

When we compare the transactions of the London Pathological Society with the records of a similar body in New York,

we are furnished with food for reflection. We do not wish to be understood as criticising the work of any one society, but simply as calling attention to the fact that the records of our medical bodies should be preserved in a permanent form, and, moreover, in an *attractive* form. A small outlay in this direction would be more than repaid by the increased estimation in which they would be held both at home and abroad.

MINOR PARAGRAPHS.

OVER-PRESSURE IN SCHOOLS.

This subject is one which has greatly agitated the medical press in England during the past year, and there are indications that the epidemic of criticism may become general in our own country, if it is not nipped in the bud. Undoubtedly abuses of this nature do exist, but let us not be so shallow as to take up the cry simply because it has become fashionable elsewhere. We have long remarked the presence of a spirit of so-called Anglomania in some of our journals, which detracts considerably from their own independence. Whenever it can be proved that a wholesale system of mental crowding does exist in our schools, let us inveigh against it, but not until then.

THE VALUE OF TRAINED NURSES.

A recent incident at the New York Hospital illustrates the value of the trained nurse. A patient, whose innominate artery had been tied by Dr. Bull, had hæmorrhage from the proximal end of the artery on the thirtieth day. The first gush of blood was tremendous. The nurse, Mrs. Schaefer, promptly tore off the dressings, and, thrusting one finger into the wound, which was quite narrow, arrested the bleeding instantly. Not a drop of blood was lost after this until two hours later, at which time the nurse's finger was replaced by a firm tampon of iodoform gauze, when a trifling hæmorrhage occurred at the moment the change was made. The patient died on the thirty-second day.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 13, 1885:

DISEASES.	Week ending Jan. 6.		Week ending Jan. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	20	1
Typhoid Fever	13	3	5	3
Scarlet Fever	58	15	86	17
Cerebro-spinal meningitis	4	3	9	9
Measles	157	19	152	39
Diphtheria	59	28	58	28

The New York Pathological Society elected the following-named gentlemen to office at the annual meeting, held on Wednesday, the 14th inst.: Dr. John A. Wyeth, president; Dr. G. L. Peabody, vice-president; Dr. W. M. Carpenter, secretary; Dr. J. H. Hinton, treasurer; Dr. J. C. Peters, Dr. V. P. Gibney, Dr. F. R. S. Drake, Dr. J. H. Hinton, and Dr. J. H. Ripley, committee on admissions; Dr. J. C. Peters (editor), Dr. F. Ferguson (assistant editor), Dr. W. M. Carpenter, Dr. J. H. Hinton, Dr. Beverley Robinson, and Dr. E. C. Wendt, committee on publication.

The Late Professor Darling.—At a special meeting of the faculty of the medical department of the University of Vermont, held January 7th, the following resolutions were adopted:

Since it has been the will of Almighty God to remove from his earthly labors our esteemed friend and colleague, William Darling, A. M., M. D., LL. D., F. R. C. S.,

Resolved, That in his long life of devotion to the science of medicine we recognize the ability, energy, and untiring zeal which placed him among the first in the country as a scholar.

That by his intellectual strength and constant research he carried to the lecture-room those qualifications which enabled him to communicate information, and made him the ideal teacher.

That by his love of the right and his kindness to those who were in need, as well as by his abhorrence of untruth and hypocrisy, he is remembered by us as one possessing the elements of true manhood.

The University of Vermont.—Dr. Ambrose L. Ranney, professor of applied anatomy in the New York Post-Graduate Medical School and Hospital, has been appointed to the chair of anatomy in the medical department of the University of Vermont, made vacant by the death of Professor Darling.

The Marion County, Indiana, Academy of Medicine, of Indianapolis, has elected the following officers: Dr. Thomas N. Bryan, president; Dr. Alembert W. Brayton, vice-president; Dr. F. E. Fere, secretary; Dr. Joseph O. Stillson, assistant secretary; Dr. J. E. Rowe, treasurer. At the meeting, which was held on the 6th inst., Dr. David C. Bryan read a paper on "Stricture of the Urethra."

The New York Hospital School for Nurses.—We learn that Mrs. Alida M. D. Luse, a graduate of this school, is about to organize a school for nurses in connection with the Maine General Hospital, in Portland.

A British Gynæcological Society has lately been organized, and the following officers have been chosen: Dr. Robert Barnes, honorary president; Dr. Alfred Meadows, president; Dr. Aveling, Dr. Bantock, Dr. Routh, Dr. Protheroe Smith, Mr. Lawson Tait, and Professor A. R. Simpson, vice-presidents; Dr. Sinclair Coghill, Dr. Grigg, Mr. Nunn, Mr. Noble Smith, Mr. H. A. Reeves, Dr. Walter Roberts, Dr. Lloyd Roberts, Dr. Purefoy, Mr. Paul Swain, Dr. Macwhirter Dunbar, Dr. A. Sheen, Dr. T. More Madden, Dr. John Wallace, and Dr. John Thorburn, members of the council. The first meeting will be held in April. It is understood that this organization is a sort of protest against the course pursued by many of the London hospitals toward their "physician-accoucheurs."

The Death of Dr. Lathrop A. Willis, of Brooklyn, E. D., took place on Friday, the 2d inst., in his sixty-first year. He was a graduate of the Albany Medical College, of the class of 1849, and a member of the Medical Society of the County of Kings.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 4, 1885, to January 10, 1885:*

McKee, J. C., Major and Surgeon. Ordinary leave of absence still further extended four months, on surgeon's certificate of disability. S. O. 6, A. G. O., January 8, 1885.

Shannon, William C., Captain and Assistant Surgeon. Relieved from duty at Fort Bridger, Wyoming, and assigned as Attending Surgeon at Headquarters Department of the Platte. S. O. 2, Department of the Platte, January 5, 1885.

Robinson, S. Q., Captain and Assistant Surgeon. Assigned to temporary duty at Portland, Oregon, from December 17, 1884. S. O. 206, Department of the Columbia, December 22, 1884.

Appel, A. H., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about January

7, 1885 (Madison Barracks, N. Y.). S. O. 268, Department of the East, December 31, 1884.

Wales, P. G., First Lieutenant and Assistant Surgeon. Relieved from duty at Vancouver Barracks, Washington Territory, and ordered to return to his proper station, Fort Cœur d'Alène, Idaho. S. O. 204, Department of the Columbia, December 19, 1884.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending January 10, 1885:*

Ross, J. W., Surgeon. Detached from the Monongahela, for treatment at the Naval Hospital, New York.

Wells, Howard, Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., to the Monongahela.

Society Meetings for the Coming Week:

Monday, *January 19th:* New York County Medical Association; New York Academy of Sciences (Section in Geology and Mineralogy); Medico-Chirurgical Society of German Physicians, New York; Roman Medical Society, New York (private); Hartford, Conn., City Medical Association.

Tuesday, *January 20th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings (annual—Brooklyn), Franklin (annual), and Otsego (semi-annual—Cooperstown), N. Y.; Ogdensburg, N. Y., Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.).

Wednesday, *January 21st:* Northwestern Medical and Surgical Society of New York (private); New York Medico-Legal Society; New Jersey Academy of Medicine (Newark).

Thursday, *January 22d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *January 23d:* New York Clinical Society (private); Yorkville Medical Association, New York (private); New York Society of German Physicians (private).

Saturday, *January 24th:* New York Medical and Surgical Society (annual—private).

Letters to the Editor.

THE EDUCATIONAL ADVANTAGES OF BERLIN.

Berlin, *December 14, 1884.*

To the Editor of the New York Medical Journal:

Sir: In your Students' Number you gave a very able description of the advantages for study which Americans get abroad. In that account your contributor dwelt at length on the medical opportunities at Vienna, passing over Berlin very rapidly. As I have been abroad these five years, studying medicine in Germany at various universities, and staying here for the last two years and a half, I have thought that it might be of benefit to Americans to know what advantages they can get here at this university, the youngest of all, but the leading institution of its kind in Germany. The impression which my stay here has left upon my mind is, that Berlin is, above all, the university for *theoretical* training. In Virchow the student finds his ideal. Let him attend his lectures on pathology and his demonstrative courses regularly; they are unequaled. The training in this branch of study, under its greatest master, should be the first desideratum for the American student coming abroad to finish his studies, for it forms a strong foundation to build upon as he goes along. Berlin is also a very good place for the study of obstetrics and gynæcology. Americans are always welcome at Professor Schröder's new University Hospital for Women; on their appearance, he gives them a cordial invitation to his clinics, as well as to his operations. Besides, there are good opportunities for "touching" and attending deliveries at Schröder's clinic, as well as that of Professor Gusserow, at the Charité, whose assistant, Wyder, gives fine operative courses. Let the student who takes interest in gynæcology and obstetrics come to Berlin by all means. I know American and other foreign gynæcologists who, after studying here a while, have made the round of the other universities, Paris and Vienna included. They invariably return, saying that Berlin is the school for gynæcology and obstetrics.

The other departments are equally good. The names of Frerichs and Leyden, for practice, are a guarantee of the quality of their lectures and clinics, not to forget Senator and Meyer, by whom the student can profit a great deal. The teaching in pædiatrics is particularly excellent. Professor Henoch's clinic at the Charité is one of the most popular, and that of Baginsky is resorted to by young physicians from all parts of the world. I would especially recommend the courses of Dr. Baginsky to those who have not much time to waste; they are noted for their clearness and preciseness. The surgical clinic of v. Bergmann, the successor of Langenbeck, is one of the favorite resorts of the students. Von Bergmann is a brilliant operator and an excellent teacher. Bardeleben's clinic at the Charité, as well as his operative courses, and those of Professor Küster at the Augusta Hospital, are well worthy of recommendation. The chances for anatomical study have of late become very good, as Waldeyer takes great pains with his students. Experimental work in physiology may be pursued with advantage at Professor Munk's laboratory in the Veterinary School (in the vicinity of the anatomical buildings), not to forget DuBois-Reymond's lectures, the most brilliant of their kind in Germany. Another branch is well represented at Berlin: *i. e.*, diseases of the nervous system. Westphal's clinics are very thorough; every case is analyzed at great length, with wonderful precision and minuteness. The counterpart to his clinic is Professor Mendel's, where one sees a great many cases, and where the plentiful material is put to good use. Let no American miss Mendel. For diseases of the eye, Berlin gives all the opportunities imaginable. Schweigger, Hirschberg, and Schöler are the worthy successors of A. von Graefe.

From this short account, giving only the most prominent features, it may be seen that the American who goes abroad to finish his studies ought to go to Berlin for a time. It combines theoretical and practical training; for the former, Berlin has always been celebrated, and, as to the latter, the *Privat-Docenten*, able and painstaking young men, give eminently practical courses in all the branches. These are principally reserved for the vacation months, September and October, March and April. During the sessions they combine them with systematic lectures. Seven or eight months spent at Berlin will be of the greatest benefit to the American physician and student.

Dr. S.

THE TREATMENT OF DIPHTHERIA.

Cranford, N. J., *December 31, 1884.*

To the Editor of the New York Medical Journal:

Sir: I have found the following treatment of diphtheria successful in sixty successive cases, extending over a period of four years. For an adult, I begin with the bisulphate of quinine, fourteen grains, and follow it up with eight grains every three hours until cinchonism is *very evident*. Subsequently I

maintain *slight* cinchonism by three to four grains every three hours, for three or four days, or until the exudation disappears. Afterward I give eight to twelve grains a day, for about a week. I find that, in true diphtheria, it requires from two to three times as much bisulphate to induce cinchonism as in the malarial fevers or in health. In diphtheria, I have also learned to regard the sulphate of quinine as almost if not entirely inert.

For the local treatment, anti-bacterial and antiseptic, I use the following auxiliaries:

℞ Sulphur..... half an ounce;
Brandy,
Glycerin,
Water, each..... an ounce and a half.

Mix. A tablespoonful to be taken every three hours, just after the quinine. Also alternate with the following:

℞ Chlorate of potassium..... three drachms;
Boiling water..... three ounces;
Tincture of aconite-root,
Tincture of camphor, each..... thirty drops;
Tincture of chloride of iron..a fluidrachm and a half;
Glycerin..... a fluidounce and a half;
Oil of cassia..... three drops.

Mix. A tablespoonful to be taken *exactly* every three hours, an hour and a half after the sulphur mixture. (The teeth should afterward be rinsed with a solution of bicarbonate of sodium.)

These solutions I give, in the doses mentioned, about two or three days, until the exudation begins to subside, and then in half-doses at the same intervals. I think it *very* important that the solutions be given not farther apart than an hour and a half. I write down the hours for them to be given, and have the patient waked up at the hours. I give smaller doses to children, according to the age. For a child eight or ten years old, I begin with eight grains of bisulphate of quinine, and then give four until cinchonism is produced. To a child two years old I give four grains and then two, to cinchonism, as nearly as can be determined. Of the solutions, I give a child of eight years a dessertspoonful, diminished to a teaspoonful; to one of two years, a teaspoonful, diminished to half a teaspoonful; to one of a year, two thirds of a teaspoonful, reduced to one third. When the glands are swollen, I apply externally from two to four coats of tincture of iodine—as many as may be required to produce smarting—and I seldom have to repeat the application after it has once *smarted well*. I use no swab for the throat, and no hot applications for the neck. I give only warm or hot drinks—coffee and cream or soups—these acting as hot fomentations to subdue local inflammation.

With this treatment I have been so uniformly and markedly successful that a number of physicians have asked me to publish it. Respectfully yours,

J. K. MACCONNELL.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of January 5, 1885.

The President, Dr. D. A. K. STEELE, in the chair.

The Late Dr. C. W. Chaffee. The Memorial Committee reported a preamble and resolutions eulogistic of the late Dr. Chaffee.

Diphtheria; the Germ Theory and the Alcohol Treatment. Dr. G. H. CHAPMAN read a paper on this subject in which he said that there was perhaps no known disease which had been so constantly and thoroughly discussed, and with regard to which we were still so much in the dark concerning trustworthy remedies, as diphtheria. Probably he would not be going astray if he stated that every physician was ready to adopt any method of treatment which offered a reasonable promise. Was the disease local in character, or did it involve the entire system? Both theories had their advocates. Perhaps the most recent and best-founded theory was that given by Oertel, and confirmed by others, that the disease was first local and afterward developed into a general disease, and, moreover, that the infection was kept up by the local disease. The micrococci first attached themselves to the laryngeal mucous membrane, where they multiplied and produced inflammation of the adjacent tissues, and the membrane became filled with micrococci, which forced their way between the epithelial cells. The cells began to die and ulceration took place. The mouths of the lymphatics opened and the micrococci passed in. Early in the disease no micrococci were found in the blood, but, after the constitutional symptoms had become severe, masses of them would be found in the vessels, and the germ invaded the white blood corpuscles, which after a time would be found filled with micrococci. They would be found in the kidneys and in the capillaries, forcing their way between the muscular fibers of the heart and throughout the body, leading to destruction of tissue. Wood and Formad, of Philadelphia, had found that the attempt to inoculate animals with the poison derived from an ordinary case of diphtheria, as it appeared in that city, failed to produce the disease, but, when it was taken from subjects of a malignant type of the disease, they invariably succeeded in infecting the lower animals. They also produced diphtheria with micrococci cultivated in soups, even to the fourth or fifth generation.

They further found in ordinary saliva a micrococcus which could not be distinguished from that found in the membrane from the most malignant diphtheria, except that with those they could not produce the disease; and also that the action of the poison was in direct proportion to the virulence of the epidemic. The former writer thought that diphtheria was produced by micrococci that were present in everybody's mouth. These were some of the conclusions of those who had spent years in the investigation of this subject, with abundance of material at their disposal.

Granting that the deductions of these investigators were correct, there must be conditions for the rapid reproduction of the germs which were not yet understood; and might it not be that they found in the degenerated or septic condition of the fluids and tissues a good field for growth and development in an active form, and still were not the primary cause of diphtheria? But, whether the disease was purely local or general in its origin, whether micrococci were or were not the primary cause of its development, the stubborn fact remained that, in nine cases out of ten, when the physician was first summoned, he found abundant evidence of systemic disturbance, varying in intensity from simple circulatory excitement to the most profound prostration, like that of septicæmia.

A severe form of this disease was manifested in South Chicago during the autumn and winter of 1881–'82. In the first six weeks of the epidemic the writer treated seven cases, with two deaths and one protracted recovery out of three malignant cases. The treatment consisted, *externally*, in the free use of camphorated oil with turpentine, and applying to the membrane every four or six hours, with a camel's-hair brush, a mixture of a drachm of carbolic acid, three fluidrachms of liquor ferri subsulphatis, and half a fluidounce of glycerin. The throat was gargled with a saturated aqueous solution of chlorate of potassium. *Internally*, tincture of chloride of iron and quinine were

given, in doses suitable to the age of the patient, giving to a child, eight years of age, two grains of quinine and six drops of tincture of chloride of iron every three hours. In one of the cases that seemed to be malignant, but ended in recovery, dry sulphur was used after the fourth day, blown freely into the throat and nasal cavities after cleansing the parts with the chlorate-of-potassium solution. There had been, up to this time, in all, about twenty cases in the immediate vicinity, with twelve deaths. Other physicians had had no better success in combating the disease. At this time the writer's attention was called to the free use of alcohol in this disease, by various publications, from which it appeared that alcohol was one of the best agents for destroying the micrococci or rendering them inert; and he determined to give it a fair trial, using it diluted, with chlorate of potassium as a gargle, especially using the latter remedy before the patient took either medicine, food, or drink. Dry sulphur was also used in the throat and nasal cavities, with the internal use of whisky-sling or milk-punch, as hot and strong as could be borne, and only to be limited by the amount which could be tolerated by the patient without producing intoxication, along with other agents, such as diuretics, antifebrile remedies, etc., as each case seemed to require.

As a result of this trial, his succeeding twenty-eight cases were carried to a successful termination with one exception, and in none of them was a brush or probang used.

The alcohol in every case could be used very strong; it would almost invariably cause the membrane to shrivel up like burning leather, and within thirty-six to forty hours every trace of membrane disappeared. Tincture of veratrum viride and deodorized tincture of opium were given in some cases for fever during the congestive stage only.

During the past two years the author had relied on the liquor-ferri-subsulphatis-and-carbolic-acid mixture applied to the throat with a camel's-hair brush twice or thrice a day, or still more frequently. He pursued this plan instead of blowing in sulphur with a bellows or through a goose-quill. The sheet-anchor, however, was alcohol in every stage of the disease, and, from his experience, he was led to think we could secure much better results with it than by the harsher methods of treatment.

[Here the author gave brief accounts of a number of illustrative cases.]

As before stated, only one patient was lost of the twenty-eight treated with alcohol, a girl eleven years of age, of nervous temperament, who, six months previously, had had a severe attack of typhoid fever, from which she had not yet fully recovered. Consequently, when she was attacked by diphtheria of a severe naso-pharyngeal character, it was difficult to maintain her strength, and she died on the eighteenth day, from paralysis of the heart.

In July, 1882, the writer attended three cases of croupous diphtheria. The first two do not require any special mention. The third case of this series was under the care of another physician for two days before he was called. It seemed impossible for life to be prolonged an hour. However, a teaspoonful of a mixture of a grain of calomel, five minims of tincture of aconite-root, and four ounces of water was ordered to be given every hour. Milk-punch and whisky-sling also to be given frequently. Instructions were given that, if the child lived until evening, he should be sent for. The child lived, and the treatment was continued. Upon visiting the little patient the following morning, he was greatly surprised at seeing the child running about the room dragging a broom and in high glee. It would be seen that great relief followed in this case within twelve hours. Doubtless the calomel had had much to do toward bringing this about.

Dr. G. C. Paul thought the author was too prone to follow out routine treatment in diphtheria, whereas no such form could be laid down in this disease. Why? In malignant cases the patient might live only two, three, or at most five days, and this was not the fault of the physician. However, alcohol was no new rémedy in these cases. It had been used for years, mostly, though, in the form of wine. Alcohol might be given in these cases to destroy fungi or bacilli, on the same theory that it was given as an antidote for snake-poison. But the question arose, Would alcohol save patients where there was a fibrinous exudation upon the tonsils, pharynx, and other parts; where it was of an ashy-gray appearance; where the maxillary and cervical glands were involved; where there was a dusky hue of the face, with cyanotic lips, and feeble heart and pulse, fœtid breath, hyperæmia of the brain, etc.? He would hesitate, on general principles, about giving the remedy. Instead, the first thing that should be done was to use antiseptics, such as oil of eucalyptus, which would destroy the bacilli. For young children, he would use it with an atomizer, for they could not gargle. Where there was ulceration of the naso-pharyngeal space, hæmorrhage might set in, and nothing would check it. Internally we should give tincture of iodine, in water, for a child five years of age, four drops every hour; and apply any of the well-known antiseptics with a probe or brush to the throat. It was of no use to give them quinine and tincture of iron, for these remedies they could not take, and, besides, they interfered with the action of the kidneys and liver.

Dr. R. Tilley desired to add his testimony to the special value of tincture of iodine in these cases, although no one remedy could be used in all cases. He also thought corrosive sublimate was beneficial, and he placed great reliance upon it. But he preferred the use of hot baths in the early stage of this disease as facilitating profuse perspiration instead of using veratrum viride. He was satisfied that bacteria were a causative agent of this disease.

Dr. J. J. M. Angear said that the microscopists had settled it that micro-organisms or microbes were a cause of diphtheria. Alcohol, as was well-known, destroyed vegetable growths. A fifteen-per-cent. dilution would prostrate or paralyze them, and, if its use was continued, would kill them. He therefore thought it a good local application. But these germs flourished best in a high temperature. We could not get alcohol as strong as a fifteen-per-cent. dilution to circulate in the blood. Therefore, how did it kill them when the blood contained them? Then, too, why administer alcohol and veratrum? Did not these remedies antagonize each other? There was harmony between the germ theory and the local use of alcohol. But he should think cold applications were preferable to hot drinks or to hot baths, for the reason that germs flourished better under a high temperature.

Dr. A. Leigh had found, in treating more than a hundred cases during the past four years, that, of all agents *per se*, hot or cold, there was none better than a concentrated or dilute preparation of the perchloride of iron. But in really malignant cases no treatment was of any avail. Alcohol, hot or cold, was a good cardiac stimulant, but quinine would do better work. Tincture of iron would produce contraction or hardening and shriveling of the membrane. There was no doubt that micrococci were present in the throat in this disease. Therefore, if the cases were seen early, and the iron was applied, benefit would be derived, except where the case was profoundly malignant. Tincture of aconite was superior to veratrum to bring about free diaphoresis.

Dr. H. J. Reynolds had come to the conclusion that there were no remedies that had a specific effect on diphtheria. The most that could be done was to rely upon supportive measures to help the patient along until the disease ran out. If the mem-

brane entered the larynx, he would advise inhalation of steam. He thought no benefit would be derived from alcohol or veratrum. When the disease was malignant at the onset, no treatment was beneficial.

Dr. A. Goldspoon had treated a hundred cases of diphtheria during the last two years. He had seen great constitutional disturbance present when the local signs were quite insignificant, and cited a case of this kind occurring to a little girl that died in ten hours from the time she was attacked. The system was so depressed that she died of heart failure. In such cases it would be reprehensible to administer aconite or veratrum. To reduce the temperature, he relied upon quinine. Alcohol could not be given sufficiently concentrated to act through the circulation as a germicide, although it might do good locally.

Dr. Paoli said that when diphtheria appeared in countries and at a season when the temperature was very low, it was equally destructive. Alcohol might prove beneficial in some cases that were peculiarly asthenic.

The President recited an epitome of Morrell Mackenzie's views upon the pathology and treatment of diphtheria.

Dr. W. H. Wilson thought that we could not give sufficient whisky to a child having diphtheria to intoxicate it. Recently he had treated six cases of the disease in children, five of whom recovered, and to these he gave large quantities of alcohol. In the other case, the parents (on moral grounds) would not permit him to give the child whisky, and he was confident that, had he been permitted to do so, this child also would have recovered.

Dr. Chapman conceded the impossibility of producing intoxication in a patient having diphtheria. He maintained that by treating cases in this way paralyses were made less liable to follow. He was sure it also quieted the cerebral symptoms, such as delirium, and did not increase hyperæmia of the brain. Regarding the administration of veratrum and alcohol alternately, he did this during the first or congestive stage, or until perspiration was well established. We should begin the use of alcohol as early as we were sure of our diagnosis. By so doing, the fungi were destroyed and we prevented their entering the blood-vessels. If a few did enter the circulation, it was not so bad as if they passed in in swarms.

(To be concluded.)

NEW YORK SURGICAL SOCIETY.

Meeting of December 23, 1884.

The President, Dr. Robert F. Weir, in the chair.

Excision of the Condyle and Neck of the Inferior Maxilla for Ankylosis.—A patient showing the result of this operation was presented by Dr. W. T. Bull. A boy of fourteen had been perfectly well until four years ago, when he had an attack of otitis media of the right side, lasting about six months. During this time it was first noticed that he could not fully open his mouth, and this difficulty increased until about three years ago, at which time he began treatment, various apparatuses being used to forcibly open the mouth, but with only temporary improvement. Twice the adhesions had been ruptured under ether, and stretching by means of gags and plugs kept up for several weeks. On ceasing treatment the stiffness increased. The treatment was very painful. On admission to the New York Hospital October 22, 1884, the boy was well nourished and robust in appearance. The jaws could be separated only so far as to show an interval of one fourth of an inch between the middle incisors. The left temporo-maxillary articulation appeared normal; the right was the seat of thickening and induration of the tissues overlying it, forming a swelling, of the size of an almond, which was not tender. The operation was performed October 23, 1884. An incision an inch and a half long was made just below and parallel with the right zygomatic arch. A second, vertical incision, three fourths of an inch long, was made downward from the first at its posterior third. These were carried down until the condyle and eminentia articularis were exposed. The condyle was thickened and the joint ossified. At least the only indication of its existence was a thin layer of cartilage, one fourth of an inch long. The periosteum was pushed back, and the condyle and neck were removed with chisel, gouge, and *rongeur* forceps. This was a tedious procedure, owing to the depth and narrowness of the wound. The jaw was then forcibly depressed with a gag, rupturing some adhesions in the soft parts, and its motions were perfect. The wound was irrigated with a 1–1,000 solution of bichloride of mercury, and closed with catgut sutures, save at the lower limit, where a small bone drain was inserted. A temporary dressing of bichloride gauze was firmly applied.

October 24th.—Temperature 99° F. A dressing of iodoform gauze next the wound; over this peat and cotton were applied. P. M., temperature 99·8°.

29th.—Pulse and temperature normal since last note. Dressing removed. Union complete save at site of tube, where a small ulcer remains. Tube had been almost wholly absorbed. Patient has no pain, and opens his mouth freely, eating regular ward diet.

November 5th.—An ulcer of the size of a split pea remains. Patient opens his jaws so that the middle incisors are an inch and one sixteenth apart. No pain.

December 23d.—There is the same freedom of motion before noted. The cicatrix is represented by a depression, vertical in direction, one half an inch in length.

Compound Fracture of the Innominate Bone, opening the Hip Joint; Recovery with Perfect Use of the Limb.—Dr. Bull also presented a patient with this history: Three years ago this man, a laborer, thirty years of age, was admitted to the Chambers Street Hospital half an hour after having fallen through a hatchway into the hold of a ship, a distance of twenty feet. He struck with his right side against a pair of ice-tongs, the points of which made a wound below and behind the anterior-superior spine of the ilium. The finger, introduced into this, found the muscles lacerated, the bone behind and below the anterior-superior spine comminuted, and a fissure extending, it was thought, into the acetabulum. The capsule of the hip was torn close to the acetabulum, and the cartilaginous head of the femur could be felt. There was profound shock. A few hours later the wound was enlarged, and several loose pieces of bone were removed. They were all fragments of the outer surface of the ilium. The largest was three inches long by an inch and a quarter broad. The wound was thoroughly irrigated with a five-per-cent. solution of carbolic acid, two large drainage-tubes were inserted in the wound, which was left open, and two other tubes passed through counter-openings behind the trochanter and near the tuberosity of the ischium, one of the tubes leading to the site of the opening in the capsule. Compresses wet with a two-and-a-half-per-cent. solution of carbolic acid were put over the hip, a weight-and-pulley extension was applied, the tubes were washed through four times a day, and appropriate general treatment was ordered.

From the third to the seventh day there was high traumatic fever, temperature 102·5° at night, with delirium, diarrhœa, and prostration. The irrigations were made every two or three hours, and the discharge was abundant, but not decomposed. After this, improvement was slow, but steady, and without other complications than the formation of one or two pockets,

which gave rise to fever temporarily. The extension was kept up for four weeks. The tubes were shortened from time to time, and the injections made less frequently. The man walked on crutches at the end of the third month, with considerable stiffness at the hip, and the wound was reduced to one sinus, through which some fragments of bone came away subsequently. At the end of the fourth month he had quite regained his strength, and could walk with but little stiffness. He resumed work after the end of six months, but the sinus did not close till several weeks later. He had had no further trouble from the injury, and thought the functions of the right leg perfect. It was now three years since the injury, and the speaker found the limb half an inch smaller in circumference than the left at the upper part of the thigh, and a quarter of an inch smaller at the lower third. The motions of the joint were free except that of external rotation, but the hindrance was not sufficient to attract the patient's attention. There was flattening of the soft parts between the anterior spine and the trochanter, and the brim of the pelvis four or five inches behind the anterior-superior spine was irregular in outline. The cicatrices were soft.

Excision of the Superior Maxilla.—Dr. George A. Peters read a paper on this subject. [See page 57.]

Dr. Henry B. Sands said that the main points of the paper were scarcely debatable, as the society would doubtless indorse most of the opinions expressed by Dr. Peters. But, if he had not misunderstood the author of the paper, he had recommended the administration of ether by the rectum as a safe and useful method. Dr. Sands had had no experience in this mode of producing anæsthesia, which had not impressed him favorably, but, as many of the members of the society had had such experience, he would like to inquire whether their verdict would sustain the position taken by Dr. Peters. Judging from what he had learned concerning etherization by the rectum, Dr. Sands had concluded that it was far from being a desirable procedure, as it was attended with risks which were difficult to avoid, and almost impossible to estimate. He had had the privilege of witnessing the operation described in the paper, and, being only a spectator, he was perhaps able to observe the effect of the anæsthetic better than those who were engaged in performing the operation. It had seemed to him that the ether was but little under the control of the administrator, and that, in spite of the precautions used, a very large accumulation took place in the intestine, with the effect of producing cyanosis and very deep anæsthesia for a period which made a bystander feel anxious with regard to the result. He would hesitate, from what he had observed in this case, to adopt this method as a substitute for inhalation in the ordinary way, even in operations of the kind mentioned in the paper. His own practice, when employing anæsthetics in the operation for excision of the superior maxilla, had usually been to avoid inducing profound insensibility in the later steps of the operation. By adopting this precaution, by operating without undue delay, and by causing the head to be inclined forward whenever hæmorrhage was copious, he had always been able to prevent the entry of blood into the air-passages without the necessity of plugging the trachea. Patients treated in this manner sometimes showed signs of pain, especially when the larger nerves were divided, but afterward they had no recollection of having suffered during the operation. Dr. Sands believed that, in all surgical procedures accompanied with the risk of escape of blood into the larynx, deep anæsthesia should be avoided. Regarding the general administration of ether by the rectum as a substitute for the usual method by inhalation, he would like to know whether the advantages were not outweighed by the risks.

Dr. Bull had had considerable experience with etherization by the rectum, the results of which he had already published. He had administered ether in this manner in seventeen cases, and had reached the conclusion that the method should not be practiced, because in a large proportion of those cases the reaction which followed on the part of the intestinal tract was very considerable. In some cases there was diarrhœa with bloody passages, and in others ordinary serous diarrhœa, and the diarrhœal discharges seemed to occur without very much reference to the apparent good general condition of the patient. In one case the diarrhœa continued for two or three days after the operation. Judging from his own experience, he was unable to call etherization by the rectum a safe procedure, and this conclusion had been confirmed by the occurrence of deaths from ether administered in this way in different hospitals, and where there was nothing in the nature of the operation which would have imperiled the life of the patient. In the operation in question he would prefer to trust to the method mentioned by Dr. Sands rather than to resort to etherization by the rectum.

Dr. Lewis A. Stimson remarked that he had already presented to the society an instrument devised for continuing etherization during the operation described by the author of the paper. The instrument consisted of a large tube, of about the size of a No. 40 urethral catheter, surrounded at one end by a large sponge with a rubber coating, which, when passed into the pharynx, prevented the flow of blood in that direction, while the patient breathed through the tube. He had successfully used this apparatus in two cases.

Dr. Peters said his feeling concerning etherization by the rectum was such as had been stated by Dr. Sands, unless the method could be surrounded by safeguards in the administration which would deprive it somewhat of its dangerous element. The results in the two operations described in the paper, performed upon a single patient, were eminently satisfactory. The patient was profoundly anæsthetized, and the anæsthesia continued for some time, but he came out from under the influence of ether with less subsequent annoyance than usually followed the administration of this anæsthetic. The patient himself was so much pleased with the mode of administration that at the second operation he requested that the same method be employed as was adopted at the first operation, a point which, of course, went only for what it was worth. Like the administration of ether by any method, it was important to conduct the procedure very carefully. From his experience with these cases, Dr. Peters stated that he should give this method further trial.

Dr. Charles K. Briddon had employed Nussbaum's method with much more pleasant results than any other. It consisted, first, in the administration of a full dose of morphine hypodermically, ten or fifteen minutes afterward administering the anæsthetic, then making an incision into the trachea or larynx and introducing a tube with a funnel-shaped extremity, over the end of which was secured a piece of flannel, upon which chloroform could be dropped, and he used it in preference to ether. In the mean time the fauces were packed, to prevent blood from entering the air-passages. The quantity of chloroform sufficient to maintain anæsthesia under these circumstances was exceedingly small, usually only a few drops being required. He had seen anæsthesia produced by the rectum in a number of cases by his friends, and he thought their experience was similar to that related by Dr. Bull, and that none of them would adopt the method at the present time.

The President remarked that his own experience with rectal etherization was checked early by an unfortunate case in which death resulted. It was true that in that particular case, which had been published, some errors in the mode of administration were made. Since then he had administered ether in this manner four times; in two cases the method worked satisfactorily,

and in the other two cases there was some diarrhœa with dysenteric stools. He had reached substantially the conclusions already expressed by other members, and it was, to his mind, a method attended with too great risk to be lightly resorted to. He thought that the opinions already expressed had been confirmed by reports from Philadelphia and Boston, and also in one of the English journals. The method of managing the anæsthesia mentioned by Dr. Sands had suited him best in the operation of extirpation of the upper jaw.

Dr. J. C. Hutchison said he would like to express his preference for the removal of the upper jaw for necrosis *without external incision*, and referred to the following case, which was reported in full in the "American Journal of the Medical Sciences" for January, 1884.

The patient was a girl, eighteen years of age, who suffered from phosphorous necrosis of the right upper jaw and malar bone. The cheek was well retracted, and an incision made from the situation of the central incisor, along the center of the alveolar ridge, back to the posterior margin. The jaw was edentulous. The periosteum was separated from the anterior surface of the jaw around to its junction with the pterygoid process of the sphenoid bone, and upward to the malar bone, which was also now found to be dead. This was likewise denuded of periosteum, as was also the floor of the orbit. An incision was then made down to the bone along the transverse palate suture outward to the alveolar process, and another forward along the middle suture. The periosteum was now separated from the palatine process of the superior maxilla. The spheno-maxillary fissure was perforated and the broadest part of the malar bone divided, directly opposite to the perforation, by a single cut with Isaac's right-angled forceps. The nasal process of the superior maxilla was divided with the same instrument in an oblique direction from the lower termination of the os nasi to the edge of the orbit, leaving the os unguis and the superior extremity of the nasal process of the superior maxilla undisturbed, in order to preserve the lachrymal sac from injury. One blade of the right-angled forceps was then introduced into the right nostril, and the other into the mouth, and the palatine processes of the superior maxillæ were separated, as far back as the palate bone, by a single cut, and the division of the bones concerned was finally accomplished by separating the upper maxillary from the pterygoid process of the sphenoid bone. The jaw was now grasped with a duck-bill forceps, and, with a slight twist, the whole of the bone (except the upper end of the nasal process), including the orbital plate, was readily removed. The malar bone was removed in fragments with the forceps. The periosteum covering the bones was left intact. The palate bones were uninjured, so that the whole of the soft palate was preserved, supported by the palatine plate of the os palati.

At that time, 1872, he looked up the literature of the subject, and was unable to find any case reported in which the entire upper jaw and malar bone had been removed without an external incision. Whether it had been done since that date he was unable to say. He thought there were many cases of necrosis of the upper jaw in which this operation could be performed, and regarded it as desirable, especially in women. He was unable to say whether or not bone had been reproduced in his case, or, if reproduced, to what extent; but the only deformity apparent in the photograph which the patient subsequently sent him was a slight falling of the right lower eyelid.

Ovarian Tumor.—Dr. Stimson presented specimens with the following history: A patient, forty-three years of age, in good health, a widow, the mother of one son, eighteen years of age. First noticed a tumor in the left iliac fossa five years ago. It steadily increased in size, and she finally sought relief by operation from the distress occasioned by its weight and pressure. There had been no disturbance of the menstrual function. Dr. Stimson operated on the 17th of December, by making an incision a little to the left of the median line, midway between the umbilicus and pubes. On account of the thickness of the abdominal parietes the incision ultimately reached four inches in length. When the peritonæum was exposed, it was divided with scissors to the extent of about one inch. A trocar was then inserted into the tumor, and two gallons and a half of rather thick, opaque, brownish-gray liquid were withdrawn. The tumor was grasped with the volsella forceps and drawn out through the incision, and it was then ascertained that it had no pedicle, but had developed between the walls of the broad ligament, and was continuous with the left side of the uterus. The uterus was drawn up into the opening, an incision made into the posterior wall of the sac, and an attempt made to enucleate the sac. After this had been carried far enough to make it probable that enucleation could be completed, a large catgut ligature was placed by transfixion about that portion of the mass which corresponded to the left Fallopian tube, and the upper portion of the sac was then cut away; enucleation of the remainder was rapidly completed. The portion of the sac adjoining the uterus was trimmed down, and united along the sides of the uterus with a continuous catgut suture; the raw surface of the uterus thus covered in was sprinkled with iodoform. The walls of the pouch left after enucleation were drawn up into the abdominal wound, and fixed with sutures to the skin. A rubber drainage-tube was passed into Douglas's pouch, a bone drain into the lower angle of the wound, and a second rubber drain into the pouch. The antiseptic precautions observed were purification of the hands and instruments, bichloride irrigations during the operation, and the use of sponges dipped in a warm carbolic-acid solution after the peritoneal cavity had been opened. Two of the drainage-tubes had been removed; the bone one on the second and the first rubber one on the third day; the drain which entered the pouch of enucleation was still retained, although there was but a scanty discharge from it. Since the operation the patient had done perfectly well. The sac of the tumor had rather a thick wall, with a rough and granular inner surface. In the portion of the sac cut off, the line of incision passed through a number of small cysts, which occupied the wall of the sac, and which contained a brown and rather viscid liquid.

In response to a question by the President, Dr. Stimson said he made the incision a little to the left of the median line for two reasons: first, he wished the parietal wound to include the muscular layer, and, second, because the tumor was situated upon the left side, and a lateral incision, he thought, would somewhat facilitate the operation upon the pedicle.

Dislocation of the Thumb forward.—Dr. Briddon presented a specimen showing the result of this injury, which had occurred nineteen years before the death of the patient. It was referred to a committee, consisting of Dr. Briddon and Dr. Stimson, for examination and subsequent report.

Vaginal Hysterectomy for Cancer; Recovery.—The President presented a specimen of a uterus, epitheliomatous in its lower third, which had been removed by him at the New York Hospital, by vaginal hysterectomy under antiseptic precautions, November 10, 1884. The patient, aged forty, had suffered for nearly a year with obscure pains and discharges. After the uterus had been drawn down by ligatures passed through the cervix, the bladder was separated from it by careful dissection with the finger-end and blunt scissors until the peritoneal cavity was reached, which was opened, and the uterus, which was considerably elongated, seized at its fundus by a hooked retractor and tilted forward through the peritoneal wound into the vagina. Three silk ligatures were passed on each side through the broad ligament, which was then divided close to the uterus, and the organ removed by a final cut through the peritonæum of the *cul-de-sac*. A single suture approximated the edges of the peritoneal opening, and the ligatures were left protruding on each side. The vagina was tamponed

with peat-bags dusted over with iodoform, which were retained *in situ* for four days, when they were removed. A flow of urine *per vaginam* was then noticed, which persisted. As in one place the muscular coat of the bladder had been invaded in the dissection to free the organ from the uterus, the urine was supposed to come from an opening formed by the giving way of the thin spot, and some anxiety was felt for a time, since it was also recognized that the right broad ligament had been more than usually encroached upon by the ligature in the desire to get well beyond a suspicious thickening felt in this region. It was feared, therefore, that the ureter might have been involved; a later distension of the bladder with milk, while the vagina was opened by a speculum, showed that the leakage was in the bladder, though the fistula could not be seen. The opening closed spontaneously December 19th, the last ligature came away on the 15th, and the patient left the hospital on the 23d.

Laparo-hysterectomy for Uterine Fibroids.—The PRESIDENT also showed a specimen of uterine mural fibroids, weighing eleven pounds and a half, which he removed by abdominal section at the New York Hospital, November 21, 1884, from a single woman, forty-five years of age, who was much exsanguinated by hæmorrhages of five years' duration. The operation was conducted in a room filled with carbolic-acid spray, though none was directed upon the seat of operation. The incision required was nearly eight inches long, and just permitted the emergence of the tumor, which was irregular in shape, being, in fact, trilobed. The broad ligaments, with the ovaries, were tied off by silk ligatures, and then divided down to the neck of the uterus, and Thornton's clamp or *écraseur* was temporarily passed around the mass to make a groove for the elastic ligature, which was then tied tightly and the parts above removed. About two inches of the cervix was left. This stump was very movable, and could easily be applied to the lower angle of the wound. It was secured there by a long needle, which traversed it and rested with its free ends on each side of the abdominal wound. The parietal peritonæum was sewn about the pedicle, first to the skin, and subsequently to the peritonæum of the pedicle, so as to shut it off from the general peritoneal cavity. The remaining portion of the wound was closed as usual, the peritoneal edges being sewn, in addition, by a continuous catgut suture. The pedicle was dusted with iodoform, and peat-bags were applied to keep the parts as dry as possible. The patient did well for three days, when, elevation of temperature coming on to 103° F., with distension of the upper part of the abdomen, a rubber coil was applied to the belly. The next day repeated bloody evacuations from the bowels took place, which continued, with a normal temperature, until the 27th, when the patient died. The autopsy showed no inflammatory action in the abdominal cavity nor in the abdominal walls. Micrococci were found in the kidneys, which were in a condition of chronic interstitial inflammation. The quantity of urine passed subsequent to the operation had been satisfactory. In addition to the uterus removed, specimens showing the line of union of the wound and the condition of the stump were exhibited.

Dr. HUTCHISON inquired concerning the usual behavior of elastic ligatures left in the abdominal cavity.

Dr. F. LANGE said it seemed that in most cases the rubber ligatures became encysted, and gave no subsequent trouble. In his last case, however, about eight weeks after the operation the patient began to have a discharge, and the ligature with the stump of the uterus came away through the vagina. At that time the patient had passed from under his observation. Subsequently he saw her, and she was in a very comfortable condition, although there was still some discharge from the vagina, but he was unable to detect the opening through which the ligature and the stump of the uterus had escaped. It seemed to him that they must have passed through the cervical canal. He might also mention that the ligature was applied very deep, immediately above the fornix of the vagina, and perhaps this immediate proximity to the vagina had something to do with the discharge of the ligature through the cervical canal.

Dr. BULL had had a similar experience with regard to the silk ligature after removal of the uterus, including the ovaries, for a large subperitoneal uterine fibroid. Six months after the operation the patient came back, and said that a discharge had persisted from the vagina since about two months after the operation, and, on making a vaginal examination, he saw a piece of silk hanging from the os, which he seized and withdrew, and found that it was the entire ligature. In cases where the uterus was made the pedicle, the fact of the liability of the escape of the ligature and the stump through the vagina had been used as an argument for the external treatment of the stump; at all events, it was one of the features of the intra-peritoneal treatment which was undesirable.

Dr. LANGE remarked that it was difficult to see how one could secure a deep-seated pedicle and treat the stump with the ligature through an external opening.

Dr. BRIDDON thought no definite rule could be established, but that each case should be decided by itself, and chiefly by the length of the pedicle. He thought that the manner of escape was easily explained by the results of experiments which had already been reported in Sir Spencer Wells's book—namely, that the sutures shut off entrance to the peritoneal cavity, adhesions between the peritoneal surfaces occurred within a few hours, and, if ulceration went on, the more direct way of escape was into the vaginal cavity.

A New Needle-Holder, for holding needles flattened from side to side instead of antero-posteriorly, was shown by Dr. W. S. HALSTED. The especial advantages which it possessed were, that it could be taken apart readily and cleaned, and that it did not allow the needle to rotate and slip.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of December 20, 1884.

(*Concluded from page 53.*)

A Portable Galvanic Battery was shown by Dr. CHARLES HENRY BROWN. The cells were wide-mouthed bottles an inch and an eighth square, and three inches deep; the necks inside and outside were well covered with paraffin, and furnished with loosely fitting paraffined corks, through which passed the connections, of drawn *pure*-silver wire. A strip of zinc two inches long, half an inch wide, and a sixteenth of an inch in thickness, was soldered to one terminal, and the other ran through a block of fused chloride of silver an inch and three quarters long, three eighths of an inch wide, and an eighth of an inch thick. The elements dipped into a solution, which filled the bottles about three quarters full, of forty-five grains of ammonium chloride in a quart of rain or soft water. The cells were arranged in series. The terminals or connections passed upward through a hard-rubber plate above the cells, and were connected to studs in such a way that one could select any of the elements without necessarily using the first cells, and so give all the cells the same amount of wear. The size of a battery of fifty cells, in a case, was fifteen inches in length, seven in width, and six in depth, and it weighed about ten pounds. In the cover there was a very convenient and easily manipulated commutator. The connections from the studs to the commutator were by means of two conducting cords tipped with metallic sockets covered

by hard rubber. Three electrodes accompanied each instrument—one of malleable copper, six inches long and two inches and three quarters wide; the two others were sponge-covered discs of zinc two to three inches in diameter. The chemical reactions between the elements of this battery were analogous to those in a Daniell battery. The depolarizer was the chlorine in the fused plate of chloride of silver (AgCl). The zinc asserted its affinity for the chlorine in the chloride of ammonium (NH_4Cl), driving the ammonium (NH_4) toward the negative (silver) plate, where it displaced the chlorine from its combination with the silver, forming again chloride of ammonium, leaving free silver on the negative plate. This process continued till all the chlorine from the block of fused silver chloride was used up. The cell would furnish its full standard of electro-motor force so long as any chlorine remained in chemical combination with the silver on the negative plate. When the last of the chlorine was removed from the silver, the active elements were merely zinc and silver, with a mixed solution of ammonium chloride and zinc chloride in water. After this the cell became inconstant, polarizing, and incapable of producing its standard amount of electricity. The electro-motor force of the element was 1·04 volt. The internal resistance was 5 ohms. There was no salting or uncleanliness. It would do an hour's constant work through the resistance of the human body, say 3,000 ohms, every day for about two years before the chlorine all became exhausted (provided it was not abused by short circuiting, when it would run down in three hours). The cost of a battery of thirty-one elements was about $35; of one of fifty elements, $55; the renewal of the elements cost twenty-five cents each. He had yet to see the battery that met all the requirements perfectly, but this little battery was the best portable galvanic battery he knew of.

Dr. G. B. Hope presented a further modification of the electric light for medical purposes. He did not yet find the light sufficiently bright for the laryngoscope, but quite enough for any work upon the mouth. He would recommend that the inner surface of the hood be completely coated with amalgam, so as to act as a reflector.

Some Experiments and Observations in reference to the Diagnostic Significance of Epithelial Cells in the Urine.—A paper with this title was read by Dr. William Henry Porter. It was well known, he said, that there was great variety in the form of the epithelial elements found in the urine, some of which were derived from the urinary tract, and others from the generative organs, while a smaller number might come from the air-passages, the mouth, or the skin. But, of all these, the variety known as flat or pavement epithelium, the tailed cells, and the small angular cells commonly called "renal," had given rise to the most discussion.

Naturally, epithelial cells from the urinary tract were found most frequently in either sex. On the other hand, the urine of the female almost invariably contained a peculiar sort of large and angular cell that had been regarded as peculiar to the sex. But all varieties, sizes, and forms of epithelial cells might come from the bladder, the ciliated form excepted. The structure of the bladder distinctly explained this, because it was divisible into three separate layers. The innermost or deepest was composed of several strata of small cells varying in size and shape, but usually cuboidal or rounded in outline. When these cells were shed rapidly they increased in size and had a more globular form, especially in catarrhal conditions or when the membrane was inflamed in any way. The intermediate plane was made up of a single or in part double layer of pyriform cells. Their tail-like prolongations were either single or double, but usually single, and fitted in between the epithelial cells of the deeper layer. Their rounded or outermost ends fitted into depressions in the inferior face of the superficial cells. The third or outer layer was composed of a form of flattened cells called transitional. These cells were made up of large masses of protoplasm which usually appeared to have two or more nuclei, but often this phenomenon was an optical illusion, and one at least of the apparent nuclei was produced by the fossa on their lower surface where it rested upon the underlying corpuscles. In cases of an ordinary catarrhal condition or inflammation, the epithelial membrane might be cast off in separate layers or with its three strata adhering together and appearing together under the microscope. But a careful examination of the mucous membrane of the renal pelvis, of the ureter, and of the vagina demonstrated that in all these regions the membrane was composed of three strata of cells similar to those found in the urine (Fig. 1 and Fig. 2) and from the bladder, ureter, and renal pelvis (Fig. 3). Now, though the variety known as vaginal epithelial cells had been said to be the most common in the female, investigation tended to show that they were quite as likely to come from the bladder, and even from the ureter or the pelvis of the kidney. There was another quite interesting point of medico-legal interest in connection with these cells, some alleging that they were always absent in the virgin. The reader's attention had been especially called to this subject when making a necropsy upon a female patient, aged eighteen, who had died twenty four hours after a fracture of the skull. When the kid-

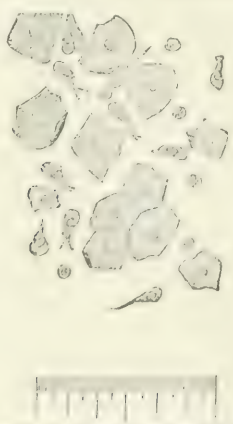


Fig. 1. [illegible] of the scale equaled 0·001 mm., [illegible] The large flat cell [illegible] probably, from [illegible] The [illegible] nucleated cells by the [illegible] and 5 μ in the diameter at [illegible]

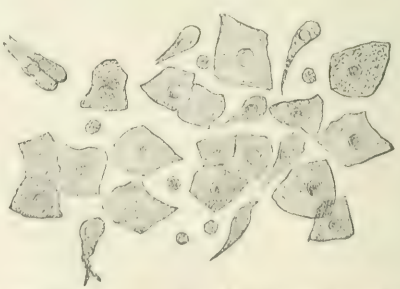


Fig. 2. Cells from urine removed through an abdominal opening into the bladder.

neys were examined they unexpectedly gave every macroscopic evidence of a chronic parenchymatous metamorphosis. The urine was desired for examination, to see if it contained evidence of the renal lesion, which it did in every particular. It was also found to contain an abundance of large flat cells identical with those commonly called vaginal, and single- and bifid-tailed cells also were abundant. In this case the urine was not withdrawn through the urethra, but the bladder, which happened to be distended, was opened from the abdominal cavity, and its contents were withdrawn through a clean syringe. Excluding the vagina, and tracing the origin of these flat cells to the bladder, their frequency in the female and rarity in the male could be explained as follows: From the loose attachment of the bladder to the movable anterior wall of the vagina there was of necessity greater mobility in the female than in the male. The frequent motion and tendency to pouching of the trigonum vesicæ, and the more frequent over-distension in the female, tended to excite a mild catarrh, which damaged the epithelial cells, loosened their attachment, and easily accounted for their frequent and abundant desquamation. On the other hand, the firm attachments of the male bladder to the surrounding tissue, and its less mobility and distensibility, tended to hold the epithelial cells in their proper relations.

Another point of considerable interest was the dependence upon the tailed cells as diagnostic of pyelitis. One of Professor Satterthwaite's former students, Dr. Creedon, now of Globe Village, Mass., while working in the laboratory, had prepared with great care specimens of the epithelial cells from the different portions of the urethra, bladder, ureters, pelvis of the kidney, and renal tubules. He made accurate measurements and also drawings of the cells removed from the various regions. The result of his research was that single- and bifid-tailed epithelial cells were present throughout the mucous membrane of the urinary tract, from the meatus urinarius to the papillæ of the kidney. He further found that the renal epithelial cells and those from the deeper layers of the urinary tract and from the uriniferous tubules of the kidney also corresponded exactly in size and shape in all the specimens and in the different regions. Of course, various sizes and shapes existed throughout. This careful observation was strong evidence in favor of the impossibility of locating with certainty the source of any given variety of epithelial cells when found in the urine. These experiments were made upon subjects in which the membrane was free from any inflammatory process at the time of death. If the membrane was the seat of any inflammatory action, the rapid metamorphosis, subdivision, and desquamation of the cells would tend to make the similarity still greater. In the instance already cited, the tailed epithelia, both single and bifid, were abundant, but there was no evidence of pyelitis or any inflammatory condition of the urinary tract at the necropsy. There was, however, catarrh of the bladder. To establish more certainly the close similarity in the shape and size of the epithelial cell in the various regions and layers, further examinations of the mucous tract were made, with the following result: A necropsy was made a few days since on another female, aged eighteen. Specimens were carefully prepared from the pelvis of the kidney, the ureter, the fundus and trigonum of the bladder, and the vagina. Drawings and measurements were made by Dr. George E. Van Schaick of the various kinds of cells from the different regions, also of the cells found in the urine taken from the bladder at the first necropsy. In all the different regions, and in both cases, the size and shape so closely corresponded that no apparent difference could be made out, as was well illustrated by the drawings. The speaker also measured the same specimens, and the figures corresponded. The only possible variation that could be detected in the flat cells was a slight variation in size, those from the vagina and bladder being a little larger than those from the other two regions.



FIG. 3.—*a*, Cells from the vagina.
b, The six cells on the left came from the trigonum vesicæ, and the six to the right from the fundus of the bladder.
c, Cells from the ureter.
d, Cells from the renal pelvis.

The middle layer of the vagina contained cells that approached the spindle form more than the pyramidal kind.

Renal epithelial cells were often described as occurring free in the urine, and as being recognizable as such under the microscope, but the writer's opinion was that it was absolutely impossible to diagnosticate with certainty between renal cells and those of the deeper layer of the mucous membrane of the urinary tract. Either one might be mistaken for the other. Buccal epithelial cells might occasionally find their way into the urine, as when the receptacle for the urine served the purpose of a spittoon. They were, however, said to be distinguished from the vaginal cells by a more regular outline and by being larger. Specimens of these cells had been prepared for comparison, but in size and shape they presented so many points in common that no marked difference could be drawn. Measurements of these cells gave the same results as in those taken from the urinary tract and the vagina.

Ciliated epithelial cells were occasionally found in the urine, and might come from the air-passages through the sputa, but were more likely to come from the uterus or the Fallopian tubes in the female, and the ejaculatory ducts, vesiculæ seminales, or vas deferens in the male.

The results obtained by Dr. Creedon, and the observations in these two cases, gave additional proof of the untrustworthiness of the statement of Professor Ebstein in von Ziemssen's "Cyclopædia of Medicine," vol. xv, p. 574, that the occurrence of tailed epithelial cells in purulent urine was the most positive indication that the patient had pyelitis.

The conclusions deduced from this study were: that flat epithelial cells were found in the urine of females more frequently than in that of males; that they originated both in the vagina and in the bladder, and probably more frequently in the bladder and the urinary tract; that they desquamated more frequently and in larger numbers from the female bladder on account of the loose attachment and greater mobility of the former, and were more frequent after the termination of virginity on account of the increased mobility of the genito-urinary tract; that isolated angular "renal" cells could not be distinguished from those of the third stratum of epithelia at any

point of the urinary tract; and that no distinctive feature could be ascribed to any cell or set of cells by which its place of origin could be determined.

MARION COUNTY, IND., ACADEMY OF MEDICINE, INDIANAPOLIS.

Meeting of December 16, 1884.

The President, Dr. John Chambers, in the chair.

Antipyretics.—Dr. L. D. Waterman introduced this subject, and remarked that pyrexia was the basis of it. Fever was a profound disturbance of nutrition. There was increased heat with diminished constancy of heat. The increased elimination of urea, potassium salts, hæmoglobin, water, and carbonic acid, with diminished excretion of sodium salts during fever, and the reverse during defervescence, clearly indicated that the liquor sanguinis was not the source of the waste. But the stored albumin of the tissues and of the red globules was the source of the oxidation that was manifest in the increased heat which we denominated fever. The patient lived along a higher average line of temperature than normal, with greater vibration across that line. There were generally, if not always, specific causes for this disturbed heat level. Heat might be more produced or less wasted, either or both. The conditions of heat disturbance were often complex. The problem might be approached from many points, e. g., the nutrient cells, or the nervous centers; but the latter one would be the subject of his consideration. There was probably a heat center near the excito-motor and inhibitory centers. The primordial cell was a nervous circulatory and nutrient center, as well as excretory and self-regulating. As the body became complex by differentiation of function and structure in development, the regulative power became resident in the nervous centers. That power, within limit, was sufficient, and the ganglionic cells preserved in wonderful uniformity the heat of the body, despite all those constantly acting causes which tended to disturb its equilibrium. It was through these nerve cells that drugs mostly acted. Every agent affected the heat of the body somewhat. But, when the organs were intact, there was a compensatory action. That the heat condition was profoundly under the influence of the nervous centers was well seen in two such cases as he had recently seen. One was that of a healthy, sensitive man, who discovered in the night that he had a local specific sore, after exposure. He presented himself in haste and alarm, and his temperature was 94·5° F. The next morning it was normal. In an individual under great anxiety the temperature was 103·5°, but when, by a strong effort, the trouble was dismissed from his mind, the normal was soon reached. No subsequent disturbance was observed in either case save the vibratory movement as the temperature returned to the daily normal condition. Such facts were well known, and, while not proving that heat was regulated by a definite heat center in the nervous system, they showed that its uniformity was so influenced, and made it highly probable that the combined functions that gave uniformity were co-ordinated from a definite center. But heat was only one symptom of that profound disturbance, fever; a secondary result of great value as an indicator as well as a gauge of its degree. Each zymotic fever had its specific cause, and correspondingly typical disturbance of the heat equilibrium; so also did each local cause give a corresponding heat movement. We had a syphilitic, a bubonic, a cancerous, a scarlatinal, a diphtheritic disturbance of heat, etc. The increased heat was not by itself the cause of all the bad symptoms attributed to it, though it was a factor. The worst effect was due to the destruction of vital albumin, impeding the function of the cells. The cause, not the consequence, was of the greatest importance. There were probably unknown chemical products, possibly ferment elements, brought about in the body resulting from the changes that took place during the chemical disturbance, which further complicated the question. In so complex and mobile a domain as the living human body, causes which were the same did not always necessarily produce like results on individuals. The true antipyretic would remove the cause, and not merely alleviate a symptom, however important that symptom might be. True antipyretics were rare, as yet, but they were increasing in number with the development of medical science. Physiology was yet too incomplete to be an absolutely reliable basis, and pathology and therapeutics were correspondingly so. Meanwhile each case must be a study. Routinism was never safe. There was a range of temperature of nearly twenty degrees in disease. Ordinarily the limits were less, from 92° to 109° F. There was a too much neglected range of heat below this average, of equal importance with that above the normal. The great sweep of the antiphlogistic theory had caused medical men to neglect too much the effect of heat below the normal. Many specific causes might be found to produce primarily reduced temperatures, such as cholera in its primary effect. The causes of hyperpyrexia were, fortunately, often short-lived if not necessarily fatal. If we could sustain the individual, they usually exhausted themselves rapidly. The aim of the physician in cases of fever was prevention, detoxication, support, and repair. The true antipyretics were antizymotic, antiseptic, eliminative, and antidotal, and in reference to the living body they were yet in their infancy. For the present our efforts were to a great extent tentative. There was no agent that might not be injurious which would reduce the temperature from 106° to 99° in a very short time. It was always safe to abstract the accumulated heat, without shock, frequently and gradually, by means of cool or tepid baths, sponging, etc. The more rapidly the temperature was reduced, the more liability there was to injury. The temperature should never be allowed to accumulate so as to require sudden means of reduction. A bath that was pleasant to the patient might be continued, its temperature being gradually lowered, until the heat of the body was 100° or less, without shock. Very large doses of quinine, etc., while the effect was complex (antizymotic and tonic, increasing excretion and cell-activity generally), were sometimes dangerous. Veratrum, colchicum, aconite, and that class of depressants, while they lessened oxidation by diminishing cell action, might be used safely in sthenic cases, even to their full effects, but never in the later stages. In plethoric persons, in the earlier stages of fever, depletion might be admissible occasionally, to reduce a hyperpyrexia. Starvation belonged to the same category, and was unintentionally often the real remedy as well as the real damage of nature. Alcohol, in asthenic cases, with or without moderate doses of quinine, salicin, salicylic acid, and similar remedies, conjoined with food of suitable character, milk, etc., would reduce fever by evoking the functional activity by which heat was regulated. Opium was occasionally a safe antipyretic; so were ammonia, ether, etc.

We should measure and treat the individual, not the name of the disturbance. Each case of hyperpyrexia was a complex and complicated problem. All powerful agents were susceptible of misuse and abuse. The true antipyretics were: 1. Antiseptics in the wide sense. 2. Heat removal. 3. Increase of cell action. 4. Lessening of chemical action. Recently one of four little girls was found with a temperature of 104°, a scarlatinous eruption over the entire body, sore throat, etc., after having been sleeping during the night with her three little sisters in one bed. None of them had previously had scarlatina. They were immediately separated. The well children were washed, their clothing was changed, and they were sponged well with

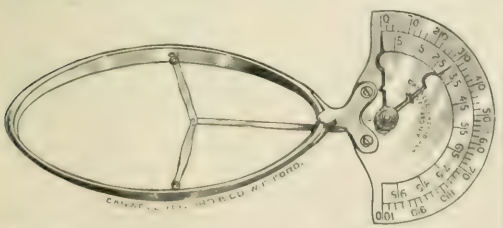
freshly prepared chlorine water, to which a small quantity of sulphurous acid was added. Between the two rooms were hung sheets sprinkled with this fluid, and vessels of it were placed in various parts of the room. The sick child was given half-drachm doses of sulphurous acid every two or three hours. After two or three doses, the temperature fell to 100°. The eruption faded with unusual rapidity, the throat improved, and the appetite and playfulness of the child returned. The temperature never went above 101°. Subsequently there was no affection of the kidneys or lymphatic glands. The other children were given from ten to twenty drops of sulphurous acid every three hours. They escaped the disease. While not certain, it was highly probable that this prompt personal disinfection, conjoined with the frequent bathings, profoundly affected the course of the disease. We should limit our remedies to affecting function, within safe limits, never permitting them to go to the extent of affecting structure. Food was the true tonic; rest the true reparative; exercise, not strain, the true strengthener. All remedies which acted merely on symptoms and secondary causes of disturbance were palliative; they only became curative when there was a strong tendency in the patient to speedy and healthful restoration of the disturbed balance of function. To this class belonged aconite, colchicum (except when eliminative), purgatives, opium, jaborandi, etc. They should be used early, for short periods, and cautiously. In prolonged fevers such diminution of vital action became dangerous if too long continued. We should ever keep steadily in view the removal of the cause, the detoxication of the living body, as the true and final end of our therapeutic efforts.

New Inventions, etc.

A NEW FORM OF DYNAMOMETER.

By Græme M. Hammond, M. D.,
ASSOCIATE PROFESSOR IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

The older form of spring dynamometer, in which the dial-plate is attached to the inside of the spring, presents many objectionable features which I have endeavored to overcome. In that instrument the hand of the individual grasping it completely conceals the dial-plate from view, thereby necessitating the use of the dynamograph in order to detect the inability to retain steady muscular contractions, exhibited either as a gradual but steady relaxation of the muscles, or as irregular waves of muscular force. In its present form, as will be seen from the accompanying illustration, the dial-plate is placed on the outside of

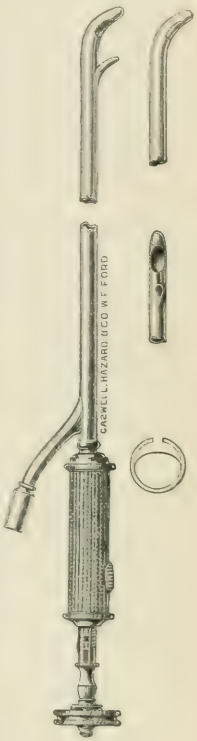


the spring, thus enabling the observer to witness the gyrations of the needles while the instrument remains in the patient's grasp. With this instrument the dynamograph is unnecessary, as the upper needle, returning to the starting-point with the relaxation of the spring, indicates very clearly a steady diminution or irregularity of muscular tension. Another advantage is that, the dial-plate being larger and the hands longer than those of the older form, slighter degrees of pressure and relaxation are more readily indicated.

A COMBINED CRUSHER AND EVACUATOR.

By Joseph D. Bryant, M. D.,
PROFESSOR OF ANATOMY AND CLINICAL SURGERY IN BELLEVUE HOSPITAL MEDICAL COLLEGE.

Permit me, through the columns of your journal, to call the attention of the profession to a contrivance which, for the need of a better name, I will call "A Combined Crusher and Evacuator," intended for use in litholapaxy. The idea of the possible utility of such an instrument suggested itself to me some time since, after a somewhat annoying effort on my part to seize the "lost fragment," the existence of which could be easily and quickly demonstrated by the characteristic "click" against the eye of the evacuating catheter during the washing-out process. I also recalled the fact that, on other occasions, the suction force of the washer had been temporarily arrested by the closure of the eye of the evacuating catheter by a fragment of calculus. As a result of these observations, the following instrument has been constructed at my suggestion by Mr. W. F. Ford, of this city.



The male blade of an ordinary lithotrite is modified to fit into the anterior or concave wall of the ordinary evacuating catheter, which is lined with a brass tube. The washer can be easily connected with the caliber of the instrument, as shown by the cut. It is not thought or expected that this instrument can supplant the lithotrite. The idea is to crush the stone at the first introduction of the lithotrite as effectually as practicable, and to then introduce the combined instrument instead of the simple evacuating catheter; by means of this the detritus already crushed is removed from the bladder, and such of the remaining fragments as are drawn into the throat of the instrument are crushed and likewise removed. It thus becomes possible to avoid the interchange of instruments incident to repeated crushings. With an assistant to work the washer, the operator can devote his entire attention to crushing the fragments sucked into the throat of the instrument. The manifest advantages thus gained by its use are numerous from a manipulative point of view alone. When applied to an extemporized bladder it works admirably, and would seem to lack only the perfecting influence of repeated practical applications to constitute a genuine advancement in litholapaxy. In my opinion, a second suction-bulb should be added to the one already existing, that the detritus caught and held by the influence of the latter, during the crushing process, be supplemented by that of a second which shall remove it at once, without the necessity of its being thrown into the bladder, as will be done in emptying the original bulb, preparatory to pumping.

Miscellany.

THERAPEUTICAL NOTES.

Artificial Sea-Air.—Dr. B. W. Richardson ("Asclepiad") suggests the following method of supplying a sick-room with salt air: A mixture is prepared containing one per cent. of ozonic ether, two and a half per cent. of sea-salt, and enough iodine to make a saturated solution. About two ounces of this mixture are diffused through the room by

means of an atomizer, at intervals of fifteen minutes. The vapor not only has the bracing odor of sea-air, but is a powerful disinfectant.

Protracted Baths for Infants.—Winckel ("Arch. f. Gyn.") advises protracted warm baths under the following circumstances: 1. Extreme feebleness in infants from four to six months old. 2. For infants asphyxiated during delivery. 3. In skin eruptions, especially intertrigo and non-specific pemphigus. The children are kept in a bath (at a temperature of from 96·8° to 100·4° F.) for days continuously. They eat and sleep in the bath, and are perfectly tranquil.

A Method of Reducing Temperature.—Stephan ("Allgem. med. Centr.-Ztg."; "St. Petersburg. med. Woch.") says that the application of ice-bags over the supra-clavicular regions during fever is followed by a marked reduction of the temperature. In several cases of typhoid fever treated in this manner he was able to control the fever, while the sensorium remained clear. The explanation offered is that many large superficial veins are situated in the neck, and that by the direct application of heat to them the temperature of the blood is lowered rapidly.

The Intra-venous Injection of Salt.—Riegner ("Breslauer ärztliche Ztschr."; "Centralbl. f. klin. Med.") reports three cases of collapse following copious hæmorrhage in which the patients were saved by a timely resort to intra-venous injections of a 0·6-per-cent. solution of salt. From forty to fifty ounces were injected at once. The effect was prompt and satisfactory. [This contribution is to be regarded as one of the most positive that have yet been made to this subject.]

Phosphated Peptone in the Vomiting of Pregnancy.—Indet ("Gaz. des hôp."; "Centralbl. f. Gyn.") has employed this preparation successfully in cases of vomiting that had resisted other treatment. He gave six tablespoonfuls of the peptone phosphate, and subsequently increased the dose to twelve tablespoonfuls.

The Action of Paraldehyde and Acetal compared.—Landreuter ("Arch. f. Psych."; "St. Petersburg. med. Woch.") has made several hundred observations regarding the therapeutical action of these preparations. He regards paraldehyde as a most trustworthy sedative in doses of a drachm or a drachm and a half. It acts more rapidly and more safely than chloral, and is without unpleasant after-effects. Acetal is similar in its action, but has a very disagreeable taste and smell, and gives rise to painful micturition, a general feeling of weakness, and other unpleasant effects. The following formula is recommended:

Paraldehyde	an ounce and a half;
Oil of peppermint	10 minims;
Olive-oil	to 30 ounces.

The Treatment of Tubercular Meningitis with Free Phosphorus.—Green ("Practitioner") reports a well-marked case of tubercular meningitis which he treated with doses of one sixteenth of a grain of free phosphorus, given every four hours, in oil. After having remained unconscious for nearly a week, the patient rallied, and eventually recovered from the meningitis, but died a month afterward of acute pulmonary tuberculosis.

The Treatment of Small-pox Papules with Ether and Opium.—Tenneson ("Bull. gén. de thérap.") has treated eleven cases of small-pox after the method recommended by Ducastel. As soon as the papules appeared, they were injected twice daily with a mixture of two or three grains of extract of opium and half a drachm of ether. The needle was carefully cleansed after each injection. In nearly every case, not only were the papules aborted, so that they did not go on to the formation of pustules, but there was an actual shortening of the febrile stage of the disease.

Glycerin Nasal Plugs in Hay Fever.—O'Connell ("Brit. Med. Jour.") recommends, for relief from the debilitating action of glycerin tampons when placed in the vagina, suggests the same treatment for reducing the nasal congestion in hay fever. He states that relief is experienced within a few min. after the plugs are inserted.

Rice as a Remedy for Diarrhœa.—Cokl ("Union méd.") recommends an infusion of roasted rice in the treatment of diarrhœa in infants. It is prepared in the same way as coffee. [This is a well-known domestic remedy in this country.]

The Treatment of Gastritis.—The same journal gives Leven's method of treating gastric inflammation. He recommends external applications of ice, and counter-irritation over the region of the stomach by means of tincture of iodine. At the same time he uses internally sulphate of sodium and bromide of potassium, the latter in doses of from four to eight grains. If bismuth is given, it should be in doses of eight grains, just before meals.

Capillary Puncture of the Bladder.—Rosenberger ("Centralbl. f. Chir.") speaks highly of this procedure in cases in which it is desirable to give the urethra complete rest. He recommends it especially in obstinate strictures. A capillary tube is passed into the bladder through the rectum, and the organ is evacuated and washed out twice daily. No bad effects have been observed.

Salicylized Cotton.—The "Union médicale" gives the following directions for preparing the cotton:

Salicylic acid	2½ drachms;
Glycerin	15 minims;
Absolute alcohol	each, 3 ounces.
Purified cotton	each, 3 ounces.

Dissolve the salicylic acid in the alcohol, then add the glycerin; the cotton is immersed in this solution, dried, and preserved in bottles.

Albuminuria from Chloroform Inhalations.—M. Terrier ("Union méd.") has made a series of experiments with the view of deciding this question. Of ten cases which were carefully observed with reference to the presence of albumin in the urine, it was discovered in eight in which there had been no operation. The period of anæsthesia varied from thirty to seventy-five minutes. In another series of ten cases, in which surgical operations were performed, albumin was present in every instance. Whenever a slight trace of albumin had been found before the anæsthesia, the amount was greatly increased (*exagérée dans des proportions énormes*) after the anæsthesia. [These experiments are noteworthy in connection with the opinion that chloroform is safer than ether for patients with renal disease.]

The Paris School of Medicine.—According to the "Union médicale," there were 3,994 students registered on the 15th of October. On the 1st of December the number included 538 foreigners, among them 127 Americans, 96 Russians, 81 Roumanians, 52 Spaniards, 45 Turks, 30 Brazilians, 26 Swiss, 25 Greeks, and 22 Englishmen. The number of lady students is 78, including 13 belonging to France, 47 from Russia, 11 from England, and 3 from America.

A Medical Centenarian.—According to "The Dartmouth," Dr. O. S. Taylor, of the class of 1809 of that college, living at Auburn, N. Y., completed his 100th year on December 17th. He also graduated from the medical college in 1813, the second class that went out from that institution. As far as is known, he is the oldest living graduate of any American college.—*Boston Medical and Surgical Journal.*

The Pennsylvania Hospital for the Insane.—We learn from the "Buffalo Medical and Surgical Journal" that Dr. Edward N. Brush, recently of the New York State Lunatic Asylum, at Utica, and formerly of Buffalo, has been appointed to take charge of the male patients in the Pennsylvania Hospital for the Insane, of Philadelphia.

The College of Physicians of Philadelphia.—We learn from the "Philadelphia Medical Times" that at the recent annual meeting the following-named gentlemen were elected to office: Dr. J. M. DaCosta, president; Dr. S. Weir Mitchell, vice-president; Dr. Richard A. Cleemann, secretary; Dr. Charles Stewart Wurts, treasurer; Dr. J. H. Hutchinson, honorary librarian; and Dr. J. Ewing Mears, recorder.

The Health of Michigan.—It appears from the summary of reports made to the State Board of Health, by observers in different parts of the State, for the five weeks ending January 3, 1885, for a copy of which we are indebted to the secretary of the board, that during the month of December, 1884, as compared with the same month in the preceding six years, inflammation of the bowels, cerebro-spinal meningitis, influenza, neuralgia, and erysipelas were more prevalent, while intermittent fever, diphtheria, pulmonary consumption, pneumonia, and membranous croup were less prevalent. Diphtheria was reported from forty-nine places, scarlet fever from thirty-six, and measles from six.

Original Communications.

ON SURGICAL TUBERCULOSIS.

BY R. J. HALL, M. D.

(*Continued from page 64.*)

The technique of the examination may be considered under the following heads: 1. The selection and preservation of material, cutting, staining, and mounting. 2. Apparatus necessary for making the examinations, and mode of examining.

1. It is almost unnecessary to say that only material should be selected containing the well-known gray gelatinous tubercle, usually dotted with small caseous specks. As this is difficult to recognize, after immersion in alcohol, the selection should be made before hardening, or much time may be wasted in cutting. It is best to place the specimen directly in absolute or 95 per cent. alcohol, and cut as soon as it is sufficiently hard. Müller's fluid can be used,* but has no advantages, except the clearer demonstration of the tubercle reticulum,† while the granular precipitates to which it gives rise in the tissues interfere more or less with all mycological examinations.‡ Commencing putrefaction does not prevent the demonstration of the bacilli, and they can be found even in old alcohol preparations.* On account of the very small number of bacilli found in most cases of surgical tuberculosis, it is usually necessary to examine a number of sections, and it is very desirable that they should be moderately thin and of even thickness throughout. A good section-cutter is therefore almost an essential, and I have used always the larger size made by Jung, of Heidelberg.

The staining of the tubercle bacillus depends, as is well known, on the fact that, after staining the object to be examined in a solution of one of the aniline dyes, usually fuchsine or gentian-violet, made in a particular way, it can be decolorized by the dilute mineral acids and alcohol, when only the tubercle bacillus retains its color. The specimen can then be stained with a contrast color, as methyl-blue for fuchsine, and bismarck-brown for gentian-violet. This makes it easy to study the histology of the tissue, and forms a background on which the bacillus stands out more distinctly. There are a number of theories of the cause of this peculiar reaction of the tubercle bacillus, but none are at all satisfactory, and they need not detain us. Koch has himself discarded his original method of staining, and I will therefore not stop to describe it.

I have used altogether Ehrlich's method, which, with more or less modification, has been employed by almost all observers. My exact procedure has been as follows: To distilled water so much anilin-oil is added that, after shaking vigorously, some still remains undissolved; this is allowed to stand for a few minutes, being shaken at intervals, and then passed through a moistened filter, when a clear fluid should be obtained. To this is added, drop by drop, a saturated alcoholic solution of fuchsine or gentian-violet, until a metallic shimmer appears over the whole surface. In this staining fluid the sections are immersed for twenty-four hours. Fluids are spread in thin layers upon cover glasses, allowed to dry, passed three times moderately fast, with the smeared side upward, through the flame of an alcohol lamp or Bunsen burner, and then floated on the fluid for the same length of time. At a temperature of about 50° C. one hour is sufficient,* but I have found it more convenient, and thought it surer, to keep them twenty-four hours. They are then transferred directly to 30-per-cent. nitric acid for a few seconds, washed for a few seconds in about 60-per-cent. alcohol, and stained again in a solution of methyl-blue or bismarck-brown, made by adding a saturated alcoholic solution of the coloring matter to distilled water until the mixture begins to lose its transparency. The specimens remain in this for five to ten minutes, are then washed in dilute alcohol, dehydrated in absolute or 95-per-cent. alcohol, cleared in oil of cloves,† and mounted in Canada balsam. These rules are identical with those most recently given by Koch,‡ except that he uses nitric acid, one part to three or four parts water, leaves the specimens in the staining fluid twelve hours, as the minimum, and gives exact proportions for making the staining fluids; and these changes are, I have no doubt, improvements. In my earlier work I met with certain difficulties which it may be well to mention. Almost all the descriptions which I had at that time read spoke of the necessity of completely decolorizing the specimen in the acid. This I found to be quite impossible after the sections had been twenty-four hours in the staining fluid. Even after twenty-five minutes in the acid, a considerable amount of color remains in the tissues; it is, however, completely removed by the alcohol. There does not seem to be much danger of bleaching the bacilli by the acid if the section has been stained during twenty-four hours, as I have found them very abundant in specimens which had been twenty-five minutes in 30-per-cent. nitric acid. There is, however, great danger of decolorizing partially or completely some or all of the bacilli, when stained by any of the short methods, so useful for examining the sputum. I would therefore strongly advise against the use of any of these short methods, in surgical cases, where it is to be expected that the bacilli will only occur sparingly, and, if but faintly tinged, may be obscured by the cells among which they lie. Koch directs, as a precautionary measure, that the specimens should only remain a few seconds in the acid. It is important that the specimens should not be immersed in water at any time after staining, as this fixes the remaining color and makes it difficult or impossible to remove with alcohol; in this way other objects besides the tubercle

* "Comptes rendus hebdom. des seances de la soc. de biol.," 15 Mai, 1883, p. 314. Sur la persistance des bacilles de la tuberculose dans les pièces anatomiques. M. Vignal.

† Schuppel, "Untersuch. uber Lymphdrusentub.," S. 9.

‡ Friedlander, "Mikroscopische Technik," S. 50. Note.

* See Vignal, *op. cit.*, and Group 4, Case 1. Tuberculosis of the Tongue.

* Friedlander, "Mik. Technik," S. 57.

† Koch recommends the use of oil of turpentine, or, better, cedar-oil, instead of oil of cloves, which dissolves the aniline colors out of the preparations. Before I knew this I noticed that almost all my preparations faded very rapidly.

‡ "Mittheil. aus dem kais. Gesundheitsamt," B. ii, S. 5.

bacilli may retain the characteristic color, and this has doubtless given rise to many errors. The 30-per-cent. acid used to decolorize, besides being disagreeable to manipulate, sometimes shrinks the tissues to an inconvenient extent; the more dilute solution recently recommended by Koch is therefore an improvement, and he suggests that it may be safe to dilute it even more. I have found, however, in decolorizing with merely slightly acidulated alcohol, as recommended by Orth, that the nuclei of some cells, and particularly the granular protoplasm of Ehrlich's *Mastzellen*, are liable to retain the violet stain, and indifferent bacilli might possibly do the same. Horny constituents of the tissues retain the color, and fragments of this kind, such as hairs and horny epithelium, may give rise, if the fact is not known, to a suspicion that the specimen has been insufficiently decolorized. Almost all these points are discussed by Koch, whose last article on the subject I had not been able to see until after I had worked them out for myself. In accordance with most other observers, I have found gentian-violet and bismarck-brown much the most satisfactory staining. Violet has indeed the disadvantage of not showing well by artificial light, but by daylight the bacilli stand out rather better than when stained with fuchsine. Bismarck-brown also I have found more manageable as a contrast color than methyl-blue; there is, I think, less danger of overstaining, and any superfluous color can be more readily washed out in alcohol. The lepra bacillus, as is well known, alone of all hitherto known varieties, stains in the same manner as the tubercle bacillus. It differs from it, however, in shape and size as well as in coloring by Weigert's method for nucleus staining, and there is little practical danger of confounding the two. Considering the rather complicated technique, it is not strange that a small number of observers have reported that bacilli other than the tubercle and lepra varieties take the characteristic color. In one instance, where Craemer * reported the discovery of tubercle bacilli in the stools of healthy persons, Marchand † examined the specimens and states that all bacilli were stained, the preparations being insufficiently decolorized. There is such a mass of reliable evidence on the other side that it is fair to conclude that the remaining cases rest on similar errors. I have myself frequently examined decomposing urine, sputum, and pus, and once or twice tissues in which putrefaction had commenced before immersion in alcohol; all these were swarming with micro-organisms, stained brown, but I have not found any stained violet, whose shape, or size, or situation would suggest that they were not tubercle bacilli.

2. The tubercle bacillus can be seen with a power of about 300 diameters, but Koch recommends 500 to 700 as best. For the examination of fluids spread on cover glasses, an ordinary microscope can be used. For the examination of sections, however, the addition of a good Abbe condenser, used without a diaphragm, is necessary. With this the outlines of the tissue are almost completely lost, and scarcely anything is seen in the field except the stained bacilli and the nuclei stained with the contrast color. The Abbe is so essential that I would not attach any importance whatever to a diagnosis made by myself or any one else without its aid. It is true that in a section rich in bacilli it is possible to see a few, using a high power, without the condenser. But, were they not known beforehand to be bacilli, it would often be impossible to assert it with confidence, while the greater number escape observation altogether. Koch insists also on the importance of using a homogeneous oil immersion. Having been disappointed in an effort to get one, I have been compelled to use a very good Hartnack water-immersion No. 10, after first convincing myself by a number of trials that the bacilli could be very well seen with it. I have found, however, where the tissues were deeply stained or the sections at all thick, some difficulty in penetrating them with the water immersion, and have no doubt the oil system would have saved much time. In surgical tuberculoses, where the bacilli generally occur very sparingly, they are usually in the giant-cells. It is best, therefore, as pointed out by Schuchardt and Krause, to pick out a giant-cell, and then examine it thoroughly, with the immersion system, going on to another only when convinced that the first conceals no bacilli.

I shall give the results of my own investigations in the following order:

I. Tubercular disease of bones and joints.
II. Tubercular lymphomata.
III. Tubercular disease of the skin.
IV. Other tuberculoses,

adding to each group such remarks as are necessary, and giving at the end the principal observations already published.

I. Tubercular Disease of Bones and Joints.—1. Fungoid arthritis of wrist, with several sinuses. Man, aged thirty-five; family history of phthisis. States that he sprained his wrist thirteen months ago; that an abscess formed in a week and was opened four weeks later. Excision February 9, 1884.

Microscopic examination of sections of granulation tissue on carpal bones shows hyaline cartilage, the cartilage cells proliferating, and granulation tissue containing a few cartilage-cells, without capsules, and at one point commencing to undergo change into cicatricial tissue. In the granulation tissue are a few tubercles containing giant-cells, and, in some cases, caseous in the center.

Four specimens examined; fuchsine; no double staining; two negative; in two a small number of bacilli.

2. Cold abscess of knee joint.

Adult man. Disease of five years' duration; joint distended with fluid; no sinuses. January 15, 1884, joint incised, and sero-purulent fluid, with large masses of fibrin infiltrated with pus, evacuated; examination of sections of fibrin; fuchsine; five specimens; three negative; two contain a very small number of bacilli.

March 19, 1884, excision of the joint.

Microscopic examination of the thin layer of tubercular tissue, lining the whole interior of the joint, shows abundant tubercles, containing giant-cells and cartilage invaded by granulation tissue.

Three specimens; violet and brown; two negative; in one a few bacilli, five or six in all, one in a giant-cell, one close to, but apparently not in, a giant-cell, the remainder on the borders of caseous material.

3. Fungoid arthritis of the shoulder joint.

* [illegible] der phys.-med. Soc. zu Erlangen," Dec. 11, 1882.

† "Die neuen Anschauungen über die Natur der Tuberculose," "Deutsche med. Wochenschr.," 15, 1883.

Adult man; disease has existed more than six years; abscesses have formed and broken in the neighborhood of the joint, and sinuses remain open. Excision May 15, 1884.

The cartilage is found to have disappeared from the head of the bone, which is in part covered by fungoid granulations, in part bare and carious. There is a large sequestrum lying loose in a cavity in the head of the bone. Gross appearance of the granulation tissue is that of gray, gelatinous granulations, with numerous white specks (caseous material) throughout.

Microscopic examination shows numerous tubercles, most containing one or more giant-cells, and advanced cheesy degeneration in places.

Five specimens, violet and brown. Two negative; in one, five bacilli in a tubercle among epithelioid cells; in another, one bacillus in a giant-cell; in a third, three giant-cells contain each a bacillus.

4. Fungoid disease of the tarsal bones.

Man, aged thirty-three; family history good; duration of disease four years; abscesses formed eight weeks ago; April 28, 1884, amputation of leg.

There is extensive fungoid caries of the astragalus, scaphoid, and cuboid. Gross appearance of the fungoid tissue the same as in Case 3.

Microscopic examination shows granulation tissue, with a border of young epidermis at one point, and containing numerous tubercles, with many giant-cells.

Five preparations, violet and brown. Three negative; in two, one giant-cell in each contains a bacillus.

5. Fungoid disease of (probably) sacro-coccygeal articulation.

Man, aged thirty-four; family history good; general health good; lungs normal. Two months ago small abscess to left of coccyx; broke in a few days, and pus, with small fragments of bone, evacuated. Sinus has remained open, and leads to an articulation, apparently that between sacrum and coccyx. Sinus lined with fungoid granulations.

May 16, 1884, resection and scraping.

Microscopic examination shows typical tubercles.

Five specimens, violet and brown. Four negative; in one, a miliary tubercle contains three bacilli, one in a giant-cell, two among epithelioid cells; two other miliary tubercles contain two and one bacilli, respectively, close to, but apparently not in, giant-cells.

6. Fungoid disease of the knee joint.

Young man. Duration of disease unknown. Numerous sinuses exist, and joint is much disorganized. Excision, May 24, 1884.

Fungoid granulations line the whole interior of the joint. No tubercular osteitis observed, and disease, probably, of synovial origin.

Microscopic examination shows typical tubercles.

Eight specimens, violet and brown. Five negative; three contain one bacillus each among epithelioid cells.

7. Fungoid disease of the ankle joint.

Boy of about seventeen. Duration of disease unknown. Joint has been incised and drained, and sinuses remain open, and are lined with fungoid granulations.

Excision, May 22, 1884.

Gross and microscopic appearances as in last.

Five specimens, violet and brown. Two negative; one contains three bacilli, and two others one each. All the bacilli are close to giant-cells, and in or among epithelioid cells.

8. Fungoid disease of ankle joint and tarsal articulations.

Man, aged about twenty-two. Disease probably primarily synovial. Suppuration had occurred, and incisions been made; sinuses remain open.

Mikulicz's operation, June 4, 1884.

Gross and microscopic appearances as in Case 6.

Five preparations, violet and brown. Three neg.; in one, two bacilli, in another one.

9. Suppurative arthritis of shoulder joint following drainage of a large hygroma.

Man, aged forty-eight. The hygroma, just in front of the anterior border of the deltoid, was first noticed nine weeks ago, and then nearly as large as when incised; had been tapped twice. Incision March 11, 1884, when fluid containing rice bodies and disorganized tissue, like cartilage, evacuated. Joint entered, and articular surfaces found eroded. Excision, June 5, 1884. The head of the bone was denuded of cartilage, carious, and covered in parts with gelatinous, gray granulations, containing, however, none of the white caseous specks. Portions of the granulation tissue from the cavity of the joint present a similar appearance, but dotted with a small number of white specks.

On microscopic examination, a large part of the section shows only granulation tissue and young connective tissue; a portion consists of non-vascular tissue, formed principally of epithelioid cells, with a few giant-cells, and at points commencing cheesy degeneration. On the borders are a few miliary tubercles, some becoming fibrous.

Six specimens examined, violet and brown. Four negative; in one, one bacillus in a giant-cell, in another two bacilli close together.

10. Fungoid disease of the hip joint.

Girl of about five. Both femur and acetabulum extensively involved, and sinuses exist.

Excision, June 18, 1884.

Both gross and microscopic appearances of the granulations are those of tubercle tissue.

Two specimens examined, violet and brown. Several bacilli found in each; two in one giant-cell.

These are all the cases of tubercular arthritis and osteo-arthritis which I have examined, and, as is seen, bacilli have been found in all, though, in some cases, only after a prolonged and careful examination, extending even over several hours. Even at the risk of being tedious, I have given these cases in some detail, because, although few in number, they afford examples of each of the three forms of joint tuberculosis as classified by Koenig,* and even of several of the anatomical varieties included in these. Koenig's classification is as follows:

I. Hydrops tuberculosus.

II. Fungus tuberculosus ("Gliedschwamm," granulating, fungoid inflammation of joints, tumor albus).

III. Cold abscess of joints.

Case 9 is a good example of the first class, which Koenig says is the form "relatively most infrequent and still least known to the surgeon," and of which he gives the first really complete clinical description. It is also, as far as I know, the first case of this kind in which the bacilli have been demonstrated. We have in it, further, the extremely instructive combination of a large bursal hygroma, containing rice bodies with a tubercular arthritis, the hygroma communicating with the joint. The recognition of these cases by Riedel, and recently by Koenig, has been referred to already.

Most of the remaining cases come under the head of

* "Tuberculose der Knochen und Gelenke," Berlin, 1884, S. 54.

(II) fungus tuberculosus proper, by far the commonest form. Case 3, in which a large sequestrum occupied a cavity in the head of the humerus, is a beautiful example of that variety in which a circumscribed tubercular osteitis gives rise to a limited necrosis, immediately beneath the articular cartilage, and involves the joint secondarily. Koenig suggests, on account of the frequent wedge-shape of the sequestrum, that it is probably due to an embolic process. In such cases, as the sequestrum can be neither absorbed nor eliminated, it is obvious that operation offers, from the very first, the only prospect of cure. Unfortunately, it is very seldom that the state of affairs can be appreciated until the joint has been laid freely open. Several of the cases presented small cavities in the articular ends of the bones, filled with caseous material, indicating the probable origin of the disease in a circumscribed osteitis, causing the complete disintegration of the bone and involving the joint secondarily as before. Case 4, in which the astragalus, scaphoid, and cuboid, were all extensively diseased, is a good example of the infiltrated tubercle, where the disease rapidly involves the whole epiphysis or short bone, as the case may be, and produces complete disorganization of the neighboring joint. Such cases, which are, fortunately, not the most common, usually as in the above, demand amputation. Cases 6 and 8 were probably of synovial origin, as no tubercular osteitis could be found. Volkmann* declared this to be extremely rare, the disease beginning usually, and in children practically always ("so gut wie ausnahmslos"), in the bone. Further observations, especially by Koenig and by Müller,† under Koenig's direction, have shown that, although much the less common, the synovial origin is not so infrequent as Volkmann supposed, being, in fact, about twenty per cent. of all cases.

Finally, Case 2 is a good example of (III) cold abscess of the joints, or synovitis suppurativa tuberculosa, as Koenig prefers to call it, in which the interior of the capsule is lined with a tubercular membrane, and the joint distended with the characteristic tubercular pus.

(To be continued.)

GONORRHŒA IN THE FEMALE.

By ANDREW F. CURRIER, M. D.

(Concluded from page 43.)

Upon the opposite side of this interesting subject, Eklund, of Stockholm (Eklund [translation], "Phys. and Surg.," Ann Arbor, May, 1883, p. 193), while admitting that Neisser's gonococcus is, to a certain extent, indicative of gonorrhœa, complicates the matter by maintaining that, in order to prove the case, there must also be present two forms of spores, which were discovered and described by him under the names *Eikophyton dictyades* α and β. He also thinks that the gonococcus is similar to if not identical with a body which is found in cases of acute and chronic ulcer of the [illegible], intestines, and mouth. Sternberg (Sternberg, "Med. News," 1883, xlii, pp. 67, 96, 323) admits the constant presence of an accidental parasitic micro-organism in gonorrhœal pus, but he denies that it has anything to do with the virulence of the fluid. His experiments with culture-fluids were all unsuccessful as regards the production of gonorrhœa. He regards the *gonococcus* as identical with the *Micrococcus ureæ* of Cohn. From the foregoing, the conclusion is reasonable that there is a factor in the production of gonorrhœa, whether in the male or the female, which was entirely unknown in the days when the writings of Ricord and his followers upon this subject were supreme in their influence. (See Ricord, "Gaz. des hôp.," 1846, "De la blennorrhagie chez les femmes.") Whether this new doctrine is to be displaced in the future it is not safe to predict. There is no doubt but that, with the liability to prejudgment which influences the minds of most men in the investigation of a disputed question like this, some modifications may be expected.

Leaving now the question of the *essential* cause of the disease, all are agreed that there must be contact of the infecting substance with the genital mucous membrane in order to its production. The disease may limit itself to a circumscribed area of the genital tract, or it may be diffuse, with or without serious complications. That acute observer, Matthews Duncan, reports a case in which it was most obvious in the duct of the left gland of Duverney, remaining intractable for five years (Duncan, "Lancet," 1877, i, p. 313). A quotation has already been made which shows the frequency with which one or both of these glands may be involved (von Hagemann, *loc. cit.*). The rich glandular structure at the orifice of the urethra would suggest its frequent involvement, but von Hagemann alone, so far as my observation goes, asserts such a condition in fact. My own limited experience leads me to coincide rather with those writers who think that it is neither a necessary nor a common feature of the disease. The vagina is the region *par éminence* in which it prevails most commonly. The clinical features as they are commonly seen have already been depicted. Gallard says there is no appreciable difference between simple and virulent vaginitis; that there is yellowish-green pus in each, with redness and inflammation, and that they are to be differentiated by a study of their origin, results, and affiliations. He has observed in the virulent form a slight elevation of the mucous membrane which is due to inflammation of the papillæ (Gallard, *loc. cit.*). Thomas says that gonorrhœal inflammation of the vagina is not distinguishable from that which is produced by chromic acid (Thomas, *op. cit.*). Noeggerath differentiates a gonorrhœal from a leucorrhœal discharge in the following manner: If the upper part of the vagina is filled with a copious, glairy, greenish-yellow glue which adheres to the cervix tenaciously when its removal is attempted, gonorrhœa is present. When the discharge is scanty, pellucid, white, or straw-colored, it may be gonorrhœa (1) when there is also a red, eroded, narrow rim around the os; (2) when there are signs of present or past pelvic peritonitis; (3) when there is catarrh of all or a part of the vulva—e. g., from the peri-urethral or vulvo-vaginal glands, with condylomata in the fourchette, or around the urethral orifice; (4) when the discharge is incurable; (5) when it comes in an otherwise healthy woman just after marriage, and no other morbific

* [illegible] Vorträge [illegible] 1880.

† [illegible] der Kranken und Gebrde," 1881, p. 66.

cause is discoverable (Noeggerath, "Latent Gonorrhœa," etc.). Other writers lay special stress upon the relaxed condition of the mucous membrane in the posterior fornix vaginæ, which, from its comparative inaccessibility (excepting with the use of Sims's speculum or one of its modifications), furnishes a convenient *nidus* for a protracted duration of the disease. My own experience fully confirms the importance of this statement. Any one who has had much experience in the treatment of diseases of women must have noticed the great difficulty in reaching effectively this portion of the vagina, especially when the treatment in the form of douches is left in the patient's hands. With the vaginal affection is often associated inflammation of the *mucosa* of the cervix. Usually it is secondary to the former, but Rémy (Gaz. méd. de Paris," 1879, p. 5, "Blennorrhagie de l'utérus [métrite muqueuse blennorrhagique"]) quotes Hardy ("Gaz. des hôp.," 1846, p. 426), who says that it may be primary, the infectious material from the penis being absorbed directly by the cervix. According to Rémy, the first autopsy upon a fatal case of this affection was made by Mercier in 1846 (Mercier, "Gaz. des hôp.," 1846, p. 432), who studied carefully and described completely its pathological anatomy. Grünewaldt, of St. Petersburg, also gave an elaborate description of it in 1878. Gonorrhœa of the rectum is one of the less common forms. It need not imply sodomy, for it is quite conceivable that the fluid containing the virus might infect the rectum by another manner, especially in the case of prostitutes, or any one of unclean habits. The extension of the disease from the cervical canal, beyond the barrier of the internal *os*, forms one of the most unpleasant chapters in its history. Unfortunately, the pathological anatomy of this subject, from a recent standpoint, has not been investigated in a sufficiently large number of autopsies, or, if it has, I have been unable to find such an account. The investigations of Mercier, already referred to, were made in 1846. He found evidences of inflammation in the Fallopian tubes and peritonæum. Ricord believes that the ovaries and tubes may all be affected by the poison, and states that in such cases the pain is intense. Rémy (*loc. cit.*) disagrees with Ricord as to the involvement of the ovaries, unless peritonitis has occurred. His (Rémy's) opportunities for investigation at the Lourcine Hospital, in Paris, have formed the foundation for some excellent observations upon the disease. He mentions the curious fact (Rémy, "Gaz. méd. de Paris," 1879, p. 55) that one often finds in the bodies of prostitutes the tubes swollen in some places, and their canal obliterated in others, displaced and adherent to the posterior surface of the uterus. He had observed three such cases, and quotes Morgagni, Walter, and Bernutz, who had made similar observations. The same author, with Hennig (*loc. cit.*) and Noeggerath ("Latent Gonorrhœa," etc.), dwells upon the inflammation which the disease produces in the body of the uterus. Hennig details several fatal cases from the involvement of the body of the uterus and the tubes. Noeggerath concludes that when latent gonorrhœa passes into the apparent state it is manifested by acute recurrent perimetritis or oophoritis, or as a catarrh of certain sections of the genital organs.

In addition to the local and constitutional disturbances which are produced in varying intensity by this disease, its great importance is to be seen in the disturbance of two most important functions or processes, menstruation and reproduction. The former is attended with great pain, which may continue, according to Parent-Duchatelet (quoted by Rémy, *loc. cit.*), after the vaginal trouble has disappeared. This is especially the case with prostitutes, and the *colic of prostitutes* (colica scortorum, Hurenkolik) is often susceptible of this explanation. Metrorrhagia, or menorrhagia, has also been observed in connection with it. Noeggerath's paper, already quoted, was largely occupied in demonstrating the sterility which was caused by this disease. He concludes that ninety per cent. of sterile married women have husbands who have suffered, at some time in their life, with gonorrhœa. It was this extreme statement, doubtless, more than any other in his paper, which caused its unfavorable reception and criticism by the profession. Such a revolutionary proposition can not be based upon the experience of any one man, however large his experience or keen his reasoning faculties. Mercier showed that the condition of the uterus was such, when invaded by gonorrhœal inflammation, that sterility became a necessary consequence. Gallard thinks that the disease is frequently the cause of abortion. How and why sterility and abortion attend it can not now be discussed. I would respectfully refer to the authors mentioned for their arguments upon the subject, and also to Fritsch (*op. cit.*) for the opposite view of the case. In addition to the complications already mentioned, I find one author (J. Morris, "Va. Med. Monthly," v, p. 373, "Gonorrhœa in Women") who mentions the occurrence of gonorrhœal rheumatism, but he mentions no cases which he has observed. The exceedingly harmful effect of the gonorrhœal poison upon the eyes is sufficiently well-known, as well as the fact that the pus of gonorrhœal ophthalmia contains a micrococcus which is identical with that which is obtained from the gonorrhœal discharges of the vagina. (This fact was also mentioned earlier in this paper.)

In view of what has been said, it could hardly be expected that anything exact or definite could be stated in regard to the prognosis in this disease. Those who, like Fritsch, consider it a mild affection, look with apparent contempt upon the severe views of Noeggerath and his followers, who see in it an incurable and often fatal one. The true position upon this question is doubtless in the mean. Gonorrhœa in a woman may be slight, the subject of it may offer successful resistance, in which case proper treatment may cure it in a few days. On the other hand, with individuals who possess opposite characteristics to those which have been mentioned, the most energetic and wise treatment may fail, at least for a long time, in eradicating it. Of this I am convinced, from observation and reflection, namely, that the disease does not run any specified course, and can not be said to be limited to any particular period of duration. It would, therefore, seem to me ill-advised to say, with certain standard authors upon gonorrhœa in men, that a mistake in diagnosis must have been made if it should appear to be cured within a very brief period. Before proceeding to the question of treatment, which is altogether the most important part of the subject, it may be proper to say a word in

regard to the so-called *infantile leucorrhœa*, which Otis considers identical with gonorrhœa. The phrase is a mistaken and misleading one, for it evidently refers to a genital discharge of a purulent or semi-purulent character during any period of childhood. As used by the author in question (Otis, *op. cit.*, p. 264), the fact is either overlooked, or else not brought prominently forward, that children may have true gonorrhœa, as it is seen in adults, by sleeping with infected parents or friends, and sometimes, alas! by sexual contact. Vogel ("Lehrbuch der Kinderkr.," 1880, p. 428) believes that it not infrequently comes or may come from the latter source, though the child may persistently deny any knowledge as to its origin. The following case will illustrate the most palpable features of the disease:

Case IV.—Leah J., eight years of age, came to the clinic in September, 1883, with a purulent discharge from the genital region, excoriation of the surrounding integument, and frequent and painful urination. She slept with her mother, who had been for some weeks under treatment for a condition which was thought to be gonorrhœa, but concerning which the chain of evidence was not complete. No history of sexual contact could be obtained from the child or her mother. She was dosed upon the supposition that the difficulty originated in the rectum or some other portion of the alimentary canal, but no change in the objectionable phenomena resulted. Rigid treatment was then adopted upon the vulva, then upon the urethra and bladder, and finally upon the vagina (through a small, central normal opening in the hymen). The difficulty has disappeared from time to time, and as often recurs. The means which have been adopted have been various, and both the parasitic and non-parasitic theories of treatment have been tried.

The conclusions which I have reached upon this subject are that leucorrhœa and gonorrhœa in children are separate conditions, and that females of all ages are susceptible to both.

As to treatment, *non unum, sed multa* may be said both as to the theories and as to the means which may be employed. First in importance is rest; that is, freedom from care and labor and an abundance of sleep; and, in view of the serious significance which may attach to the disease, the successful physician will be the one who can treat his cases in a well-appointed hospital, or, if at home, in such a one as can furnish intelligent assistance. Dr. Emmet long ago laid down the *dictum* that success in gynæcology meant attention to details, and this is eminently true in respect to the treatment of gonorrhœa. The same rules in regard to diet which are so necessary in the treatment of gonorrhœa in men are equally applicable in the treatment of its counterpart in the female—namely, that it should be light and unirritating, with special reference to the obviation of that bane of womankind — constipation. Plenty of water should be drank, including alkalines, if the bladder or urethra is involved. The therapeutic agent upon which I would place the greatest reliance is heat, in the form of vaginal douches (or dry heat, if it were practicable), *properly given*. If improperly given, they will produce little else but annoyance, and, unfortunately, that is the way in which they are too frequently given. One can not be too specific upon a point of such great importance. Two or three times a day, not oftener (I do not agree with Dr. Emmet in his belief that a constant [i. e., for hours at a time] current of hot water will relieve pelvic inflammation more effectually than an interrupted one; some regard must be paid to the *tone* of the vaginal and contiguous tissues; a water-logged condition is not desirable), the patient should lie upon her back, a nozzle of sufficient length should be introduced into the posterior *fornix vaginæ*, and for ten minutes the vagina should be filled with water as hot as can be borne. I believe it is immaterial whether the principle of the fountain-syringe or that of the Davidson (i. e., a continuous current on the one hand, or an interrupted one on the other) be used, the two main ends to be attained being dilatation and astringency. Of other astringent agents there is a long list to choose from. Almost every writer upon this disease recommends nitrate of silver. Bumstead and Taylor (*op. cit.*, ed. 1883) advise the use of the solid stick, which is to be carried into the canal of the body of the uterus in cases in which that organ is involved. It is also stated that no harm will result if a portion of it be allowed to remain there. I would respectfully submit that such heroic use of this valuable agent does not now meet with the favor which it had a generation ago, particularly among British gynæcologists. I have many times used a sixty-grains-to-the-ounce solution, and often with very satisfying results. With the weak solutions no apparent effect is produced, and this is in striking contrast with the effect of weak solutions in gonorrhœa in men. I have seen the strong solution used by a distinguished authority in the acute stage of a case of undoubted gonorrhœa in which the cervix was mainly involved, and have used it in that stage myself with excellent effect. The most recent utterances upon this question (the use of nitrate of silver) are reported in the "American Journal of Obstetrics" for April, 1884 (*q. v.*), from the transactions of the German Gynæcological Society, in which Fränkel and others have found its use less effective than that of solutions of corrosive sublimate. The strong tincture of iodine may be mentioned as a very useful local application, but its excellent properties are too well known by gynæcologists to require further mention. The fluid extract of eucalyptus upon a vaginal tampon is alike grateful to the patient and astringent and antiseptic in its action. Atthill recommends local (vaginal) bleeding, and the use of glycerin. Rémy, at the Lourcine, used tampons of alum cotton and applications of chloral. He is frank enough to say that many patients returned repeatedly, or went away uncured. Zeissl recommends injections of permanganate of potassium in the proportion of two centigrammes to one hundred grammes of water. Diday has followed Zeissl's directions, and has even increased the quantity of the potash salt to twenty centigrammes. He did not obtain the positive results which were anticipated. Vidal recommends gurjun balsam as a vaginal application. With it he has often cured cases in three or four days, but in other cases it was ineffective. Injections and applications of carbolic-acid solutions of varying strengths, of boric and salicylic acids, may be added to those already mentioned, all of which have found more or less enthusiastic advocates. To those who accept unreservedly the parasitic theory of gonorrhœa, the treatment *par excellence* consists in vaginal injections of a 1-to-2,000 solution of the bichloride of mer-

cury. Among such may be numbered Eschbaum, Leistikow, and others. In Keyser's experience it cured the discharge, in some cases, in forty-eight hours. I have used the solution in that strength, and also in the 1-to-1,000 ratio, the method of application being as follows: If there is a discharge from the cervical canal, I introduce some of the bichloride solution, or of the strong tincture of iodine, into it upon an applicator, the absorbent cotton which is wound around it being charged to saturation. The vagina is then carefully tamponed, either with wicking (after Dr. Frank Foster's method), or with pledgets of *non-absorbent* cotton, also charged to saturation with the bichloride solution. The non-absorbent cotton is far better than the absorbent, as the latter becomes too heavy and hard to be worn with comfort. After twenty-four hours the tampon should be removed, and for the next twenty-four hours reliance should be placed upon the vaginal douches of hot water, which may be plain, or may contain the bichloride in the strength of 1 to 1,000. Then the tampon is to be repeated. With my present light upon the subject, I do not favor the use of the tampon oftener than three times a week. The use of bichloride injections *by patients* has not proved so satisfactory in my experience as I had hoped. I can recall several cases in which the patients realized and admitted their condition, and were very anxious to be cured, but, in spite of as careful instructions as could be given, the diseased conditions were not controlled. Solutions of salts of iron, lead, zinc, and copper may be added to the foregoing list of astringent applications, and will be found useful in appropriate cases. In regard to internal medication, I have seen no very brilliant results. I have given the mixture of cubebs and copaiba known in this city as *Lafayette mixture*, both when the urethra was involved and when it was not, and patients have remarked that they felt better while using it, but no positive and permanent result from its use has, as yet, occurred to me. Chouppe speaks highly of gurjun balsam internally for cases in which the urethra is involved (Chouppe, "Gaz. hebdom.," 2me s., 1879, p. 662).

Some of the conclusions which may reasonably be deduced from the foregoing review of this subject are the following:

1. Gonorrhœa in the female deserves more thorough investigation than it has yet received, especially in the light of recently established facts.

2. The diagnosis of the disease, with improved methods of investigation, chief among which are Sims's speculum and the microscope, is not so difficult as it has hitherto been considered, even in the absence of direct information of actual exposure to gonorrhœal infection.

3. There is a difference between the characteristic discharge of true gonorrhœa, as to both its nature and its effects, and other mucoid discharges from the female genital tract. As a corollary to the foregoing statement, while investigators differ as to the significance of the micrococcus of gonorrhœa, its constant presence in the discharges is not denied.

4. Gonorrhœa in the female is identical with gonorrhœa in the male. The fact of individual peculiarities and susceptibilities is not questioned.

5. A series of careful investigations upon well-defined cases, in a hospital or other place in which the changes and developments can be accurately noted, is desirable. No line of treatment can be recommended as unfailing and entirely satisfactory until the results of such investigations are known.

NOTE.—Since the foregoing was written, an article by E. Bumm has appeared in the "Archiv für Gynaekologie," Band xxxiii, Heft 3, entitled "Contribution to the Subject of Gonorrhœa of the Female Genital Organs" ("Beitrag zur Kenntniss der Gonorrhoe der weiblichen Genitalien"). This article is important as a recent confirmation, after careful study and experimentation, of the doctrine that gonorrhœa is a bacterial disease. Neisser and Bockhart's investigations (to which allusion is made in the foregoing) are emphasized, and the pathology of the disease, from the germ-theory standpoint, is developed in a very interesting manner. As to the clinical features, no different opinions are expressed in that article from those which I have endeavored to set forth in mine.

38 WEST THIRTY-SIXTH STREET.

A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.

BY CHARLES A. LEALE, M. D.,
PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

(*Continued from page 8.*)

Does Cholera attack a Person suffering from other Diseases?—I have never seen Asiatic cholera attack a person in the confirmed stages of either cancer or tubercular consumption. I have never known a chronic epileptic to get cholera, nor have I ever seen it simultaneously occur with any of the acute infectious diseases.

The use of tobacco does not appear, as some have asserted, to predispose a person to an attack of cholera. A good rule to observe during any epidemic: Let him who chews and smokes tobacco, and also takes spirits, *temperately*, continue in his usual way, simply avoiding excess.

To the student of medicine, before the working of our Metropolitan Health Board, few places offered greater advantages than New York to observe the course of an epidemic. Immediately after our great civil war the island was inundated with several hundreds of thousands of recent arrivals from all parts of the United States and Europe seeking to establish a new home.

Swallowing of the Cholera Bacilli by Animals and Birds.—During the epidemic of Asiatic cholera in the year 1866, in New York city, I had abundant opportunities to observe that cholera did not affect dogs, cats, goats, pigs, cows, chickens, geese, pigeons, and singing-birds in cages, after they had swallowed water and food containing the dejections from human beings vomiting and purging while in the most malignant stage of cholera. It was no uncommon sight to see a goat, dog, or chicken walk into the room of a shanty where lay on the floor the victim of Asiatic cholera, and, before opportunity occurred for some one to drive the intruder away, witness it eat from the floor where it had been accustomed to pick up nourishment, and again do the same, and quickly swallow articles covered with the

recent discharges and vomit of a patient in the different stages of cholera.

I have subsequently looked to see if any ill effects were thereby produced, as I knew the milk from these goats and cows, the eggs and flesh of the chickens, geese, and pigs to be used as articles of diet. Yet in no instance did I observe any bad effect, although I watched closely for many subsequent weeks, and the following summer, the result of my observation being that the bacillus of Asiatic cholera only found a fertile soil in the alimentary canal of human beings, confirming the opinion that Asiatic cholera is due to a special poison which can alone produce the disease.

It is estimated that during the years of our last war the United States army had in the field an aggregate of 2,335,942 men; or that the mean strength of the armies was about 783,906 men. These troops were in camp, constantly exposed to all the vicissitudes of the campaigns, or were in hospital, where, in spite of the lavish precautions which were adopted, not infrequently all the disadvantages of over-crowding and deficient food were present. Vast numbers of men were transported to and from the scene of active operations upon steam transports. A very small percentage of the troops were in permanent fortifications. Vast prison-pens were formed, in which over-crowding, bad ventilation, indifferent police, and unsuitable food were present to co-operate with local malarial influences upon the unfortunate prisoners.

The record of the medical history of the war demonstrates that there occurred in the army of the United States, of diseases of malarial origin, 1,468,410 cases, with 46,310 deaths; of intestinal diseases, 1,765,501 cases, with 44,863 deaths.

At the close of the war I was placed on duty as Acting Surgeon-in-Chief of the Northern Defenses of Washington, with a circuit of about twenty miles to inspect once weekly—each of the fortifications, hospitals, barracks, and other army quarters. During the autumn and early winter of 1866 I performed regularly this duty, which necessitated close contact with several old hospital buildings and barracks that had been continuously crowded by the sick and wounded during the preceding four years. I was placed on this duty at a season of the year when the prevailing miasmatic fevers were known to be the most fatal, and nothing, probably, could have rendered the usual endemic influences more intense than the tearing down of old hospital buildings, furniture and bedding saturated with hospital gangrene and all known septic poisons, to the frequently recurring heavy rains and subsequent direct exposure to the sun's rays. Yet even here no sign of malignant cholera appeared, but we did have that low form of typho-malarial or septic fever.

On the 14th of March, 1864, I admitted to my ward, No. 1 Post Hospital, United States Army General Hospital, Elmira, New York, Benajah Wilmot, aged seventeen years, who in eight days died from the effects of a very severe attack of epidemic cerebro-spinal meningitis. I was then directed by the post surgeon to investigate the cause of the disease, and to inspect the barracks from which Wilmot was removed, and found nearly one thousand new recruits had been lodged in a warehouse near the city, where the hurried temporary arrangements prevented the usual sanitary precautions. I was also temporarily on duty in the prisoners' camp, in which ten thousand sick and dejected Southerners were kept. Subsequently had charge of the wards containing all the cases of hospital gangrene, and in 1865, while on duty in Washington, saw large numbers of cases of typhoid and malarial fevers, and treated many of the returning sick soldiers from the Andersonville and Libby prisons. I examined many of our soldiers for their final discharge from the army. Yet in no instance did I see one with Asiatic cholera, or during an extensive practice in New York city for nineteen years, except during the epidemic of 1866.

Prevention of Cholera in America.—The forcible language used by Dr. L. A. Sayre, in opening the discussion at the American Medical Association, May 4, 1866, is as valuable to-day as when spoken.

Dr. Sayre thought that the Government was responsible for permitting the disease to get into the land. A rigid, proper quarantine, universally adopted by the general Government, in combination with the British Provinces, would, in his opinion, prevent it.

In the report to Parliament of Mr. John Simon, the chief medical officer of the English Privy Council, Mr. Simon says: "Practically, the business of resisting cholera on any large scale resolves itself into aims of prevention, and, in contrast with the powerlessness of curative medicine, the preventive power which we possess is among the happiest possessions of science. . . . That which for public use in this country I believe to be without a shadow of doubt, now as for long past years, the all-important principle of cholera prevention, is the principle that, for us, cholera derives all epidemic destructiveness from filth, and especially from excremental uncleanliness." *

Adjuncts to Quarantine.—Dr. Marsden, † of Quebec, urges the necessity of guarding against any communication between the infected and the well, and that equanimity, cleanliness, and temperance were three great adjuncts to quarantine.

Inspector-General Dr. A. Fauvel, ‡ of Paris, believes "that, when cholera was imported from the East, no measures could stay the invading march of the epidemic where conditions favorable to its development were found. Hence the uselessness of such measures as *cordons sanitaires* between several European States. But still it had been recognized in France that it was necessary to make an exception with regard to maritime relations between the infected and healthy countries, especially where these countries were wide apart, for experience had taught that an infected ship could import cholera into a port situated at a distance, as would forbid importation by land. Thus, when, in 1873, infected vessels imported cholera from Naples into the Lazaret at Marseilles, the town remained unaffected, although communication by land with Italy was entirely free."

Regions where the soil is polluted and well-known miasmatic places—as, for instance, the delta of the Mississippi

* "Annual Report of Met. Board of Health," 1866, p. 280.

† "Transac. Amer. Med. Assoc.," 1866.

‡ "Transactions of the London International Congress," vol. iv.

River—do not originate cholera, and literature fails to give a single instance of an epidemic of malignant cholera ever having originated *de novo* in America.

"In the early spring of 1861 the American civil war was inaugurated, and the United States hurriedly converted into a vast military encampment. In all the cities that had been favorite haunts of cholera in former years, from the Penobscot to the Rio Grande, and from the Missouri to the Atlantic Ocean, troops were collected, and vast armies were concentrated in the worst malarial regions of the United States, the valleys of the Potomac, Ohio, and Mississippi Rivers. In the very region where it is maintained that every epidemic of Asiatic cholera that has visited the United States from 1832 to 1873 originated '*de novo*,' these immense bodies of men were congregated, and the exceeding mortalities occurred. Yet, during all those years of bloodshed and suffering, not one case of epidemic cholera occurred. Why? Because there was none of the specific poison of cholera, which is alone cholera, from which the disease might be produced."* These conditions of soil pollution with the nervous and physical depression, always present among our troops, would have made a very fertile soil for the spread of cholera had it been transplanted there. The history of an epidemic of cholera in Russia fully demonstrates this, as there they had the culture medium ready when the germs of the disease were left. Dr. Pettenkofer† tells us "that the ground water is the most constant and essential of all the physical agencies that promote the propagation of cholera, after the germs of infection have been introduced."

The sanitary engineer can do much to render the inhabitants healthy, and great care must be observed in the healthfulness of homes. Abundant observations in New York city convince us that to breathe deleterious air during sleeping hours, or during periods of inactivity, are most dangerous. Some time ago, while driving up the avenue, I saw a man emerging from one of the sewer man-holes. I went to him and asked how long he had worked in the sewers. He responded, Over twenty years; that nearly every day of the year he had to go and inspect some part, and, of course, oftentimes in the most disgusting part of the city. Yet he appeared perfectly well, and said that he never knew what sickness was. This man lived in a healthful home, and slept in a well-ventilated room.

Another case, directly the opposite: A man, while away from his home, did everything possible to promote his comfort and health; bought an expensive old house in this city, and wished to have the cellar improved. He superintended the workmen; they were kept at hard work while he sat on a chair to watch them; they opened a defective drain, which emitted a very offensive smell; he sickened, and in a few minutes was in convulsions from which he never recovered; the workmen escaped without apparently receiving any bad results. This occurred at the time that Dr. Austin Flint was investigating the theory that pneumonia was an acute infectious disease. Dr. Flint kindly saw this patient with me a few moments before his death.

Dr. F. A. Burrall,* in studying the spread of cholera, states that "the general testimony as to the chosen haunts of cholera is quite unanimous. It is in low, dark, damp, overcrowded dwellings, and among the ill-fed, badly clothed, filthy, and dissipated, that this disease makes the greatest ravages."

One of the most valuable contributions made to the science of medicine in America was by Dr. Henry I. Bowditch, of Boston, which was originally communicated in a letter by Dr. Bowditch, sent to the secretary of the International Medical Congress, Paris, 1867:†

"1. That phthisis is very unequally distributed in New England.

"2. That there are some places which enjoy a very great exemption, if not quite as much exemption, from its ravages as any portion of the globe can claim.

"3. That there are some spots, nay, even particular houses, which are frightfully subject to it.

"4. That there is a cause governing this unequal distribution of the disease; a law not recognized before my investigation, and still practically ignored by the majority of human beings, which, however, is one of the main causes, if not the sole cause, of this *unequal* distribution in New England, and possibly elsewhere.

"5. That this cause is intimately connected with and dependent on moisture of the soil on or near which stand the towns, villages, or houses in which consumption prevails.

"That this law of soil-moisture is a cause of consumption certainly in New England, and possibly in other parts of the globe, is proved, in the paper herewith presented, by the following data."

These observations of Dr. Bowditch's are the result of years of close study and tabulated statistics, yet they were communicated to the French International Congress, and did not even receive a passing notice. We who have confirmed his conclusions can truly testify that they ought to be engraved *on* the memories of all members of our profession.

I can bring forward scores of illustrations in this and in our neighboring States where families of the highest intelligence, the greatest culture, and with abundant means, have, in consequence of unhealthful dwellings, been completely swept out of existence. It has been a fact, receiving careful consideration, that there are many places in this country where Asiatic cholera has never appeared, notwithstanding that, in all the surrounding country, deaths have occurred during every epidemic visitation of cholera to this continent. Why are these places thus exempt?

Sanitary science alone can answer.

Cholera does not spread in Healthy Houses.—Dr. John C. Peters tells us that in the 4,203 affected houses in the

* Part II, "A History of the Travels of Asiatic Cholera in North America." Ely McClellan, M. D., United States Army, in the work on "Cholera Epidemic of 1873 in the United States." Washington: Government Printing Office, 1875. p. 659.

† "Met. Board of Health Report," 1866, p. 277.

* Burrall on "Cholera."

† "Consumption in New England and Elsewhere, or Soil Moisture one of its Chief Causes," by Henry I. Bowditch, President of the Suffolk District Medical Society, Professor of Clinical Medicine in Harvard University, Member of the Society of Medical Observation at Paris.

Berlin epidemics of 1866 and 1873, as many as 2,277 had only one case, proving that cholera has but little inclination to spread in more than half of all the attacks. There were 2 cases in 895 houses, showing that the tendency to produce two cases is less than twice as small as to induce one case.

On the 14th of August, 1866, Dr. Howard, residing at 263 West Fifty-fourth Street, sent for me in great haste in consequence of a violent attack of vomiting, purging, and severe cramps in the extremities, which was recognized as an attack of Asiatic cholera, as he had been exposed to the disease. I gave him a tablespoonful of powdered mustard, mixed with two quarts of warm water and a teaspoonful of common kitchen salt. This he drank, a pint at a time, and soon vomited. After taking the four draughts, I gave a teaspoonful of a mixture composed of tincture of opium, spirits of camphor, chloroform, and tincture of cardamom every half-hour; applied a large mustard poultice over the entire abdomen, had him placed comfortably in bed, with bottles of hot water to his feet, and perfect quiet enjoined. His dejections were immediately disinfected and thrown down the sewer, and his diet was restricted to the smallest amount necessary to sustain life. In three days he was convalescent, and no other case occurred in the house.

Dr. F. de Chaumont,* Netley, states that the sanitary department in India is in the hands of men who disbelieve in personal communication, or communication through water, of cholera. He, however, thinks that it is "impossible to look at the experience of India itself without coming to the conclusion that the communicability of cholera through water is possible."

Atmospheric changes and causes, by some, have been stated to produce cholera. We can well ask the question, Have not the opinions been conceived after taking a result for a cause? for we know that the air is rendered very foul where cholera patients are; the frequent vomitings and purgings easily explain this.

Dr. George M. Sternberg, U. S. A., in his report on epidemic cholera at Fort Harker, Kansas, during the summer of 1867, gives us a graphic account of the peculiar change of the atmosphere preceding the outbreak of the disease; that the air there is usually so pure and dry that a piece of meat, cut thin, will dry when hung in the air without becoming tainted, but the reverse was the case that year; that there had been an unusual number of flies and mosquitoes, houses being infected with a large fly which differed from the common house-fly; that during the prevalence of the epidemic the nights were cool; more occurred during the coldest nights than at any other time, and that after a thunder-storm the number of cases decreased in a marked degree.†

The presence of a great abundance of flies, I think may be explained as readily as the spread of epidemics. The flies, having a most prolific soil on which to propagate, increase with wonderful rapidity in a few hours. Any one who has watched the making of cider from apples in this country has seen flies increased by thousands in a few hours.

A telegram, August 5, 1884, stated that on August 4th the atmosphere was so impure in Marseilles that the swallows which migrated at the outbreak of the pestilence had not yet returned, and that there were no sparrows at all in the city. This migration of birds had made a deep impression upon the public mind, and had led to a demand for a purification.

I think the migration of birds from an infected district where cholera exists is to be explained, not on account of the presence of a diseased atmosphere, but rather to the abundance of poisonous disinfecting gases generated in the cholera districts, and to the numerous bonfires, filling the air with smoke, thereby rendering the air unfit for the birds to breathe.

In regard to the abundance of flies found in infected houses, I believe that they are acting a beneficial part much more as scavengers than as the means of spreading the disease. But, for caution, I would refrain from eating anything that possibly could have been contaminated by their polluted bodies or feet. Caution here would be the better part of valor.

I firmly believe in the absolute necessity of a rigid quarantine as the only method to prevent cholera in America, and that the entire profession ought to exert its widespread influence to aid public officials in the discharge of their duties.

Long Detention at Quarantine is not necessary.—Much complaint has been made against officers of quarantine for long delays; but experience has taught that even an infected vessel may be rendered safe, and that the clothing of those suspected from diseased places may also be reasonably freed from all sources of danger in a few minutes. The old theory of the necessity of one or more weeks' detention in quarantine is a notion long ago exploded by the aid of modern chemistry. In no instance has this been more fully demonstrated than when Dr. R. Ogden Doremus, in a few hours, so completely purified an old infected hospital, and on the following day Dr. James R. Wood commenced a series of observations after primary operations by the open method, with as good results as have ever been attained by any surgeon.

Dr. John S. Billings,* Surgeon U. S. Army, in his paper on "The Experience of the United States in Recent Years with regard to Asiatic Cholera," states that "the most important means of preventing cholera in the United States are:

"1. Those which tend to restrict its spread in or from India.

"2. Those which might be employed at those European ports from which emigration to America chiefly occurs.

"3. Proper systems of quarantine at American ports, which should include among other things the thorough aeration, cleansing, and disinfection of all probable fomites."

Dr. H. W. Acland,† of Oxford, states that "each country is able to know with precision the existence of a disease,

* "Transactions of the London International Congress," vol. iv.

† *Ibid.*

† "Circular No. 1, War Department, Surgeon-General's Office," Washington, June 10, 1868.

and each country ought to be able to find, as far as science permits, the local causes of this disease, and second the best means of prophylaxis. But the cause and the prophylaxis may vary in different countries, and also, as in France and the United States, in the borders of the same country."

Surgeon-General Dr. John Murray,* of London, says that "now we know, from actual experience in India, that absolute protection is unattainable; but we also know that relative exemption has been secured by restrictive measures in the military stations and jails of India."

The danger to America of immigrants from infected ports, and the possibility of carrying germs of the disease in their unpacked clothing, probably never were more forcibly illustrated than in the following account given by Dr. Atlee, and is similar in many respects to that related by Dr. Alonzo Clark, where immigrants carried the disease to the far West in their clothing:

"Dr. Atlee, of Lancaster, Pa., records that a car-load of emigrants came from Philadelphia to Columbia, Pa. Two or three of these emigrants, who were ill of cholera, were put out on the platform at the railroad station. Some gentlemen, seeing them at the point of death, carried them to a shed and waited upon them. In forty-eight hours the emigrants and these gentlemen were dead, and the disease spread in the town." "Cholera Epidemic in 1873 in the United States," p. 637.

State Medicine and Epidemics.—The epidemic of Asiatic cholera in New York city in the year 1866 taught us one of the most important laws in State medicine, and most fortunate for our city and country at large was it that our Metropolitan Board of Health then had as its sanitary superintendent a gentleman so eminently qualified to fulfill his part. I refer to the late Colonel Edward Barry Dalton, M. D., United States Volunteers. Dr. Dalton, as many of us had received almost a death-warrant while serving our country in the fever-camps and pestilential hospitals of our army, had returned to New York city with vast executive experience, knowledge of hygiene, and military discipline, and organized the Board of Health when it was established under the new city charter.

I soon became familiar with the good results of Dr. Dalton's work, as, immediately on recognizing the disease, I personally resorted to disinfections and sulphur fumigations, and by these means only one case occurred under my observation at Fifty-second Street and Fifth Avenue, one at Fifty-eighth Street and Fifth Avenue, one at Seventieth Street and Bloomingdale Road, one at West Fifty-fourth Street, and one at West Fiftieth Street; but there was one locality where it really appeared to be indigenous—at the Crow houses on West Fifty-second Street. Here it recurred and recurred, notwithstanding my efforts to eradicate it, and battling day after day with new cases, being fresh outbreaks of the disease. I appealed to the Board of Health for a more thorough fumigation, or, if necessary, destruction of the premises by fire. Dr. Dalton, with his ambulance and trained assistants, quickly responded. I met him at the house, exhausted from overwork with the cholera patients.

* "Transactions of the London International Congress," vol. iv.

Dr. Dalton, with absolute official power, such as he so well knew how to exert, assumed control of the infected house, and soon generated immense volumes of chlorine gas, and burned all articles that he thought suspicious. He remained there personally to superintend the work, and so thoroughly did he accomplish his task that, although I could trace at least nineteen cases as having originated at this location, yet not a single case followed.

I then considered this such a triumph of the sanitary powers of chemistry, only equaled by the results obtained by Dr. R. Ogden Doremus on a cholera-ship and at Bellevue Hospital in stamping out zymotic diseases, that I made a full report of the same, and forwarded it, in August, 1866, to the Registrar of the Metropolitan Board of Health. For the great service Dr. Dalton rendered to New York city in 1866 his name deserves to be perpetually honored.

Illustrations that Cholera may affect those Guests of a House where Dysentery prevailed and not attack a Single Member of a Large Family.—The family lived on the principal avenue of a city through which the dead were daily transported to the cemetery. The scene was at the residence of my relations, and occurred during the epidemic of Asiatic cholera in 1854. The eldest son lay with gangrene of the bowels, following acute dysentery. He was nursed by his immediate relatives at the family mansion, a large stone, well-ventilated building, situated about one hundred and fifty feet from the avenue through which several victims of cholera were daily carried to the cemetery. Three adult visiting relatives took cholera at this house; the first was in collapse for two days, was unconscious for over a week, but convalesced; the second, her husband, while at the dining-table, complained of not feeling well, got up and attempted to walk away, but, before going one hundred feet to another part of the house, on the same floor, he fell against a window, falling partly through the glass, in a few moments was insensible, and, before the end of twenty-four hours, was dead.

The third, the grandmother, aged seventy years, came to visit the sick ones, remained only a short time, then returned to her home, a distance of fifteen miles. She had no sooner reached home than symptoms of malignant cholera appeared, and within forty-eight hours she was dead.

The immediate family, consisting of father, mother, six children, and servants, ate all their meals in this house, and slept there every night, yet not one of these ever became affected with cholera.

(*To be continued.*)

THE GALVANO-CAUTERY,

COMPARED WITH OTHER MEANS OF DESTROYING THE MUCOUS MEMBRANE OF THE NASAL AND PHARYNGEAL CAVITIES.*

By E. L. SHURLY, M. D.,
DETROIT, MICH.

THE aim of the following remarks is to call attention, first, to the conditions necessitating the employment of the galvano-cautery, or agents of similar nature; second, the

* Read before the American Laryngological Association, May 14, 1884.

value of this agent compared with others of its class; and, third, its intelligent application.

First, then, cases of nasal, naso-pharyngeal, and pharyngeal disease exhibiting hypertrophy of the mucous membrane, hyperplasia of the glandular tissue, neoplasms, or ulceration, require for successful local treatment the application of *some* destructive agent, either mechanical or chemical. This proposition is so generally conceded that no argument is needed. But, inasmuch as our fallibility and enthusiasm often conspire to defeat good judgment—thus leading to erroneous conclusions and acts—let us stop for a moment's reflection. Aside from the function of olfaction, the nasal passages are certainly a part of the respiratory apparatus—in fact, the vestibule of this apparatus. These bony canals are lined with tissues of special anatomical construction—in short, at the anterior part, very like the erectile tissues of other parts of the body. The physiological purpose is plain; no other arrangement could be so well adapted for warming the inspiratory current of air, and straining from it deleterious material. Yet I fear we often lose sight of this in our eagerness to find and relieve nasal stenosis. In the cold, damp atmosphere of our northern climate I can conceive of no reason why the nasal mucous membrane should not be *well filled with blood*, to act as a heating apparatus for this cold air to pass over, that the more important and delicate respiratory organs below may be protected. Hence the important point arises, When ought we to destroy this tissue, or a part of it, and thus replace the normal with an inelastic, almost non-vascular, connective tissue? Certainly not always when it is to *our view* swollen. I believe, so far as this is concerned, that we should *positively* discover whether the mucous membrane is only temporarily swollen from extra conditions of the atmosphere, or an unhealthy condition of the economy, or whether there is a *permanent hypertrophy* (hyperplasia) transcending the physiological limits and producing a *veritable* stenosis of the nasal passages incompatible with the healthy performance of the respiratory function, etc. If the nasal passages are of sufficient amplitude, even a *moderate* hypertrophy is preferable to a too roomy space lined with atrophied mucous membrane and connective tissue, provided the subjective symptoms of extra discharge, cough, etc., are not prominent. But if, on the other hand, there is a real hypertrophy of the glandular or mucous structures, compromising the space too much, or, by pressure on contiguous parts, giving rise to other local or general disturbances, then there is no question as to the proper use of cauterizing agents. However, I think, in *all cases*, no more of the mucous membrane ought to be destroyed than is absolutely necessary, for the reason that *cicatricial tissue* in the nasal cavities or pharynx does not subserve the purposes of nature, and, indeed, may lead to that worse and more incurable condition—atrophy and chronic laryngitis.

I frankly confess to having committed this error—of destroying too much mucous membrane—in some cases; and have been chagrined to find, after a time of complete respite from local trouble on the part of the patient, a progressive chronic pharyngo-laryngitis taking place.

With regard to neoplasms, or growths, their speedy extirpation—mechanically if large, or with caustics if small—is, of course, the proper rule of practice. Likewise, ulcerations should be thoroughly cauterized for the conservation of neighboring tissues.

Coming to our second point, let us, if you please, arrange the destructive agents under consideration into three classes, viz.: mechanical, chemical, and electrical.

Among the first the knife and scissors need not detain us, inasmuch as they have been very generally discarded, owing to their inability to meet the ends sought for, excepting in a few special cases. The forceps for either the nasal or naso-pharyngeal cavities merits the objection, so often urged, of imposing great pain upon the patient, besides—what seems to me important—tearing and destroying unnecessarily a large amount of tissue, thereby promoting, possibly, the subsequent disorders already mentioned.

In the case of tumors even, I think the forceps ought not to be frequently used. Regarding that very useful instrument, the wire snare, in my hands it has been far preferable to anything else for the removal of polypi. But for the removal of exuberant mucous membrane it has not served me well, because it has always been my ill-fortune either to fail in snaring the part I desired to seize, or, what is worse, to take away much that I ought to have left; this has been my experience even in the treatment of hypertrophy of the mucous membrane of the posterior ends of the turbinated bones. I have used either the original Jarvis's snare or Dr. Bosworth's; and possibly these results have been from want of skillful manipulation rather than any defect of the method or instruments.

The great objection to chemical agents, speaking of them as a whole, seems to be that, when properly and cautiously used, they fail in destroying *enough* of the tissue, or, in other words, do not destroy deep enough unless too frequently and too persistently applied, when such a reactionary irritation is produced as to be positively baneful as well as unbearable. Of course, I am considering these in their general aspect. There are conditions of pharyngeal disease in which the local application of chemical caustics is preferable.

The last class, electrical, comprises only the galvano-cautery, which, it will be easily seen, is my preference for general use in the conditions under consideration. I have been using this agent more or less during the last eight years, and I believe have had ample opportunity for studying its good and ill effects, as well as the difficulties of its manipulation. It seems to me its great merit over the other means mentioned consists in the precision with which one can touch at will just the offending tissues, at the same time regulating, with tolerable exactness, the extent of destruction; this, then, with proper manipulation, reduces the chances of doing mischief to a minimum—a very great desideratum, provided some of the foregoing conclusions are correct. Besides this, as you have all undoubtedly observed, after cauterization by *this means* there is a reaction in the surrounding structures more nearly comporting with normal vitality than after the use of any other similar agent, while its painlessness, it may be added, allows of much more time to do the desired work carefully. The danger of its

use, so often urged, entirely vanishes when the proper instruments and ordinary skill in manipulation are brought into play.

In daily practice with the galvano-cautery there are not a few difficulties in the way, perhaps the principal of which is the trouble and care, as well as the uncertainty, of the batteries mostly in use; this, of course, is a serious objection, since a good steady stream of electricity, of strong electro-motive force, is absolutely necessary to obtain the proper result. I have used until lately the "Byrne battery," which has served tolerably well, excepting at times. I now use the common thermo-electric pile, similar to the one constructed by Dr. Cutter, which is immersed in a large glass cell when in action.

It consists of eight zinc and nine carbon plates, each seven by five inches, and bolted together. I have had attached to this a long-thread feed-screw, by which the elements can be immersed as gradually or as little as may be desired. Of course, this makes a very heavy and clumsy-looking instrument, but it has the advantages in its favor of being cheap, always ready with a very little trouble, and furnishing all the electro-motive power required.

In applying electrodes to the nasal passages from in front, I have found it much better to apply the *edge* to the mucous membrane, always commencing as far back as desired, and drawing steadily forward, thus making a line. If the broad surface is applied, there is danger of burning too much tissue on the surface with a strong stream, and with a weaker one of burning only the surface, which is of no use whatever, since the mucosa *must* be penetrated and the sub-mucosa cut in order to insure success.

When the naso-pharyngeal cavity is the subject of treatment, the soft palate should *always* be held forward for a cauterization of any considerable extent. In cases where such a rapid secretion of watery mucus is poured out as to cool the incandescent electrode before it can cut through the surface, a little pledget of absorbent cotton held for a moment or two upon the part will usually remedy the evil.

In the treatment of enlarged follicles of the pharynx I have found no application so efficient as the galvano-cautery.

In conclusion, I would again ask your attention to the following points, viz.: To injure or destroy as little of the mucous membrane as possible, and to be sure to cut through the surface as narrow a track as will suffice.

DISCUSSION.

Dr. Jarvis.—Out of justice to the method proposed by myself for the removal of hypertrophied tissue from these cavities some time ago—namely, the use of the needle and wire—I desire to make some remarks. So far from its being impossible to limit the amount of tissue to be removed by this means, I do not know of any other method by which the amount of tissue to be excised can be so accurately gauged. Only this morning I had an opportunity to demonstrate the utility of this plan in a case of hypertrophied tissue of the turbinated bone, and the removal, I believe, could not have been accomplished by any other method. The galvano-cautery certainly would not do it, and, from what I have witnessed of its effects in the hands of others, the amount of cicatricial contraction which it produces is much greater than that arising from the wire and needle. I have never seen cicatrization result from the use of the latter method in the anterior nares. I consider it of great importance, as pointed out by Dr. Shurly, that the amount of tissue to be removed should be definitely limited. I always make it a rule to leave as much of the turbinated tissue as possible, in order that the normal function of the membrane may be duly carried on.

Dr. Sajous.—I have used the snare a great deal, and have never yet had the so-called dry condition result. I have used the needle, and have found it also very serviceable, especially in those cases in which the hypertrophy of the anterior part of the nares is great, and in which the galvano-cautery can not produce a sufficiently well-marked effect without destroying too much surface. Not much pain attends the use of the needle, and it gives much better results than the cautery.

Dr. Roe.—In many respects I agree with Dr. Shurly concerning the galvano-cautery. It is an agent of great good in many cases, but I think it should also be used with great caution and in properly selected cases. In suitable cases no other method of treatment can take its place. For instance, in the treatment of hay fever the battery is the only means by which the desired result can be produced. It will relieve hyperæsthesia in cases in which there is no hypertrophy, simply by scarifying the tissues. The inflammation which follows its use produces exactly the desired result, while transfixion and removal of any hypertrophic tissue may not have the desired effect. In cases, however, in which there is hypertrophied tissue, I first remove it with the snare, and then employ the battery.

Dr. Shurly.—I believe I have confessed in my paper that my failure with the snare has not been so much the fault of the instrument as of a want of skill in its manipulation. I have tried its use, as Dr. Mackenzie has, in affections of the posterior end of the septum, and have found it unsuccessful. In skilled hands Jarvis's snare may be preferable, but I believe most of us can do better with the cautery in limiting the amount of tissue to be destroyed. Formerly when I used the snare I always destroyed more tissue than I desired, and I have therefore abandoned it, except in the cases of neoplasms to which reference has been made.

ARTHROPATHIA PROGRESSIVA.

By ALLAN McLANE HAMILTON, M. D.

It is my purpose to call attention to what I believe to be a new form of arthritic disease of nervous origin—a symmetrical arthropathy of a distinctly progressive nature, and of slow development. Irregularly distributed joint affections are not uncommon in connection with some forms of cerebral and spinal degeneration—with certain varieties of hemiplegia, with secondary degeneration of the crossed pyramidal columns, and with sclerosis of the posterior columns of the cord. In such instances we find that the knee or hip joint is the common seat of the trouble, and it is rare to discover that more than one articulation is involved to any decided degree.

I have never discovered anything like regularity in the invasion of the arthropathy, nor any special selection of joints, until I examined a patient, Mrs. T., who came to me at the request of Dr. Agar, of Middletown, N. Y.

The patient is a married woman, forty years old, who has had no children nor miscarriages. Her family history is good.

She has never had syphilis, and there is no history whatever of rheumatism, in the ordinary sense of the word. About fourteen months ago she first noticed that her ankles became swollen, the outside of the left ankle being puffed. This was unattended by much tenderness, but there were shooting or darting pains running up the leg. The swelling, which was apparently œdematous though hard, disappeared at the end of two months, leaving a slight prominence. About ten months ago her attention was directed to the stiffness of her two forefingers, accompanied by some swelling upon their palmar aspects, which was very great, and at the same time the joints became swollen. The little fingers were next implicated, and afterward the other fingers more or less. Latterly both thumbs have become involved and are now much swollen, especially upon their palmar aspects, and the œdema of the fingers has in most part subsided. Last winter the right shoulder joint became stiff and the seat of sharp pains. There is very slight soreness and tenderness of all the affected joints, which is slightly aggravated by movement.



She also has sharp pains in the biceps humeri of the left arm, and upon the outer sides of both forearms, in the left wrist, and under her left knee. There is no spinal pain and no plantar anæsthesia. Her gait is slightly ataxic, and she is clumsy in all her movements. There is a loss of muscular power—hardly a decided paresis—but the feebleness which belongs to myxœdema. She flexes her fingers only to a limited extent, and then only with great difficulty, and she has more control over the ring-finger than any of the others. Her condition is affected in no way by changes in temperature or errors in diet, and exercise does not materially increase the little pain she has. Her urine is free from albumin and casts, and does not show any excess of uric acid, sugar, or inorganic constituents. It is, as a rule, clear, and passed in large quantities. Her vision is quite decidedly impaired, and her accommodation is defective. There is some white atrophy of both optic nerves. The left pupil is slightly smaller than the right. Her tongue is large and flabby, but there is little thyroidal enlargement, no atrophy, no loss of hair, and no [illegible]. Heart normal. Speech unaffected. Left reflexes all exaggerated to some degree, especially the left ro[illegible]. Mental [illegible].

The cut, from a photograph, shows the deformity of her hands very clearly. It will be seen that the thumbs are the seats of a puffy swelling, which is general, while the enlargement of the other fingers is confined, as a rule, to the joints of the first phalanges. Her inability to flex her fingers is largely due to a mechanical difficulty, though, as I have said, there is some flexor weakness.

I do not think these symptoms can be confounded with those of any other disease—certainly not with *arthritis deformans*, a case of which somewhat resembling that of Mrs. T. was recently reported by Dr. Leonard Weber. There is here no history whatever of the rheumatic influence, but ample associated evidence of some profound disorder of the central nervous system. My experience has led me to look for arthropathies with degeneration, especially of the sensory tracts, and in the cerebral cases of the form first described by Allison, and afterward by Charcot, and a host of other observers, a history of pain is the rule. There can be no doubt of this connection in locomotor ataxia.

In Mrs. T.'s case we are furnished with four important symptoms of that somewhat rare disease known as myxœdema—the enlarged tongue, the pseudo-paresis, the pains, and the scleroderma—and the unilateral contraction of the pupil may be added. The history of so many negative symptoms, and the fact that the face was in no way affected, would do away with any possible misunderstanding.

Certain French writers, among them Arnozan,* speak of a limited œdema of nervous origin, and Mayet† has, in a case of fracture of the vertebræ, found an œdema limited to the exact regions which were anæsthetic.

According to Arnozan and others, the œdema begins suddenly with the arthropathies, and disappears gradually during their evolution, which was the case in my patient, and which I believe to be one of the points in the differentiation of those arthropathies which are of neurotic origin from others which are purely the local expression of the rheumatic condition.

THE "OPIUM PLAN" IN PUERPERAL PERITONITIS.

By HENRY J. GARRIGUES, A. M., M. D.,

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Dr. W. D. Schuyler, in his article "On the Prevention and Treatment of Puerperal Fever," the conclusion of which is found in this journal for November 8, 1884, has given my contributions on the same subject so much prominence, and treated my efforts to combat puerperal infection in so appreciative a way, that I might be expected to be the last one who should feel called upon to give utterance to any opinion opposed to his views. Nor would I do so if it were

* "Des lésions trophiques," Paris, 1880.

† "Gazette méd. de Lyon," 1868.

not a practical question of great importance in regard to which I differ with him.

So little have I wished to speak that I have waited to see if anybody else would take up the subject; but since nothing, so far as I have noticed, has been written against the remarks of Dr. Schuyler on the use of opiates, especially morphine, in puerperal fever, and since these remarks might prejudice others against the use of a drug which I take to be of the greatest value in the treatment of puerperal inflammations, I think I had better publish some of my observations on this subject.

Dr. Schuyler says that, during his service in Bellevue Hospital in 1870 and 1871, many cases of puerperal fever were treated upon the "opium plan," and always with the same result, *death of the patient from exhaustion* in a varying number of days.

I will not enter into any details about my use of opiates in the milder forms of puerperal inflammation, in which only moderate doses are called for. By the "opium plan" we understand the use of *enormous* doses of opium or morphine, as first recommended in this country, by Dr. Alonzo Clark, more than thirty years ago. This use of the drug is restricted to the treatment of general peritonitis. My experience in regard to this disease is somewhat limited, but, thanks to the introduction of strict antiseptic measures in midwifery, the disease has become so rare everywhere that, fortunately, none of us can expect to attain a very large personal experience in the treatment of this dangerous disease. I shall, furthermore, only consider a period from which I have full notes.

During my last term of service as visiting obstetrician in Maternity Hospital, before I introduced the use of the bichloride of mercury and the tight-fitting pad (see "Medical Record," December 29, 1883), there reigned a considerable mortality and a very large morbidity. During six months, in which one hundred and ninety-two women were delivered, or rather during four months, for all the cases occurred from December, 1882, till March, 1883, both inclusive, we had in all twelve cases of general peritonitis. One of these, in which peritonitis developed only as a terminal feature in the course of gangrenous erysipelas starting from a mammary abscess, does not concern us here. Of the remaining eleven, six ended in recovery.* To save more than half of the patients in so dangerous a disease as general puerperal peritonitis is not bad, and is, at all events, very different from Dr. Schuyler's experience, who saw his always die.

Now, my treatment of this kind of cases consists in three things: antiseptic injections, ice-bags, and opium.

At the beginning of the disease I wash out the uterus once thoroughly, in order to remove what septic material might yet be found there. At the time from which these cases are taken we used a two-per-cent. solution of carbolic acid. The intra-uterine injection is not repeated, in order not to disturb the patient; but, if there is any fœtid discharge, vaginal douches are used about every three hours, otherwise not.

* In the above-mentioned article in the "Record" I gave by mistake the figures as ten cases with seven deaths.

Two large, flat rubber ice-bags are placed on the abdomen, and kept well provided with ice. Although the weight of the ice is rather considerable, no inconvenience from that source is felt, on account of the stupefying effect of the opium. For a change, we have used the rubber-tubing coil, and been well pleased with it; but I have not found it answer better than the ice, and the apparatus is rather troublesome to put up, keep in order, and disinfect, besides the greater expense. In cases in which the opium plan is not followed, especially after operations, the small weight of the coil is a decided advantage over the ice-bag.

But the chief remedy I take to be opium. The preparation used was the old United States Pharmacopœia solution of morphine of one grain to the ounce. In the beginning, and occasionally during its course, a dose of Magendie's solution (two grains dissolved in a drachm) was given hypodermically by the doctor; but, as a rule, the drug was administered through the mouth by the nurse, in doses of one eighth or one fourth of a grain, at short intervals, and, of course, under the supervision of the house surgeon. I prefer the administration by the mouth, because the drug comes in more direct contact with the diseased parts; secondly, because I have seen the opening made by the hypodermic syringe become the starting-point of a fatal infection; and, thirdly, because the doctor can not be present so often as would be required if he should administer all the morphine himself, and nobody else ought ever to make a hypodermic injection. The morphine was given in such quantities as were necessary to keep the patient free from pain, and yet in such a condition that she could be easily roused, and that the respirations did not go below fourteen a minute. The depressing influence of the ice and the morphine was probably counteracted by the free use we made of whisky or brandy.

There are few therapeutical measures by the prescription of which I am so convinced of doing good to my patient as by following this plan in treating puerperal peritonitis. When I was a student this disease was treated with large doses of an aperient medicine, warm poultices, or a coating of collodion applied to the abdomen, to which were added insignificant doses of opium. The aspect of these poor women has impressed itself indelibly on my mind as something of the most horrible I have ever seen, They looked as if they were being tortured on the rack, and the only consolation was to know that they would soon succumb to the united attacks of the malady and the treatment. Young as we were, and not knowing that other remedies were resorted to in other places, it struck us as absolutely fatal to follow this treatment, so sure were we soon to see the patients removed from the wards to the dead-house. How different is it with the "opium plan"! The patient is free from pain, there is so little tenderness that the weight of ice-bags covering the whole abdomen is not felt, and the chances of recovery and death are in favor of the former.

As to diet, the patient receives only milk and beef-tea. The bowels are, as a rule, left undisturbed. From time to time there will be a spontaneous passage; otherwise an enema is given.

As an instance of the large amount of morphine tolerated, I will, in conclusion, briefly mention the chief features of one of the cases referred to above:

M. K., aged twenty-five, widow, born in Ireland, was delivered on December 31, 1882, the child presenting by the face. On January 7th she complained of slight pain and tenderness in the right iliac fossa, for which she was treated with an ice-bag and small doses of morphine. On the 10th general peritonitis developed, with a temperature of 104·5°, pulse 120, respiration 30. Ordered ice-bags to the abdomen—morphine and whisky. From January 10th till February 2d she was given 215⅝ grains of morphine, 227¾ ounces of whisky, 1,078 ounces of milk, 418 ounces of beef-tea, making an *average of nine grains of morphine*, nine ounces and a half of whisky, forty-five ounces of milk, seven ounces and a half of beef-tea in twenty-four hours. The greatest amount given in twenty-four hours was *thirteen grains and three fourths of morphine* (January 17th), twelve ounces and a half of whisky (January 22d), sixty-seven ounces and a half of milk (January 14), seventeen ounces of beef-tea (January 23d). From February 2d she was only given small amounts of morphine, and on February 7th all morphine and the ice-bags were discontinued.

From January 26th oat-meal gruel and crackers, thoroughly soaked in milk, were added to the diet. No solid food was given until February 1st.

During the disease the temperature reached 104° F.; the pulse was as frequent as 176 a minute, irregular, and intermittent; the respirations were kept between 14 and 20 a minute. A bed-sore developed over the sacrum, and there was repeatedly some bleeding from the nose.

As to the condition of the bowels, she had no movement between the 10th and the 25th of January, when she was given an enema of six ounces of soap-suds without effect. The next day ten ounces were injected, and followed by two liquid movements. On the following day there was a slight spontaneous discharge. On the 30th again an enema, followed by five movements and once vomiting. The following day there were six movements and once vomiting. On the following four days she had two or three spontaneous movements a day, and after that she was so well that no record was kept of the bowels. On February 16th, *i. e.*, three weeks and a half after the invasion of the disease, she was walking about the ward.

Book Notices.

A Study of the Bladder during Parturition. By J. Halliday Croom, M. D., F. R. C. P. E., Physician to the Royal Maternity Hospital, etc. Edinburgh: David Douglas, 1884. Pp. 74.

This attractive little book must be conceded no inconsiderable rank among the contributions to topographical anatomy for which the younger Edinburgh obstetricians are becoming famous. We trust that it will meet with a reception commensurate with the importance of the subject. The brief title given to the work hardly covers its scope, for it treats of the bladder during the puerperal state as well as during the mere process of parturition, and a number of interesting questions connected with the behavior of other pelvic organs than the bladder are considered incidentally. The practical bearing of all these matters upon obstetrics can not be questioned, and no one entering upon such practice could fail to get a good deal of light from studying them as they are here presented.

Klinische Vorträge aus dem Gebiete der Geburtshilfe und Gynäcologie auf Grundlage eigener anatomischer und klinischer Beobachtungen. Herausgegeben von J. Balandin, Director des Hebammeninstitutes in St. Petersburg. I Heft, mit XII lithographischen und I phototypischen Tafel. St. Petersburg: C. Ricker, 1883. 4to, pp. 127, and plates.

This work, embracing the first part of a series of clinical lectures, treats of methods of measuring the pelvis, of a process of preparing dried pelves without altering their shape, of the part played by the pelvis in the mechanism of labor, of the mobility of the pelvic joints incident to pregnancy, and of the mechanism of lacerations of the perinæum. The author's processes for making preparations of the pelvis involve the pinning of the bones together securely at all points where motion is liable to take place, and the making of plaster casts. Minute descriptions are given of various interesting details. The work is valuable chiefly, perhaps, for the sources of error it points out in previous investigations in the same direction.

BOOKS AND PAMPHLETS RECEIVED.

Modern Medical Therapeutics: a Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Edited by Joseph F. Edwards, M. D., and D. G. Brinton, M. D. Eighth Edition, enlarged and revised. Philadelphia: D. G. Brinton, 1885. Pp. 629.

Diseases of the Urinary and Male Sexual Organs. By William T. Belfield, M. D., Pathologist to the Cook County Hospital, Chicago, etc. New York: William Wood & Co., 1884. Pp. vii–351. [Wood's Library of Standard Medical Authors.]

The Therapeutics of the Respiratory Passages. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital Medical College, etc. New York: William Wood & Co., 1884. Pp. vii–316. [Wood's Library of Standard Medical Authors.]

A Manual of the Medical Botany of North America. By Laurence Johnson, A. M., M. D., Lecturer on Medical Botany, Medical Department of the University of the City of New York, etc. New York: William Wood & Co., 1884. Pp. xi–292. [Wood's Library of Standard Medical Authors.]

Catalogue of Dartmouth College and the Associated Institutions, for the year 1884–'85.

Biennial Report of the Alabama Insane Hospital at Tuskaloosa, for the years ending September 30, 1883 and 1884.

Doctor Grattan. A Novel. By William A. Hammond, Author of "Lal." New York: D. Appleton & Co., 1885. Pp. 417.

The Physician's Daily Pocket Record, comprising a Visiting List, Many Useful Memoranda, Tables, etc. By S. W. Butler, M. D. Nineteenth Year. Edited by D. G. Brinton, M. D. Philadelphia: Office of the "Medical and Surgical Reporter," 1885.

Official Register of Physicians and Midwives (now in practice) to whom Certificates have been issued by the State Board of Health of Illinois. 1877–1884.

Contributions from the Ophthalmic Clinic (Professor W. W. Seely), Medical College of Ohio. Acetate of Lead in Ocular Therapeutics. By David De Beck, M. D., Assistant to the Chair of Ophthalmology. Cincinnati, 1884. Pp. 11.

House Drainage in New Haven. By Alton W. Leighton, Ph. B., M. D. [Reprint from the "New England Medical Monthly."]

Report of the Chief of the Bureau of Medicine and Surgery of the Navy Department, November 1, 1884.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 24, 1885.

THE ABUSE OF MEDICAL CHARITY.

THE subject of medical charities and their abuse has become a very trite one. Occasionally some writer succeeds in investing it with more than a passing interest, as was the case with Mr. Sampson Gamgee, of Birmingham, England, to whose address upon that theme we alluded in a late issue. So futile have been the attempts of medical journals to bring about any reform in this direction that they have almost given over the struggle. We feel compelled to touch upon the matter again, however, although with little expectation of throwing any new light upon it.

It has become apparent to all who have given the subject much attention, whether out of pure curiosity or because their own interests were involved, that medical charities in New York were assuming a very peculiar aspect. The plan of making use of dispensary patients for purposes of clinical instruction, an excellent one in itself, has so modified the character and aims of some of our institutions for out-door relief that the relative positions of physician and patient have been changed. The patients are regarded as conferring a favor by their attendance at a certain clinic rather than at its rival. Moreover, so far from any patients being refused treatment because of their ability to pay for medical services, they are too often encouraged to come regularly, and to bring their friends. The result of this so-called "charity" has been that, whereas our dispensaries were formerly almost exclusively attended by persons of the poorer classes, for whom they were originally designed, now they are thronged by those who, before their independence and self-respect were sapped by long habits of "sponging," would have refused such assistance as a disgrace. New York patients may now be divided into two broad classes, one including the rich, who will employ none but the most eminent practitioners, and the other consisting of a large and respectable class, who, if they do not make a practice of frequenting dispensaries, see no impropriety in occasionally seeking gratuitous advice at the clinic of some specialist. This being the condition of affairs, the natural feeling is, God help the young doctors, for between these two chairs they are sure to fall to the ground.

Now, the remedy for this dismal situation is very simple. It is merely a matter of generosity on the part of some of the older men, a difficult virtue to inculcate, but none the less a possible one. What if one clinic is not quite so large as another, is that a reason for increasing it by committing an act of positive injustice? Is New York to become one vast dispensary? If it is, there will be no *raison d'être* for the rising medical generation; their sphere will have been filled by the clinic. We invite the earnest attention of the profession to this subject as one more worthy of their thought and study than many of the fruitless questions which have agitated them of late years. It is one which can not be settled by any spasmodic attempts at reform on the part of a few men, but by the creation of a healthy sentiment among all of the directors and medical attendants of our charitable institutions. *Combined* action can alone effect a radical cure of the evil.

RECENT PROGRESS IN BACTERIOLOGY.

IN reviewing the medical progress of the last year, we are struck with the large amount of work which has been done in the department of experimental pathology. It can not be denied that much of this interest which has been awakened in a hitherto neglected subject has been due to Koch's discovery. Whatever may be its value from a practical point of view, the enunciation of the parasitic theory of cholera has given an immense impetus to the study of micro-organisms. As a proof of this we refer not only to the spirited discussion which has been aroused regarding the identity of the cholera bacillus, but to the attempts which have been made to discover specific germs for many diseases not formerly regarded as parasitic in their nature. The tubercle bacillus has been exhaustively studied by Baumgarten, Müller, and Kanzler. Friedländer has apparently confirmed the existence of the pneumococcus; Watson Cheyne has described a characteristic organism found in the blood of purpuric patients; Tayon and Goffky maintain that there is a specific germ for typhoid fever, and Gaudelin states that there is a micrococcus peculiar to dysentery; while Heubner has made careful studies of the micrococci of diphtheria, and doubts their specific nature. Bacilli peculiar to follicular amygdalitis and glanders have been described. In cerebro-spinal meningitis, in osteo-myelitis, and in diseases of the jaws, such as caries, we learn that micro-organisms have been found.

The occurrence of actino-mycosis in man, to which attention was recently directed by foreign pathologists, has been observed in our own country by Dr. Murphy, of Chicago.

This brief mention of the various directions which the study of bacteria is taking opens a vast field of possibilities, and leads us to ask the question, What discoveries will be made this year, since the last has been so prolific? Some of the brightest minds in the profession are seeking fame in the field of bacteriology, and the flood of light which has been thrown upon the subject can not but illumine what has hitherto been wrapped in obscurity. It may be that we stand upon the threshold of some new discovery which will revolutionize medicine.

MINOR PARAGRAPHS.

THE REPORT OF THE ENGLISH CHOLERA COMMISSION.

THE preliminary report presented by Dr. Klein and Dr. Gibbes will be read with great interest, since it is so diametrically opposite to that of Dr. Koch. Not to quote at length the nine propositions embodied in the report, it will be sufficient to mention the three most important—viz.: That the comma bacilli are not characteristic of cholera, since they are present in diarrhœa and dysentery; that they behave precisely like other

putrefactive organisms when cultivated artificially; and, finally that all attempts made by the investigators to induce cholera in animals, by either feeding or inoculation with these germs, have signally failed. The commission add that they have discovered a straight bacillus which is of more constant occurrence in choleraic discharges than the comma variety. The complete report is promised soon. We foresee a storm ahead. It is not likely that Koch will remain silent while his statements are so radically assailed.

CEREBRAL SURGERY.

The "Lancet" publishes a *résumé* of the famous case of cerebral tumor which was operated upon by Mr. Godlee, after its location had been exactly defined by Dr. Hughes Bennett. The patient, unfortunately, died of cerebral inflammation, but the result of the operation was such as seemed to justify the surgeon in his bold procedure. The public press got hold of the case, and, as usual, dragged into their discussion the old subject of vivisection and its horrors, apparently losing sight, as the "Lancet" justly remarks, of the fact that the accuracy of the diagnosis was a strong argument in favor of experimental studies in cerebral physiology. The bigotry of the British public with reference to this question and their distrust of their most eminent scientific men are only equaled by the general suspicion with which our own laity regard anything approaching to an "experiment" on the part of the medical fraternity.

THE ABUSE OF ALCOHOLIC LIQUORS.

A prolonged discussion upon this subject has been recently carried on in the German Society of Public Hygiene. The arguments advanced were not new, but they were supported by a number of interesting and important facts. Herr Mehlhausen, who closed the debate (which has been continued through several numbers of the "Deutsche Medizinal-Zeitung"), referred to the extended observations which had been made in the Prussian army with reference to the utility of serving rations of schnapps to soldiers when in active service. The experiment had been thoroughly tried by the army surgeons, with the result of their abandoning spirits for tea and coffee.

It was further stated that the majority of cases of frostbite and sunstroke in campaigns were among those who were addicted to strong drink.

It was not the opinion of the society that such radical measures should be resorted to as had been taken in Maine, but it was suggested that much might be done by improving the quality of spirits and regulating their sale more strictly. As might be inferred, there was no plea for total abstinence.

A PROPOSED AMBULANCE SERVICE IN PARIS.

A deep interest has been excited in this subject, as will be inferred from the fact that the Academy of Medicine has held a special meeting for the purpose of deciding upon it. Victor Hugo and many other prominent citizens have lent their support to the scheme, and there is every reason to believe that it will be carried out. It has been a matter of constant surprise to American physicians who have lived in Paris that such crude arrangements for the relief of the injured were allowed to exist. For such a large city, and one, too, in which the hospital arrangements are so admirable, the absence of a modern ambulance system has been a constant reproach.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 20, 1885:

DISEASES.	Week ending Jan. 13.		Week ending Jan. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	20	1	1	0
Typhoid Fever	5	3	13	3
Scarlet Fever	86	17	69	16
Cerebro-spinal meningitis	9	9	4	3
Measles	152	39	127	28
Diphtheria	58	28	66	19

The "Index Medicus."—The following notice, addressed to the subscribers to the "Index Medicus," and signed by the editors, accompanies the annual index, which completes the sixth volume of that publication: "Notice.—With this issue, containing the title-page and annual index of volume vi, the 'Index Medicus' will cease to be published. During its six years' career it has been supported by its especial friends, with a generosity perhaps unparalleled in the history of medical journalism. The publisher, the late Mr. Leypoldt, notwithstanding a heavy loss at the outset, and a but slowly diminishing annual deficit, maintained the undertaking with characteristic spirit and zeal. His successors, who are managing his estate and business enterprises, have made strenuous efforts to place the 'Index Medicus' on a self-supporting basis, remembering with what particular favor Mr. Leypoldt regarded it. Their latest effort has been unsuccessful, and the few additional subscriptions which were required have not been obtained. The time has come, therefore, when neither zealous friends nor generous publishers can be allowed to make further efforts or sacrifices, and the publication is discontinued. Whether it will, in some other shape, or under some other auspices, again appear, is for the future to decide."

Medical Appointments under the City Government.—We have received the following notice, signed by the examining board, Dr. T. H. Burchard, Dr. T. H. Manley, and Dr. J. Tilden Brown, with a request to publish it for the information of the profession: "A competitive examination, to fill future vacancies in the medical departments connected with the City Government, as prescribed under the Laws of the State of New York relating to appointments under civil service, will be held on Monday, February 2d, at such time and place as will be announced in the city papers of the preceding Saturday. The necessary application papers may be obtained of Russell Sturgis, Esq., 23 East Twentieth Street, New York. Applicants must be regular graduates in medicine, and residents of this city."

The Medical Society of the State of New York.—Dr. C. L. Dana, secretary of the New York County delegation, writes us that round-trip tickets from this city to Albany can be purchased of the West Shore Railway Company for $3.10. On Monday afternoon, February 2d, the regular express, with an additional parlor-car, leaves the down-town station at 3.50 P. M., and the West Forty-second Street station at 4 P. M., arriving in Albany at 9.10 P. M.

The New York County Medical Association.—At the annual meeting, held Monday evening, the 19th instant, the following-named gentlemen were elected to office for the coming year: Dr. C. A. Leale, president; Dr. E. G. Janeway, vice-president; Dr. P. B. Porter, recording secretary; Dr. C. S. Bull, corresponding and statistical secretary; Dr. W. V. White, treasurer; and Dr. W. T. White, member of the executive committee.

The Carnegie Laboratory of Bellevue Hospital Medical College.—On the 30th of December, 1884, Dr. E. G. Janeway and Dr. F. S. Dennis were appointed directors of the laboratory, and on the 20th of January, 1885, Dr. Herman M. Biggs, Dr. L.

J. McNamara, and Dr. J. S. Thatcher were appointed instructors in the laboratory.

St. Mary's Hospital, Brooklyn.—The second annual dinner and reception were given on Monday evening, the 19th inst., at the Clarendon, Brooklyn.

The Maine General Hospital, it is reported, will receive the sum of $100,000 by the will of the late Ex-Governor Coburn, of that State.

The Obstetrical Society of Cincinnati, as we learn from the "Cincinnati Lancet and Clinic," has elected officers for the ensuing year as follows: Dr. A. J. Miles, president; Dr. G. S. Mitchell, vice-president; Dr. Clara Ellsbury, recording secretary; Dr. J. G. Hyndman, corresponding secretary; and Dr. G. E. Jones, treasurer and curator.

The "Annals of Surgery."—The first number of this journal, which is virtually a continuation of the "Annals of Anatomy and Surgery," has reached us. It is dated January, 1885. The quality of the contents is excellent, but perhaps the greatest interest will attach to Dr. Skene's history of another successful case of laparo-elytrotomy. A long editorial review of the year, entitled "Annus Chirurgicus," is also exceedingly creditable. Altogether, the new journal seems likely to fulfill the expectations that have been entertained in regard to it.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 11, 1885, to January 17 1885:*

HEAD, JOHN F., Colonel and Surgeon. Retired from active service, by operation of law, on January 9, 1885, under provision of Act of Congress, approved June 30, 1882. S. O. 7, A. G. O., January 9, 1885.

Promotions.

CAMPBELL, JOHN, Lieutenant-Colonel and Surgeon, to be surgeon, with rank of colonel, December 7, 1884.

ALEXANDER, A. H., Major and Surgeon, to be surgeon, with rank of lieutenant-colonel, December 7, 1884.

MCELDERRY, HENRY, Captain and Assistant Surgeon, to be surgeon, with rank of major, December 7, 1884.

Appointment.

KEAN, JEFFERSON R., to be assistant surgeon, with rank of first lieutenant, December 8, 1884.

BENTLEY, EDWIN, Major and Surgeon. Leave of absence extended two months. S. O. 8, A. G. O., January 10, 1885.

TREMAINE, W. S., Major and Surgeon. Relieved from duty at Fort Porter, N. Y. S. O. 8, Department of the East, January 12, 1885.

GIRARD, A. C., Captain and Assistant Surgeon. Ordered for duty at Fort Porter, N. Y. S. O. 8, Department of the East, January 12, 1885.

APPEL, D. M., Captain and Assistant Surgeon. Ordered for duty at Plattsburg Barracks, N. Y. S. O. 8, Department of the East, January 12, 1885.

GIRARD, J. B., Captain and Assistant Surgeon. Ordered for duty as post surgeon at Fort Schuyler, New York Harbor. S. O. 8, Department of the East, January 12, 1885.

HAVARD, VALERY, Captain and Assistant Surgeon. On being relieved at Fort Schuyler, authorized to avail himself of leave of absence (four months). S. O. 8, Department of the East, January 12, 1885.

ELIBBEY, E. W., Captain and Assistant Surgeon. Sick leave still further extended six months on surgeon's certificate of disability. S. O. 9, A. G. O., January 12, 1885.

Society Meetings for the Coming Week:

MONDAY, *January 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

TUESDAY, *January 27th:* New York Dermatological Society (private); New York Surgical Society; Medical Societies of the Counties of Onondaga and Putnam, N. Y.; Boston Society of Medical Sciences (private).

WEDNESDAY, *January 28th:* New York Pathological Society; American Microscopical Society of the City New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Gloucester, N. J.; Berkshire District, Mass., Medical Society (Pittsfield); Middlesex North District, Mass., Medical Society (Lowell); Cumberland County, Me., Medical Society (Portland).

Letters to the Editor.

THE QUESTION OF MIDWIVES.

244 WEST FIFTY-FIFTH STREET, *January 10, 1885.*

To the Editor of the New York Medical Journal:

SIR: In a recent issue of your journal I have met with an article, designated "The Question of Midwives," which calls for more than a passing notice, inasmuch as it at once brings before the medical profession the subject to which I have recently given no inconsiderable thought. The author begins by, perhaps unwittingly, committing an error in saying that I advocated midwives for the wives of working-men. If the writer will reflect a moment, he will remember that I said it was not a question, Are they needed? Statistics, I showed, proved that, now, more than half of our parturient women were delivered by those known as midwives. The aim of my paper was to determine the disposition of the medical gentlemen present in regard to two things: First, Is it not well to qualify a certain number of women to attend obstetric cases? Secondly, What shall be the nature and extent of those qualifications?

I am heartily in accord with the author in frowning down and condemning those midwives who announce their advent by rascally quackery, and I predict for them a short career. I sincerely hope that the Legislature of the State will not give any school for midwives a legal standing. If a school is established for the training of women in midwifery which shall get and deserve the recognition of the profession, there is no reason why it should not succeed. If the people want women as *accoucheuses*, and such women ask for an elementary knowledge of the art, such as will enable them to attend normal cases and discover difficult and dangerous ones, then it becomes the duty of medical men to respect such demand, and give them a fair trial. The author must not forget that France has had female practitioners of obstetrics—they were not physicians—who have become famous in medical history. "One swallow does not make a summer"; the whole craft should not be condemned for the misdeeds of one.

THOMAS H. MANLEY.

DR. MACCONNELL'S TREATMENT OF DIPHTHERIA.

CRANFORD, N. J., *January 17, 1885.*

To the Editor of the New York Medical Journal:

SIR: In my letter, in the last issue of the "Journal," the prescription should read: Tincture of aconite root, [illegible] drops.

Please add that of this prescription we seldom give more than from four to eight full doses until the general and local symptoms are so much improved that we change to one-half doses. And, when the exudation is almost gone, we substitute for the potash mixture two to eight drops of tincture of chloride of iron, in water, every four hours, for a few days. Afterward, for one or two weeks, we give three to fifteen drops, according to age, three times a day. The sulphur mixture we continue, alternating with the iron, until the coating is entirely removed from the throat, and then replace it with brandy, teaspoonful to tablespoonful doses, for one or two weeks.

J. K. MacConnell.

THE TRANSACTIONS OF THE LONDON AND NEW YORK PATHOLOGICAL SOCIETIES.

To the Editor of the New York Medical Journal.

Sir: London has over four millions of inhabitants; New York less than a million and a half. The London Pathological Society has 650 members; ours has 170. The annual income of the former, for 1881, was more than $3,500; ours about $800. Our expenses are nearly $600 a year, leaving an annual balance of about $200. A volume of the "Transactions" costs over $700, requiring nearly four years' savings to publish one.

J. C. Peters, M. D., *Editor.*

THE DISCUSSIONS AT THE COUNTY SOCIETY.

New York, *January 20, 1885.*

To the Editor of the New York Medical Journal.

Sir: At the meetings of the County Medical Society the names of the expected participants in the discussion are printed on the cards. Is this meant to exclude all others from speaking?

C. E. Nelson, M. D.

[The practice could have no such effect as our correspondent suggests, and we do not believe that it was intended for that purpose.—Editor.]

Proceedings of Societies.

CLINICAL SOCIETY OF THE NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 3, 1885.

Dr. C. L. Dana in the Chair.

Intra-cranial Hæmorrhage in Children. — Dr. S. J. McCurdy opened a discussion on this subject, first presenting the following cases.

Case I.—A boy of ten years was healthy until his fourth year, when he had measles. After recovering from the disease he was unsteady in walking and did not play as he had done previously. For a time he grew worse and, as the mother said, was able to manage himself, was irritable, liked to go out and deal, and became "ugly" whenever there was much noise about. He came under notice first in February, 1884. He was unable to stand unsupported, and when he was assisted to walk, the mother held his hands by the cubits and one arm. His gait was tottering and shuffling, and it seemed difficult to keep him on his feet. The hands were semiflexed and the whole arm was pronated. The feet were inverted, with the toes pointing inward and the heel elevated. The toes were curved into the plantar surface of the foot and could not be completely straightened even by force. Both the paralysis and the contractures were somewhat more marked upon the right side than on the left. He could speak, but only in monosyllables, and frequently did not finish his words, so that it was difficult for a stranger to understand him. At this time he was recovering from an attack of pneumonia, and both the contractures and the paralysis were worse than usual. Indigestion also always aggravated them. In the treatment special attention was paid to his diet, and his bowels were regulated by two grains of bicarbonate of sodium and a teaspoonful of compound infusion of senna before meals. He was also given three grains of iodide of potassium with twenty drops of fluid extract of ergot three times a day, and his condition had steadily improved so that he was now at his best. There were still strong contractures of the gastrocnemii and of the hamstring muscles. He could put his heels to the floor now if he was not hurried, but if he was in a hurry he put the toes down first. There were at present no contractures in the upper extremities, but they were considerably atrophied. All the muscles responded to faradism, but the extensors of the forearm required a very strong current, and even then gave a feeble response. He could speak with considerable fluency, but his utterance was still thick, and he could not yet be well understood. He was not an imbecile, nor was he so bright as ordinary boys of his age; he was the sport of his playfellows, and did anything they told him. He knew a few of his letters and liked to be taught, and he was not so "ugly" as he used to be, when he was profane and could not be restrained. He had a decided appreciation of music. A number of years ago this patient was seen by Dr. S. M. Roberts, who advised sea-bathing, by which he was benefited.

Case II.—A child, four years of age, was perfectly well until one year ago, when he had a fever, which reached, according to the mother's statement, 104° F. on the third day. That evening he had convulsions, which lasted for twenty-four hours, after which he was unconscious for a week, requiring to have his mouth opened and shut in order to be fed. He did not speak for six weeks, and then only in single words, acquiring them slowly, like a child learning to talk. When consciousness returned, the mother noticed that he did not use the right hand or leg, and that the angle of the mouth on that side drooped. The patient first came under notice on July 2, 1884, when there was still some drooping of the angle of the mouth, and the tongue was still deflected toward the same side. These symptoms were not now present. He walked, but there was not so much force in the leg of the affected side as in the other, and the toes were curled under. The fingers were flexed, and there was strong pronation of the forearm of the right side. All the muscles responded to faradism, though the extensors of the wrist and the anterior tibial group of the leg were particularly weak. The extremities were shorter and smaller on the affected side.

This case was in marked contrast to the preceding from the fact that there was hemiplegia, while in the first both sides were affected. In her dispensary class, the speaker had had a number of cases that could not be presented.

One patient had a specific taint, and at the age of ten months had convulsions limited to the left side and following an attack of indigestion. Contractures remained, so that the chin touched the left shoulder and the left hand was in the axilla. The child was now eighteen months old, but did not yet walk. There were now no contractures, but a decided disinclination to use the left hand. The left angle of the mouth was usually on a level with that of the right side, but the muscles tired more readily, and so this angle sometimes drooped.

Another child was well until nine months of age, when it had an attack of fever, which lasted for several days and was followed by convulsions, which left the child dull and sleepy. It then had daily convulsions. It never spoke after the first seizure, although before it could say a few words. It never walked or stood alone, and died, at the age of twenty-three months, of diphtheria. An autopsy was refused.

A child seven years old presented contraction of the fingers of the right hand and the toes of the right foot, and had a violent temper, which condition had followed an attack of small pox at the age of two years and a half. Ten days after the eruption she was seized with convulsions and became unconscious. While she was in this condition the

mouth was drawn to the left side, and there was internal strabismus of the right eye. This was overcome after a few months. For six weeks after the seizure she did not speak, and then she had to be taught again. At the end of three or four months she began to walk, although the contractures still persisted, with some wasting of the affected muscles.

In another child, nine years old, there was paralysis of the right arm and hand, which dated from an attack of convulsions at the age of two months. The thumb was flexed into the palm and the hand on the forearm. This arm was also shorter than the other.

In addition to these cases, the speaker was also permitted to mention one under treatment by Dr. M. Allen Starr.

This child was ten years old, had never walked, and could not stand or sit without support until after it was six months of age. Its birth was difficult, instruments being resorted to. The presentation was not known. The convulsions were more severe on the left side, and there was internal strabismus on the same side, which still persisted. The hands were semi-flexed and pronated, and the forearms were flexed on the arms. All the contractures except those of the little fingers could be readily overcome. There also seemed to be some contraction of the pectoral muscles. The thighs were adducted, and there were contractures of the tendines Achillis and of the hamstring tendons. The toes were curled under, and during the past month talipes varus had developed in the left foot. The sight was thought to be somewhat affected, but the hearing was excellent. His intelligence had improved, and his memory was good. He was easily disturbed by noise, but was amiable, laughed, sang, and had been able to talk for two years. He spoke only in monosyllables, however, and was understood with difficulty. When he laughed the mouth was drawn to the right side. Sensibility seemed normal. All the muscles responded to faradism, and there was no degenerative reaction in any part. [Fuller details of these cases, with photographs, would be found in the "Archives of Pædiatrics" for January, 1885.]

In all these cases, except one, we had paralysis of both extremities, upon one or both sides of the body. The simultaneous paralysis of an arm and leg upon one side of the body pointed, as a rule, to a cerebral cause. In one of these cases we had double hemiplegia, with thick utterance and diminished intelligence. In another, with right hemiplegia, aphasia, lasting six weeks, and facial paralysis with deviation of the tongue to the right. Another child, with the double variety, never spoke after its seizure, though previously it could say a few words; while another, with only the right side affected, had the mouth drawn to the left, internal strabismus of the right eye, and aphasia lasting six weeks; another, with the double variety, had strabismus with facial paralysis and indistinct speech; while in the case without any distinct history of the implication of the cerebral nerves, and where only an arm was paralyzed, there were contractures and shortening of the paralyzed limb, a condition which was characteristic of the other cases in which the diagnosis of cerebral lesions had been made. In locating this lesion a number of facts served as guides. Aphasia was particularly noticed in the two hemiplegics; also, where the facial paralysis occurred, it was on the same side as the paralyzed limbs, two circumstances that located the lesion above the pons. The definite location could only be inferred from analogous cases.

Details of thirty-four autopsies collected by the speaker ("Am. Jour. of the Med. Sci.," Jan., 1885) yielded the following: A right hemiplegic, whose affection dated from convulsions in youth, presented upon the surface of the left hemisphere a depression which communicated with the ventricle of that side; in one with double hemiplegia and idiocy, dating from the fourth year, there was atrophy of the cortex about the lower two thirds of the fissure of Rolando upon both sides; in one with right hemiplegia from convulsions at sixteen months there was atrophy of the whole left hemisphere; one with right hemiplegia, dating from convulsions at three months, had the middle upper part of the left hemisphere occupied by a cyst, about which hæmatoidin crystals were formed; a left hemiplegic with strabismus, dating from convulsions at six months, had atrophy of the right hemisphere, especially about the fissure of Rolando. The lesion, therefore, that had accompanied infantile hemiplegia had been either a shrinkage of the whole opposite hemisphere or a depression of its surface about the fissure of Rolando, into which the gray matter of the cortex dipped. Where the sutures were not yet ossified, asymmetry of the skull resulted from this lesion; but, if ossification was complete before the difficulty occurred, a serosity filled up the cavity.

Sections of the pyramidal tracts belonging to the diseased cortex became colored deeply with carmine, as though a secondary degeneration had taken place. Rilliet and Barthez ("Traité des maladies des enfants," 1884, vol. i, p. 271) mentioned the transmission of this degeneration to the optic and acoustic nerves in some cases. Heroult ("Arch. de phys.," August 15, 1884) advanced, on the contrary, the opinion that this staining might be due to the predominance of neuroglia from the arrested development rather than to a new growth. He found a similar staining of the pyramidal tracts in all children under four years. This lesion was supposed to travel from the convexity, and to be due to a clot or an encephalitis. In one case hæmatoidin crystals were found, and in two others the shrunken convolutions were of a rusty color. West ("Diseases of Children," 1860, p. 56) gave a number of seizures in cachectic children who died, and in whom hæmorrhage was found at the autopsy. The theory of a clot was also favored by the fact that in a number of cases, as in Dr. Starr's, the seizure had followed an injury at birth, especially when associated with a breech or footling presentation. In a case already reported by the speaker there was a foot presentation. The labor was long and difficult, and instruments were finally used. Following the delivery the child had convulsions, paralysis, dyspnœa, stridulous respiration, and nasal regurgitation of food. At the autopsy, atrophy about the fissure of Rolando on both sides was disclosed. Over fifty cases of spastic rigidity were reported by Little ("Obstet. Jour. of Great Britain and Ireland," 1862) where a difficult labor was supposed to be the cause, and in one of them atrophy of the opposite hemisphere was found, with the evidence of an old clot. Still more conclusive proof was furnished by a number of cases collected and reported by the speaker in the "Am. Jour. of Obstet." for January, 1885. Among these there were three breech cases in which there were convulsions with paralysis or rigidity, similar to that of the initial stage of this disease, and in which, after death at only one, two, or three weeks of age, the fresh clot was found. In one case the clot dipped down into the fissure of Rolando, and reposed upon the ependyma of the ventricle, occupying the position of the central convolutions, which were destroyed. It seemed reasonable that this child, had it lived, would have developed a true porencephalic defect—certainly a depression in the surface, and, by pressure or shrinkage, possibly also the breaking down of the ependyma, and, consequently, a communication between the ventricle and the arachnoid cavity through the bottom of the depression.

The production of this lesion by hæmorrhage was also favored by the fact that the intra-cranial hæmorrhages of children were usually meningeal. Eustace Smith said that, under the age of three years, it was rare to meet with any other form. The production of the double form by this means was not improbable, as the meningeal hæmorrhage in a large proportion of cases occurred simultaneously upon both sides. In the purulent meningitis of adults the effusion, according to Huguenin (von

Ziemssen's "Cyclopædia"), was bilateral in fifty-six per cent. of all cases. Bouchut ("Arch. gén. de méd.," 1839, p. 261) found both hemispheres affected in twenty-three out of forty cases.

The predisposing cause in one of the cases reported seemed to be a specific taint; weak children were also supposed to be more exposed to the possibility. In a number of Rupprecht's cases (Volkmann's "Sammlung klinischer Vorträge," No. 99) the children were prematurely born, and it might be that the congenital weakness of tissue persisted in these cases.

In some of the cases the seizure was preceded by a more or less prolonged febrile attack. Steiner had suggested that fatty degeneration of the walls of the vessels occurred from the pyrexia. Infantile hemiplegia had follwed measles more frequently than any other disease, and it had been suggested that profound alteration of the blood might be an element in the ætiology. The causative hæmorrhage seemed to be associated with the after-coming head, and it was interesting to note that when this was the mode of delivery the hæmorrhage appeared to be at the convexity, while in vertex cases it was more frequently at the base, and, consequently, destroyed life sooner. In seven vertex cases the children lived from twenty-eight hours to five days ("Am. Jour. of Obstet.," Jan., 1885), and had the effusion about the base, in the cerebellum, or limited to the posterior cerebral lobes, while in none of the breech cases were these regions involved, and in these latter the children lived longer than the others. According to text-books, the apoplexy of the new-born was always at the base, or involved only the posterior cerebral lobes. Cruveilhier spoke only of this variety, and the non-recognition of the convexity variety was probably due to the longer period of life in these cases.

The diagnosis of the one-sided variety in children was not difficult. The paralysis, with apparent shortening, dating back to childhood, following convulsions, and alternating with contractions, presented a picture that, once seen, could never afterward be mistaken. The contractures were very characteristic, the fingers and arm were flexed, and the forearm was pronated; contractures might exist at the knees and in the tendo Achillis, and the thighs might be adducted.

These symptoms were not always present (Rilliet and Barthez). The foot, however, was always, in the active stage of the disease, in extreme flexion, the heel being elevated and the patient walking on the toes. As a rule, the patient could use the paralyzed part after a fashion. The diagnosis of the double affection was more difficult, however, as it had to be differentiated from a number of diseased states. When the seizure, however, had been sudden and accompanied by convulsions and contractions, cortical irritation from encephalitis or a clot, with the resulting atrophy, must be inferred.

The prognosis was not hopeless; in fact, up to a very late day the method of treatment had been to let the patient grow out of the condition. Rilliet and Barthez considered that other localities took on the function of the one destroyed when improvement occurred, and a number of the patient's referred to improved while under observation. Among Rupprecht's, one was dull at [illegible] eighth year; several others were slow in developing their intellectual powers, but subsequently became bright. A number in whom the seizure came early did not walk until they had reached their third or fourth year, but afterward acquired the use of their limbs.

For the contractures, passive exercise, central galvanization, faradization of the opposing muscles, cold douches, warm baths, [illegible] tenotomy, and orthopædic apparatus had been employed. The [illegible] of potassium with ergot had appeared to diminish the convulsions and improve the gait in the first case mentioned this evening. Massage appeared to be beneficial in another case, while in all the usual hygienic measures were employed. Indiscretions of diet, which might induce transitory contractures in the healthy child, also aggravated the contractures in this disease.

The speaker then presented a larynx which had been taken from a child who had double hemiplegia with stridulous respiration and dyspnœa. The organ was small, and presented a number of warty excrescences upon the vocal bands. It had been examined by Dr. Elsberg, who found the vegetations to be composed of the natural tissue of the part, and considered them due to a folding-in of the mucous membrane owing to an incomplete development of the part. Little ("Obst. Jour. of Great Britain and Ireland," 1862), the speaker continued, mentioned incidentally that with spastic rigidity an arrested development of the larynx was sometimes found.

(*To be concluded.*)

NEW YORK CLINICAL SOCIETY.

Meeting of November 28, 1884.

Dr. J. Williston Wright, Chairman; Dr. W. Duncan McKim, Secretary.

Tardy Constitutional Syphilis.—Dr. L. B. Bangs related the case of a man who had a sore on the pubic region in 1872, which healed in a month and was followed by no further manifestations until 1881, when a lump as large as a hazel-nut appeared just over the episternal notch. During the following winter the patient was subjected to hardships and lost strength; at the same time the lump increased in size and became red and painful. A traveling physician opened it and cauterized it, but only a little discharge took place. In a short time a like growth appeared upon the clavicle, became red and painful, discharged, and speedily closed. The patient was now treated for syphilis, and took a Turkish bath every day for four months, but his debility increased. In 1883 he was still growing feebler, and had ulceration of the throat, when he presented himself to another physician, who diagnosticated syphilis, gave mercury in tonic doses, and effected a cure in four weeks.

The peculiar features in the case were the absence of all symptoms during the nine years that followed the initial lesion, and the fact that the scars left by the growths were not circular, but linear.

Apparent Insusceptibility to Syphilis.—The Chairman related the case of a man who became infected with syphilis through a fissure of the lip, had secondary symptoms, and put himself under treatment. Two years later he married a girl fifteen years old. In due time five children were born, and all the time the man presented fresh manifestations of the disease, but the wife and all the children had remained healthy, except that one of the children had died of pneumonia.

Dr. E. G. Janeway had seen reason to think that there were some persons who were insusceptible to syphilis.

Thrombosis of the Venous Sinuses.—Dr. G. M. Swift related the case of a female child, of adopted parents, who was admitted into St. Mary's Hospital for Children August 6, 1884. So far as her adopted parents knew, she had always been healthy until within three weeks of her admission. At that time she began to vomit, without nausea or any apparent reason, complained of headache, and was somewhat dull. There was no peculiar appearance of the face or of the neck. At the time of her admission she was partially blind, there was paresis of the right side, with mental apathy, and her temperature was 99° F. Within a day or two, after having been restless and noisy at night, she had complete paralysis of the right side, including the face, but sensation was not lost. She lay with her head turned to the left; her pupils were dilated, but reacted

slightly and sluggishly to a bright light; she moaned when disturbed; she ate, but seemed unconscious; she was constipated, and passed urine unconsciously; there was no increase of temperature; and the pulse was usually slow and full, at times intermittent, again frequent. She lived until August 12th, with no appreciable change in her condition. An ophthalmoscopic examination was imperfect and negative.

Autopsy, August 13th, about eighteen hours after death.—Body fairly nourished. On removing the calvaria, all the vessels and sinuses of the membranes were seen to be turgid with blood. The longitudinal sinus had a firm clot in it. The vessels of the pia, especially posteriorly, were filled with blood, for the most part firmly clotted. The left hemisphere, posterior to the fissure of Rolando, was distinctly softened to the touch and somewhat shrunken. The vessels at the base of the brain presented the same distended appearance as those of the convexity, and there was a firm clot in the basilar artery, together with clots in other vessels. On section, the brain was found intensely congested. The entire left hemisphere, behind the fissure of Rolando, was a soft, diffluent mass, leaving merely a shell of brain substance. At about the junction of the temporal and occipital lobes there was a clot of blood about as large as a Lima bean. The vessels of the choroid plexus were turgid; there was no increase of fluid in the ventricles. Microscopical examination of the softened brain substance showed it to be composed of broken-down brain-cells, compound granular corpuscles, and oil globules. There were some small vessels filled with blood. The skull gave no evidence of disease. The other organs were not examined. Dr. Welch had given it as his opinion that the case was one of simple thrombosis of the venous sinuses. Dr. Swift would now ask if thrombosis of the venous sinuses occurred without injury to the skull.

Dr. JANEWAY had seen it occasionally, from debility, especially in children, and remembered one case in a woman.

Antipyrine as an Antipyretic.—Dr. GEORGE L. PEABODY stated that he had first used antipyrine last August, at the New York Hospital, and that during that month and September he had had opportunities of subjecting it to a careful test in conditions of high temperature from various causes. So far as his experience enabled him to judge at the present time, he was inclined to regard it as a very useful drug in the treatment of fever as a symptom, without regard to its essential cause. He had tried it extensively in typhoid fever, in the hectic of tuberculosis, in pneumonia, in rheumatism, in puerperal septicæmia, and in a variety of other conditions, including a severe broncho-pneumonia in a little child. The first publications that he had seen on the subject were from the following German observers, all of which had been reviewed in Friedländer's "Fortschritte der Medicin" for July 15, 1884: Filehne ("Zeitschr. für klin. Med.," Bd. vii), Guttmann ("Berlin. klin. Wochenschr.," No. 20, 1884), Alexander ("Breslauer ärztl. Zeitschr.," No. 4, 1884), May ("Deutsche med. Wochenschr.," Nos. 24–26, 1884), Falkenheim ("Berlin. klin. Wochenschr.," No. 24, 1884), and Rank ("Deutsche med. Wochenschr.," No. 24, 1884). The combined testimony of all these observers was strongly in favor of the new drug, for which we were indebted to Knorr, of Erlangen, who was the first to make it, for it was an artificial alkaloid, made synthetically. Filehne was the first to experiment with it in health and disease, and had arrived at results that justified his recommending it to the medical world. The literature of antipyrine had now increased rapidly, as its effects and uses had been more widely studied and become more generally known, and papers on the subject had appeared from many well-known writers.

In administering the drug, Dr. Peabody had followed the method advised by Filehne, giving three doses, amounting in all to seventy-five or ninety grains, in this manner: at first thirty grains, then, after an hour's interval, thirty grains more, and then, after another hour's interval, either fifteen or thirty grains more. This, he had found, would usually cause a rapid fall in the temperature of several degrees, sometimes six or seven, and at the same time a decrease in the frequency and an increase in the force of the heart's action, as well as an improvement in the tongue and a morbid brightening of the intellectual faculties. In fact, all the usual accompaniments of the defervescence of convalescence manifested themselves, and with no disadvantages, or only such as were trifling. Occasionally the drug was vomited, though only rarely, and then it could well be administered either *per rectum* or subcutaneously. Its ready solubility, together with the fact that it caused, in his experience, no local unpleasant effects, made it specially valuable used in the latter way. It was soluble in half its weight of hot water, and did not crystallize out on cooling. The duration of these good effects was usually from seven to nine hours, and sometimes much longer. Subcutaneously, Dr. Peabody had used it only in single doses of fifteen grains each. Occasionally its use was followed by profuse sweating, and still less frequently by a general exanthematous eruption, an erythema, which caused a very disagreeable itching. The omission of the drug caused a subsidence of this eruption, and it did not always recur when recourse was again had to its use.

He was inclined to believe that by the introduction of this drug a great advance had been made in the treatment of fevers, especially typhoid fever. He alluded to one case of this disease in which the cold bath was quite unavailing, as well as cold sponging, which had yielded promptly to antipyrine, and in which he believed he could have saved the patient had not the supply of the drug become exhausted, so that several weeks had to elapse before a fresh supply could be obtained from Germany. This patient was a young and obese German peasant, whose fat proved so poor a conductor of heat that the cold bath was wholly unsuccessful in conducting off the heat from the interior of the body. He had several times put her, with a temperature of 105° or 106° F., into a bath-tub filled with water at a temperature of 65°, and kept her there ten minutes. On taking her from the tub, the surface of her body would be disagreeably cold to the touch, but her internal temperature would have fallen only a fraction of a degree. At such times antipyrine, administered after Filehne's method, would bring her temperature rapidly down to 98° or 99°, and keep it below 100° for seven hours or thereabouts. After the supply of antipyrine was exhausted, this patient continued to have a persistently high temperature that nothing would affect, and she died of pyæmia, the infection having proceeded from the ulcers to the kidneys. Dr. Peabody merely mentioned this case as one of many in which the beneficial effects of the drug had been very marked. In intermittent fever its effect on the high temperature was equally good, but it had no tendency to avert a subsequent paroxysm.

Among the latest allusions to this subject in medical literature that had come under his notice were two articles by Demme, of Berne, in the "Fortschritte der Medicin" for October 15th and November 1st. The first of these papers was devoted to a description of a very carefully conducted series of experiments upon animals, to test the physiological action of the drug; the second to an account of another set of experiments, quite as carefully conducted, upon patients, to test its therapeutic value. In order not to take up too much of the society's time, he would give only a meager account of Demme's general results. In single large doses (about five grains in frogs, and fifteen grains in rabbits) it produced death by heart paralysis. In somewhat smaller doses the effects were most marked upon the central

nervous system, including the vaso-motor centers, namely, general tetanic muscular spasm and increased arterial pressure. Subsequently, if the administration of the drug was persisted in, paralysis of these centers was observed, including loss of muscular reflex excitability, and, notwithstanding the healthy condition of the muscular tissue of the heart, a constant sinking of the blood-pressure in the arteries.

On experimental grounds, Demme recommended, in cases of poisoning with antipyrine, the subcutaneous injection of small doses of caffeine, to increase the excitability of the heart muscle and nervous centers. From these experiments the poisonous dose for a child or for an adult was not to be deduced, but Demme drew the conclusion that to children less than a year old more than three grains, and to those less than five years of age more than seven grains, should be administered only with great care, while for an adult more than thirty grains would require great watchfulness. These conclusions would hardly seem warranted by clinical experience in New York.

In Demme's second paper accounts were given in great detail of twenty-three carefully watched cases in which the drug was given to reduce temperature. Many of his conclusions Dr. Peabody's experience with the drug had already led him to adopt and to state here this evening, but he desired to allude to a few points not already dwelt upon. In erysipelas and acute rheumatism, Demme thought that antipyrine worked with special promptness, and influenced the pathological processes very markedly. In diphtheritic infection and the accompanying threatening weakness of the heart, and in conditions of myocarditis, experience had taught him not to use antipyrine, for obvious reasons. The drug was of use even for children at the breast, was well borne by them, and did not interfere with either the appetite or the digestion. Very seldom it caused repeated vomiting, but ringing in the ears, dizziness, and a sensation of fullness of the head, such as quinine and salicylic acid brought about, did not occur from using this drug. The antipyrine exanthem (erythema) might come on with chills and fever; its longest duration, in Dr. Peabody's experience, was five days.

Dr. Janeway had used antipyrine in several cases. In two cases of typhoid fever the first doses caused great prostration, and afterward a repetition of the doses had the same effect. In a third case of typhoid fever two doses, of fifteen grains each, reduced the temperature from 103° to 94° (in the axilla), with profuse perspiration. In a case of pneumonia three grains, given on the fourth day, brought the temperature down from 104·5° to 99·5°; there was no subsequent rise, and convalescence was speedy. In a second case, also, it seemed to bring on an early convalescence.

The temperature was reduced by smaller doses than the Germans gave, and the reduction was greater than with cold baths. Antipyrine had been used in several cases in the surgical wards at Bellevue Hospital—meningitis, erysipelas, con[illegible] with the effect of reducing temperature, but, unfortunately, the cases were necessarily fatal, and therefore not suitable for testing the drug.

Dr. [illegible] had found it reduce temperature in cases of typhoid fever and phthisis, in the former with rather [illegible]

Convalescence from Long-continued Broncho-pneumonia.

Dr. [illegible] related the case of a child three years old, [illegible] who suffered with whooping cough during the past summer, followed by the development of bronchopneumonia in the [illegible]. Ten days after that measles appeared, which was accompanied with broncho-pneumonia of the [illegible]. Two weeks later a second eruption appeared having a close resemblance to that of measles, but accompanied with sore throat; and thereupon the pneumonia began to extend. After ten days desquamation set in, showing the scarlatinous character of the second eruption. After the scarlatina, general furunculosis manifested itself, and twenty boils were opened. After two months and a half of broncho-pneumonia, the child was now convalescent. This was one of those peculiar cases in which pneumonia hung on for months without developing into phthisis.

Abscess of the Liver.—Dr. Janeway had seen eight cases of abscess of the liver within the past few months, the most recent of them being that of a laborer, twenty-six years of age, who had formerly been stout and healthy. He had a habit of carrying weights upon his left shoulder, steadying them with his right hand placed over his head, and he had lately carried a heavy stove (weighing 200 pounds) in this way. For two weeks he suffered from pains in the right side and shoulder, which gradually increased, while his strength failed perceptibly, and he had slight fever and nocturnal perspiration. An examination showed tenderness over the right side, especially in the axillary line, and slight upward enlargement of the liver, which could not be made to descend below the free border of the ribs. The liver, then, was apparently adherent to the diaphragm. The abscess was probably in the convexity of the right lobe. It was aspirated for diagnostic purposes, and a little brownish fluid was withdrawn, which the microscope showed to contain granular matter, oil globules, and cholesterin, but no pus. Acetic acid gave a good coagulum—the mucin reaction. No cause could be found in this case except the strain in lifting, and, doubtless, the traumatism incident to some sorts of work was a common cause of so-called idiopathic cases.

Dr. R. J. Hall asked if there was any ground for suspecting tuberculosis in any of Dr. Janeway's recent cases.

Dr. Janeway replied that there was not.

Dr. Holt asked in how many of these eight cases jaundice had occurred.

Dr. Janeway answered that it had occurred in only one, although one of the others was a case of multiple abscess. None of the patients had any melancholic symptoms.

Cancer of the Rectum.—Dr. Charles B. Kelsey related the case of a woman in whom he had found a scirrhous mass just within the sphincter. It was opened with the Paquelin cautery, when a pouch filled with fæcal matter was found above it, and, still higher, an impermeable cancerous mass. The latter was channeled with the cautery until two fingers could be made to pass. The patient now had painless passages, and for the past eighteen months had enjoyed fair health and comfort. The case showed the advantage of the cautery over colotomy under certain circumstances.

Dr. Bangs mentioned a case in which there was a cancerous mass just above the sphincter, and a second deposit about nine inches up the rectum, in which dilatation with bougies brought about a year of comfort.

Dr. Kelsey thought that dilatation was the best procedure when it was possible, but in cases of scirrhus of long standing it could seldom be carried out.

Dr. Janeway asked if Dr. Kelsey had seen any strictures of the rectum from dysentery.

Dr. Kelsey had seen one case, in a patient who had contracted dysentery while in the army.

Ovarian Cystoma; Twisting of the Pedicle; Peritonitis; Ovariotomy. The Chairman related the case of a German woman, thirty-six years old, the mother of five children, who, nine months ago, noticed that her health was failing. Three months later her abdomen began to enlarge, and a physician diagnosticated pregnancy. The enlargement continued, with pain, especially on the right side, while menstruation was still

regular. On the 20th of July she was confined to bed with pain, but was unable to lie down, on account of dyspnœa. At this time she was seen by the Chairman, who found that she was not pregnant, and diagnosticated a large ovarian tumor and peritonitis. To lessen the dyspnœa, a gallon and a half of fluid was withdrawn by aspiration, and about the same quantity oozed through the opening afterward. He had her admitted into Bellevue Hospital, where, on account of great pain, rapid re-accumulation of the fluid, and intense dyspnœa, he decided to operate at once. This was done on the 28th, in spite of the fact that the patient had just begun to menstruate.

The operation was done under bichloride irrigation. The tumor consisted of one large cyst and hundreds of smaller ones. On opening the abdominal cavity, general peritonitis was found. The pedicle was short and broad, and twisted twice upon itself. It was tied in two portions with braided silk, and the stump was cauterized with a Paquelin's cautery and dropped back into the abdomen. The wound was closed with four deep quilled sutures of wire, pieces of No. 6 rectal bougie serving as quills. The peritonæum was sewed with a continuous catgut suture, and the skin was brought together with interrupted sutures of whale-tendon. The operation lasted an hour and a half. The patient suffered much from shock, but rallied well. For the first twenty-four hours her temperature ranged from 101·2° to 103·75° F. On the 30th (after the use of the cold-water coil) it ranged from 99·2° to 103·75°. On the 31st it was 100°. From this time on it varied between 98·5° and 102·5°. For a week no food was given except by the rectum. On the 16th of August she was discharged cured, and on the 15th of October she was perfectly well.

The points of special interest in the case were the following: 1. The diagnosis. 2. The rapid growth of the tumor. 3. The performance of the operation during peritonitis and menstruation, and the rapid subsidence of the peritonitis after the removal of its cause. 4. The twisting of the pedicle. 5. The method of approximating the peritoneal surfaces.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of October 7, 1884.

Dr. A. Jacobi, Chairman *pro tem.*

Extra-uterine Pregnancy.—Dr. George T. Harrison presented the specimen, for which he was indebted to his friend, Dr. Lindsey, with whom he had seen the patient in consultation. The following history of the case had been written by Dr. Lindsey:

"Mrs. M., married, aged twenty-nine years, has had two living children; no miscarriages. She called at my office February 6, 1884, complaining of dull pain in the right iliac region, back, and rectum. There seemed to be a tendency to hysteria. She had had only a slight flow at her last menstrual period, and was afraid she might be pregnant. Great difficulty attended a vaginal examination, the mucous membrane being hyperæsthetic. The uterus was in its normal position. On its right side a round, soft body could be felt, apparently of about the size of a walnut. Conjoined manipulation was rendered impossible by the rigidity of the abdominal muscles. The patient had not had connection with her husband since the completion of her last menstrual period. I did not think she was pregnant, and considered her case one of chronic oophoritis. I was called again on the night of the 24th of February. After having been out most of the day the patient was taken with very severe neuralgic-like pains referred to the region of the heart, and suffered from globus hystericus. It was learned from her attendant that the symptoms developed while she was having some dispute with her husband.

"The following week I attended her husband for alcoholismus, and at that time Mrs. M. was not complaining much, but worried a good deal about her husband, and had had one or two hysterical attacks, with pain in the abdomen and rectum. On March 7th she had another attack similar to the first, and from that time the attacks became more frequent, some pain over the abdomen and in the rectum existing in the intervals. The patient was confined to her bed most of the time. On one or two occasions there was some nausea and vomiting, which I attributed to morphine. I had now gained the confidence of the patient, and learned that she was troubled a great deal mentally on account of domestic difficulties, and that the acute attacks were always preceded by mental strain and excitement. At no time was there an increase of temperature. It was almost impossible to make a satisfactory examination of the genital organs, which was attempted on several occasions. On the 16th she had another severe attack, one of her children having had a fall in her presence. She described the location of the pain as being 'in the front and back passages'; also over the abdomen and heart. There was nausea, with pallor and coldness of the extremities. A vaginal examination could not be made, but I thought I could feel a tumor, by external palpation, situated directly over the symphysis pubis. The patient soon felt quite well again, and I left the house with my mind fully made up to call Dr. George T. Harrison in consultation the next day, give ether, and make a thorough examination; but, finding the patient feeling well the next morning, and being busy, I neglected to do as I had intended. The patient awoke at six o'clock on the morning of the 18th, said she had passed a good night, and was feeling well. Shortly afterward she called for the chamber, had some trouble in passing her water, immediately followed by cries of distress and 'Go for the doctor; I am dying!' When I arrived I found her in a condition of collapse, with a hardly perceptible radial pulse, pale and exsanguinated. I at once suspected internal hæmorrhage, ordered external heat, gave hypodermic injections of brandy, ether, etc., and sent for Dr. Harrison, who confirmed my fears of hæmorrhage, and, from the history, suspected extra-uterine gestation with rupture of the sac. The patient gradually sank, and died at 3 P. M."

Dr. Harrison then presented the specimen, which consisted of the uterus, a healthy tube and ovary, and the other tube constituting the sac from which the fœtus had escaped. When he had seen the patient she was in a condition of collapse, and the question might now be asked, What would have been the proper mode of treatment? He attempted to make an examination by bimanual palpation, for from the history of the case he had suspected extra-uterine gestation with rupture of the sac. Had he been able to feel the body spoken of by Dr. Lindsey he would have been in favor of operating at once, and he was now sorry that he did not. As it was, the attempt was made to bring about reaction, but the patient sank and died. He did not suppose now, however, that, even if he had operated, the patient would have recovered. He would like to have an expression of opinion upon the propriety of the immediate operation. This plan had been first carried out with success by Mr. Lawson Tait.

Dr. Bache McE. Emmet thought that if it was evident hæmorrhage was not progressing we might safely adopt the expectant plan, and postpone the operation until reaction had set in. But if hæmorrhage was abundant, and collapse and death imminent, no further danger could be incurred by performing immediate laparotomy, and the operation might save the patient's life.

Dr. James B. Hunter also thought that, if hæmorrhage was still taking place, the case would be similar to one in which an artery of the pedicle of an ovarian tumor had been left open after ovariotomy; if the operation was deferred, there would be very little chance for reaction.

The Chairman said, with regard to the history of laparotomy after rupture of the sac in extra-uterine pregnancy, that the late Dr. Stephen Rogers, of this city, was the first to bring it prominently forward, which he did about twenty-one years ago, in a paper read before the Academy of Medicine.

Laparotomy; Remains of an Extra-uterine Pregnancy.—Dr. Henry D. Nicoll presented the body of a uterus removed by Dr. Thomas from a patient that afternoon. Laparotomy was performed for the removal of a cyst, the diagnosis in the case, however, being doubtful. It was ascertained, on opening the abdomen, that the cyst was in connection with the uterus, growing from the left horn. The adhesions were found to be so great after emptying the cyst of its contents that it was necessary to clamp the uterus. There were three or four mucous polypi in the uterine cavity, and a fibroid of considerable size in its walls. From Douglas's *cul-de-sac* were removed three or four pieces of bone, apparently consisting of the parietal bones of a fœtus of the fourth or fifth month. Dr. Thomas had remarked at the time of their removal that they were undoubtedly the remains of an extra-uterine pregnancy. The cyst was a fibro-cyst, with very tense walls.

Absence of Vagina, Uterus, and Ovaries in an apparently Well-built Woman.—Dr. Henry J. Garrigues read the history of a case, which he wished to reserve for publication, and remarked that it was well known that absence of the vagina, and even of the uterus and ovaries, was not a very rare condition. He presented the case because it was usually said that there should be some signs pointing to such a condition in the appearance of the patient; especially that there should be a weakly, imperfect general development, absence of the mammæ, etc., but in this case there were absolutely no such signs. Even on examining the external genital organs one would have supposed the patient to be quite normally developed; it was only on searching for the vagina that he discovered the condition described.

The case was also interesting as showing the manner of natural development of the vagina and uterus. One point which had puzzled him a little was the history of the monthly molimen, for he had been unable to find any trace of ovaries. The patient, however, had some headache and general malaise almost constantly, and we could easily imagine that these symptoms might be increased a little every month.

The question might arise whether he was warranted in telling the patient that nothing could be done for her. Of course, if a uterus had been found, the treatment would have been to make an artificial vagina; but would it be proper to make an artificial vagina for the sole purpose of coition? He thought not; the woman would be exposed to much danger thereby. The operation itself would be dangerous, and the act of copulation in this artificial canal would expose her to constant danger.

(To be concluded.)

CHICAGO MEDICAL SOCIETY.

Meeting of January 5, 1885.

(Concluded from page 76.)

Manganese as a Remedy in Menstrual Troubles.—Dr. F. H. Mayers read a paper in which he alluded to a former publication of his own on the subject, in the "Medical Record" for September 29, 1883, and stated that, having continued his observations, he had been able to add much confirmatory evidence of what he had already advanced. He was convinced that manganese would relieve certain forms of menorrhagia and metrorrhagia, as well as amenorrhœa. As these conditions depended upon so many different causes, it was quite necessary to point out exactly the states in which manganese was indicated. He had been led to regard the remedy, in any form, as a direct sedative to the uterus and its appendages. It might act as a direct vasomotor nerve stimulant to the vascular system of these organs, and thus, in consequence of the improved circulation, increase their tone and nutrition; or it might exert its whole force by stimulation of the sexual-nerve ganglia, or possibly the nerve centers. At any rate, its action was prompt and immediate on the tonicity of the uterus and its appendages when lack of tone was dependent on defective innervation.

The author then read notes of a number of cases, a few of which may be summarized as follows:

Case I.—A girl, eighteen years old, had not menstruated for four months, being phthisical. Permanganate of potassium was given, and menstruation occurred within a week.

Case II.—A woman, twenty-four years old, with an aggravated digestive trouble of some years' standing, had become very irregular, flowing very profusely for a week or two, then scantily for a like irregular period, after which there was either a profuse flow without warning or a complete cessation. This state of things had continued for more than a year, and she was very weak and anæmic. She was given two-grain doses of permanganate of potassium three times a day, dissolved in hot water. At once the menstrual irregularity disappeared and her general health improved.

In young girls who were irregular in the early months of menstrual life, from natural weakness of the partially developed organs of generation or an over-worked nervous system, the organs were robbed of their natural nerve force. Permanganate of potassium seemed to possess the stimulating properties requisite to bring about a healthy action. A typical case was that of a young woman who had menstruated but once, after which eight months had passed without a flow. The permanganate was given in two-grain doses twice a day, and she menstruated for a second time within a week. In two other cases of missed period in young girls, without any apparent cause or any other symptoms, the remedy was given before the next period was due, and with success. Many like opportunities of testing the drug had occurred, and the results had invariably been good.

Patients who suffered with suppression or excess of the menstrual flow as the result of exposure to cold would invariably be found to have weak and susceptible menstrual organs. In such cases the action of manganese was most prompt and gratifying. In the author's experience there had been no failure, provided the trouble was due to the effects of cold alone. The permanganate was given in large doses, and its almost magical effect was shown by the appearance of the flow within twelve hours.

Manganese was an efficient remedy in certain forms of menorrhagia and metrorrhagia. Although menorrhagia and amenorrhœa were exactly opposite manifestations, they very often depended upon the same causes. When the cause was anæmia or any depressing constitutional disease, producing a perversion of the functional activity of the organs, the perverted action consisted of an irregular or excessive flow, and it would yield as readily as the opposite condition to the stimulating action of manganese.

Case III.—A woman, twenty-six years old, had excessive and irregular menstruation. She had been married two years, and had a child a year old, large and strong, while the mother was of slight build. For ten months she had stood the drain of nursing this child very well, but then she began to fail, suddenly became anæmic, and flowed excessively. She applied at the South Side Dispensary, and was given two-grain doses of permanganate of potassium four times a day, all other treatment being discontinued. In three days she returned, saying that the flow had ceased the day after she had got the medicine. She continued the treatment, and her relief was permanent.

Case IV.—A large, stout woman came to the dispensary, suffering from menorrhagia. She was thirty-five years old. Her menstruation was regular as to time, but the quantity was alarmingly excessive. She was married and had three children, the youngest being three years old.

Her menstrual trouble had been coming on by degrees for a year. The uterus was slightly enlarged and soft to the touch, but nothing else abnormal was discovered. Four days before an expected flow she began taking the permanagate in two-grain doses three times a day. Menstruation came on at the proper time, and, after a normally free flow for four days, passed off naturally. The treatment was repeated at her subsequent periods, and with the same result.

After having cited a number of other cases of his own, the author alluded to some that had come under the observation of his friend, Dr. S. F. Bradley, which may be summarized as follows:

Case V.—Mrs. D., aged thirty-three, was treated during the winter and spring of 1883 for chronic endotrachelitis and endometritis. She had had good health until the August before, when she was taken with menorrhagia, which lasted six days before medical advice was sought. She was given ergot and gallic acid, in succession; hot injections of dilute tincture of iodine were thrown into the uterine cavity; and finally the vagina was tamponed; but the hæmorrhage still continued. She was then ordered two-grain capsules of permanganate of potassium every three hours, and the flow ceased soon after she had taken the second capsule.

Case VI.—Mrs. F., aged thirty, made her first call January 19, 1884, having miscarried at the third month three weeks before. On the day of her first visit she had begun flowing excessively, and was suffering much pain in the uterine region. A small piece of placental tissue was discovered and removed. The flow then ceased, and she continued to improve until the 24th of February, when excessive menorrhagia began. Teaspoonful doses of fluid extract of ergot were given every two hours during the night, but there was no cessation of the flow. The next day, two-grain capsules of permanganate of potassium were ordered, and the hæmorrhage ceased in two hours after the first one had been taken.

Case VII.—Mrs. McF., aged thirty, the mother of two children, the youngest of which was eighteen months old, began flowing in the middle of September, 1883, but did not seek medical advice until the 15th of October, when the hæmorrhage had rendered her extremely weak and anæmic. She was given ergot and elixir of iron, quinine, and strychnine, and these were continued for ten days with no benefit. Ergot was then tried with gallic acid, but with no amelioration. Careful examination revealed no enlargement or tenderness of the uterus, but there was a very slight laceration of the cervix. On the 28th she was directed to take a two-grain capsule of permanganate of potassium every four hours. One hour after the first capsule had been taken the flow ceased suddenly. The capsules were continued until three or four had been taken, and her health had since remained good.

Case VIII.—Mrs. B., aged thirty-five, the mother of five children, the youngest of which was two years old, had a deep laceration of the cervix, with chronic endotrachelitis and metritis, also slight prolapse. She had previously been treated for uterine trouble. An operation on the cervix was advised, to which she demurred. During the month she was taken "unwell." The flow was very profuse, and continued for several days before she sought advice. Ergot and mineral and vegetable astringents had no effect. The permanganate of potassium was then tried, in two-grain doses, and shortly after the first capsule was taken the flow began to diminish, and it ceased entirely after the third dose.

Although, like nickel, zinc, iron, and silver, manganese acted as a tonic to the blood in cases of anæmia, chlorosis, etc., it could not be owing to that fact alone that it exerted its peculiar influence on the catamenia, for its action was too prompt. It might be given in the form of the permanganate of potassium or as the binoxide of manganese. The former should be dissolved in water, and, when possible, it should be given after meals. It could also be prescribed in dry gelatin capsules, but it was less likely to irritate the stomach if it was diluted. The binoxide, although less readily absorbed, on account of its insolubility, was not irritating, and could readily be administered in pill form.

Dr. Paoli had used manganese for the past two years, and had found it act very well in some cases of suppressed menstruation from the effects of wet and cold, but in some instances it had had no effect. In one case he had given it for a month, a grain three times a day, in another two grains, in another a quarter of a grain three times a day for two months; and in all the cases menstruation had returned in time.

Dr. J. Havens had treated over fifty cases of menstrual difficulty with permanganate of potassium, and had been much pleased with the results. In the majority of his cases menstruation had been suppressed or retarded from the effect of cold.

New Inventions, etc.

IMPROVEMENTS IN THE CONSTRUCTION OF THE HIP SPLINT.

By A. B. Judson, M. D.,

orthopædic surgeon to the out-patient department of the new york hospital.

The object of this form of construction is to diminish the weight of the hip splint, while retaining its strength and inflexibility by disposing the metal so that it shall resist to the best advantage the strain to which it is subjected. When a hip splint is made strong enough in the pelvic band and upright to perform the function of an efficient ischiatic crutch, preventing the patient's heel from reaching the foot-piece of the

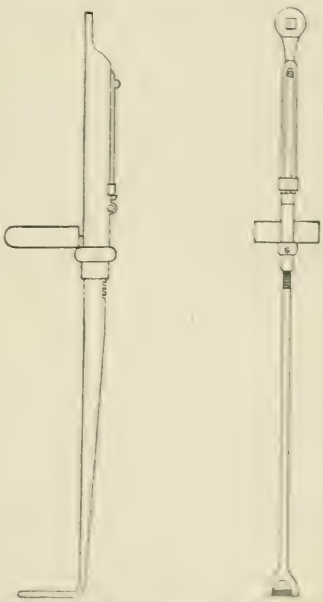


Fig. 1.—Front view. Fig. 2.—Side view.

splint in walking or running, it is found necessary to give considerable weight to the apparatus when constructed, as it must be both strong and upright, or with the flat side of the upright toward the patient's knee. If the upright is made flat and attached to the outer bar of the splint in such a way that its edge is toward the patient it is practically useless, and the amount of steel used in its construction may be greatly reduced. The metal may be thinner even than is shown in Fig. 1.

Having the rack at the upper part of the splint, as shown in the cuts, further reduces the weight of the apparatus by allowing the upright to taper rapidly toward its lower end, and also puts the heavier portion of the upright near the center of gravity of the body, where it is carried more easily than when massed near the patient's foot.

I have applied fifteen splints constructed on this plan. Some of them have been in use more than a year and a half, and have demonstrated that the changes indicated above are improvements.

The cuts also show a U-shaped attachment, previously described, for more completely arresting motion in the joint. It has been in use nearly five years, and has proved its value. It is adjustable vertically on the barrel of the upright, and takes the place of the flexible device known as the knee-cap.

Miscellany.

THERAPEUTICAL NOTES.

Oxide of Zinc in the Treatment of Wounds.—Socin ("Deutsche Med.-Zeitung") speaks highly of this substance as an antiseptic in surgical practice. For the irrigation of deep wounds he uses a one-per-cent. mixture with water; superficial open wounds should be washed with a ten-per-cent. mixture. Large raw surfaces, burns, contusions, etc., are dusted with the powder. As a permanent dressing, the writer recommends a paste composed of fifty parts, each, of water and oxide of zinc, and five parts of chloride of zinc. It forms a dry coating, beneath which healing takes place with unusual rapidity. Stress is laid on the fact that zinc is of little service in the case of a wound that is already septic.

Aseptic Silk for Sutures.—Partsch (*Ibid.*) recommends that ordinary silk be soaked for two days in a ten-per-cent. solution of iodoform in ether, and then dried by wrapping it in blotting-paper. The advantages are said to be that it can be kept for a long time without deteriorating, and that it does not cause suppuration when left in a wound. It is consequently useful in the operation for laceration of the cervix uteri.

Jaborandi in Erysipelas.—Dr. Sydney Thompson ("Therap. Gazette;" "Edinburgh Med. Jour.") suggests the following formula:

Fluid extract of jaborandi	24 parts;
Laudanum, Glycerin, each	4 "

This mixture is to be painted over the affected surfaces every four hours.

Oil of Peppermint in Burns.—Brame (cited in the "Lancet") recommends this drug as an external application in cases of burns. The burned surface is moistened with water, and then painted over with the oil, the effect being to relieve the pain very quickly.

Teucrium Scordium in Hæmorrhoids.—Murjohn ("Lancet") uses this drug (the water germander) internally, in doses of two teaspoonfuls of the liquid extract. An external application is prepared by incorporating one part of the powdered root with nine parts of vaseline.

Verbena as a Sudorific.—*Verbena hastata* is recommended by Weber (*Ibid.*) as a valuable sudorific, when given in doses of half a drachm or a drachm of the fluid extract.

The Active Principles of Ergot.—Roberts (*Ibid.*) has isolated cornutine and cornutic and sphacelinic acid from this drug, the first mentioned being a non-poisonous principle. In minute doses it occasioned marked contraction of the smooth muscular fibers of the uterus and the arteries.

Benzoic Acid in Alkalinity of the Urine.—The "Gaz. hebd. des sci. med. de Montpellier" cites the following formula, which is credited to Billroth:

Benzoic acid	15 grains;
Syrup of raspberry	5 drachms;
Distilled water	5 ounces.

The entire amount is to be taken in the course of twenty-four hours. In the same article, Fraene's formula is given, as follows:

Benzoic acid	75 grains;
Confection of roses	q. s.

Divide into fifty pills. Dose, two to eight pills daily.

An Application for Painful Dentition.—According to the "American Journal of Pharmacy," Hager recommends the following:

Chloroform	ten drops;
Tincture of Spanish crocus	half a drachm;
Honey	half an ounce;
Glycerin	one ounce.

To be rubbed on the gums, to allay irritation.

Ointment for Ecthyma.—The "Union médicale" credits Besnier with the following formula:

Phenic acid	30 grains;
Starch, Vaseline, each	3 ounces.

Valoid of Coca is mentioned by the "Lancet" as a "new and reliable preparation," and is specially recommended for nervousness and sleeplessness from mental causes.

The Therapeutic Properties of Thyme.—Camperdon ("Bull. gén. de thérapeut.") concludes a long article on this subject with the following deductions: 1. In therapeutical doses (three to fifteen grains), the essence of thyme causes mental excitement or stimulation; hence it is a valuable diffusible stimulant in depression following anæmia, in conditions of collapse, etc. 2. It is an active diaphoretic and diuretic. 3. From its direct action upon mucous surfaces it is to be recommended in catarrhal affections of the respiratory and genito-urinary tracts. 4. It is a prompt hæmostatic. 5. Thyme possesses powerful antiseptic properties, and is well adapted for use in surgery. 6. It is recommended that the internal administration of the drug be supplemented by its employment in the form of baths, fumigations, and inhalations.

Cold in the Treatment of Sciatica.—Debove ("Prog. méd.") recommends the direct application of cold along the course of the sciatic nerve, and especially over the painful points, by means of a spray of chloride of methyl. He reports several successful cases. The atomization is continued until the patient complains of a burning pain over the seat of the application.

Thalline.—Huchard ("Union méd.") contributes some observations upon this new alkaloid, which has recently been brought into general notice by Dr. Jacksch, of Vienna. He concludes that the drug is a valuable antipyretic when administered in doses of from four to eight grains, the sulphate of thalline being the most reliable of the several compounds. The fall of temperature occurs in the course of two or three hours, and is frequently followed by copious perspiration. No unpleasant after-effects have been observed, as in the case of kairine.

Resorcin as a Hypnotic.—Andeer ("Prager med. Wochenschr."; "Centralbl. f. klin. Med.") calls attention to the fact that pure resorcin, in carefully regulated doses, possesses valuable hypnotic properties. He has employed the drug in several cases, with good results.

The Retirement of French Professors.—A bill has been passed by the French Chamber providing for the retirement of professors at the age of seventy; the Minister of Public Instruction retains the right of retiring any professor before that age whose teaching is not abreast of the times.—*Medical Times and Gazette.*

Baltimore Medical Societies.—We learn from the "Maryland Medical Journal" that the Medical and Surgical Society of Baltimore has elected the following-named gentlemen to office: Dr. A. F. Erich, president; Dr. W. H. Norris, first vice-president; Dr. James F. McShane, second vice-president; Dr. A. T. Shertzer, treasurer; Dr. C. B. Ziegler, corresponding secretary; Dr. C. H. Jones, recording secretary; and Dr. George H. Robé, reporting secretary. The same journal states that the Baltimore Medical Association has elected the following-named officers: Dr. J. T. Smith, president; Dr. J. E. Gibbons, vice-president; Dr. G. H. Chabot, recording and reporting secretary; Dr. J. T. King, corresponding secretary, and Dr. J. L. Ingle, treasurer.

Lectures and Addresses.

VALEDICTORY ADDRESS

BY THE RETIRING PRESIDENT,

FORDYCE BARKER, M. D., LL. D. (Edin.),

DELIVERED BEFORE THE NEW YORK ACADEMY OF MEDICINE, FEBRUARY 5, 1885.

FELLOWS OF THE ACADEMY: In now closing my official relations with the Academy, it is both a pleasure and a duty to briefly recall the more prominent features in its history during the period of this connection. I will also venture to offer a few suggestions, derived from my long experience in this position, as to some points relating to its future growth, its increasing usefulness, and its influence on the profession. As I know you will be impatient for the intellectual feast which is to follow in the address of my successor, I shall be as brief as is consistent with a clear statement of the points to which I think it desirable to ask your attention.

It has been my good fortune to hold this position at a time when the profession were becoming more alive to the importance of this institution and more and more ready to contribute material aid for its growth and support; at the same time, there was a new development of mental activity in the profession, not only in this city, but all over the world, as demonstrated by great and important discoveries in science, and a wonderful increase and valuable additions to medical literature.

As I have referred to these facts more in detail in former addresses before the Academy, I will not detain you now by further allusion to them. I will only briefly refer to a few of the most notable events connected with the Academy during my administration.

First to be mentioned is this new and commodious hall, which could not have been built so soon except for the munificent donation of one noble benefactor, Dr. Abram DuBois, and contributions, to the full extent of their hard-earned means, by many others. We are rapidly outgrowing even this new hall, and must soon have another, as our library is now nearly filled. As I learn from Mr. Browne, our excellent assistant librarian, the Academy had when this hall was built, in 1879, about 9,000 volumes; it now has about 35,000 volumes and 15,000 pamphlets. Its circulating department has about 6,000 volumes, which our Fellows can take out of the library for consultation at home. In our journal-room—open, like the library, for all who may wish to read in our rooms—there are 225 medical journals, in all languages in which there is to be found a medical literature.

The Academy is greatly indebted to Messrs. William Wood & Co. and Messrs. D. Appleton & Co. for large donations of their new publications, and, I believe, to some foreign and other American medical publishers. We gratefully acknowledge the generosity of these gifts, and we feel assured that they were made from entirely generous motives. But we may be permitted to express the conviction that both publishers and authors will find it a wise business policy to place a copy of every new medical work in our library, as it has been estimated by a competent authority that one copy of every good new book in this library will secure the sale of at least ten more. The library is visited not only by the profession of this city, but by medical men from all parts of the country, who come to this great metropolis. They have seen in some medical journal a notice of a book, but have not remembered who were the publishers; coming to our library, they examine it to see if it is what they want.

The next notable event in the history of our Academy, since I have held this position, is its absorption of another very important organization, the Medical Journal Association, which, to quote from a former address, "not only added largely to our library, but also to our moral and intellectual power."

The truth of history demands that the fact should be mentioned that nearly two years ago the Academy passed through the segment of a cyclone, but, like a good steamship, driven over a sand bank near a lee shore, with its engines temporarily disabled, it escaped being hogged, and its seams were not opened, but its barnacles have been scraped off, its bottom has been cleaned, and it has since gone on its voyage with favoring winds and fine weather. All who are familiar with its past history, and who are unbiased by personal feeling or prejudice, must agree that the Academy has more nearly approached its avowed aims and its high purposes during the past year than in any former one since it was founded. It has had a larger increase of prominent men, and of young men of promise, than in any previous year since that in which it was organized, with the exception of the year when the Journal Association came into it. More than four times as many papers have been offered to me than there have been sessions in which to listen to them, as these sessions had been promised to previous applicants months before; very many of these papers have been withdrawn, and I have afterward seen them either in the medical journals of this city, or in those of Philadelphia or Boston. It is bare justice for me to add that I have generally found them to be of such merit that I greatly regretted that the Academy could not have had the credit of their first publication.

The papers which have been read at our meetings have been characterized by careful preparation, thorough research, and original and often valuable hints as to pathological explanations and therapeutical indications. Our discussions have been of such excellence that I am quite certain that every one carries away from our meetings either new suggestions or new information which amply compensate for the evening passed in this hall. In a scientific body like this all discussions should express the results of mature inquiry and a clear and forcible statement of the reasons which have led to positive practice. In some papers the novelty of opinions advocated and the original methods of practice proposed, whether medical or surgical, may be so exclusively a matter of individual experience that all discussion must necessarily be limited at first to inquiries and *a priori* objections, founded on anatomical, physiological, or pathological grounds. Papers of this class should be the

subject of a most thorough and searching examination; for they may be either mischievous, and their effect for evil must be effectually exposed, or they may possess positive value which should lead to prompt acceptance and adoption.

To secure such discussion as will represent the most advanced knowledge of the Academy on any special topic, I have at our recent meetings adopted a plan first introduced by Dr. V. P. Gibney: writers of papers have been requested to send to a few of those whom they knew to have given special attention to a subject the points which it would suggest for discussion, printed on a small slip of paper, and especially asking those who held different or opposing views. They thus have time to arrange and formulate their knowledge and opinions, and the time of those present at the meeting is not wearily wasted in listening to crude, profitless, and digressive talk.

The reports of the treasurers of the Academy and of the Board of Trustees have already been before the Academy. While its financial condition is now better than ever before, there still remains much to do. A few weeks since a Committee of Ways and Means were appointed, of which Dr. Gouverneur M. Smith is the chairman, to solicit contributions to pay off our only debt, a mortgage of five thousand dollars. They have worked with great zeal and enthusiasm, and the Fellows of the Academy have responded with self-sacrificing generosity; the necessary sum has not yet been wholly secured, but the prospect of soon accomplishing this is most encouraging. We particularly need money for preserving our library by book-binding. It will be remembered that last year a generous sum was given for this purpose by a lady who has in many instances shown that she is as warm a friend to the Academy as she is conspicuous for her readiness to aid every good work by munificent support. Many of our Fellows have also most liberally added to the beauty of the library in this way, and have rendered great service in the preservation of our books in good condition, which otherwise would speedily deteriorate.

I have long contemplated offering some suggestions on the present occasion as to the wisdom of a change in our By-Laws relative to the duties and functions of the sections. Only one of the sections, that of Obstetrics and Diseases of Women and Children, has kept up an active organization, done excellent work, and made regular reports to the Academy since my official connection with it. Two or three only of the other sections have reported their organization by the election of a chairman and secretary; and this has been all. Two have appointed a Fellow to read an original paper before the Academy, one of which, a most valuable paper, was read before us. The other I have never been able to get, and, as four years have now passed since that time, I do not think it very probable that it will ever come before the Academy.

The founders of the Academy did not contemplate making these sections independent societies for special work, but as contributing aids to the high aims of the central power. I had proposed to suggest such a modification of Article XVII, Section 2, as would assign to the sections functions similar to those of the Academy of Medicine of Paris. But we have not the time now to consider the details of such a change, and I leave the matter for future consideration by the Academy and my honored successor.

Neither did the founders of the Academy intend that it should absorb or concentrate in itself all the scientific work of the profession in this city. The whole spirit of its high aims and purposes indicates that, on the contrary, they desired to stimulate and encourage such work in every feasible direction. I hope the time is not far distant when the Academy will be so well endowed that it may offer to all such societies as the Medical Society of the County of New York, the Pathological Society, the Obstetrical Society, the Surgical Society, and the youngest of all, which has begun its career with excellent scientific work, the New York County Medical Association, a home for their meetings free from all expense.

Our standing committees have always faithfully discharged their important duties, with one exception, and that is the Committee on Medical Education, which has had little to do, and has just done this and nothing more. I may now be permitted to ask if the time has not come when it should be one of the most important and useful of all of our standing committees in carrying out one of the objects of the Academy as declared in our Constitution—"the elevation of the standard of medical education." How can this best be effected, is the question.

It seems to me that a way is now open for this committee to do effective work in this direction. For years the medical profession in all parts of the country have been agitating the question of separating the power of licensing to practice medicine from the teaching power. It is a subject of great importance to the profession, to our medical schools, and equally so to the community. It must be met and settled in a way that will be most effective for good, but this can not be done at once.

There are two ways by which this can be accomplished, but each would require time. One way involves the division of the profession into contending parties, each most zealous to carry its point, and would lead to heated controversies, which always provoke personal feeling and personal antagonism, an appeal for the action of societies, and a struggle for majority votes, not only in medical societies, but in securing legislative action—all of which would undoubtedly affect our medical colleges injuriously and lower the profession in the estimation of the public. Any good secured would be at a great and unnecessary cost. The public can not understand medical controversies except from what appears on the surface. A "doctors' quarrel" seems to the non-medical community like a fight between drunken men in the dark. The late Mr. Charles Dickens once related to me a story which he had heard of how Sidney Smith convulsed a dinner company at Holland House with laughter by his description of a duel between two doctors. The mode of warfare was with croton oil on the tips of their fingers, trying to rub each other's lips.

Now, this question is one which belongs to the domain of reason, and let us hope, for the honor of the profession, that hereafter it will be confined to the region of argument, and that in due time it will be settled to the satisfaction of

all who are actuated by pure motives and a desire to secure the best results. At the last meeting of the Academy some resolutions were offered, but, by the courteous consent of my friends, the mover and the seconder of the resolutions, they were laid on the table for future consideration; I therefore feel that I have now the floor, and venture to throw out a few suggestions as to the other method of meeting this question.

In order that the standpoint from which I look at this subject may be perfectly understood, I will briefly state a few propositions which seem to me common ground upon which we all stand and from which we must start.

Where charters for medical colleges can be easily obtained from State legislatures, it is a duty which the profession owes to the public as well as to itself to protect the community from ignorant, unprincipled practitioners of medicine, who not only swindle their victims, but jeopardize health and often sacrifice human life.

This is a matter of great difficulty where each State is an independent sovereignty as to all such laws, where there is no central power to control action, and where personal freedom of opinion and conduct is zealously guarded as to everything which does not interfere with the rights of others as regards health and property. The interests of the medical profession are so closely allied with those of the medical colleges that what affects the one detrimentally must reciprocally injure the other. The profession have a perfect right to supervise the methods of those who by law are permitted the privilege of giving a diploma, which is effectually a license to practice medicine, and exercise a controlling influence over them.

All wise legislation must be based on a thorough knowledge of all the conditions which demand special law; it can not be evolved from the inner consciousness of any one who has only the spirit, the zeal, and the genius of reform, but must be derived from the accumulated wisdom and experience of the past.

Mere examinations by a special board, who have had no previous training in this direction, no personal acquaintance with the mental characteristics, the habits of study, or the personal conduct of the candidate, would be as unsafe a test for admission to the profession as the present system. Injustice would be done to some, while flippant readiness in reply, which can be easily attained by a quick, bright mind in a few weeks of cramming, without either solid acquirement or sound judgment, would always secure success.

The experience of all countries has demonstrated the wisdom and necessity of examination by and the assent of the teaching faculties. But in all other countries except this there is an additional protection to the profession and the public by the concurrence of another power.

In the Edinburgh University and in some other medical institutions of Great Britain this is vested in a special Board of Examiners. In France it is under the direct control of the government. The Minister of Public Instruction has not only the power of granting or withholding the diploma, but, in addition, even in that so-called Republican government, he has the power of retiring any professor whose teaching is not abreast of the times. In Germany, also, while the methods vary in different universities and in different constituted parts of the Empire, it is yet under government control, which I believe is always exercised wisely.

Now, I offer the suggestion that a committee of judicious, wise, and unprejudiced medical men, which would represent the best interests of the profession, the medical colleges, and the public, could frame a law, with the aid of competent legal advisers, which would combine the two methods, in accordance with the spirit of our Republican institutions and the sentiments of our epoch, and thus save the profession from unfortunate and heated controversies, and from crude, hasty, and ever-changing legislation.

Would not the demands of the most progressive members of the profession be satisfied if the Regents of the University were empowered by law to appoint the Committee on Education of the Academy of Medicine a supervisory Board of Examiners for the medical colleges of this city, whose duty should be to make an annual report, not only as to the examinations for diplomas, but as to other details, as to the instruction and education of the student. This committee should be enlarged to the number of the principal departments of instruction, and should serve without pay—for there can be no doubt that the best men in the profession, who have the time, would esteem it a high honor to serve on such a committee. For the medical colleges in other parts of the State, there would be no difficulty in devising a method by which the Regents would appoint men for the board of supervisory examiners who would be most satisfactory to all.

None except those who are well acquainted with the facts can appreciate the immense advance which the medical colleges of this city have made within the past quarter of a century in teaching and in increased facilities for imparting a thorough education in all departments.

I have also great pleasure in referring to two other schools, the Polyclinic and the Post-Graduate Medical School and Hospital, which have been doing a great work for the more thorough medical education of those who have diplomas, and thus necessarily for the "elevation of the profession," within the past three years. I do not believe that one in fifty of the profession of this city has the least conception of what these schools are doing. If I expressed in moderate terms my estimation of the importance and value of their work to the profession of the country, I should be regarded by many as either carried away by my enthusiasm or prompted by personal considerations—so I will only say, go and see for yourselves. Medical men who visit this city, and who always keep up their professional interest, should not fail to visit and see what clinical teaching and clinical opportunities are found here, with all the equipments for their utilization, and they will be well repaid for the time given up for this purpose. This system of special clinical improvement originated in Germany, and nine or ten years ago I seized an opportunity to visit the most prominent of the Poliklinik in that country. Undoubtedly they have greatly advanced within this time; but I assert that then none that I visited were, either in clinical advantages or in clinical teaching, on a level with our own at the present time.

I take the liberty of suggesting that it would be a wise and politic move for the medical colleges of this city, the New York Polyclinic and the New York Post-Graduate Medical School and Hospital, to take the initiative, and invite the Committee on Medical Education of the Academy of Medicine to visit these institutions, study their methods and their equipments, and report the result of their observations to the Academy at its annual meeting in January, 1886.

It must be obvious to all that this great improvement in medical education, far beyond the elementary teaching of former times, implies not merely a corresponding elevation in the level of the average of the profession, but a still greater growth in the higher standards of medical science and literature. Thus the inquiries are naturally suggested, What is the future of this Academy, what is to be expected from it, and how is it to be placed on the high plane where it should stand in reference to the profession, not only of this city and of this country, but of the world? A wise forecast will early plan to secure a result which it desires to attain.

While our educational institutions are steadily improving their facilities for training the young men who are about to begin their career, and our polyclinics and post-graduate schools are more thoroughly preparing them for the higher grades of the profession, such an organization as our Academy of Medicine—in the great metropolis of the country—should be an ultimate center at which all those who have been long enough at work to find out their individual vocation should have every opportunity to carefully study all the literature of past ages, and make original investigations in every possible field of medical science which can add to its importance. All short of this will be just so far a failure of the true mission of the Academy.

Thus far, which is only a beginning, the Academy has done its duty in bringing together most of the best men of the profession and making them acquainted with the special ability of each, in collecting a most creditable library for consultation, research, and circulation, and in stimulating and bringing out good literary scientific work.

What the Academy requires in the future is:

1. A large fire-proof building, with ample room for a library containing all the medical literature of past and coming times, and including:

2. A large hall for its meetings, and others for smaller societies and for committees.

3. A large room for a museum illustrating physiological and pathological anthropology, which should include a craniological series, a pathological series, and a series of sections and casts illustrating topographical human anatomy and comparative anatomy series.

4. An anthropometric laboratory, provided with the best means of measuring human bodies, the faculties, and every thing appertaining to these subjects, which should include a set of psychological instruments and everything pertaining to the series.

5. A lecture hall, connecting with the laboratory, and fully equipped with apparatus for lecture and demonstrations of all kinds.

6. It should also have a thoroughly educated and trained pathologist, who should, by means of an adequate salary paid by the Academy, be able to superintend all the scientific work, and report on the specimens furnished to him; also a capable mechanic, skilled in brass and glass work, and a good practical phonographer.

This is a broad scheme, which will require a very large endowment; but it is my firm conviction that it only outlines the future of the Academy, even if it demands a million of dollars. The liberality of New York is as boundless as its wealth, when the worthiness of an object is demonstrated. But large wealth is subjected to perpetual annoyance from solicitations, and to criticism from those who have some pet end to promote which they deem the most important above all others. This kind of discipline trains wealth to the exercise of discrimination and judgment, and, besides, it has its own convictions as to how its surplus can best be employed. The position of the possessors or representatives of great wealth in this country is peculiar and anomalous, and the thinking men of this class, and there are many, perfectly comprehend this.

There is no reason to suppose that there will be any exception in this country to the general experience of the world in the past, which is that those who have but little or no property will greatly outnumber those of large wealth. Here lies the peculiarity and anomaly of wealth with us. Heretofore property has protected itself through its representatives by monopolizing or controlling the law-making and the law-administering power; with us the condition of affairs, if not actually reversed, has certainly been brought within the possibility, if not the realization, of absolute reversal; inasmuch as, through universal suffrage, untrammeled by conditions of property, and absolutely (in theory at least) free elections, the control of all law-making bodies and the appointment of all law administrations have come to be possible with those "who have not" rather than with "those who have."

Property and its representatives, more especially the representatives of very large wealth, are therefore exposed to dangers in the future with us, through arbitrary or destructive legislation, which have not existed or do not now exist anywhere else. The possessors of great wealth, by virtue of their superior education and knowledge of the use of methods, may be able to guard themselves in the future as they have in the past, but this will turn on the question of whether the great majority of them have the clear perception of the future and the sagacity to avail themselves of the two strictly legitimate methods for protection open for adoption.

The first is to bring to the masses, in whom all political power rests, a full realization of the fact that nothing so undermines the property of a State, or so quickly impoverishes the people, through the arrest of industrial growth, as the impairment, or the menace of impairment, of the rights of property.

The second is the demonstration by the possessors of wealth, by liberal contributions to every object that can benefit humanity, relieve suffering, prolong and preserve human life, improve education, aid scientific investigation, and promote a higher development of art, that it is a greater

boon to the masses than it is possible to secure by any other means, as the past history of the world illustrates.

We have abundant proof that this view has been adopted by many in this city. The foundation of the Astor Library and the Cooper Institute is a corroboration of this statement as regards the past. The splendid gift to the College of Physicians and Surgeons by Mr. W. H. Vanderbilt, the munificent endowment of the New York Cancer Hospital by Mr. John Jacob Astor, and the generous and liberal contribution of Mr. Andrew Carnegie for a pathological laboratory in the Bellevue Hospital Medical College, are recent evidences of the correctness of my assertion. Such noble examples are sure to be emulated by many others in the future.

The wonderful growth and development of this country are unparalleled by anything in the history of the past, and they are certain to go on in even more rapid strides for years to come. Its educational and scientific institutions will be placed on a corresponding plane, as compared with other parts of the world, with its industrial, its financial, and its political relations.

There is another point worthy of remark. Men of wealth, in common with other men of intelligence, like those devoted to literature or science, have a desire to be remembered after death. They have a dread of having their names and the record of their lives pass into utter forgetfulness or oblivion. To avoid this, the resting places of the dead are everywhere crowded with cenotaphs and memorials. This is strikingly manifested in some parts of the country by the most expensive monuments and mausoleums of modern times. They crowd each other in some of our cemeteries to such a degree that they lose all their individuality in their multiplicity, and the names which they are intended to keep alive are forgotten in the observations as to the comparative merits of the architect or stone-cutter who has erected them. The only question asked is, "How much did it cost?" and the only suggestion is that of vulgar wealth. "Yet all here," to quote from quaint old Sir Thomas Browne, "are but Babel vanities. Time sadly overcometh all things, while her sister Oblivion reclineth somniferous, making puzzles of Titanic erections and turning old glories into dreams."

The only lasting monument a man can build is the reputation he makes during life and the memory of the benefit which he has, in some form or other, conferred on those who live after him.

> "For the good dead, through the ages
> Lingering in historic pages,
> Ever gleam and grow immortal,
> Unconsumed by moth and rust."

From all these considerations, I feel justified in expressing the belief that the ideal of the future of the Academy which I have given will at no remote period prove to be history. I hope to live to see it well begun, and I have the strong conviction that some now present will see it in full accomplishment. Some man of wealth, fully comprehending the importance of this Academy, not merely to the profession, but still more to the public, will esteem it a privilege to have his name prefixed to our new hall, by virtue of furnishing the requisite sum to build it and perfectly equip and support it; others will contribute the necessary amounts to give their names to each of the special museums that I have mentioned; and others will place their names on an alcove in the library.

I here crave indulgence for one remark—the only one personal to myself: I trust this evening will end, on my part, all official connection with any medical societies. The remainder of my life, except the time necessary for bread-winning, will be devoted to putting on record the results of more than forty years of study, observation, and experience, with the hope that they may be of some value to the younger men of the profession, and to doing all in my power to urge forward that future of our Academy which I have anticipated.

I have but a few words to add before introducing my successor. Some years ago, when I was elected to a similar place of honor in another society, I remarked: "Scientific societies seem to be governed in their selection of office-bearers by one of two principles. One is to confer honor on those who, by their contributions to literature and science, have won a right to it. The other is to select such as will most efficiently perform the duties which pertain to the office." In the election of my successor, the Academy has most happily combined both of these principles. His literary and scientific work has won for him an enviable fame and high distinction, equally in this country and in Europe. His ability as a presiding and executive officer has already been successfully tested by his former service as president of the Medical Society of the County of New York, and of the Medical Society of the State of New York. Thus he begins his career with a prestige which is a promise of great success.

I now have the great pleasure of presenting to him the "loving-cup," on which his name has already been engraved, and which is to be transmitted to his successors in turn. It is ornamented with the symbol of friendship and love, and on it is expressed the sentiment, "May peace and love be multiplied unto us."

Some years ago the phrase was very current in the political world, "Let us have peace." It is as wise a sentiment for the medical as for the political world. I sincerely hope that my successor will never have to qualify this with the paradoxical appendix, "Let us have peace, even if we have to fight for it."

Original Communications.

ABSCESS OF THE LIVER.*

BY E. G. JANEWAY, M. D.

The subject which I have chosen for presentation is perhaps old, and one of which the literature is well advanced, yet it has appeared to the writer that it might not be inop-

* Read before the New York State Medical Association, November 20, 1884.

portune to reintroduce an old acquaintance. The reasons for the selection have been the comparatively large number of cases I have met with this year, and the impression, which is pretty general, that the disease is of very uncommon occurrence in our climate; and because of the consequent failure to be on the lookout for it, as well as because of the mistaken opinions concerning the nature of the symptoms which very good clinical observers at times fall into. Abscess of the liver is no homogeneous subject, but one requiring considerable subdivision for intelligent consideration. Suppuration in the liver may either occur in the form of single or multiple abscess, of suppurative pyle- (or portal) phlebitis, or of purulent catarrh of the bile ducts; and in close relationship with the liver we may meet with abscess of the gall-bladder, or between the liver and the diaphragm, properly called subdiaphragmatic, or, perhaps better, supra-hepatic abscess.

The writer's intention is to limit his remarks to the proper abscesses of the liver. These, as has been observed, are single or multiple, and the former of these may have no apparent cause, being, as it is termed, idiopathic, while the others are dependent upon infection through the portal system, or are a part of a pyæmia, from systemic infection, in contradistinction to portal. I believe, however, that some simple abscesses of the liver are due to infection through the portal system, several smaller abscesses uniting to form larger ones. During the present year the writer has met with seven cases of abscess of the liver—two of abscess between the diaphragm and the liver, and one of abscess of the gall-bladder. Of the seven cases of liver abscess, four of the patients are living, three having recovered as the result of operative procedure, and one, with spontaneous perforation, is on the path to recovery. Three have terminated fatally—one as the result of exhaustion from the original disease, the abscess of the liver which perforated the lower lobe of the right lung, and was discharged per bronchia; one as the result of perforation of the pleura and the exhaustion accompanying this; the third from the severity of the liver affection. Let me invite your attention to some of the details in these seven cases:

Case I.—Dr. B. D. This gentleman was of active habits, without decided tendency to disease. Some years before his illness he was supposed to have had phthisical trouble in his right lung. The commencement of his illness was in September, 1883. The symptoms were those of malarial trouble, and during the course of his sickness he had jaundice of moderate grade. From this he recovered sufficiently to go on a shooting trip in Arkansas; but while there, during December, he was thrown from his horse, striking on his right side over the region of the liver. After this he became worse, had severe pain develop in the hepatic region, which, later, was also severe in the right shoulder. The temperature became hectic in character, and he lost flesh and strength. When seen in February, 1884, he was found to have intense pain in the cervical plexus of the right side, a markedly enlarged liver, a large spleen, with evidences of fluid on the right side, with feeble respiration and slight crepitant sounds at right apex. He had also pernicious anæmia of grade. The enlarged liver was tender on pressure, and in its lower portion could be distinctly felt. His skin was dark, but not distinctly jaundiced. The temperature was elevated at night, 101 degrees, or nearly so, in the morning. He was unable to move much on account of pain and shortness of breath, which were developed on exertion.

The questions which arose in the diagnosis of his case were:

1. To what shall these symptoms be attributed? Are they due to the combination of several morbid processes, or is only one at work?

2. Is it simple malaria?

3. Is it tuberculosis plus malaria?

4. Is it abscess of the liver? If so, did the fall in December originate it, or should it date back to the time of the malarial attack in the early autumn?

My own impression was, and I so stated to the physicians accompanying him, Dr. Johnson and Dr. Scott, that he had hepatitis, with developing abscess of the liver; that the signs at the apex of the right lung were the residue of the old process which he had had some years before; that it was impossible to decide whether the disease dated back to the fall and striking on his side, or should be referred to the time when he first became ill; but that the fall upon a liver enlarged by a previous malarial trouble would be more apt to produce disease, and would better satisfy the conditions and history. It was admitted that an absolutely positive opinion could not be given without exploration. He was seen at the same time by two other physicians. He went to Nassau, but in opposition to the opinion I had expressed when consulting about his case, for a tropical climate did not seem adapted for a case of possible abscess of the liver.

My reasons for the diagnosis were that, so far as his lungs were concerned, they showed no such active process as would account for the symptoms present. In fact, what previous trouble he had had would satisfy the physical signs, except the dry pleurisy present below. That while this might, perhaps, be due to tuberculosis starting from some infecting point, yet, in view of the condition of his liver and spleen and the history of the case, it would do more violence to the facts to suppose this than to think it either an intercurrence, or possibly due to an irritation propagated from below.

While in Nassau he had for a time a severe fever, with pain in his side, and was for the most part confined to the house. He reached home in May, and for a time seemed improved; but at the end of the month he was seized with dyspnœa and collapse, from which he had rallied when I visited him on the 3d of June, thanks to the careful skill of his physicians. They had found his right pleura filled, and, in connection with the past history, supposed it due to the bursting of an abscess of the liver through the pleura.

He was considerably emaciated from the time I had previously seen him, having, owing to the loss of the use of the right lung, marked dyspnœa. By aspiration, three and a half pints of a fluid, resembling tomato-catsup in color, were drawn off. This, examined microscopically, was found to contain red-blood globules, fatty pus-cells, and granular matter, but no well-formed or recent pus-cells. Moreover, these cells were not close together in the fluid. The fluid coagulated by addition of acetic acid. Under these circumstances, and in view of the difficulty of dealing with the abscess of the liver in case of free incision, it was decided to aspirate two or three times more, and, if offensive odor should come to the fluid, or severe hectic develop, or marked suppuration, then free incision into the chest, with efficient counter-opening to secure good drainage, should be made, and the chest washed out. The following letter I received from Dr. M. L. Scott, his attending physician. The following letter will give the subsequent history:

"Our friend, Dr. D., died at 10 A. M. on the 3d of July. You left him on the 4th of June. On the 9th, I withdrew 24 pints of fluid; on the 13th, 3 pints; on the 17th, 3¾ pints; and on the 24th, 4 pints 2 ounces. At all these aspirations we got

fluid of appearance similar to that you saw. Only at the last aspiration was the fluid offensive. On June 27th we did through drainage, and thoroughly washed out, not only then, but until the end, with thorough antiseptic precautions. His course, especially after the drainage, was downward. He rapidly passed into an asthenic state, the pulse rising and the temperature falling. At the last, morphia was necessary to quiet his restlessness. A persistent dysentery developed four days before drainage was performed, and, resisting all treatment, continued until the end.

"I made the autopsy six hours after death. Emaciation and jaundice were everywhere extreme. The heart was found somewhat displaced to the left. The left lung and pleura were perfectly normal, with the exception of a few filiform adhesions at the base. The right lung was completely collapsed, and firmly adherent to the pleura at apex, and anteriorly at the junction of the second and third rib with the sternum. Both surfaces of the right pleura were much thickened. The drainage-tube traversed the cavity for four inches, and was in the best possible position for drainage. Through the diaphragm we found an irregular opening, two inches in diameter, leading downward into an hepatic abscess. The abscess held twenty-four ounces. Its walls were eroded, and surrounded by a dense cicatricial tissue half an inch thick. The abscess had burst through the highest portion of the diaphragmatic arch. It was nearest the peritonæum at its lower and anterior portion. Here it was one inch and a half from the free surface. The liver weighed seven pounds and a half. The left lobe was as large as the right. On the anterior surface we found an irregular, retracted cicatrix marking the site of a former perihepatitis. On the concave surface of the left lobe we found an abscess, as large as a hen's egg, about to burst into the peritonæum. In various situations through the hepatic structure we found half a dozen small purulent accumulations of a pyæmic nature. The kidneys were three times their natural size, and had undergone a waxy degeneration. The spleen was enlarged, and, together with the liver, had undergone a waxy degeneration. No tubercular or malignant change was found at any point. The rectum was inflamed and superficially ulcerated. The mesenteric glands were normal.

"Yours, very respectfully,

"M. L. Scott.

"Lexington, Ky."

In this case it seems certain that the small abscesses were secondary and of a pyæmic nature, as Dr. Scott has written in his description of the case.

Case II.—This was in a child, three years and a half old, brought to me by Dr. Taylor, of the Hospital for the Ruptured and Crippled, in May last. This child lived on Long Island, and had been gradually growing weaker, without, as the mother said, having had fever or anything beyond a swelling in the abdomen. A careful cross-examination, after a decision as to the nature of the trouble had been reached, failed to establish any cause for the liver abscess from which this child suffered. The mother denied any fall, hurt, diarrhœa, dysentery, etc., preceding or following the appearance of the swelling, which, according to her account, had been progressing for nine or ten months. An examination showed a tense, elastic tumor in the epigastric region, and, from its situation, probably occupied the left lobe of the liver. The child cried so on going near, or touching it, that it was necessary to put the child under ether for examination and exploratory aspiration. Not having time that day, it was postponed, owing to absence from the city, until June. In the mean time, Dr. W. T. Bull had also seen the child, and, at his request, it went to the New York Hospital, where I saw it with him at the time of operation.

There an exploratory aspiration revealed pus. This was followed by a free incision, the laying in of a drainage-tube, and washing out with bichloride solution, 1 to 5,000. The left lobe of the liver was found adherent to the anterior abdominal wall, and nearly a quart of pus was evacuated.

Dr. Bull informed me that the child subsequently made a good recovery.

In this case, from the history the mother gave, from the age of the child, and the presence of a slowly growing tumor, markedly elastic to the feel, I had supposed it more likely to be an hydatid sac, though, as you all probably know, these are extremely infrequent in this country, and occur, if not exclusively, almost so, in those who have at some time lived abroad or are immigrants. I had, however, qualified this possibility by insisting on the necessity of an exploratory aspiration for diagnosis. Such a case is a very good illustration of an idiopathic abscess of the liver. Because the mother denied a fall or injury, it is not impossible that the child may have had one.

Case III.—This case occurred in Bellevue Hospital last August, while I was visiting for Dr. Smith during that month. J. G., aged thirty-two; born in United States; admitted to hospital August 7, 1884. The patient said that, with the exception of an attack of Bright's disease, nine years previously, he had been well up to the time of his present illness, three weeks before admission. Then he was taken with severe pain in his left side, which pain was intensified by any motion of his body. His bowels had been regular, his appetite good, but, notwithstanding, he had gradually been losing in flesh and strength. He denied having had any chilly sensations or feeling of fever at any time.

On admission, the patient was found weak and anæmic, complaining only of pain over his left side. An examination showed the presence of a tumor in the median line occupying the epigastric region. This tumor did not move with respiration; it was elastic to the touch, and, from its position, was situated in the left lobe of the liver, which, from its not moving with respiration, was probably adherent to the anterior abdominal wall. Moreover, there were no friction sounds over it. The probable diagnosis was abscess of the left lobe of the liver.

The patient had, in addition, a faint presystolic mitral murmur, with slight enlargement of the heart. The urine contained a small amount of albumin, but otherwise was normal.

On the next day a free incision was made into the abscess under ether, and a large quantity of pus evacuated. The abscess cavity was washed out with bichloride solution, 1 to 5,000, a drainage-tube was introduced, and the wound dressed antiseptically. An exploration at the time of the operation showed the abscess to be in the left lobe of the liver. After this the cavity was washed out with a bichloride solution, 1 to 2,000. It discharged very little, and was neither tender nor painful. On the 25th of August the cavity was closed by healthy granulations, the patient having in the mean time gained in flesh and strength. He was discharged October 31, having made a good recovery.

Case IV.—This patient occupied a bed in the same ward with Case III. He had been admitted and operated on while Dr. Smith was attending to his service, but passed under my supervision and observation during August. C. B., aged thirty-five, porter, admitted to Bellevue Hospital July 23, 1884. With the exception of a stricture, he had been well until two months before admission, when he had intermittent fever for nine days. After this he was well until five weeks before admission, when he had severe pain in his left side, which had continued constant.

Nine days before admission he noticed a small lump just over the ensiform cartilage, which had gradually increased in size, was tender on pressure, but not otherwise painful. This, after a few days' stay in the hospital, was incised, washed with a carbolic-acid solution, dressed antiseptically, and allowed to discharge through a drainage-tube. Suffice it to say that he made a good recovery. This case more properly belongs to Dr. Smith, so that I am content to give it this brief mention.

Case V.—Mr. O., a resident of Brooklyn, called at my office with his physician, Dr. Peer, Monday, October 27, 1884. He was forty-three years of age, and had been well, with the following exception: He was a man of good habits. At this time he denied any injury or strain at the time of the inception of his trouble. But later, on inquiry from his wife, the following history was obtained. In December, 1881, having a gun in his left hand, he ran to catch a car, and seized it in expectation of having it stop, but instead he received a severe wrench in his right shoulder, and was dragged, without losing his feet, for some distance. He was laid up by the sprain of his shoulder, and, while under treatment for this, began to have pain in his right side over the region of the liver, which was accompanied by its marked enlargement. At this time he lost flesh and strength, and had some fever. He took a trip to Cuba, and returned without improvement, but shortly afterward suddenly began to improve after taking taraxacum, and apparently recovered completely. During this time he had lost thirty pounds in weight. About a year and a half later he had an attack of pain over, and some swelling of, the liver, lasting for three weeks, and again improved. The attack for which I saw him began in August, and came on after running to the cars while in the country for the summer. He was driving, and the axle breaking threw the other occupants out, but he remained seated, and says that he neither experienced a jar from this, nor any special exertion from his run to the train afterward.

He was soon affected with the enlargement of the liver, pain in his right side, a slight evening rise of temperature, and a gradual failure of flesh and strength. His weight had decreased twenty-five pounds at the time of his visit to me.

For a short time before this he had had intense pain over the liver and in his right shoulder. At the time of his visit the most notable symptoms were the hepatic tenderness and enlargement. The enlargement was such that the line of hepatic flatness was increased in an upward direction for one inch and a half, and downward for two inches. The diagnosis arrived at was abscess of the right lobe of the liver in the convexity of the diaphragm, which, in view of the severe pain, was producing perihepatitis. No fluctuation could be obtained, nor any evidence by which the abscess could be located absolutely. A blister was advised over the right side, a careful record of temperature, and the use of Warburg's tincture for the fever.

The pain disappeared very soon after the application of the blister. The evening temperature rose as high as 102°. After [illegible] accompanied with slight expectoration, and ended on the sixth day by a severe cough and an expectoration which amounted to a chamberful in twenty-four hours.

[illegible] of a brownish color, thick, and some [illegible] Under the microscope it showed fatty pus-corpuscles, granular matter, and blood-globules, but no distinct evidence of [illegible] A physical examination made on the [illegible] showed marked dulness over the [illegible] lower one of the right lung, feeble respiratory [illegible] and was attended by numerous coarse, moist [illegible] and a pleural friction murmur and an absence of [illegible] the rest of the right and over the left lung. Moreover, the [illegible] was not markedly barred, and the area of hepatic flatness had considerably decreased from the time of my former examination. In view of the amount discharged, of the little effect upon the lungs, of the improvement in his general condition, and the diminished size of the liver, it was decided that it would be wiser to wait a few days than to explore the liver with a view of removing the pus by aspiration. On Tuesday, November 4th, two days after the marked discharge from his lungs, he had colicky pains in abdomen, followed by several movements and the discharge of pus, and blood in clots. On the next day his bowels were quiet, but on the 6th he again had smaller passages, accompanied by some blood. A re-examination on this day showed that the respiratory murmur had returned over the right lower lobe, that the râles had disappeared, and that, beyond a less degree of resonance over this portion, there was nothing to tell that the abscess had discharged in this way. The area of hepatic flatness had still further decreased, the temperature was normal, and the patient felt himself markedly improved. The treatment adopted was symptomatic and supporting from the time of his first visit. I have heard that he is progressing favorably, though I have not seen him since. His case illustrates the advantage of a counter-opening. A careful review of his case makes it seem probable to me that he had an abscess of the liver during the time of his first illness two years and eight months before the discharge spoken of above; that this became latent, and that in his efforts, though unknown to himself, when the axle broke, or during the subsequent running, he received sufficient injury to relight the old trouble possibly around the wall of an old abscess.

Since writing the above a second discharge has occurred through the lung, and at this time the discharge by the bowels ceased. His general health has improved.

Case VI.—W. R., male, aged twenty-two years, was admitted to Mount Sinai Hospital, March 8, 1884.

His past history was of no importance, and there was nothing marked about his family history. His illness began, three months before admission to hospital, with chills, repeated every afternoon, lasting a quarter of an hour, not followed by perceptible fever, but by sweating during the night. These continued until three weeks before admission, since which time the chills had ceased, but the sweating at night had continued.

He had had severe pain in the left hypochondriac region and across the back, which came and went. He had lost flesh, strength, and color. Two weeks before coming he had lost some blood with the stool. He had been up and around until two weeks before admission, and his bowels had been regular until three days before, since which time he stated that he had had three or four thin stools daily. On admission, he was emaciated, pale, of a sallow complexion, having loose movements from the bowels, and complained of pain in the back and in the left hypochondriac region. His pulse was feeble and frequent. After a short residence in hospital, he was found to have a psoas abscess on the left side, and at different times friction sounds were heard over the lower part of each lung. The peculiar points in his history were that three weeks after admission he suddenly spat up a teacupful of pus; on the next day the psoas abscess was found decreased, and very evident fluctuation, and the evidence of gas could be made out where previously only pus had been found. His liver had been, and was, enlarged, and his breath was of that sweetish odor indicative of suppuration. His pulse was frequent from the first, and his temperature ranged from 98° to 99° A. M., and from 99° to 103° P. M., until four days preceding death, after which it did not reach 100°. He died comparatively suddenly, while straining at stool. He persistently refused any exploration or operation.

The autopsy revealed an abscess situated in the convexity of the right lobe of the liver, which had perforated the diaphragm

and opened into a bronchus in the right lower lobe, thus explaining the sudden expectoration of pus. In his liver, besides this larger abscess, were several necrotic areas. The psoas abscess communicated with the descending colon, which was the seat of follicular dysentery. He had, in addition, a single kidney, situated on the right side.

From the order of events in this case it is certain that the psoas abscess was primary, next followed the dysentery, and, accompanying it, the abscess of the liver. During life these sequences were not so easily made out, for, when the diagnosis of psoas abscess had been made, the accompanying diarrhœa seemed possibly the result of tubercular rather than simple follicular ulceration; moreover, the friction sounds over each lower lobe seemed to point toward a possible generalization of the supposed tuberculosis, whereas the subsequent evidence showed it to be due on the left side to a propagation of the inflammation, while on the right it was due to the hepatic abscess. Again, when, following a discharge of pus from the lung, air was found in the abscess sac, it seemed probable that the abscess had discharged *per bronchia*, especially as I made careful inquiry whether there had been any blood or matter in the stool which would indicate a perforation of the bowels, and, receiving a negative answer, felt justified in considering the pus voided by the lungs as coming from the psoas abscess. The cause which led to the mistake about the evacuation was that the pus was colored a slaty hue by the bismuth which he received.

Case VII.—Thomas Coogan, aged forty years, a longshoreman by occupation. No good history could be obtained from this patient, he having been sent to the hospital as a case of alcoholism. From his account, which was probably incorrect, he had only been sick five days. His symptoms consisted of delirium, fever, a large, tense abdomen, owing in great measure to a marked increase in the size of the liver. To this dyspnœa was added marked and rapid prostration of the vital forces. His bowels were constipated, and required a laxative. On inspection of this patient, I reached the conclusion that he had inflammation of the liver which had formed, or was forming, an abscess. There was no clew to the exciting cause. A single exploration was made with a negative result.

The autopsy showed multiple abscesses of the liver, varying in size from that of a marble to a small apple. The amount of liver tissue involved in the abscesses seemed greater than that unaffected. In several places these abscesses had excited a perihepatitis. The only other organ involved was the cæcum. In this there was at its dependent portion an ulcer, which had destroyed the mucous membrane for a space an inch and a half in length by half an inch in width, and also a follicular ulcer about the size of a large pea.

The reason for which I have introduced this case is that it shows how severe an affection can start from a limited infecting surface. The ulcer was undoubtedly of older date than the hepatic trouble. It seems not improbable—in view of the fact that, as well as other writers, I have met with a number of cases of solitary abscess following dysentery—that some of the so-called idiopathic abscesses are in reality dependent upon an infecting surface in the course of the stomach and bowels.

The symptoms of abscess of the liver are not uniform, because in some cases we have the action of the cause still persisting and adding its phenomena to the effect produced by the suppuration of the liver; and also in consequence of the situation and size of the abscess as well as the peculiarities of the patient. The main phenomena, however, are few, consisting of a more or less marked enlargement of the liver as a whole, or of that lobe which is the site of the disease; of a hectic type of temperature, whose limits are in many cases not great, and in some cases, with no thermometric record, it may be denied that fever has occurred; of pain and tenderness over the liver, especially if perihepatitis coexists; with in not a few cases a reflected pain in the right shoulder in those cases affecting the right lobe; and of progressive loss of flesh and strength. Jaundice is much more conspicuous by its absence than by its presence. The same may be said, so far as my experience goes, of melancholia. Of late years, owing to the extravagant statements of some writers, I have paid particular attention to this point, and have been strongly impressed by the absence of marked depression of spirits in these cases. One of my patients, in reply to the question why he was not melancholy, replied: "What is the use? I may as well put up with what is the matter with me." So that I am convinced that the connection which has been supposed to exist between these conditions is a fancied rather than a real fact. Moreover, autopsies in persons who have died with melancholia do not establish the correlative proof.

Hepatic enlargement, associated with tenderness or not, and fever of a hectic type, with some loss of flesh and strength, are in many cases the only symptoms of the disease. When the abscess discharges, or is in the way of discharging, we meet with additional symptoms, varied according to the avenues traversed. The channels thus sought in my experience have been, the pleura, bronchial tubes, pericardium, peritonæum, and intestine. Cases are on record of other methods of exit. Of these you will find mention in literature. I might add that I have never met with an abscess of the liver which discharged externally spontaneously; all such as were on the way to do so were opened.

In order to bring this paper within the limits of the time allotted at such a meeting as this, I desire to draw attention briefly to certain points in connection with the subject.

1. Abscesses of the liver can practically be divided into those affecting the left lobe, or the lower part of the right lobe, so that the abscess when formed produces an elastic or fluctuating tumor below the free borders of the ribs; and of those situated in the upper or posterior portion of the right lobe. The reason for this division is that abscesses in the two former situations are easy of access, of diagnosis, and of operative interference. The abscess in the last-mentioned situation is the one which more often gives rise to difficulty in diagnosis, or, if diagnosticated, to doubt as to the best and safest methods of interference.

2. There are several methods by which the existence or non existence of adhesions between the liver and abdominal wall can be made out. The presence of hepatic friction, audible or tactile, shows the absence of adhesions, but the probability that they will soon be formed. If, on palpation, the edge of the liver remains fixed, and does not descend with respiration, adhesions have in all probability taken

place. Again, a long needle—that of a hypodermic syringe or aspirator—introduced into the liver, will, if the outer end is left projecting some distance, move upward as the liver descends, and downward as the liver ascends, if no adhesions exist. But, if these have formed, then the needle does not move.

3. The difficulties which arise in the diagnosis of liver abscess may in many cases be surmounted by a careful survey of the history, of the condition of the liver, and by exclusion of the existence of sufficient disease in other organs to account for the symptoms.

The mistakes which I have seen made have been:

a. To consider a liver abscess some other disease, as malarial fever (remittent and intermittent), typhoid fever, or tuberculosis.

b. To consider an abscess of the liver some other disease of the liver, as hydatids, cancer, congestion, fatty liver, hyperplasia.

c. To consider the swollen liver an aneurysm of the aorta, especially in case of abscess of the left lobe of the liver, where pulsation was communicated to it by the aorta.

d. To consider an abscess of the gall-bladder an abscess of the liver, and *vice versa.*

e. To consider a supra-hepatic abscess an abscess of the liver.

f. To consider an abscess of the liver one of the abdominal wall, and *vice versa.*

Some years since the writer had supposed that a distinction could be made between liver abscess and cancer of the liver by careful attention to the patient's temperature; but subsequent investigation has shown that, in cases of rapidly growing or disseminating cancers, a hectic type of temperature may exist.

4. As regards the ætiology of liver abscess, I believe that many of the apparently idiopathic are of traumatic origin. I have in several instances ascertained its occurrence in persons who were in the habit lifting heavy weights, particularly those who did so in hot places, as firemen, those unloading vessels, etc., by placing the right elbow firmly against the side, and then having the weight raised in this way. By this statement I do not mean to deny the probable influence of bacteria in the origination of abscesses, but to attribute to traumatism the establishment of that favorable condition which will allow of abscess formation.

In concluding, I might add to this paper, which is intended to present the subject in a practical manner and as it has occurred to the writer, a few remarks on treatment. I believe that all accessible abscesses associated with an adherent liver are best dealt with by free incision, washing out with an antiseptic fluid, the introduction of a drainage-tube, and by antiseptic dressing.

The writer had occasion, in one case of non-adherent liver with abscess, to employ the following means of promoting adhesions: The abscess was situated in the lower portion of the right lobe, so as to be reached below the free border of the ribs. An abdominal bandage was wound moderately tight around the body, and then the abscess was emptied by aspiration through a cannula, a trocar being used instead of the needle. After emptying the abscess, the cannula was allowed to remain, care being taken to prevent access of air by a valve of adhesive plaster. In a few days the cannula was removed and reintroduced an inch and a half from the point of previous puncture, and again, as before, allowed to remain. After this, hepatic friction, which had previously been audible, disappeared, and the motion of the liver with respiration ceased, proving adhesion. Then a free incision was made between the two places through which the trocar had been introduced.

The use of the abdominal bandage is sufficiently manifest as a means of preventing motion of the liver, and of holding it fixed, and needs no special comment. Under such treatment a patient should be kept absolutely quiet in bed. The proper treatment of the large abscess in the posterior part of the right lobe is a matter of considerable doubt. In many cases aspiration is the only resource. Should the abscess, however, be near the surface, and this can be ascertained by the depth to which the needle attached to an aspirator has to be introduced before pus is reached, the writer believes that, if the abscess had been aspirated and the sac refilled, then it would be wiser to make a free incision, even should it be necessary to exsect a portion of a rib in order to accomplish the drainage of the sac. A careful consideration of each case would be necessary, as without proper precautions the pleural sac would be opened.

The medical treatment must be symptomatic. The writer believes that rest, a cool climate, and maintenance of the nutrition and strength of the patient, are the main points to be secured. The important point is to secure an early and safe exit for the pus.

The writer has met with two additional cases of liver abscess since writing the above. One of these affected a laborer, who was in the habit of lifting heavy weights, which he carried on his left shoulder, supporting them by his right hand carried over his head. The abscess was situated in the right lobe, upper and right portion. The liver did not descend below the free border of the ribs, and was adherent. The symptoms were pain in the right shoulder and in the right side, loss of flesh and strength, with some febrile movement, and nocturnal perspiration. The case was referred to me by Dr. Fruitnight, of this city. Twenty-two ounces of a chocolate-colored fluid were removed by aspiration by Dr. Fruitnight, on November 29, 1884, by puncture in the ninth intercostal space in the inferior axillary region. I had recommended this space because it was the most tender on pressure, and, on exploratory puncture, there was revealed pus between two and three inches from the surface. The result is still uncertain.

ON SURGICAL TUBERCULOSIS.

By R. J. HALL, M. D.

(*Continued from page 88.*)

II. Tubercular Lymphomata.—1. Anæmic, but otherwise robust young man. Lungs apparently sound. Cervical and axillary lymphomata of two years' duration. Partial extirpation February 19, 1884.

Microscopic examination shows large-celled infiltration, abundant miliary tubercles containing giant cells, and advanced caseous degeneration in parts.

Four specimens, violet and brown. Three negative; one shows a considerable number of bacilli on borders of a caseous mass.

2. Man, aged twenty-one. Cervical lymphomata of six years' duration. Extirpation April 15, 1884.

Microscopic examination shows large caseous masses in all the glands, and immense numbers of miliary tubercles, containing, generally, one to three giant-cells.

Three specimens, violet and brown. One negative; in one, three bacilli in one giant-cell. In another section, one bacillus in a giant-cell, and one among epithelioid cells.

3. Young man. Cervical lymphomata. Extirpation June 18, 1884.

Microscopic examination shows glands to be almost entirely caseous; only at the borders of the glands are a number of typical tubercles, almost all caseous in the center, and most containing a giant-cell.

Three preparations, violet and brown. One negative; in one, six bacilli together, among epithelioid cells; in another, two giant-cells contain each a bacillus.

In a fourth case, where cervical lymphomata presented the typical tubercular structure, no bacilli were found in the three sections examined; but, as they were found in sections of a tubercular cervical ulcer, excised from the same patient, the search was not continued.

Mögling, in his discussion of chronic lymphomata, quotes Ziegler's classification as follows:

1. The small-celled hyperplasia, undergoing caseation or suppuration.

2. The large-celled, indurated hyperplasia.

3. The reticular hyperplasia.

4. Tuberculosis, and the more complicated and less satisfactory arrangement of Orth. He shows that Group 2 in the foregoing is undoubtedly to be considered as tubercular, both from the anatomical structure and the fact that Dr. Nauwerck and Mögling himself have demonstrated the bacilli in glands of this structure; but leaves it doubtful whether those in the first group, which undergo cheesy degeneration, do not belong to the same category. The four cases given above all presented the classical tubercular structure described by Schüppel, namely, groups of epithelioid cells inclosing more or less numerous giant-cells. To these may be added a fifth, not of a surgical character.

5. Mesenteric lymphatic gland from child dead of tuberculosis of the lungs, liver, and mesentery. Mesentery studded with miliary tubercles.

Microscopic examination: Almost the whole gland caseous; at the borders a few tubercles, most of which are fibroid. Here and there groups of lymphoid cells, not yet cheesy.

Three specimens. Two negative; in one, four bacilli lying among lymphoid cells.

These cases, therefore, only furnish additional evidence, if such were needed, that all lymphomata possessing this characteristic structure are due to the invasion of the tubercle bacillus. The further question raised by Mögling, whether any other than these are due to the same cause, has been practically settled by Koch* himself, who, after demonstrating the bacilli, in all cases, twenty-one in number, having the tubercular structure, failed to find them in any of a number which were enlarged, in some cases softened, and containing small collections of pus, but which did not show the collections of epithelioid and giant-cells. Here, then, as elsewhere, we may rely confidently on the histological structure for a diagnosis:

III. Tuberculosis of the Skin.—1. Tubercular ulcer of the thorax. Man, aged about twenty-five, with remarkably long, flat thorax; superficial ulcer, about two inches and a half in diameter, over the upper portion of the sternum, with eroded, undermined edges, constantly spreading by erosion of the margins; surface covered with small granulations, which have a great tendency to break down. Patient has acute phthisis, the whole of the right and a great portion of the left lung being involved. No appetite, hectic and constant cough, with very abundant purulent expectoration. States that these symptoms have only existed a few weeks, and appeared after the ulcer.

Examination of sputum, fuchsine. A small number of bacilli.

Examination of material obtained by scraping.

Eight preparations, fuchsine. Six negative. Four bacilli in one, and one in another.

2. Tubercular ulcer of neck.

Young man with tubercular cervical lymphomata (see Cervical Lymphomata, Case 4) and ulcer of the neck, which was excised.

Microscopic examination of sections, made through the base of the ulcer, shows typical tubercles containing giant-cells.

Twelve specimens, fuchsine. Eight negative. Two contain each a small number of bacilli, and two very few.

3. Caspar Doerr, aged fifty-two. February 14, 1884. Family history and general health good. One year and eight months ago small papules appeared on dorsum of left wrist; these coalesced, forming a patch, which spread at the margins, not itching. Just before admission, acute lymphangitis, extending from the wrist to the axilla, where lymphatics are enlarged and painful. Examination: There is a papillary growth on the dorsum of the wrist, but slightly elevated above the surface, squamous at the edges, of irregular oval shape, about four inches long, and extending slightly on the dorsum of the hand. Tissues boggy, and pus can be squeezed out between and from beneath the hypertrophied papillæ; there are irregular isolated papules around the margins, showing the orifices of a few sebaceous follicles, from which pus and cheesy material can be squeezed. Ether. Thoroughly scraped with a sharp spoon, which readily penetrated to the fascia, through tissue resembling soft granulation tissue commencing to break down. Lymphadenitis subsided promptly and surface cicatrized.

September 12th.—Seen a few days ago, when cicatrix was firm and healthy. There are a few papules, resembling lupus nodules, around the margin.

Microscopic examination shows hypertrophy of the papillæ, with rapid proliferation of the epithelium, forming numerous nests. Papillæ infiltrated with small round cells, and in parts transformed into granulation tissue; no tubercular tissue seen.

Seven sections examined, fuchsine. All negative.

4. Woman, aged fifty-eight. March 18, 1884. About one year ago noticed a small "pimple" on the back of the left hand. This gradually enlarged, and about two months ago began to discharge a sero-purulent fluid. Examination: There is a patch the exact counterpart of that in the last case, except that the lymphangitis is absent; it is elliptical, two by two and a half inches in diameter, situated on the outer part of the dorsum of the left hand just above the fourth and fifth fingers. Ether. Surface scraped with sharp spoon, presenting precisely the same characteristics as Case 3. Cicatrized rapidly.

Microscopic appearances precisely similar to Case 3, except

* "Mittheil. aus dem kaiserlich. Gesund.," B. II, S. 36.

that epithelial pearls are much less abundant. Five preparations. All negative.

I have thought these two cases of sufficient importance to be given in detail, although no bacilli were found in them, because, occurring in advanced adult life, they presented very exactly the features of lupus varicosus or papillaris, combined with those of the scrophuloderma of Neisser, or tubercular gumma of Deprès.

Unfortunately, trusting to the microscopic examination, no inoculations were made, and, having only scrapings to deal with, it was almost impossible to find fragments from which sections could be cut, and those obtained showed only hypertrophied papillæ and proliferating epithelium, in which I could not expect to find bacilli. The clinical diagnosis, however, acquired greater certainty from a third case, presenting many points of great similarity, as follows:

5. James McMullen, aged fifty-three. May 17, 1884. Family history good; general health good until about six years ago, when left forearm was amputated for chronic suppurative disease of the wrist joint, occurring without known cause. Two years ago a small red "pimple" appeared on dorsum of right hand, itched much, and spread in all directions. At first dry and scaly; surface became moist. Healed in the center and spread at the edges. With various salves, portions of the edges healed, leaving patches on the dorsum of the metacarpo-phalangeal articulations and radial margin of wrist, as at present. Ceased to itch after a time. Three months ago the whole ulnar half of the dorsum of the wrist, hand, and lower two inches of forearm became red, swollen, and painful; and, two months ago, a number of openings formed spontaneously and discharged pus. Have remained open since.

Examination: There are horny, papillomatous patches on dorsum of metacarpo-phalangeal articulation of thumb, index, fourth, and fifth fingers. Surface is dry, horny; margins, dull red; patches slightly elevated. Blunt end of probe readily penetrates the tissues. Over the first carpo-metacarpal articulation is a red, slightly elevated, elliptical patch, 1 × 1½ inch in diameter, dry and slightly scaly on the surface, exactly resembling lupus exfoliativus. This has shifted from the dorsum of the hand, leaving the skin behind it white and atrophied. Whole unaffected portion of dorsum of hand, where the disease has been, is thin and atrophied. The portion of the wrist and hand described above as the seat of inflammation during the last three months is red, boggy, and slightly swollen. On ulnar margin of wrist are two small openings, through which a probe can be passed in all directions under the skin, and sero-purulent fluid escapes. All the skin involved, though dry and covered by cuticle, can readily be penetrated by the probe. Scraped thoroughly with sharp spoon, and operation repeated shortly afterward. Condition much improved, although several sinuses remain open, and there is still a good deal of infiltration of the tissues.

Inoculation, on July 2d, of guinea-pig, subcutaneously, in abdomen, with material obtained by scraping. Koch's syringe used and control [illegible]. Two days later, control inoculation of another guinea-pig in same manner, with indifferent material.

[illegible] Guinea pig killed. Inguinal glands and one lying on common iliac artery, on inoculated side, enlarged to size of bean; caseous throughout, and broken down in the center. No other tubercular lesions found. Control guinea-pig healthy, and inguinal glands not enlarged.

Examination of caseous substance from glands (violet and brown staining) shows large numbers of bacilli, almost all containing spores, and well developed.

In addition to these cases, I must mention that an intraperitoneal inoculation of a guinea-pig, with lupus vulgaris of the face, failed entirely. Neisser,* in his most valuable and elaborate article on tuberculoses of the skin, classifies them as follows:

1. Tuberculosis, in the narrower sense, with the formation of ulcers, situated in the cutis, and of miliary tubercles, as part of a general tuberculosis.

2. Lupus, a less harmful variety of tuberculosis, generally remaining limited to the skin.

3. Scrophuloderma ulcerosum, i. e., ulcerations which remain after the evacuation of the so-called subcutaneous cold abscesses.

Mögling objects to this classification on logical grounds, since, all being tuberculoses, it is not well to apply this name, which properly belongs to the whole class, to a single variety; and points out that, by this arrangement, we have the ulcers, extending from tubercular lymphomata, under the scrophulodermata, while those originating in tuberculosis of the bones of the skull are considered true tuberculoses. The objections to this classification are well illustrated by the following case: Man, aged twenty-one. Father died of "consumption" five years ago. Patient has cervical tubercular lymphomata of eight months' duration and advanced acute phthisis; symptoms of two months' duration. Sputum is very abundant, and contains immense numbers of bacilli. About four months ago a small lump appeared just below the inner third of the right clavicle, softened and broke, discharging "white matter" and leaving a superficial ulcer, now almost exactly similar to that in Case 1. Comparing this with the ulcer of the thorax described above, we have two lesions, anatomically precisely alike, occurring in patients about equally advanced in acute pulmonary tuberculosis, but the one which commenced as an abscess classified as scrophuloderma; the other, which was an ulcer from the beginning, as tuberculosis.

Mögling himself suggests the following division, taking the ætiology as the principle of classification:

1. Primary tuberculosis of the skin.

(*a*) Lupus.

(*b*) Tubercular ulceration and pachydermatous infiltration ("pachydermie").

2. Regional tuberculosis, extending to the skin.

3. Metastatic tuberculosis.

To this there are still graver objections than to Neisser's. The term metastatic, applied to one subdivision, implies that no other variety can originate in that way. But this, it is scarcely necessary to point out, is a pure assumption. It is indeed true that, since the tubercular character of lupus has been recognized, it has been very generally treated as probably due to a local infection from without. There is, however, not a particle of evidence in proof of this view. Case 5—where we have a lupoid eruption on the hand, combined with the so-called tubercular gumma, occurring four years

* V. Ziemssen's "Handbuch," B. xiv. Handbuch der Hautkrankheiten, 1 Hälfte. Neisser, Die chron. Infectionskrankheiten der Haut S. 581.

after the amputation of the forearm for what was almost certainly tubercular disease of the wrist joint—would rather suggest that all these lesions were due to auto-infection from a tubercular focus, such as caseous bronchial lymphomata, as Koenig * has shown to be the case in probably about 79 per cent. of all joint tuberculoses. Moreover, many tuberculoses of the skin, starting from tubercular lymphomata or the fistulæ communicating with a tubercular osteitis, are, as Koenig emphasizes,† anatomically not to be distinguished from lupus.

It seems to me far better to call all varieties tuberculoses, describing the special lesion according to its anatomical character, or supposed mode of origin, as is done for the cutaneous syphilides, letting such terms as lupus and scrophuloderma drop from scientific nomenclature, as has already been so nearly done for such terms as rupia and ecthyma in the kindred disease. Before leaving the subject, it may be necessary to say a few words as to the evidence which leads me to place lupus so unreservedly among tubercular lesions. Friedländer had placed it, as before mentioned, on histological grounds, among the tuberculoses, and was followed by Köster and Besnier, while Hardy, Pick, Baumgarten, Vidal, and others ‡ took the opposite view. Demme * found bacilli in very moderate numbers in three cases of lupus. L. d'Outrelepont ‖ found them in seven cases. Pagenstecher and Pfeiffer △ inoculated three rabbits, in the anterior chamber of the eye, with secretion from lupus of the conjunctiva. The first inoculation was apparently successful, but no microscopic examination of the diseased iris was made. In the second and third cases, however, this was done, and numerous bacilli were found. A fourth case had produced no result after four weeks. They failed to find bacilli in the lupus of the conjunctiva used for inoculation No. 3, and in numerous preparations from other lupus cases. Cornil and Leloir ◊ in twenty-two inoculations produced tuberculosis seven times. Two of the remaining animals died too soon to be of any value, and the authors were inclined to believe that some of the other cases might have succeeded if they had waited longer. In their histological examination of twelve cases of lupus they found regularly the usual tubercle structure, but out of ten sections from each case, stained by Ehrlich's method, they only found the bacillus once, and then a single bacillus. This was in a case of lupus of the ear, occurring in a phthisical person. They concluded that lupus may be an attenuated form of tuberculosis. Malassez ‡ did not find the bacillus, and his inoculations failed also. Morison ↕ found no bacilli in ten cases, and mentions that Dr. Symington had the same experience in at least fifteen more cases. I have only had opportunity myself to make two inoculations with uncomplicated lupus. The first, as already related, failed entirely, and it is still too early to judge of the second.

Finally, Koch * has demonstrated the bacilli in four cases of excised lupus; the bacilli were always in giant-cells, and occurred so sparingly that in one case twenty-seven and in another forty-three sections were examined before a bacillus was found. With these four, and three other cases from which only scrapings could be obtained, inoculations were made, and all gave positive results. In the face of so many successes by reliable observers, I can not admit that the question is still an open one because there have been a certain number of failures. Dr. Morison,† who has been kind enough to give me the details of his examinations, states that the sections were kept in the staining fluid three quarters of an hour, in an oven at the temperature of the blood, and *completely* decolorized in nitric acid thirty-three and one third per cent., which, as he states in his article, sometimes took as long as five minutes. Both these are doubtful proceedings, to the dangers of which Koch ‡ has specially called attention as follows: "After a deeper staining, which gives decidedly better and more reliable results, nitric acid no longer completely decolorizes the stained layer, and sections which, as was especially mentioned, must be stained *for a longer time and very intensely*, retain always after the treatment with nitric acid a moderately dark staining. The expression 'decolorized' is, therefore, here not to be understood literally. The failure in staining the bacilli seems, in most cases, to have depended on the fact that it was supposed the preparations must be altogether colorless after the nitric-acid treatment, and that, in order to attain this, they have been *in part too little stained*, and in part *allowed to remain too long in the acid.*"

The fact that Dr. Morison demonstrated the bacilli by this method, in other tubercular tissues, proves nothing, for, as I have repeatedly found, where many are present, a certain number will show when stained even by very inferior means. The extremely small numbers in which the bacilli occur in most cases of lupus would itself account for most of the failures.

IV. Miscellaneous Tuberculoses.—1. Tuberculosis of the tongue, February, 1884.

Amputated in 1881. Old alcohol preparation.

Microscopic examination shows diffuse tubercle, containing many giant-cells, and extensive cheesy degeneration.

Five preparations. Four negative; in one a giant-cell contains three bacilli, and two others contain two each. This case is of interest, as confirming the observations made by Vidal, and referred to above, that the bacilli can be found in old preparations. I am inclined to think, however, that many bacilli had undergone some change, which interfered with the staining, for the sections examined were very large, and a really enormous number of giant-cells had been carefully gone over before these very few bacilli were found, while Koch,* in two cases of tubercular ulcer of the tongue, found large numbers.

* "Tuberculose der Knochen und Gelenke," S. 34.

† *Ibid.*, S. 42.

‡ Quoted by Cornil et Leloir, "Arch. de physiol. norm. et path.," 3 Avril, 1884, p. 325.

* "Berl. klin Wochenschr.," 15, 1883. Tuberkelbacilli im Kindesalter.

‖ "Monatshefte fur prakt. Dermatologie," 6, 1883.

△ "Berlin. klin. Wochenschr.," 19, 1883. [Pfeiffer reported afterward ("Berl. klin. Woch.," 28, 1883) the discovery of the bacilli in sections of lupus of the conjunctiva.]

◊ "Arch. de physiol norm et path.," 3, 1884. Recherches expér. et histol. sur la nature du lupus.

‡ "Annales de dermat. et de syph.," August, 1883.

↕ "American Jour. of the Med Sciences," April, 1884. Lupus and its relations to Tuberculosis.

* "Mittheil. aus dem kaiserlich. Gesundheitsamt," B. ii, 1884, S. 38.

† Private letter.

‡ "Mittheil.," B. ii. 1884.

* "Mittheil.," B. ii, 1884, S. 36.

2. Pus drawn with hypodermic syringe from abscess in connection with tubercular orchitis.

Two preparations, fuchsine. One negative; one contained four bacilli.

3. Pus from cold abscess of the right iliac fossa, occurring in a young woman with symptoms pointing to caries of the lumbar vertebræ. Pus allowed to settle, and sediment taken.

Five specimens, violet and brown. Two negative; one contains four, one two, and a third one bacillus.

4. Pus from cold abscess, connected with tubercular arthritis of shoulder.

Boy, aged fifteen. Disease of four months' duration. Pus drawn with hypodermic syringe, and allowed to settle.

Eight specimens, violet and brown. Five negative; in one, one bacillus, and in each of the remaining, two found. In several of the specimens large spores, exactly resembling those described and figured by Koch,* were seen stained violet, the only difference from those mentioned by Koch being that no uncolored spores of the same size were seen. The pus had stood more than twenty-four hours before being spread on cover glasses.

This is the only occasion on which I have seen such spores. They are not, of course, supposed to have anything to do with the tubercular process, and are only of interest because they stain in the same way as the bacilli. What are generally believed to be the spores of the tubercle bacillus are only to be seen as minute unstained interruptions in the stained body of the bacillus. As they can not be stained in any known way, they may, of course, exist in large numbers in tissues or fluids without our being able to appreciate their presence, and this affords a plausible explanation of the fact that material in which few or no bacilli can be found, such as cheesy substances, often possesses most virulent infecting properties. I have examined the sediment of urine in a number of cases of pyelitis, supposed to be tubercular, without finding the bacilli in any of them.

The small number of cases in which I have made examinations of pus is due to the fact that Schlegtendal† had already made extensive observations in this direction. It was obvious, almost from the first, that the examination of sections for diagnostic purposes could find but a very limited application, on account of the time and labor required for preparing and examining them. With pus, however, which can usually be obtained before operation, and is dried on cover glasses, like sputum, for examination, the process is a much simpler one, and, could the bacilli be found with any certainty, it would be a valuable resource in doubtful cases. In forty cases of tubercular bone, joint, and glandular disease, in which the abscesses had not yet been opened, Schlegtendal obtained positive results in only seventeen. In fifty-five cases of tubercular fistula, communicating with bone, joints, glands, and the urinary apparatus, with five of tubercular ulcers of the skin, he obtained only nine positive results.

The most, therefore, that we can say is that, in a certain number of cases, the discovery of the bacilli may give us certainty, while the failure to find them offers no presumption against the tubercular character of the disease. Something, I think, is gained by letting the pus settle for several hours, and examining the sediment.

Although Friedländer,* Rosenstein,† M. Babés,‡ and Kredic * have found the bacilli in the sediment of the urine of patients suffering from genito-urinary tuberculosis, my own results lead me to believe that it will prove of little more value here than in fistulæ and ulcerations.

5. Tubercular epididymitis.

Man, aged fifty. Disease first noticed three months ago, and suppuration had occurred rapidly.

Castration, July 22, 1884.

Inoculation of guinea-pig, subcutaneously, in abdomen, with tubercular material. Wound of inoculation closed *per primam*. Within two weeks a sluggish ulcer had formed; inguinal glands became rapidly enlarged. September 7th, enlarged inguinal gland excised. It is almost entirely caseous, and broken down in the center.

Examination of cheesy matter on cover glasses shows considerable numbers of bacilli (violet and brown).

This last illustrates the ease with which inoculation can be used for diagnostic purposes. The actual operation takes but a few minutes, and the bacilli occur in such numbers in the caseous lymphatic glands that the demonstration is as rapid and simple as in sputum. Only in lupus it seems that, probably on account of the very small number of bacilli, inoculation may frequently give no result. Though, even here, as Koch has obtained such uniform results, it is possible that the failures depend on errors in manipulation.

(*To be concluded.*)

A CONTRIBUTION TO THE STUDY OF ADENOID VEGETATIONS AT THE VAULT OF THE PHARYNX.‖

By BEVERLEY ROBINSON, M. D.

In the short paper which I shall read before you I do not intend to give an exhaustive description of adenoid vegetations in the upper portion of the pharynx. My purpose is more restricted, but may be, perhaps, on that account, more interesting. I wish merely to narrate in a brief manner something of my own observation and treatment of these growths. In some particulars, at least, it seems to differ slightly from the recorded experience of other specialists in this country and of those abroad. Bosworth and Swinburne in the United States, and Meyer, notably, in Denmark, have met with adenoid vegetations very frequently. Thus, Dr. R. E. Swinburne writes,^ at the Harlem Eye, Ear, and Throat Infirmary, since its organization in January, 1882, up to September, 1883, 148 patients applied on account of throat and nasal affections, and of these, 15, or 1 in 10, had adenoid vegetations. In 325 *throat* and *ear* patients he found 42 cases of glandular hypertrophy.

* "Mikroscopische Technik," S. 117. Found only in urine taken from the cadaver.

† "Centralbl. für die med. Wissensch.," 1883, No. 5.

‡ "Progrès méd.," 1883, No. 9.

* Ref. by Marchand, "Deutsche med. Wochensch.," 1883, No. 15.

‖ Read before the American Laryngological Association, May 14, 1884.

^ "Med. Record," October 6, 1883, p. 373.

* "Mikrosk." B. 3, 1881, S. 12, and Taf. 1, fig. 23.

† "Centralblatt für Medicin," 1883, No. 17.

Meyer reports, out of 2,000 children examined in Copenhagen, the existence of these vegetations twenty times. My own experience does not correspond with that of either of the authors just cited, since I have met only infrequently with these growths. It is true that I have not counted as such a development of tissue which is very similar in appearance, and is possibly not very unlike in structure to the follicles one sees in chronic pharyngitis. Those growths which I call vegetations are of larger dimensions and more closely juxtaposed. I have seen and operated upon a case in a tolerably successful manner, during the course of the past winter, in which the adenoid growth was flat, several millimetres in thickness, and included the entire area of tissue between the two Eustachian orifices. As to instances of the marked fimbriated variety to which Meyer refers, these, as well as I remember, I have not seen. Only a few, relatively, of the large, pendulous vegetations, with smooth surface and pink color, have ever come to my throat clinic—formerly during several years at the Manhattan Eye and Ear Hospital, and during the past four years at the Out-door Department of the New York Hospital. One of the most remarkable of these growths that I have seen was discovered by me in a young woman at St. Luke's Hospital, April 30, 1882.* The adenoid hypertrophy was readily removed by means of Bosworth's modification of Jarvis's snare, and was afterward presented by me at a meeting of the New York Clinical Society. The following is a brief history of this case:

E. P., twenty-four years old, single, saleswoman, born in the United States, entered St. Luke's Hospital, March 8, 1882. One year before entering the hospital she contracted naso-pharyngeal catarrh, which had never left her. Physical examination showed catarrhal discharge from pharynx, nasal polypus in right nasal fossa posteriorly, discharge from ears (due to eczema), and excoriation of parts about external meatus.

April 3d.—Examination of larynx showed some inflammation and clubbing of left arytenoid cartilage.

13th.—Patient has considerable pain in throat and some huskiness of voice. Posterior rhinoscopic examination shows ulceration of mucous membrane covering inferior turbinated bone on left side. Adenoid growth just behind upper portion of septum and apparently adherent; both Eustachian tubes open and full of mucus.

26th.—Raised a little blood this morning.

30th.—Adenoid tumor above described removed by aid of snare écraseur (Bosworth's modification of Jarvis's), the loop being introduced through the naso-pharyngeal space. The tumor was easily engaged in the loop, and came away with slight hæmorrhage. The growth as removed was about the size and shape of a chestnut, and had apparently a distinct pedicle.

May 12th.—No vestige of the tumor made out. A few adenoid growths were seen on the posterior portion of the septum. Dr. Robinson operating, rubbers were passed through the nose and drawn through the mouth and fastened behind the head. In this manner the soft palate was drawn forward and upward out of the way. A small, blunt uterine curette, bent to the proper angle, was passed backward and upward through the fauces and into the posterior nares until the growth was reached. It was then a very simple operation to scrape it off. Little or no hæmorrhage resulted, and the patient suffered only slight pain.

20th.—No sign of return of the tumor. Cough has disappeared. No discharge from the ears; still slight clubbing of left cartilage of Wrisberg, with considerable redness. *Discharged improved.*

* See the records of the hospital.

If I were merely to consider my own experience in private, hospital, and dispensary practice, I should state emphatically that adenoid vegetations of the type just described are relatively rare in New York city. I have been told, however, by a friend and distinguished brother specialist of this city, that he has already operated upon such hypertrophied masses very many times. Singular, also, to relate, I have yet to encounter a single instance in which one of these growths compressed the Eustachian orifices to any appreciable degree, and occasioned impaired hearing in this manner.

I presented a young woman at the New York Practitioners' Society last spring* who, with a pronounced deflection of the nasal septum, had a large, single pendulous adenoid growth hanging directly down from the vault of the pharynx, behind the posterior border of the nasal septum, and partially obstructing both posterior nasal orifices. In this case there was *deafness* in one ear, but it was not caused by pressure from the glandular hypertrophy, nor was the hearing defective on the side where the nasal passage was occluded by the deviated septum, and the voice was *not at all affected.*

The adenoid hypertrophies I have observed have usually been moderately soft to the touch, but not very sensitive, and have rarely bled, even a little, when examined by the finger with a moderate degree of gentleness. Certainly the use of a spray or douche from the posterior nasal syringe has never caused them to bleed. These growths have ordinarily been covered with more or less grayish, viscid mucus, which has been difficult to expectorate, and has occasioned some of the uneasy sensations from which the patients suffered. They have not, however, caused so much mucous discharge from the post-nasal space as some forms of nasal catarrh with smooth but general hypertrophy of the nasal and naso-pharyngeal mucous membrane do. These patients have often muffled and defective speech. As to the patients' inability to pronounce certain consonants in an intelligible manner, a fact which has been so much insisted upon by Meyer, this statement I am unable to corroborate in *an absolute* sense by any case I have observed. It is true, however, I have remarked that the enunciation of certain words was wanting in clearness, and there was a peculiar, stuffy pronunciation, which was, perhaps, specially noticeable whenever the nasal consonants were articulated. This partial loss of function is explained by the fact that the nasal passages have lost their normal resonance. From the condition named to that of the individual who has the true "dead" voice, so-called, is not very far.

Besides the marked defect of speech to which I have just referred, the patient is apt to complain of a sensation like that produced by a foreign body in the naso-pharyngeal cavity. Whenever I have remarked any very great amount of thick grayish or greenish mucus in this region, I have also found, on further examination, a considerable degree of hypertrophic nasal catarrh. The flattened,

* See report of case "Med. Record," July 21, 1883.

pinched, contracted appearance of the nose, as well as the broader configuration at its base, which has been described as characteristic, must exist, as I believe, in but few cases—since I have never met it so pronounced as in any way to be properly considered pathognomonic. Inasmuch, however, as it is not uncommon to have chronic hypertrophic nasal catarrh present at the same time that there is pre-existent or concomitant glandular hypertrophy at the vault of the pharynx, it can be appreciated how it is that we may have occlusion of the nasal passages which is quite as much caused by the thickened pituitary membrane as by the hyperplasia of adenoid tissue in the retro-nasal space. If both these morbid conditions are present, the lower portion of the nose may be flattened in an antero-posterior direction, while the upper portion may be more pinched from side to side than it is normally. Thus the nose may be in reality broader below than it should be, and it seems particularly exaggerated when compared with the upper portion. Whenever the hearing has been affected, the aural defect has been, in my experience, occasioned by extension of the accompanying catarrhal affection of the naso-pharynx. In this belief I am glad to find myself in partial accord, at least, with Dr. Swinburne, who states * that the aural disease accompanying adenoid vegetations of the vault "is caused almost, if not entirely, by an extension of the inflammation during an attack of acute naso-pharyngeal catarrh to which patients in this condition are predisposed." If the aural catarrh involves the middle ear and has become chronic, the patient may suffer from vertigo and tinnitus. This complication of glandular hypertrophy is, however, not so frequently met with as is generally believed. In two private patients and in one hospital patient in whom the adenoid hyperplasia at the vault of the pharynx was excessive, there was no perceptible diminution of the hearing power. This statement seems to be opposed to that of Meyer, since this author affirms that the best place for observing adenoid vegetations is *among ear cases.* Out of 102 instances of glandular hypertrophy observed by him, 72 individuals suffered from disease of the ear. In Dr. Swinburne's practice at the Harlem Infirmary, "179 patients suffering from middle-ear disease applied to him for treatment, and of these, 27, or 1 in 6½, had adenoid vegetations." In a large proportion, indeed, of all cases of adenoid vegetations the ears were found diseased. The exact proportion given by Dr. Swinburne is twenty-seven out of forty-two cases, or about three fifths of the total number seen by him. "Of the twenty-seven ear cases, there were perforations in one or both drumheads in fourteen." The only way in which I can reconcile the reported observations of Dr. Swinburne with my own experience is by assuming that he did not guess as to precisely what should be considered as an *abnormal* growth of adenoid tissue in the pharynx, and in regard to this point there are considerable personal differences of opinion on the part of aurists. At what stage of development the normal shades into the abnormal is indeed sometimes a difficult question to discuss, for the reason that here, as in other regions of the body, there are individual idiosyncrasies. While in many persons there are marked elevations

* Loc. cit., p. 11.

of tissue in the pharyngeal vault, which are separated by fissures or depressions, in others, equally healthy, the normal aspect is that of a tolerably smooth, uninterrupted surface. Bosworth * remarks, "just as we see instances of faucial tonsils where the organs scarcely are seen between the pillars, and again find those in whom the tonsils are quite prominent organs and occupy a moderate space in the throat, so we have almost similar varieties as regards size of the pharyngeal tonsil." In this same line of thought a reviewer (H. R. Swanzy) of Loewenberg's brochure † "On Adenoid Tumors in the Naso-pharyngeal Space" writes very wisely as follows: "Indeed, in some instances it is difficult to decide whether we have before us an extreme, but yet physiological, development of the pharyngeal tonsil, or a commencing hypertrophy of it. From a clinical point of view, therefore, a diseased condition need not be admitted, unless the increase in volume of the tonsil be such as to interfere prejudicially with the functions of the naso-pharyngeal cavities." In this connection it is but fair to add that others than Dr. Swinburne have lately described the great frequency of aural complications in cases of adenoid vegetations. In England, Woakes maintains that five per cent. of persons suffering from these growths have aural disease. He further states that, when the vegetations are seated at the vault of the pharynx, the aural complication is apt to be suppurative otitis, with perforation of the drum, and the after sequelæ of aural polypus; whereas, if the hypertrophied glandular tissue be situated on the posterior wall of the pharynx, it is accompanied by great thickening of the adjacent mucous membrane; and this implies "a complete mechanical occlusion of the Eustachian tubes," which ultimately produces chronic non-suppurative inflammation of the middle ear, with sinking in of the membrane and severer forms of deafness. In those cases of adenoid vegetations of the vault I have seen, *suppurative* otitis has not occurred. As to *non-suppurative* inflammation of the middle ear, occurring as a consequence "of a complete occlusion of the tubes," this explanation I can not admit to be true. Further, I take exception to the view which calls chronic follicular pharyngitis (as I believe) adenomatous disease, or post-nasal vegetations.

It is unusual, however, to encounter pronounced adenoid vegetations at the vault of the pharynx without at the same time finding very marked follicular pharyngitis. This fact should show us the value, whenever the latter disease is discovered, of examining the naso-pharynx by means of the small mirror, as with the index-finger. Not always does toms sufficient to direct attention to it.

Sometimes it has been discovered almost by chance, or while search was being made as to the condition of the Eustachian orifices in old aural diseases, or of the naso-pharynx in chronic faucial inflammations.

In one family under my care I have noted an evident hereditary influence in the transmission of adenoid vegetations. Thus the mother had adenoid hypertrophy when a girl, as she believes, and recovered from it without an operation. Two children out of five are now subjects of it—one,

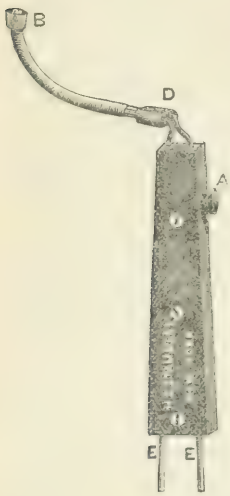
* "Jour. of Otology," vol. iv January, 1882.

† Paris, Delahaye & Co., 1879.

a girl, eighteen years of age, having it to a very pronounced degree; the other, also a girl, ten years of age, having it only to a moderate extent. Meyer writes: "I have eleven times found two, seven times three, once four children of the same family affected, and in not a few cases one or both parents were, or had been, suffering in a similar way." The treatment of these vegetations should vary in accordance with their form, size, and situation. In several instances I have performed, with moderate success, the operation to which Meyer first directed attention. Usually those cases which I have selected for this procedure have been examples of flat, sessile growths of small size. By means of tolerably thorough scraping, repeated one or more times, I have unquestionably benefited these patients. Thus far I have never in this manner effected an absolute cure. It may be that my lack of entire success is attributable to the fact that I have left behind a certain amount of unhealthy tissue. While this may be true, I will add that I have removed all the tissue that it seemed judicious to remove, and yet the symptoms of fullness and weight in the posterior nares have only been in part modified. Within rational limits, Meyer's operation appears to me perfectly safe and legitimate. I do not consider it as one universally applicable in the treatment of these vegetations, and would be inclined to limit its sphere of usefulness to those of the variety referred to. While other cutting operations than that of Meyer have been proposed by different writers, they do not inspire me with so much confidence. Moreover, I would insist that *every* cutting operation performed at the vault, or on the side-walls of the upper pharynx, should be guided by the finger or the rhinoscopic mirror. Otherwise too much or perfectly healthy tissue will probably be cut off, which can but be detrimental to the patient. There are many cases, however, in which, owing to obstruction of the nasal passages by bony growths, deflection of the nasal septum, or simple hypertrophic catarrh, Meyer's ring-knife can not be used. There are also many instances in which, by reason of great intolerance of the patient to the finger, and where the rhinoscopic mirror can not be employed to guide the direction of the cutting-knife on account of the small space between the free margin of the soft palate and posterior wall of the pharynx, when Thomas's blunt-wire uterine curette, bent so as to adapt it to the parts involved, will prove very serviceable. Not having a cutting edge, it may be repeatedly scraped over the vault of the pharynx in the median line, and a short distance to either side, until the sessile growths situated in this region are completely broken up or disorganized. In several cases I have had great satisfaction in the use of this curette, and, on account of the facility with which it can be manipulated, believe it deserves to be more commonly employed. A few days after the blunt curette has been thoroughly used, it is well to apply either fused nitrate of silver or the galvano-cautery to the remains of the adenoid growths.

In cases in which Meyer's knife can not be used by reason of obstruction in the nasal passages, or in those where the patient is an adult, with a tolerant throat and a capacious naso-pharynx, the galvano-cautery can be employed with great advantage. To obtain the best results from its use and avoid certain unfortunate complications require considerable manipulative skill, which can only be acquired by repeated operations. In my opinion, its use is particularly adapted to the treatment of sessile growths of moderate size, the wire écraseur of Jarvis being better suited to operations upon pedunculated growths. Whenever the galvano-cautery is employed, it can only be applied with accuracy and without probable evil consequences when the soft palate is drawn forward and fixed in position, either by Wales's method or by means of Swinburne's mouth-gag. This latter instrument, which is a modification of Whitehead's, is said by its inventor, after using it in fifteen cases of adenoid vegetations of the pharyngeal vault, "to be all that is desired." The modifications consist mainly in the additions of palate retractor and a bar with a slot and side-bolt. The tongue depressor of Whitehead's gag is left out. I have used this gag on one occasion in a very tolerant patient, and feel compelled to say that my experience was anything but successful. The palate retractor could not be kept in place, but continually lost its hold of the soft palate as soon as some traction was made, and, so far as the view of the naso-pharynx was concerned, did not give anything like so satisfactory a view as Wales's rubber cords. Perhaps other cases may enable me to reverse my unfavorable judgment of this improved mouth-gag. I have not found it necessary to give ether to adolescents or adults when I have operated. In unruly children I can understand that at times it may be essential. Except in very rare instances, I doubt the expediency of employing the galvano-cautery for adenoid growths of children in preference to the curette or snare. When the two last instruments are employed, a suitable mouth-gag may, perhaps, be advantageously fixed in the mouth prior to the operation, so as to restrain a child who would otherwise obstinately shut his mouth and prevent the operator's eyes from seeing, even in part, where the curette or the loop of the snare was carried and applied. In order to have good results with the galvano-cautery, it is important to employ a convenient handle and suitable cauterizing points or spirals. The best handle with which I am familiar is that of Leiter, and a small-sized spiral, about two to three lines in breadth, will be well adapted to most cases of adolescents. The stem of the instrument which unites the spiral with the handle should, of course, be of small diameter and proper curve to be introduced into the naso-pharyngeal space. An instrument composed essentially of two copper-wire conductors, separated from each other by some insulating material like ivory, bone, or mica, bent at nearly a right angle toward its distal extremity, terminated in a small spiral of platinum, and wrapped with ordinary white cotton thread, or a thin layer of absorbent cotton and cotton thread, is the form I have most frequently employed. The protector and spiral spring in Dr. Lincoln's electrode make the instrument altogether too bulky. If the protector is made of bone, it is liable to crack and break off when the platinum spiral is heated sufficiently; if it is made of hard rubber, it softens or takes fire. While the protector shields the adjacent parts from being burned in the event of a necessary effort of gagging or deglutition, a sudden movement by the patient, or a lack of

skill on the part of the operator, my efforts thus far to make one which would be really practical have been only partially successful. The one I present to the society is made of the outer layer of asbestos, does not chip or break off easily, is smaller than Dr. Lincoln's, and is not a very good conductor of heat, although in none of these respects is it at all so perfect as I desire. The platinum spiral, with its protector, should be introduced, *cold*, behind and above the soft palate, guided by the rhinoscopic mirror. So soon as it is visible in the rhinoscopic mirror, and its proper location established, the electric current should be passed. The platinum spiral should not be heated beyond a red heat, because it would burn too rapidly and be apt to burn more deeply than we wish in a given point. The amount of heat necessary to bring the spiral to a proper temperature can be found out accurately, before the operation is begun, by previous trials with the battery. At the time of the operation the assistant is cautioned only to lower the plates of the battery far enough into the caustic fluid to produce, as nearly as possible, the amount of heat required, or else the amount of fluid needed to generate the proper degree of temperature is originally put into the cells, so that the plates may be lowered to the bottom of the cells and allowed to remain.* We shall be obliged in either case, however, to watch the platinum spiral closely, and not allow it to remain more than a few moments in any particular spot. Just before we wish to withdraw the spiral we should shut off the current by stopping pressure at the handle with the right thumb, and usually we can bring the instrument out of the mouth rapidly and without touching the palate, fauces, tonsils, cheeks, or lips. When the patient makes a sudden effort of gagging or deglutition, or when the soft palate is not held tight enough by the elastic cords, the palate may rise up against the hot spiral, if unprotected, and be burned superficially. This, in my experience, has never resulted in the permanent injury of the patient.



The operation with the cautery is not very painful, and, if properly done, the hemorrhage is slight. It has to be repeated on several occasions, at intervals of a week or more, in order to rid the patient entirely of the growths at the upper end of the pharynx, from which he suffers.

I have yet to see any acute inflammation of the middle ear following its use—such, in fact, as occurred in the prac-

* Dr. Lincoln seems to think the only way to insure regularity of temperature is by the use of a rheostat to measure exactly the heat of the coil.

tice of one member of our association. This serious complication has been avoided, I believe, by the care I have exercised, both during and subsequent to the operation. When the vegetations were very close to the Eustachian orifices, I have not allowed the incandescent wire to remain in this position more than a few seconds on any particular occasion. When the operation was finished, I have plugged the external auditory canal softly with cotton-wool, and obliged my patients to go home immediately and remain in the house twenty-four hours. I have never had occasion to do more than this, although, of course, in case of need it would be wise to make use of an anti-inflammatory nasal spray (as that of Dobell), and instill a few drops of solution of atropine into the ears. In case the pain in the ears continued in spite of this treatment, and evidence were given, by bulging of the membrana, that there was fluid in the tympanic cavity, puncture of the drum should be made without delay. The slight constitutional symptoms of headache and general malaise which have sometimes followed the use of the cautery are not of sufficient importance to deter from its use, when to combat local conditions it is plainly indicated.

DISCUSSION.

Dr. Langmaid referred to the case of a boy shown to the society some years ago at its meeting in Boston, and said: The patient was deaf, and a most discouraging report of his condition was given. I seized a growth, however, in the naso-pharynx, and, on withdrawing it, found it to be a large-sized soft tumor, which probably had extended from one Eustachian tube to the other. The boy was able to hear immediately after its removal, and his hearing afterward became perfect.

Dr. Mackenzie.—There is no class of cases in which more brilliant results can be secured from treatment than those in which middle-ear trouble depends upon adenoid growths of the pharynx, and especially in children. In Baltimore I find this a very common cause of deafness and catarrh in children, and the patients are absolutely cured on the removal of the growth. The variety of tumor which I generally see is the more or less soft papillomatous form. I nip the growth off with a pair of forceps, and then curette the base with one blade, fixing the part with the other. For a week or two after the operation I spray the pharynx with alcohol, in which there is some zinc, and this causes the base to shrivel up. The growth does not return. Some persons seem to entertain the idea that the patient should be let alone, supposing that the difficulty will disappear with puberty; but this practice is most pernicious, as it allows changes to take place which by the time of puberty may prove altogether irremediable. With regard to the absence of tendency to bleed, I do not agree with Dr. Robinson. I have found that in nearly all cases the finger becomes streaked with blood when introduced into the naso-pharynx. The bleeding is limited in amount, it is true, but to a certain degree it is almost pathognomonic. With regard to the aetiology of the growths, some gentlemen have referred to hereditary tendency, but the vast majority of cases which have come under my observation were due to some acquired difficulty in the larynx, especially diphtheria.

Dr. Mason.—Hypertrophy of the naso-pharynx, as Dr. Robinson has remarked, depends upon what one's idea of hypertrophy is. What one considers hypertrophy another may not so regard. I find it one of the common causes of mouth breathing in children, and in them I usually remove the hypertrophied tissue with the finger-nail. In adults, in whom the growth

is too tough to be removed in this manner, I employ some instrument.

Dr. Roe.—I have removed such growths with the forceps, with satisfactory results. Different forms of forceps may be employed. I think, with Dr. Mackenzie, that, if the finger comes away streaked with blood after an examination, there is probably a growth. I consider all the tissue which can be readily grasped with the growth by the forceps as legitimate prey.

Dr. Asch.—I agree with Dr. Robinson as to the comparative infrequency of adenoid vegetations of the naso-pharynx. In two rather large dispensary classes I have seen comparatively few cases. The patients rarely suffer much, the manifestations being usually confined to slight hoarseness. The treatment depends upon circumstances. In some cases I find the snare does exceedingly well; in others the forceps answers an equally good, if not a better, purpose. In no case have I resorted to the galvano-cautery, because I regard its introduction into the vault of the pharynx as rather a serious matter, the advantages to be gained not being commensurate with the dangers. I have treated many cases by the application of corrosive agents. Chromic acid sometimes does extremely well, applied on a bit of absorbent cotton wrapped on a probe. Tannic acid will sometimes relieve in a marked degree, if it does not cure. I do not regard the more radical measures as necessary in every case.

Dr. Jarvis.—With regard to the use of the forceps in removing growths from the vault of the pharynx, I have from an early period had a prejudice against it and manipulation with it in this part of the throat, a dark cavity where tissue of an indefinite amount and kind is grasped and torn from its attachments. The many variations in the anatomy of the parts further render such a procedure dangerous. This aversion has recently been shown not to be unfounded. About three months ago a case of what ultimately proved to be carcinoma came under my observation, which had been treated at the office of an expert in this city with the forceps. The patient stated that the suffering which he experienced from the use of the forceps in this expert's hands was most excruciating. The parts were very much torn, and ragged edges remained. Subsequent treatment by means of the snare produced scarcely any discomfort.

Dr. Robinson closed the discussion, and said: The more I examine throats the less am I disposed to interfere except in a very mild way, unless I have been enabled to conclude pretty positively that the symptoms from which the patient suffered were to be attributed to some particular morbid condition. I have no doubt of the truth of the statement contained in Dr. Shurly's paper, that, in at least one half of the cases operated upon by different methods, a considerable amount of harm is done. When I spoke of the galvano-cautery I referred to exaggerated cases in which other means of treatment had failed.

NITRIC ACID A PROBABLE MEANS OF DIFFERENTIATING BRIGHT'S DISEASE OF THE KIDNEY FROM THAT IN WHICH THE ALBUMINURIA IS CAUSED BY FUNCTIONAL DISTURBANCES AND MAY BE TERMED "LATENT ALBUMINURIA."

By ALLARD MEMMINGER, M. D., Charleston, S. C.,
PROFESSOR OF CHEMISTRY IN THE MEDICAL COLLEGE OF SOUTH CAROLINA

In 1827 Richard Bright published his report of medical cases in which albumin appeared in the urine; he showed that certain alterations of the kidney were associated with the excretion of albumin, and from this he inferred that the presence of this albumin was an indication of those pathological conditions of the kidney which, besides, were likely to induce general dropsy. He seems, however, to have guarded this statement later on by considering functional disturbances, when persistent, as creating in the kidney a functional disorder which eventually caused structural changes.

Opposed to this view were the opinions of Graves and Prout, who asserted the real cause of albuminuria, and also of the kidney disease, to be not an alteration in the structure of the organs that secrete the urine, but in the abnormal composition of the blood, or else perverse action of the albuminous element of the blood-serum. Finally these opinions have again received opposition from the pen and researches of Stokvis, of Amsterdam, who, by experiments conducted by himself, and some on himself, seems to arrive at the conclusion that the albuminuria is due to disturbances in the circulation, together with an increase in the normal blood-pressure, whereby the albumin is squeezed through the excreting vessels of the kidneys.

Whatever view we take, then, as to the cause of the albumin in the urine, I think we can safely say the combination of albumin with the urine is an evidence of some pathological condition, be it of the blood or else of the structure of the urine-secreting apparatus. Whether, then, we consider the albumin of serum like unto or different from the albumin in urine, or whether white-of-egg albumin taken into the stomach will appear in the urine, we still must consider, with the great Berzelius, that white-of-egg albumin and serum albumin behave very differently with nitric acid, both being precipitated by this reagent, the latter being dissolved by an excess of the same, whereas the former is only moderately soluble.

It was from this standpoint, coupled with the fact that other albuminous principles (namely, globulin, peptones, etc.) sometimes appeared in the urine, that I instituted an examination into the use and application of nitric acid as a means for testing the presence of various modifications of albumin, as well as observing its effects on different urines taken from patients not supposed to be subjects of any serious organic affection of the kidney. On my first investigation I was struck with this fact, and, indeed, convinced of the correctness of the observations of others, that nitric acid and heat failed at times to demonstrate the presence of albumin, the same being found to be present by both picric acid and sodium tungstate.

This occurred so often that I was forced to discard nitric acid, and use in its place the other more sensitive reagents.

On reviewing the matter, and remembering Gerhardt's views of latent albuminuria, I conceived the idea that possibly this failure of nitric acid was only in the latent form of the disease, and that, if I could so modify its action, or rather the action it produced on the albumin of the urine, I might possibly arrive at a way of diagnosticating these conditions. After many trials and as many failures, I at last found that, if, after heating (boiling) the urine and nitric acid together, I plunged the test-tube into very cold water, for the first

time albumin appeared, which, on comparison with the same amount of urine treated by picric acid, showed a like amount of an albuminous principle. This discovery being made, I collected several specimens, and arrived always at the same result. I have since endeavored to explain this difference of behavior in the albumin; but have as yet not succeeded —it possibly may be due to the fact that serum albumin when in very small amounts is soluble, and that, when heated and cooled so suddenly, the atoms arrange themselves in different forms, and possibly behave as white-of-egg albumin would. Although, then, not disposed to consider this as having a pathological connection with that condition of the urine in fever-patients termed by Gerhardt latent albuminuria, I am satisfied the behavior is one and the same with this reagent. In fine, it has appeared to me from my investigations that when nitric acid and heat failed, being used in the ordinary way, it was a sign that the disease (or, I should rather say, the cause of the albumin) was due to functional disturbances and not to any serious disorganization in the kidney-secreting cells. I have as yet not had the opportunity of making a post-mortem examination of one who has suffered from what I may term functional albuminuria, but, from the readiness with which it gives way to treatment, I am compelled to regard it as not belonging to that class of cases known as Bright's disease. The following cases I mention as being typical of this functional derangement of the kidney:

Case I.—A male patient, about sixty years of age, born of healthy parents, was well up to a year ago, at which time the disease from which he is now suffering first made its appearance. When called in, I found this gentleman suffering from shortness of breath, aggravated at times by what I termed in his case nervous asthma. He also had an extremely irritating and violent cough. An examination of his lungs, however, proved the absence of any decided pulmonary trouble; at the apex of the left lung there was a slight dullness, but not enough, in my opinion, to warrant the idea of phthisis pulmonalis. Besides a little dullness, all I could detect was a slight emphysematous condition, no doubt brought on by the violent fits of coughing. Being at a loss to discover the cause of this chronic bronchitis and nervous asthma, I instituted an examination of his urine. I was struck with its decided acidity, and found, on further examination, a large excess of uric acid. Nitric acid was now used in the ordinary way, but gave negative results as regards albumin. Not satisfied with this, I applied my modification of the nitric-acid test, and found quite an appreciable amount. On a review of the case, I came to the conclusion that the bronchitis was due to the abnormal amount of uric acid in the system, which, by its toxic influence, not only induced this, but also the appearance of albumin, possibly aggravating the case by an irritating action on the structure of the kidney. With this view I placed my patient on the use of the following:

℞ Lithiæ benzoat. . . . . 3 j;
Lithiæ carbonat. . . . . 3 ij;
Potassii bicarbonat. . . . . 3 ij;
Caramelum . . . . . f ℥ j;
Aquæ destillatæ . . . . . ad f ℥ iv.
M. Sig. A teaspoonful three times a day in a tumblerful of Buffalo Lithia Water, Spring No 2.

The effect of this treatment was very decided, for not only did the cough cease, but the labored respiration, nervous asthma, and bronchitis disappeared in the space of about ten days.

Case II.—A male patient, about twenty-eight years of age, of healthy parentage, supposed himself the subject of syphilis. My diagnosis in this case was neuralgic herpes of the prepuce, caused by excess of uric acid in the system. This gentleman was also subjected to an alkaline treatment, using the benzoate of lithium and finally Buffalo Lithia Water, Spring No. 2. Under this treatment the ulcers healed, the albumin disappeared, and the neuralgic symptoms entirely ceased. He has, however, to continue the use of the water, as he finds as yet the trouble is likely to recur if the urine shows an accumulation of uric acid.

My plan of using nitric acid is as follows: About 5 c.c. of the filtered urine are put into a test-tube and heated to about 180° F., at which temperature the alkaline phosphates will, of course, precipitate out if the urine is either alkaline or neutral. To the fluid then are added 4 to 5 drops of strong nitric acid, and the contents, if now distinctly acid, are brought to the boiling point and there kept for a few seconds; the test-tube is now plunged into very cold water, and there kept until it has cooled. If only traces of albumin are present, fine filaments are seen floating in the urine, resembling much the appearance of mucin; if, however, larger amounts are present, the urine appears cloudy, and, on standing, deposits a precipitate of albumin. This albumin is no longer soluble in nitric acid, and, if again boiled, instead of clearing up, remains undissolved.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume I. Pathology and General Diseases. Philadelphia: Lea Brothers & Co., 1885. Pp. 14–35 to 1094, inclusive.

Human Osteology. Comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone and its Development. By Luther Holden, Ex-President and Member of the Court of Examiners of the Royal College of Surgeons of England, etc., assisted by James Shuter, F. R. C. S., M. A., M. B. Cantab., Assistant Surgeon to the Royal Free Hospital, etc. With Numerous Illustrations. Sixth Edition. New York: William Wood & Co., 1885. Pp. ix–276. [Wood's Library of Standard Medical Authors.]

The Scientific Transactions of the Royal Dublin Society, Vol. i, series ii; Vol. iii, series ii.

Aphonia due to Chronic Alcoholism. Paralysis of the Lateral Crico-arytenoids. By Ethelbert Carroll Morgan, M. D., Washington. [Reprint from the "Journal of the American Medical Association."]

Observations on the Regeneration of the Vagus and Hypoglossal Nerves. By Edward T. Reichert, M. D., etc. [Reprint from the "American Journal of the Medical Sciences."]

Poliomyelitis Anterior in Adults. By Gustavus Eliot, M. D., New Haven, Conn. [Reprint from the "American Journal of the Medical Sciences."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, FEBRUARY 7, 1885.

THE MEETING OF THE STATE SOCIETY.

THE seventy-ninth annual meeting of the Medical Society of the State of New York, an abstract of the proceedings of which will be found in this issue of the journal, must be said to have been very successful. The opinion we expressed last week as to the abundance of papers was fully justified, and the character of the papers read was in general of a very high order. For the most part, also, the discussions were satisfactory.

The most noteworthy event of the meeting, of course, was the unanimous agreement upon a bill to be presented to the Legislature looking to the establishment of a State board of medical examiners, and making a State examination necessary hereafter to the license to practice. Much interest was displayed in the matter by a number of the members and delegates who had given it special consideration, but, although the work of an entire evening had to be undone, and the problem of coming to an agreement undertaken anew (and, happily, with speedy and almost unhoped-for success), there was nothing in the proceedings that could properly be called contention. It would be useless to speculate at present upon the chances of the bill's becoming a law, or upon the precise effects of its operation as a law; we may say, however, that there seems to be a reasonable prospect of its passage, and that it contains more good points than were generally expected. We hope to see good results from it; at all events, the Society has placed itself on record as having made an honest and earnest endeavor to improve the condition of the profession in the State.

The social aspect of the occasion was in every way gratifying, and by no means the least noticeable feature in this regard was the attendance, almost continuously, of the venerable Dr. Bowditch, of Boston. Mention should be made, too, of the fairness and clearness which characterized the president's rulings during the somewhat involved debate on Tuesday evening.

THE ACADEMY OF MEDICINE.

IT is gratifying to contemplate such a record of prosperity and usefulness as that which relates to the career of the Academy of Medicine under the administration of the retiring president, and as embodied in his valedictory address, which we publish in this issue of the journal. Dr. Barker's presidency will be remembered for many years to come as one of the most notable in the history of the Academy. The growth of the library would of itself be enough to make it memorable, to say nothing of other evidences of the increasing importance of the organization, but the general character of the scientific work that has been done at the meetings is no less noteworthy. In this matter much has come to depend upon the personal qualities of presiding officers, and, tried by this test, Dr. Barker's management of the Academy's affairs will, beyond all doubt, be looked upon as one of the greatest achievements of a lifetime of usefulness.

The possibilities suggested in Dr. Barker's address as to the future financial condition of the Academy, shadowy as they may seem even to some of the most hopeful friends of the institution, are by no means to be set down as merely imaginary; when we remember the pecuniary good fortune that has fallen to the lot of a number of medical institutions during the past year, we can quite readily entertain the idea that the realization of these possibilities is not only destined to take place at some time in the future, but not altogether unlikely to happen within a comparatively short period.

The duties of the Academy's Committee on Medical Education will probably not be increased in quite the direction indicated in the address, unless the legislation expected by the Medical Society of the State of New York should fail to be obtained; or, having been obtained, should be found inadequate to the end in view. But in the matter of educational methods there will still be abundant scope for the activity of such a committee, in an advisory capacity.

All things considered, it must be allowed that Dr. Barker's bright anticipations in behalf of the Academy are in no wise chimerical, and we trust that the day is not distant when this will have been proved to be the case.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 3, 1885:

DISEASES.	Week ending Jan. 27.		Week ending Feb. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	2	0
Typhoid Fever	17	6	6	3
Scarlet Fever	78	15	95	10
Cerebro-spinal meningitis	5	5	6	6
Measles	136	31	163	35
Diphtheria	39	20	67	26

The London Medical Society.—We learn that Dr. John V. Shoemaker, of Philadelphia, was elected a Fellow of this society at a meeting held January 19th. The society was founded in 1773, and is now the oldest in the country.

The University of Leipsic.—We are informed by Dr. F. S. Billings, who has just returned from Dresden, that Dr. Birch-Hirschfeld, formerly director of the pathological laboratory of the *allgemeines Krankenhaus* at Dresden, has been appointed to fill the vacancy caused by the death of Professor Colnheim.

The New Haven Hospital.—The annual meeting of the Connecticut General Hospital Society of New Haven was held Thursday, January 29th. The report of the Prudential Committee showed that there were 125 patients in the hospital on the 1st of January, 1884, that 748 patients had been admitted during the year, and that there were 191 remaining on the 31st of December, 1884. The total number of patients treated during the year was 873, and the average number treated daily was 145.7. There have been 22 births and 12 deaths in the hospital. The expenses for the year amounted to $22,645.16. On

the following day occurred the annual meeting of the Board of Directors. They adopted the following resolution:

Resolved, That in recognition of the generosity of Dr. Henry Bronson, in contributing to the funds of the hospital, and in further commendation of the services of his son, Dr. S. H. Bronson, ward No. 1, west, be named the Bronson ward.

The medical board was re-elected without change.

The Death of Dr. James Owens Smith, one of the veterans of the New York Profession, took place at his late residence, No. 81 Clinton Place, on Friday, January 30th. Dr. Smith was a native of Greene County, but came to this city early in life, and took his medical degree at the College of Physicians and Surgeons in 1825. He was in his eighty-third year at the time of his death, but until within a very few years he had continued in an active family practice. The early part of his professional career was spent in the Republic of Colombia, where he occupied an official position and acquitted himself with great credit. He was a member of the Medical Society of the County of New York, of the Academy of Medicine, of the Physicians' Mutual Aid Association, and of the Society for the Relief of the Widows and Orphans of Medical Men. He was much esteemed by his professional brethren and by his patients. He died a bachelor.

The Death of Dr. E. S. Gaillard.—We regret to learn that Dr. Gaillard, the accomplished editor of "Gaillard's Medical Journal," died on Monday, the 2d inst. Lack of space prevents our giving an obituary notice of the deceased this week.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 25, 1885, to January 31, 1885:*

Promotions.

Summers, John E., Lieutenant-Colonel and Surgeon, to be Surgeon, with the rank of Colonel, January 9, 1885.

Smith, Joseph R., Major and Surgeon, to be Surgeon, with the rank of Lieutenant-Colonel, January 9, 1885.

Koerper, Egon A., Captain and Assistant Surgeon, to be Surgeon, with the rank of Major, January 9, 1885.

Appointment.

Raymond, Henry I., to be Assistant Surgeon, with the rank of First Lieutenant, January 12, 1885.

Webster, Warren, Major and Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 20, A. G. O., January 24, 1885.

Taylor, B. D., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect between March 15th and April 1, 1885, with permission to leave department [illegible] Department of Texas, January 26, 1885.

Kean, J. R., First Lieutenant and Assistant Surgeon. Ordered for duty in Department of the Missouri. S. O. 23, A. G. O., January 27, 1885.

Society Meetings for the Coming Week:

Monday, *February 9th:* New York Academy of Sciences (Section for Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *February 10th:* New York Surgical Society; New York Medical Index (private); Medical Society of the County of Essex, N. J.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, *February 11th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Franklin District, Mass., Medical Society (Greenfield); Pittsfield, Mass., Medical Association (private).

Thursday, *February 12th:* New York Laryngological Society (private); Society of Medical Jurisprudence and State Medicine, New York; Harlem Medical Association of the City of New York; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private).

Friday, *February 13th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *February 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

TRISMUS NASCENTIUM AND DEPRESSION OF THE OCCIPITAL BONE.

New York, *January 12, 1885.*

To the Editor of the New York Medical Journal:

Sir: In answer to Dr. J. F. Hartigan's letter, in the "Journal" of January 3d, permit me to say that I presented the case to the society, and asked Dr. S. M. Roberts to make some remarks upon it. Through some error, his remarks were not published with the proceedings.

A more complete history of the case will enable us to judge whether it is one of trismus nascentium (trismoid), due to depression of the occipital bone, or a case of simple convulsive movements, due to disorder of the gastro-intestinal tract, in a neurotic child. The father is healthy. The mother, aged twenty-four, has been married three years, and gives a history of epilepsy from the time she was six years old until her second child was born, in July, 1883. When she was nineteen years old she had severe sunstroke, and, as a result, was confined in an insane asylum three months. Her first child was born prematurely. It had hydrocephalus and spina bifida, and died in a convulsion when it was twenty-four hours old. Her second child was healthy at birth, but died in four weeks from gastro-intestinal trouble, being bottle-fed. Her third child—this child—was born September 30, 1884, before the physician's arrival. It was fairly well-developed, and the nurse, while washing it, noticed rolling of the eyes and clenching of the hands. It nursed for two weeks and did well, gaining flesh and strength, although the convulsive movements continued. It was then given the bottle, as the mother had a "broken breast." From this time it had vomiting and diarrhœa with much straining, but the passages were not dysenteric. It lost flesh, and the convulsive movements increased until it came under my observation, November 25th. It was poorly nourished, with its belly prominent and hard, its bowels constipated, and its fontanelle depressed, and it was constantly rolling its eyes and having clonic muscular contractions of the extremities only. Its diet was regulated, and it was given a laxative. There was some improvement, when, on December 1st, after vomiting and diarrhœa, it had a general convulsion, lasting from five to ten minutes,—from the mother's account, probably a simple convulsion.

Remembering Dr. Hartigan's article, I examined the head, and found marked depression of the occipital bone, with overlapping of the parietals, greatest on the left side, the parietals also overlapping the frontals. The frontal bones were separated throughout their whole extent, a quarter of an inch at the narrowest place. The treatment was then directed almost entirely

to position. It was difficult to carry out, as the child would invariably turn its head after being placed on its side, and I could not see that it made any difference with its convulsive movements whether it lay on its side or on its back. It remained in about the same condition until it was presented before the society, December 6th. Dr. Roberts held the child up with its occiput resting on his hand, without producing any change in its condition, except that it was more quiet and comfortable while so held. Since that time, treatment has been directed entirely to its digestive organs, there has been a decided improvement in its general condition, and the convulsive movements have almost entirely ceased.

If the symptoms were due to occipital depression, why did the child not develop trismus? There was (and is) deficient ossification, the bones being loosely attached by their commissures, and displacement being easily detected. In these cases, according to Dr. Hartigan, "the symptoms occur sooner, are more aggravated, the majority dying in a few hours." But the doctor says this is a case of "trismoid." I think the term an unfortunate one. There is certainly nothing *like* trismus in this case, and, of Dr. Hartigan's six patients with trismoid reported as having recovered, but one had any symptoms *like* trismus. Dr. Hartigan thinks that trismus nascentium and tetanus in the adult are not identical, and, from reported cases of the former that I have been able to consult, I think he is right. In very many of them no mention is made of the muscles of the jaw being affected, or of the spasms being tonic in character, and they apparently are cases of simple convulsions.

H. G. Lyttle, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Seventy-ninth Annual Meeting, held in Albany, Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1885.

The President, Dr. B. F. Sherman, of Ogdensburg, in the Chair.

Tuesday's Proceedings.

The morning session was called to order at 10 A. M., and the proceedings were opened with a prayer by the Rev. Dr. J. L. Reese, of Albany.

The President's Address of Welcome was then read. I alluded to the absence of a number of those who had been accustomed to attend the meetings, and expressed the speaker's sense of the honor conferred upon him in his election to the office of president. The hope was expressed that a better place might be provided for the meetings in the future, and it was intimated that a hall in the Capitol might justly be placed at the disposal of the society for three days in the year. A more systematic management of the meetings was recommended—either by prolonging the meeting by an additional day, or by recourse to work in sections. Action should be taken with reference to the coming meeting of the International Medical Congress. A communication had been received from the Medical Society of the State of New Jersey that called for notice at once presenting a proposed curriculum for students. Such alteration of the By-laws was recommended as would do away with the president's annual address, so that the time now given to it might be available for scientific work. The address closed with a feeling reference to the loss of members by death during the year. On motion, the address was referred to a committee of three, to be appointed by the chair.

A Communication from the Medical Society of the County of Erie was read, embodying resolutions recommending that efforts be made to secure the legal establishment of a State examining board, to be composed of persons not connected with any medical college. On motion, the communication was received and placed on file.

A Communication from the Medical Society of the County of New York was presented, embracing memorial notices of deceased members, and recommendations for certain changes in the By-laws.

A Communication from the Medical Society of the State of Nebraska was read, presenting resolutions regarding the machinery by which various medical societies should communicate with each other. The purport of the resolutions was not very clear, and, on motion, the communication was referred to a special committee for consideration and report.

An Honorary Member, Dr. Henry I. Bowditch, of Boston, was introduced and invited to a seat by the president's side.

A Case of Acute Pelvic Abscess, with Remarks.—Dr. W. W. Potter, of Buffalo, read a paper with this title. The case was one of a large non-puerperal collection of fœtid pus behind the uterus, of rapid formation and accompanied with marked constitutional disturbance. The aspirator was employed when fluctuation was well marked, with result of complete relief from pain, but the patient's general condition was still precarious. Various antiseptic injections having been used with little or no result, an iodoform emulsion was introduced into the abscess cavity, after the method used by Dr. David Prince, of Illinois, and with the speedy occurrence of improvement. The patient made a good recovery. Before the attack came on, the patient had been taking cotton-root tea in large quantities, by the advice of an irregular practitioner who had diagnosticated ovarian trouble; and it was a question if this had not had something to do with causing the inflammation. The author referred to the frequency and importance of pelvic cellulitis, and credited Emmet with having done a great service to gynæcology by emphasizing the leading part played by the affection in connection with pelvic disease. As to treatment, the author advocated the radical procedure of prompt evacuation, characterizing it as "the treatment of to-day." It was only by the vagina that pus could safely escape by spontaneous opening, but there was nothing to assure us that the abscess would not break in some other direction if there was no interference with it. The necessity of antiseptic injections into the cavity was insisted upon, and they should be given by the physician himself.

Dr. W. Gill Wylie, of New York, thought that the abscess must have been due either to an hæmatocele or to the access of septic material from the oviduct. He thought, too, that it was not the cellular tissue that was the seat of the collection, but the peritoneal cavity. He would prefer a trocar and cannula, with subsequent dilatation, to a knife for opening such a collection. Caution should be observed in washing out such a cavity with so strong a solution of bichloride of mercury as a 1–3,000 solution. Many pelvic abscesses, especially those of the cellular tissue, were quite as apt to point elsewhere as in the vagina, and in such cases laparotomy, with proper precautions, seemed to him the proper procedure, with removal of the oviducts.

Dr. W. S. Ely, of Rochester, reported a case of what might be termed "latent pelvic abscess," in a girl of sixteen years. The collection was large when attention was first directed to the abdomen. A large curved trocar was passed into the abdomen, below the umbilicus, and out through the posterior vault of the vagina, and through the cannula a drainage-tube was passed. This "through-drainage" was speedily followed by recovery.

Dr. Bowditch related a case of pelvic abscess in a child two years of age, that had been treated like Dr. Ely's case, except that a re-accumulation of the pus led to incision and washing out of the abdominal cavity, with the most favorable result. We were still too much afraid of opening the abdomen, as, twenty years ago, we were too much afraid of opening the chest.

Dr. Baker, of Lockport, wished to emphasize the efficiency of hot douching at the outset.

Dr. Potter remarked that the latter part of his paper, the reading of which he had had to forego, under the rules, contained a consideration of the main points that had been referred to by Dr. Wylie and the other speakers, upon which he was in substantial agreement with them.

The Treatment of Granular Lids.—Dr. David Webster, of New York, read a paper designed to furnish general practitioners with hints by which they could treat this condition themselves instead of turning them over to specialists. He referred to the use of jequirity. It was not without danger, but was reasonably safe if used with the following precautions: 1. Use it only in cases accompanied with decided pannus. 2. Use a solution no stronger than 1 to 400. 3. Apply it only once a day. 4. Stop its use as soon as the peculiar inflammation shows itself.

Dr. D. B. St. John Roosa, of New York, speaking from a considerable experience with jequirity, could add whatever confirmation of Dr. Webster's remarks was needed.

Dr. T. R. Pooley, of New York, thought the drug was one of those that had been given up as too dangerous for general use.

The Report of the Committee on Legislation was read by Dr. Daniel Lewis, of New York, setting forth the course taken by the committee with regard to the bills reported last year, and recounting various attempts that had been made by bogus colleges to rehabilitate themselves with the authority to grant diplomas, together with the committee's efforts to thwart them. These efforts had been successful in the main. The report recommended an attempt to procure legal authority for the county societies to hold property to the amount of $50,000 each, instead of $1,000, as at present, and limiting the tax upon individual members to $5 annually. On motion, the report was accepted.

Dr. H. G. Piffard, of New York, moved the adoption of the recommendation in regard to the property allowance of county societies. Seconded by Dr. F. R. Sturgis, of New York, who then moved an amendment making the amount $100,000 for New York County. Carried. The original motion, as amended, was then carried.

The Report of the Special Committee on a Medical Examiners Bill was read by Dr. Piffard, who submitted a draft of a bill decided upon by the majority of the committee. It provided for two boards—one for the northern, and the other for the southern part of the State; each to consist of six persons (an examiner in medicine, one in surgery, one in obstetrics, and three in therapeutics; each person examined to be allowed to choose an examiner in therapeutics; no member of a board to hold office more than one year; each board to consist of two members of a State medical society, two members of a college faculty, and two persons who are members of neither a State society nor a college faculty.

Dr. Pilcher moved that the report be made the special order for this evening. Dr. J. P. Foster, of New York, moved an amendment, ordering that the report be printed and furnished to each member of the society, but not acted on until next year. Seconded by Dr. Sturgis. Lost. Dr. Pilcher's motion was then put and carried.

The discussion on Dr. Webster's paper being then resumed, Dr. H. Knapp, of New York, expressed the opinion that the use of jequirity was so dangerous as to be legitimate only in exceptional cases, practically those of patients who were almost blind. In three instances, in his experience, its action had been so violent as to make him despair of preserving the patients' sight. Others had met with like unfortunate results. As a rule, he preferred the well-known treatment with the crystal of sulphate of copper—there should be no cauterization, but sufficient action to bring about absorption. It should be applied daily, the lids being fully everted.

Dr. Webster thought the occasional loss of an eye from the use of jequirity should not lead us to abandon it altogether.

The Report of the Committee on Experimental Medicine was read by Dr. John G. Curtis, of New York, recommending the passage of a resolution reiterating the conviction of the society that vivisection was a proper mode of advancing medicine.

The Report of the Committee on Kygiene was read by Dr. E. V. Stoddard, of Rochester. There had been no special epidemic prevalence of disease of any sort within the State. The report expressed the hope that the various sanitary boards in the State would be able to secure efficient sanitation in advance of the advent of cholera. The report was received and placed on file.

The Report of the Committee on Prize Essays, read by Dr. Potter, showed that no essay had been offered during the year.

Removal of the Cataractous Lens in its Capsule was the title of the next paper, read by Dr. Roosa, who thought that the procedure, if it was free from danger, offered the best prospect of relieving senile cataract. Most of the methods that had thus far been employed, however, were open to objection. In twenty-four cases he had performed an operation that seemed to be an improvement—after a flap incision of the cornea, the back of the instrument (von Graefe's knife) was carried back in such a manner as to rupture the zonula, and the lens was then dislocated by pressure upon the cornea with two little rubber spoons. In two or three cases he had failed to remove the lens without opening the capsule, but in most instances the results had been satisfactory. The manipulation was much facilitated by the use of cocaine.

Dr. Knapp admitted that the result was excellent in cases that did well, but there was so much trouble from prolapse of the iris in the operation itself, and there were so many drawbacks in the after-treatment, that many operators had been obliged to give it up. He could not bring himself to adopt it at present.

Dr. Webster had formerly been prejudiced against the operation, but observation of Dr. Roosa's practice had led him to modify his views.

Dr. Roosa explained that his operation was not like De Wecker's or Pagenstecher's, but that its peculiarity lay in systematically dislocating the lens before closing the operation. He wished to be cautious in his conclusions, and would not lay too much stress upon the teachings of twenty-four cases; further experience was needed.

The Committee on Nominations.—At the afternoon session the committee was announced by the President, as follows:

Dr. S. O. Van der Poel, of New York; Dr. E. F. Brush, of Mt. Vernon; Dr. Herman Bendell, of Albany; Dr. E. Beach, of Gloversville; Dr. I. N. Goff, of Cazenovia; Dr. I. C. Edson, of Windsor; Dr. Francis M. Hamlin, of Auburn; Dr. F. I. Baker, of Lockport; and Dr. W. W. Potter, of Buffalo.

Anatomical Geometry and Toponymy was the title of a paper read by Dr. M. J. Roberts, of New York. It dealt with precise methods of measuring deformities and recording such

measurements, and with instruments of precision for carrying out those methods. Instruments of this sort, devised by the author, were shown, and their uses explained—including the articular goniometer, the adjustable protractor, and the epipedometer. The paper was further illustrated by a number of diagrams.

Dr. A. M. PHELPS, of Chateaugay, could see the usefulness of the epipedometer, but did not feel sure that the protractor had any special advantage over simpler means of measuring tilting of the pelvis.

Dr. ROBERTS remarked that the protractor had been devised with special reference to its use while the patient was trying to assume the normal attitude.

Some Observations on the Use of Hydrochlorate of Cocaine was the title of the next paper, by Dr. T. R. POOLEY, of New York, which embodied the author's personal experience with the drug, which had been wholly confined to ophthalmic practice, and almost entirely to the use of the drug by instillation upon the conjunctiva and by injection into the lachrymal sac. He had found Dr. Bradford's method of "rapid cocainization" by the application of a drop of an eight-per-cent. solution every minute (recently described in the "Boston Medical and Surgical Journal") very satisfactory. A general anæsthetic was to be preferred in the case of children, for the local anæsthesia would not do away with their restlessness. Had not seen cases of severe pain coming on some hours after its use, but he had witnessed marked constitutional effects in one or two instances. He had not found the drug so useful in the treatment of eye diseases as in operations, but, as had been the case with others, he had found it of advantage as a mydriatic when associated with atropine. Like Dr. W. O. Moore, he had also succeeded in warding off attacks of migraine by instillations of cocaine into the eye in cases where the trouble began with pain in one or both eyes.

Dr. KNAPP thought it quite possible that stimulation of the sympathetic nerves was at the bottom of the whole physiological action of cocaine, by causing contraction of the blood-vessels; although, as Dr. Halstead and Dr. Hall had shown, in the latter gentleman's letter to the "New York Medical Journal," there was doubtless also a paralyzing action upon sensory nerves. The introduction of the remedy was the medical event of last year. Instances of its usefulness in a wide range of operations were recounted, but its great field was in operations for cataract.

Dr. WEBSTER had used cocaine in one case of acute glaucoma, without any apparent effect in blanching the eye or lessening the pain. He had found that where there was diffuse inflammation of the conjunctiva the anæsthetic effect was much hindered. He had about concluded not to do any more iridectomies under cocaine anæsthesia, unless the lens was opaque, for fear of unwittingly wounding the anterior wall of the lens-capsule, from the sudden movement given to the eye when the iris was seized, at which moment pain was felt for the first time.

Dr. SAMUEL SHERWELL, of Brooklyn, had used the drug in operations upon the larynx and the pharynx, always with the result of producing superficial anæsthesia, but often with only partial success. His experience had been about the same in operations upon the anus.

A Delegate from the Massachusetts Medical Society, Dr. PADDOCK, was introduced. He joined in the discussion on cocaine, mentioning a number of various conditions in which he had found it of advantage.

Dr. POOLEY deprecated the practice of enucleation of the globe under cocaine anæsthesia, for injections into the orbital tissue were dangerous and the moral effect of a capital operation was such as to distract the operator unless a general anæsthetic is used.

Peroxide of Hydrogen.—Dr. S. S. WALLIAN, of Bloomingdale, read a paper on this subject. The leading physical and chemical properties of the substance were mentioned. It was said that it might take the place of ozone for many purposes, as a germicide, etc., while it was perfectly harmless in the form in which it was used in medicine. It acted by parting with a portion of its oxygen, which, being no doubt endowed with the peculiar activity incident to the nascent state, combined directly with septic substances, and thus put a stop to the putrefactive process. The author then gave a summary of its therapeutical applications, with special reference to its use in the treatment of diphtheria. Cases of carbuncle, sloughing ulcer, and septic infection (one of each) were then alluded to as having occurred in the author's practice and having been treated with the peroxide with brilliant results.

A Case of Cancer of the Liver, characterized by a series of low temperatures, was then related in a paper by Dr. W. S. ELY, of Rochester. An uncommonly full record of temperature observations had been kept. A great number of them showed a subnormal temperature—the lowest being 91° F. There were no signs of collapse at any time, and there was no correspondence between the state of the temperature and that of the pulse, but the patient felt cold to the touch. There could be no error about the observations, as they had all been made by an experienced nurse, with a Hicks's thermometer accompanied by a certificate issued from the Yale Observatory. The inferences were, that subnormal temperatures were not always so dangerous as was generally supposed, and that thermometers ought to be graduated lower than was commonly the case.

Dr. H. R. HOPKINS, of Buffalo, asked if a record had been kept of the food taken and of the urine passed.

Dr. ELY replied that there was such a record, very minutely kept, but that it showed nothing important. The temperature had been taken in the mouth in every instance.

Dr. STODDARD had taken considerable interest in continuous low temperatures during chronic diseases, for he had found them much more common than was usually supposed.

Tubal Pregnancy.—Dr. T. H. SQUIRE, of Elmira, read an account of a case of tubal pregnancy in which the sac ruptured, peritonitis followed, and the fœtus was subsequently felt in Douglas's pouch, together with a large quantity of fœtid blood. The collection then burst into the rectum, with marked relief for a time, but subsequently blood-poisoning showed itself, and laparotomy was performed. The effusion was found walled in above by a false diaphragm of lymphy exudate, and the operation was abandoned. Nevertheless, the patient at once began to improve, but, some months later, she began to sink again, and died nine months after the rupture of the sac. At the autopsy, an abscess containing about twelve ounces of pus was found in the right broad ligament.

Does Quinine abort Pneumonia?—Dr. L. EMMETT HOLT, of New York, read a paper with this title. [It will be published in full hereafter.]

Dr. A. N. BELL, of Brooklyn, spoke of the malarial origin of cases of pneumonia that he had treated, particularly among children, and in the swamps of the Chickahominy.

Dr. A. L. LOOMIS, of New York, thought the question really was, whether the passive hyperæmia of malarial disease was identical with that of the first stage of pneumonia. Passive hyperæmia, especially in children, gave rise to physical signs that might easily lead to the case being taken for pneumonia; but he did not think such cases of engorgement would go on to the development of pneumonia, except under the influence of something else than malaria. It was impossible to stop the

course of a lobar pneumonia—a disease which, he thought, was truly infectious. Was the pneumonia of to-day different from that of fifteen or twenty years ago? In his opinion, there had been no more change in the character of pneumonia than in that of a number of other diseases, such as diphtheria and cerebro-spinal fever.

Dr. Wallian's experience had been, in army practice, that patients with a congestive malarial chill either died or went on to a furious pneumonia ending in abscess.

Dr. Starr, of Rochester, was surprised to hear it stated, as Dr. Loomis had stated, that bronchial breathing could not come on during the first twelve hours after the chill of pneumonia.

Dr. Loomis explained that he had meant to say that it could not come on within the first twelve hours after the beginning of the preliminary changes in the lung—not within that length of time after the chill. In such cases the first tissue changes preceded the chill.

The Medical Examiners Bill came up as the special order at the evening session, and, on motion, was read the second time. The full text of the bill, as presented by the Committee on Legislation, was as follows:

"An Act to establish a Northern and Southern Board of Medical Examiners of the State of New York, to regulate the Licensing of Practitioners of Physic and Surgery, and to further regulate the Practice of Physic and Surgery.

"*The People of the State of New York, Represented in Senate and Assembly, do enact as follows:*

"Section 1. On and after the first day of July, 1886, there shall be and continue to be two Boards of Medical Examiners of the State of New York, of which one shall be called the Northern Board of Medical Examiners for the State of New York, and the other shall be called the Southern Board of Medical Examiners for the State of New York. Each of said boards shall consist of six members.

"Sec. 2. On or before the first day of May, in the year 1886, and in every following year, the Governor shall appoint the individual members of each of said boards, whose term of office shall begin on July 1st of the same year. Every examiner shall hold office for one year from the first day of July, on which his term shall begin, to the thirtieth day of June next following, both inclusive. In case of vacancy occurring on either board, the Governor shall, within thirty days from the time of such occurrence, appoint an examiner duly qualified to fill such vacancy.

"Sec. 3. Every examiner shall receive as his salary one-sixth part of the surplus of fees received by the board upon which he shall be appointed, in excess of its necessary expenses; providing that such salary shall not exceed the sum of six hundred dollars, except in the case of the secretary and treasurer, who shall receive an additional salary, to be fixed by the board, and shall give a bond in the sum of one thousand dollars, conditioned on the faithful administration of, and accounting for, the sums paid into his hands. All fees received by either of said boards in excess of its necessary expenses, which must be accounted for under oath, and of the salaries herein provided for, shall be paid into the treasury of this State.

"Sec. 4. The appointment of every member of each of said boards shall be from one of the districts provided in Section 5 of this Act, provided that no person shall be a member of the Southern Board who shall at the time of his appointment be a resident of any of the following counties of this State, viz: Suffolk, Queens, Kings, Richmond, New York, Westchester, Rockland, Orange, Putnam, Sullivan, Ulster, and Dutchess; and no person shall be a member of the Northern Board who shall not be a resident of one of the other counties of this State not hereinbefore enumerated.

"Sec. 5. For the purpose of appointment, there shall be four districts. Every member thereof shall be a learned and educated practitioner of physic and surgery of the [illegible] school. Two of the members shall be also members of the Medical Society of the State of New York, and shall not be at the time appointed, nor become while serving on said board, officers of instruction or government of any incorporated medical school or college. Two of the said members shall be professors in duly incorporated medical colleges of this State, and shall neither be nor become, during their term of office, members of the Medical Society of the State of New York; providing, however, that no two medical examiners shall be at the same time officers of instruction or government in the same medical college. The remaining two members of said board shall neither be nor become, during their term of service, either members of the Medical Society of the State of New York, or officers of instruction or government in any incorporated medical school or college. No person shall be appointed as a member of either board who has already served one term as a medical examiner, until at least three years shall have elapsed since the expiration of his last term of service as such officer. Every examiner shall take the oath prescribed in Article XII of the Constitution of the State of New York.

"Sec. 6. Of the six members of each board, the one whose name shall be alphabetically first on the list shall be the temporary chairman of said board until a president thereof shall be duly chosen. It shall be the duty of the temporary chairman to call by notice in writing a meeting of his board for the purpose of organization, to be held at an hour and place to be specified therein. Said notice shall be inclosed in a sealed envelope, and addressed to each member of said board and deposited in the mail at least two weeks before the second Monday in August, on which day the said first meeting shall be called. All meetings of the Northern Board shall be held either at Albany, Syracuse, or Buffalo, and all meetings of the Southern Board shall be held at New York or Brooklyn. Each board shall meet at least twice in every year; one meeting being held in October and one in June, to examine candidates for license to practice physic and surgery. At every meeting of either board four members shall constitute a quorum.

"Sec. 7. At the first meeting of the boards, pursuant to the calls of their respective temporary chairman, each board shall proceed to organize by electing one of the members as president, and another as secretary and treasurer. At the same meeting, by vote thereof, each member of the board shall be assigned to duty as an examiner in one of the following subjects: First, the principles and practice of medicine; second, the principles and practice of surgery; third, midwifery; fourth, therapeutics. These assignments shall be so made that there shall be one examiner in each of the three subjects first named, and three examiners in the subject of therapeutics. The assignment of each member shall hold good during his term of service on the board: providing, that whenever there shall fail to be an attendance of all the members of the board at any meeting, such temporary assignment may be made by a vote of those present as shall insure examinations in each and all of the said four subjects.

"Sec. 8. On and after the first day of November, 1886, no person, not theretofore under the laws of the State of New York then in force a legally authorized practitioner thereof, shall practice physic or surgery in this State, or be admitted to so practice, unless he shall receive from one of the above-named boards, after examination as herein provided, a license to practice as a physician or surgeon, and unless he shall have registered, as hereinafter provided in Section 14 of this Act.

"Sec. 9. On and after the first day of July, 1886, any person, not theretofore being lawfully authorized to practice physic and surgery in this State, who shall desire to enter upon such practice, may make, upon the payment of fifteen dollars into the treasury of said board, written application to the secretary of either of said boards of medical examiners for a license. Such applicant must furnish at the same time proof satisfactory to the board that he is more than twenty-one years of age, that he is of good moral character, that he has received either a diploma from some legally incorporated medical college of the United States conferring upon him the degree of doctor of medicine, or a diploma or license conferring the full right to practice all branches of physic and surgery in European countries, and that he has both studied medicine for three years, and attended two courses of lectures in some legally incorporated medical college or colleges prior to the granting to him of his said diploma or foreign license: provided, that two courses of lectures, both of which shall be either begun or completed within the same calendar year, shall not satisfy the above requirement.

"Sec. 10. Upon complying with the provisions of Section 9 of this Act, the said applicant shall be admitted to an examination as to his

fitness to receive a license to practice physic and surgery in this State. The examination of all such applicants shall be made by written questions upon the four subjects enumerated in Section 7 of this Act, and every candidate may elect by which of the three examiners in therapeutics he shall be examined.

"SEC. 11. At a session of the board to be held without unnecessary delay after the close of every examination of candidates for licenses, each examiner shall submit the written questions propounded by him, and the answers given thereto by each applicant, together with the said examiner's written opinion as to the qualification and merits of each applicant, and as to his or her degree of proficiency in the subject or subjects assigned to the said examiner; every opinion shall be denominated therein as 'favorable' or 'unfavorable' by the examiner rendering the same. The secretary of the board holding such examination shall transmit to the Secretary of State all said questions, answers, and opinions, together with all the reports and proceedings of the board, and the said papers shall be for ever part of the public records in this State.

"SEC. 12. Every applicant as to whom, after his or her examination as hereinabove provided, opinion denominated as 'favorable' shall have been rendered in at least three out of four subjects above mentioned, shall receive, upon the further payment of the sum of five dollars into the treasury of the examining board, a license entitling the person to whom it is granted, upon his or her registration as provided for in section fourteen in this Act, to practice physic and surgery in the State of New York.

"SEC. 13. At a meeting of a board of medical examiners created by this act, the presiding officer for the time being shall be, and he hereby is authorized to administer oaths and take solemn affirmations. Candidates for examination, when required so to do, must verify the truth of the statement contained in their applications by oath or solemn affirmation.

"SEC. 14. On and after the first day of July, 1886, no person, not theretofore a duly authorized practitioner thereof in this State under the laws then in force, shall practice, or be admitted to practice, physic and surgery in the State of New York unless such person, after having been examined and licensed to practice as herein provided, shall register his or her name in the office of the Clerk of the County wherein he or she intends to practice or practices. Such registry shall be kept by said clerk in a book open to public inspection, and shall include, beside the name of the licentiate, a statement of his or her residence and birthplace, the dates of his or her birth and diploma or European license, if any, produced before the board of examiners granting its license to said person, the date of the license to practice within this State and the official title of the licensing board. At the same time the person so registering shall exhibit his last-named license to the clerk, and subscribe and verify, by oath or affirmation, before some person duly qualified to administer oaths under the laws of this State, an affidavit containing a plain statement of the aforesaid facts, and shall file said affidavit with the clerk, who shall receive from the person so registering a fee of one dollar. Nothing in this section shall be so construed as to prohibit medical consultation in the State between legally qualified and registered practitioners of this and other States.

"SEC. 15. Any person who shall willfully swear falsely to any statement in any affidavit made under the requirements of this Act shall be deemed guilty of a felony, and shall be subject, on conviction, to punishment for perjury. And any person who shall violate any of the other provisions of this Act, or who shall practice physic or surgery in this State under cover of a diploma unlawfully issued or illegally obtained, or who shall practice or publicly profess to practice physic or surgery in the State after the first day of July, 1886, neither having been theretofore legally authorized by the laws then in force nor being legally authorized under this Act to practice said profession, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than two hundred and fifty dollars ($250) nor more than five hundred dollars ($500) for the first offense, and for each subsequent offense by a fine as aforesaid, and by imprisonment for not less than thirty days and not more than six months. The fine when collected shall be paid one half to the person or corporation making the complaint and one half into the treasury of the county where the conviction shall be had.

"SEC. 16. Every person shall be deemed to practice physic or surgery within the meaning and for the purposes of this Act who shall advertise himself or herself as a physician or surgeon, or both, or who shall make use of a door-plate or other sign bearing the word 'doctor' or 'M. D.,' or who shall couple with his or her name any combination of letters indicating that he or she is a doctor of medicine or practitioner of surgery, or both, or who shall use any means or device adapted to create the belief in the minds of members of the community that the person advertising, holding out, or using such means and devices, is a person legally authorized to practice physic and surgery. And upon competent evidence being offered of any such advertising, holding out, or use of such means and devices, the burden of proof shall be upon the person charged with violating the provisions of this Act, and it shall not be necessary, in order to obtain a conviction, to prove the receipt of money by a person so charged as a fee or return for his or her services Nothing in this section shall be construed to prevent any person upon whom a professional title has been conferred by a Government or incorporated medical college from using said degree as a social designation or for any purpose disconnected with the solicitation or transaction of professional employment.

"SEC. 17. Nothing in this Act shall apply to commissioned medical officers serving in the army or navy of the United States, or in the United States Marine-Hospital Service, or to any one while actually serving as a member of the resident medical staff of any legally incorporated hospital, or to any dentist exclusively engaged in the practice of dentistry, or to any physician or surgeon being a resident of a neighboring State and duly authorized under the laws thereof to practice physic and surgery therein, whose regular practice extends into the limit of this State; providing that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York.

"SEC. 18. All Acts and parts of Acts inconsistent with this Act are hereby repealed.

"SEC. 19. This Act shall take effect immediately."

It was decided to take up the consideration of the bill by sections, and two hours and a half were taken up with various amendments to section 1 and section 2. At the end of that time, all the action taken was rescinded on a motion to reconsider, and Dr. A. JACOBI, of New York, obtained leave to read another bill, which, with a few modifications, was the bill introduced into the Legislature by Mr. Heath, in January, and, in the main, similar to the bill reported by the Committee on Legislation last year. Having read the bill, Dr. Jacobi moved its adoption.

On motion of Dr. S. O. VAN DER POEL, of New York, the bill was ordered to be printed, and was made the special order for the Wednesday afternoon session.

Wednesday's Proceedings.

As there was no clergyman present at the opening of the morning session, by request of the president, Dr. ALFRED C. POST, of New York, made a prayer. The minutes of Tuesday's proceedings were read by the secretary. The treasurer then read his annual report, which was received and referred to an auditing committee. The treasurer also reported the condition of the Merritt H. Cash Prize Fund. The special committee on the president's inaugural address reported adversely on the proposition to divide the meetings of the society into sections, and in favor of an early nomination of the Business Committee, with a view to their relieving the president of the work of procuring papers to be read, etc., also recommending a course to be pursued in regard to the representation of the society at the Ninth International Medical Congress. The report was accepted and adopted.

Senile Hypertrophy of the Prostate was the title of a paper read by Dr. POST. The paper dealt with the subject in a systematic manner, so as scarcely to admit of a synopsis. The author showed a special syringe, of his own device, for attach-

ing to a catheter in the procedure of washing out the bladder. It was so constructed as to admit of repair readily without its being sent to an instrument-maker, and of being attached to any ordinary-sized catheter. Stress was laid on the advantage of using large catheters in cases of prostatic disease, for the reasons that are commonly given. In the use of very flexible rubber catheters, it was sometimes useful to stiffen the distal part of the instrument by coating it with collodion. In very aggravated cases of cystitis, he had found much relief produced by applying the actual cautery to the pubic region. He was inclined to favor a resort to crushing or other operative procedures in some cases of very difficult catheterization, but the opinions of surgeons with regard to these measures were diverse.

Dr. Squires wished to see the silver catheter pass out of use.

Dr. A. Vanderveer, of Albany, spoke highly of the use of Bethesda Water in cases of phosphatic deposit, and of corn-silk in those of painful cystitis. Perineal cystotomy, perhaps in the form of Thompson's operation, ought to supersede supra-pubic puncture.

Dr. Knapp alluded to the excellent effects of cocaine applied to the deep urethra.

A Demonstration of the Electric Light for Medical Purposes was made by Dr. Lucien Howe, of Buffalo. The battery was of zinc and carbon elements connected for quantity, and the light was of rather more than six-candle power. The one shown was attached to a head-band. The cost of the apparatus was about $22. It was of Trouvé's make.

The Opium Habit was the title of the next paper, by Dr. Hamlin, of Auburn. Rapid reduction of the dose was the method of treatment advised, associated with supporting and anodyne measures.

A Method of cultivating Bacteria was demonstrated by Dr. William Hailes, Jr., of Albany, being in the main Koch's procedure, with the use of Sternberg's tubes.

Hare-Lip was the title of the next paper, read by Dr. Phelps, of Chateaugay, who described an ingenious procedure of his own whereby, in cases of single hare-lip where the fissure did not extend farther outward than midway between the middle of the lip and the angle of the mouth, the cicatrix could be brought into the median line.

The State Medical Examiners Bill came up again as the special order at the opening of the afternoon session. Dr. Jacobi gave up the floor to the Committee on Legislation. The committee then reported that it had agreed upon certain modifications of the bill it had before presented, such modifications being to the effect that there should be but one board, to consist of nine members, nominated by the Board of Regents of the University, to hold office for one year, six of them to represent this society, and the three others to represent the other incorporated State societies, in proportion to their membership, those that were to represent this society to consist of three men connected with the colleges and of three men not so connected; and, in addition, that the following section, contained in the bill brought forward by Dr. Jacobi, be incorporated in the bill:

"All [illegible] shall be conducted in writing, or orally at [illegible] and shall be in medicine, pathology, [illegible] surgery, and obstetrics. [illegible] principles and practice of medicine. Provided that each applicant, upon [illegible] shall be entitled to receive [illegible] shall place upon [illegible] so that when said [illegible] the latter shall not know to [illegible] papers were prepared, that upon each day of examination all candidates shall be given the same set or sets of questions, and the examination upon the principles and practice of medicine shall only be held after the other examinations have been made and their results recorded; that upon these two subjects three sets of questions, prepared by the representatives in said board of the Medical Society of the State of New York, the Homœopathic Medical Society of the State of New York, and the Eclectic Medical Society of the State of New York, respectively, shall be given to each applicant, and the applicant shall elect which one of the said sets of questions he or she shall answer, and that the merit of these answers shall be exclusively passed upon by those members of the board by whom the questions were prepared. It is further provided that said examination papers shall be marked upon the scale of one hundred, and that in order to secure a license it shall be necessary for the applicant to attain such an average as shall hereafter be determined and made known by the said board. At the close of every examination it shall be the duty of the said board, without unnecessary delay, to prepare and transmit to the regents of the university an official report of said examination, which shall set forth the name, age, sex, and place of residence of each applicant examined by them, together with the place and date of graduation, the date of examination, the examination number or mark, the examination average in each branch, the general average, and the result of the examination, whether successful or unsuccessful. This report shall be accompanied by the examination papers, both questions and answers, and shall be kept for reference and inspection among the public records of the university."

The committee moved the adoption of the bill as thus modified. Carried unanimously.

The Regulation of the Membership of the Society.—Dr. C. H. Porter, of Albany, introduced a resolution asking the Committee on Legislation to endeavor to procure legislation enabling the society to regulate its own membership. Carried.

Granular Lids.—Dr. W. F. Mittendorf, of New York, read a paper on this subject, in which he spoke lightly of applications of copaiba to the conjunctiva, also of the use of hydrastin.

A number of papers were then read by title.

Ligature of the Femoral Artery.—Dr. Alfred Mercer, of Syracuse, read a paper embodying the histories of two cases in which this operation was performed. Both of them were cases of injury, and one was accompanied by the formation of a traumatic aneurysm.

Dr. Post alluded to a case of ligation of the femoral in which he had controlled secondary hæmorrhage from the distal portion by bandaging and elevation of the limb.

A Lithotrity Evacuator was shown by Dr. F. N. Otis, of New York, so constructed as to prevent the regurgitation of fragments into the bladder. The mechanism was very simple and satisfactory, and it had the additional advantage that with it it was possible to inject more water into the bladder at any time during the operation. It was also so arranged that, by filling the receiver with glycerin, one was enabled to work it without obscuring the view of the subsiding fragments by forcing blood-stained water into the receiver. The working of the apparatus was demonstrated in a striking manner, ink being used in place of bloody water.

Urethral Stricture.—Dr. Otis then gave a summary of his recent experience, particularly with cases of contraction of the meatus urinarius, being the leading points of a paper which he would furnish for the volume of "Transactions," and embodying observations supplementary to and confirmatory of certain propositions that he had submitted to the society in 1873.

Dr. Post agreed entirely with Dr. Otis's views.

Dr. Vanderveer expressed himself to the same effect.

The special committee to consider the communication from the Nebraska State Medical Society reported in favor of acceding to the Nebraska society's request.

The Collective Investigation of Disease.—Dr. Jacobi, a member of the American committee on this subject of the In-

ternational Medical Congress, announced that cards would soon be sent around containing certain simple questions in regard to rickets.

Maternal Nursing and Artificial Feeding, and their Relation to Infant Mortality was the title of the next paper, by Dr. J. E. WINTERS, of New York. It consisted largely of statistics tending to support the common view of the great desirability of mothers nursing their own children, and in violent opposition to the employment of wet-nurses, whom the author characterized as unmitigated evils.

Dr. BELL alluded to corroborative statistics.

Dr. ELY wished to express his dissent from some of the views that the author of the paper had stated, especially in regard to the notion of the transmission of moral qualities from nurse to nursling.

Dr. TOWNSEND, of Albany, spoke of his unsatisfactory experience with predigested milk and various prepared foods, all of which were vastly inferior to the milk of a wet-nurse.

Dr. JACOBI thought the paper very open to criticism, chiefly from its being "sensational," at variance with the best experience, and largely founded on anecdotes.

Dr. MITTENDORF, although connected with two institutions for infants, could not support Dr. Winters's views.

Dr. WINTERS retorted that his paper could be called "sensational" only if facts were "sensational," for he had dealt chiefly with facts.

An Illuminating Battery was shown by Dr. W. C. JARVIS, of New York, which was remarkable for the length of time (many months in his experience) for which it would continue to work without any interference. It was also cheap. It was an American invention, known as the "Foster electric cell." The elements were zinc and carbon, but the exciting solution was a secret preparation.

Dr. GOFF knew of an equally good battery, and one that required no secret preparation, made in Cazenovia, N. Y.

Mr. Lawson Tait's Abdominal Surgery.—Dr. VANDERVEER read a paper descriptive of Mr. Tait's operative methods, etc., together with the histories of a number of cases in which he had seen Mr. Tait perform abdominal section.

Dr. PHELPS was willing to admit Mr. Tait's remarkable success, but believed in antiseptic precautions nevertheless.

Dr. VANDERVEER wished to disavow any opposition to antiseptic surgery; far from that, there were many operations that he would not think of undertaking without its aid. He had merely told what he had seen of Mr. Tait's practice as a contribution to the facts bearing upon the matter.

The President's Annual Address.—At the evening session, which was held in the Assembly Chamber, at the Capitol, the president read his address, which was entitled *Medical Evidence*. Many historical events were adduced tending to show the circumspection with which a medical man should conduct himself when called upon to testify as to matters of fact, and especially as to matters of opinion. The address closed with the following quotation from a well-known author: "Let every member of the profession of medicine who would defend its claims to honor and usefulness, and win for himself a distinguished position in its ranks and in the world, prepare himself well and thoroughly to mount upon the witness-stand with a firm, elastic step, feeling an assurance that it is the most favorable and distinguished position he can occupy as a representative of his profession or of his own acquirements."

Thursday's Proceedings.

The session was opened with a prayer by Dr. POST. The communication from the Medical Society of the State of New Jersey, relative to the curriculum, was referred to a special committee, consisting of Dr. Van der Poel, Dr. J. O. Roe, of Rochester, and Dr. Phelps.

The Volume of Transactions.—On motion of Dr. STODDARD, the Committee on Publication was empowered to issue the volume in two parts, the first to consist of all except the county society lists, and the latter to be published subsequently, in pamphlet form, after the annual meetings of the county societies; and it was voted to request those societies to hold their annual meetings in January, February, or March.

Delegates to Other Societies.—On motion of the secretary, under a suspension of the By-Laws, the president and the secretary were given authority to fill vacancies in the delegations.

A Communication from the Medical Society of the County of Richmond, deploring the action of the State society in adopting the new code of ethics, was read and ordered on file.

Cholera and Quarantine.—Dr. VAN DER POEL gave an extemporized *résumé* of his paper on this subject. His remarks had special reference to the question of the probable efficacy of quarantine in preventing the importation of cholera. The speaker gave an interesting description of the measures that were taken on the Red Sea route of travel, under the authority of an international sanitary board, to prevent the transportation of cholera from Calcutta and Bombay; they were almost always efficient, but occasionally the lukewarmness of the British officials thwarted them, a notable instance of which was seen in the landing of a steamer's load of steerage passengers on the western shore of the Red Sea, in order to elude observation, and the consequent spread of the disease to Egypt and thence to France. As to quarantine in the old sense of the term—absolute detention and non-intercourse—that was not what sanitarians now meant when they spoke of quarantine, but the whole system of guarding against the shipment of diseased persons and infected merchandise and the management of persons, clothing, etc., when the disease broke out, so as to prevent its extension over a country. If these measures were carefully carried out, there was a great probability of our being able to stamp out the disease in case it made its appearance; but they should include detention and observation for ten days at the ports of New York, Boston, Philadelphia, Baltimore, and New Orleans. The co-operation of the Canadians could probably be counted upon, for they did not share the English view as to the uselessness of quarantine.

Remarks on the same subject were made by Dr. BOWDITCH, and, on motion of Dr. WARD, the following resolution was passed: "*Resolved*, That it is the sense of this society that the United States Government should, in view of the probable importation of the cholera poison during the present year, promptly take steps to enforce proper sanitary measures at foreign ports where the disease exists." On motion of Dr. W. H. BAILEY, of Albany, an engrossed copy of the resolution and one of Dr. Van der Poel's remarks were ordered to be sent to the President of the United States.

Irrigation in Laparotomy.—Dr. F. S. Low, of Pulaski, explained the construction of an apparatus that he had made use of for facilitating the cleansing of the parts during the operation.

A Provisional Business Committee.—On motion of Dr. POTTER, a committee, to be appointed by the president, was charged with the work of making preparations for the scientific business of the meetings, with the tacit understanding that, on the opening of the meeting, the same gentlemen should be appointed as the Business Committee. The president appointed Dr. Potter, Dr. Lewis, and Dr. Phelps as the committee.

Officers for the Ensuing Year.—In accordance with the report of the Nominating Committee, officers were elected as

follows: *President*, Dr. A. Vanderveer, of Albany; *Vice-President*, Dr. A. C. Post, of New York; *Secretary*, Dr. W. M. Smith, of Syracuse; *Treasurer*, Dr. C. H. Porter, of Albany; *Censors:* Southern District, Dr. F. A. Castle, Dr. G. H. Fox, and Dr. David Webster, of New York; Eastern District, Dr. Joseph Lewi and Dr. N. L. Snow, of Albany, and Dr. LeRoy McLean, of Troy; Middle District, Dr. A. Churchill, of Utica, Dr. L. Griffin, of Binghamton, and Dr. R. Frazier, of Camden; Western District, Dr. T. Dimon, of Auburn, Dr. M. G. Kittenger, of Lockport, and Dr. D. Little, of Rochester; for the College of Medicine, Syracuse University, Dr. I. N. Goff, of Cazenovia; *Committee of Arrangements*, Dr. S. B. Ward, of Albany, Dr. W. S. Ely, of Rochester, and Dr. E. L. Partridge, of New York; *Committee on By-Laws*, Dr. W. C. Wey, of Elmira, Dr. H. G. Piffard, of New York, and Dr. W. M. Smith, of Syracuse; *Committee on Hygiene*, Dr. E. V. Stoddard, of Rochester, Dr. F. C. Curtis, of Albany, Dr. A. N. Bell, of Brooklyn, Dr. G. J. Fisher, of Sing Sing, Dr. E. Hutchinson, of Utica, Dr. W. H. Bailey, of Albany, and Dr. J. P. Creveling, of Auburn; *Committee on Legislation*, Dr. D. Lewis, of New York, Dr. S. B. Ward, of Albany, and Dr. F. R. S. Drake, of New York; *Committee on Ethics*, Dr. A. Jacobi, of New York, Dr. A. Matthewson, of Brooklyn, and Dr. J. W. Whitbeck, of Rochester; *Committee on Prize Essays*, Dr. W. W. Potter, of Buffalo, Dr. W. S. Ely, of Rochester, and Dr. H. R. Hopkins, of Buffalo; *Committee on Publication*, Dr. W. M. Smith, of Syracuse, Dr. C. H. Porter, of Albany, and Dr. A. Mercer, of Syracuse.

Permanent Members were elected as follows: First District, Dr. G. S. Hopkins, Dr. J. S. Warren, Dr. W. M. Carpenter, Dr. J. G. Curtis, and Dr. E. N. Chapman; Second District, Dr. A. M. Campbell and Dr. H. R. Winter; Third District, Dr. J. M. Bigelow and Dr. J. D. Lomax; Fourth District, Dr. C. M. Wilson and Dr. A. W. Suiter; Fifth District, Dr. G. Seymour; Sixth District, Dr. I. C. Edson and Dr. E. Allison; Seventh District, Dr. J. Gerin; Eighth District, Dr. P. Faling and Dr. H. R. Hopkins.

Honorary Members were elected as follows: Dr. J. L. Cabell, of Virginia; Dr. J. F. Whittaker, of Ohio; Dr. T. G. Wormley, of Pennsylvania; and Dr. T. S. Clouston, of Scotland.

The meeting then adjourned.

CHICAGO MEDICAL SOCIETY.

Meeting of January 19, 1885.

Dr. E. J. Doering, President *pro tem.;* Dr. Liston H. Montgomery, Secretary.

The Bacillus of Syphilis, and the Treatment of the Disease with Tannate of Mercury. Dr. Josef Zeister read a paper which began with a summary of a communication on the specific bacilli of syphilis, made by Dr. Sigmund Lustgarten to a Vienna medical society in November, 1884. In microscopical sections from two syphilitic chancres and a syphiloma, Lustgarten had found bacilli which were perfectly characterized by their color reaction, their form, and their relative position. They were represented as little rods, straight or somewhat curved, slightly larger than the bacilli of tuberculosis, but of the same general appearance. They were found single or in small groups. Imbedded in somewhat distended lymphoid cells, and, with powerful examination, showed spots like those that Koch regarded as spores in the tubercle bacilli. Their staining properties made it possible to distinguish them from all other pathogenetic organisms, and the fact of their being always inclosed in cells would prevent their being confounded with putrefaction formations, etc. As the author alluded to had cultivated this bacillus, and as his results had been confirmed by Koch, it would seem that the evidence was sufficient.

In regard to the treatment of the disease with the tannate of mercury, the first trials had been made by Kaposi, nearly a year ago, and the results had been so remarkable, and the advantages so great, that the drug was now freely used in Germany. It was a tannate of the protoxide, was without odor or taste, and was soluble only when decomposed. It contained about fifty per cent. of metallic mercury. Hydrochloric acid made no sensible impression on it; it was easily dissolved in nitric acid; and very dilute alkalies, such as solutions of ammonia, caustic potash, or an alkaline carbonate, reduced it to a sort of magma composed of very small particles of metallic mercury. Its rapid absorption into the system was proved by an abundant mercurial precipitate found in the urine shortly after it was administered. It was given in nearly all forms of syphilis —recent as well as inveterate eruptions and gummy deposits. The writer had himself seen the patients whose cases had been reported in one of the Vienna journals, and could testify to the results. Six of the cases were primary eruptions, three were gummata, two showed small papules and large pustules, and one was a case of relapsing secondary syphilis. A rapid diminution of the lesions would be observed in the course of a week or two, and in three or four weeks they would have entirely disappeared.

The author then alluded to a case that he had had under treatment lately, that of a man who contracted a chancre last June, at which time he received treatment by another physician. In six weeks the roseola appeared, together with various other manifestations. A number of remedies were used internally, and external treatment was employed, until September 14th, when the patient first consulted him. At that time there was a widely diffused maculo-papular syphilide. As it was impossible to obtain any of the tannate of mercury then, mercurial frictions were used until September 19th, but from this latter date until October 5th the patient took four grains and a half of the tannate daily. The eruption had then entirely disappeared, and only a few spots of pigmentation could be seen; there was no sign of salivation. The use of the drug was continued until the 1st of November, and the patient was then discharged cured.

The remedy was usually given in doses of about a grain and a half, with four or five grains of sugar, three times a day, an hour after meals. When thus given, it was rare for it to produce any sign of salivation. The alkaline carbonates, and considerable quantities of mineral waters containing such salts, should be avoided by patients who were taking the remedy, for they decomposed it; and iodide of potassium should not be given at the same time, as the production of a large amount of iodide of mercury would be the result. The writer had never seen any disagreeable symptoms of mercurial poisoning produced while the drug was being used, nor any irritation of the bowels, even when its use was continued for weeks in such large doses as six grains daily, and he had seen about twenty cases so treated. If the bowels became loose, a sixth of a grain of opium could be added to each dose. While this new remedy might not produce a revolution in the treatment of syphilis, it deserved to be classed among the best that had come into use.

Dr. G. C. Paoli asked with regard to the use of the drug in the tertiary form, where the bones were involved, and stated that its employment had been suggested as early as six years ago in some of the foreign journals. The main remedies that he relied upon were iodoform for chancres, and afterward fumigations and the use of the red iodide of mercury in small doses, and he had yet to see his first case of salivation from that treatment, which he

could not say of the green iodide. He sometimes found it necessary to use a little opium or hyoscyamus, to prevent irritation of the bowels. The tannate might have astringent properties, and, if it had, it might be very good for children. Where the bones were affected, he thought iodide of potassium, in doses of fifteen, twenty, or thirty grains, was unequaled as a remedy, but the disease was one in which we could not say that any remedy was the best, for there were special idiosyncrasies in some cases. Regarding the micro-organism of syphilis, Dr. Saunders had discovered it ten years ago, but he had been ridiculed for his ideas, and had desisted from further investigations in that direction.

Dr. Robert Randolph had seen pathological specimens from syphilitic persons, and prepared slides, purporting to contain bacilli, at least three years ago, but it had then been concluded that there was nothing in the supposed discovery.

Dr. Zeisler thought that Dr. Paoli must be mistaken about the alleged discovery of syphilitic bacilli ten years ago, for certainly nothing was known about coloring or cultivating bacilli until within the past year.

A New Method of Counting a Rapid Pulse was the title of a short paper, by Dr. A. E. Hoadley. The method consisted simply in counting every alternate pulsation and multiplying the number by two. On the first trial one would probably fail to make an accurate count, but with a little practice the knack was soon acquired, and the acquisition might be hastened by practicing on the tick of a watch.

Obstruction of the Ileum by Peritoneal Adhesions; Death.—Dr. Hoadley also reported a case of this sort:

A man thirty years old, apparently in good health, was attacked very suddenly, in the night, March 14th, with severe pain in the abdomen, opposite the umbilicus. It continued for five or six hours, and then subsided, from the effect of remedies, as was supposed. After a few hours it returned and again subsided. With some variation in the frequency and severity of the paroxysms, it continued up to the time of his death, four weeks from the time of the seizure. Soon after the onset he began to suffer with vomiting of a very distressing nature, but in time this became more passive, although it continued from day to day to the last. At times he vomited simply what he had swallowed, but at other times, and especially during the first two weeks, the vomiting was stercoraceous. For three weeks the temperature did not exceed 100° F., and most of the time it was about normal, while the pulse ranged between 75 and 85, but gradually grew weaker, and during the last few days was very rapid and scarcely perceptible at the wrist. There was no tympanites, and but very little tenderness. Much of the time the abdomen was quite flat and had a doughy feel, but during the paroxysms it became as hard as a contracting uterus during labor, although there was no muscular rigidity or increase of tenderness; and during the intervals gentle kneading would reproduce the tense condition without producing pain. This state of things was most marked during the last week of the illness, at which time the patient was much exhausted, with his voice hu-ky, his skin of a leaden color, and presenting a general pinched and emaciated appearance. The pains had then lost their severity, a sense of suffocation with general numbness being produced instead—as he described it, it felt as if his stomach was being crowded up under his ribs. Throughout the case, except on one day, there was no voluntary passage from the bowels, although before the attack they had been soluble and very regular. With the aid of injections and laxatives, a few small, elongated lumps of fecal matter, never exceeding three eighths of an inch in diameter, were passed every day or two. At the end of the third week, however, there was a slight diarrhœa for one day only. Throughout his entire sickness, even in the absence of pain, he was restless and weary, and never slept more than an hour at a time.

Treatment was of little avail. Opium and chloroform were the principal remedies used; they retarded the vomiting and pain, but controlled neither. Many other remedies were tried, and the case was treated from every possible standpoint, except that of surgical interference; there seemed to be no time when an operation was admissible. Rectal alimentation appeared to give good results. Dr. J. D. Skeer and and Dr. C. W. Earle were called in consultation, and confirmed the writer's early diagnosis of mechanical obstruction of the small intestine, probably at the ileo-cæcal junction. The patient died on the twenty-eighth day. The autopsy revealed many peritoneal adhesions and bands of long standing, which were very firm, binding the ileum down into the pelvic cavity. One of them was firmly attached to the anterior abdominal wall, midway between the umbilicus and the middle of Poupart's ligament on the right side. At its attachment it was about one fourth of an inch thick and three fourths of an inch wide. It then spread downward to the left side of the pelvic cavity, where it was firmly adherent, from the brim far down upon the inner wall, becoming fasciculated and embracing the folds of the ileum between the fasciculi, furnishing a band that held the larger mass of the small intestine in the pelvis. On dividing these bands and removing the intestines, they were found everywhere bound together by adhesions; but there was not the slightest evidence of recent inflammation of the peritonæum, although the intestine itself was inflamed and very much softened for a distance of about four feet, extending to within twelve or fourteen inches of the ileo-cæcal junction. There was no evidence of previous disease of the intestine.

Eight years before the patient had been treated by the writer for typhoid fever, which ran a moderately severe course, and ended in a good recovery; and the most interesting point about the case, as it now appeared, was the fact that at that time he had a moderate peritonitis, which in all probability had given rise to the adhesions.

Dr. A. Leigh would like to know how the tense condition of the abdomen took place without muscular contraction.

Dr. F. Carey asked if there were any adhesions below the ileo-cæcal valve.

Dr. Hoadley replied that the valve was normal. So, too, was the caliber of the whole length of the colon; the small size of the passages was in part due to the pelvis being full of intestine, so that the fæces were molded, as it were. Regarding the tense condition, there was a spasmodic contraction of the bowels, which was uninfluenced by the will.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Meeting of January 16, 1885.

The President, Dr. H. P. Merriman, in the Chair.

[From notes furnished by the society's editor, Dr. W. W. Jaggard.]

Ovariotomy.—Dr. E. C. Dudley read a paper on an interesting and unusual case of double ovariotomy, and showed the specimens.

The patient, eighteen years old, unmarried, came to Mercy Hospital, about eighteen months ago, to consult Dr. Dudley with reference to a marked abdominal enlargement, and a diagnosis was made of a monocystic tumor of the parovarium or of the broad ligament. Two gallons of fluid were withdrawn with an aspirator. Its specific gravity was 1·005, and it was as limpid as water; it was neutral in reaction, odorless, and colorless; no morphological elements were found with the microscope; it contained certain mineral salts, but no albumin. The patient was much relieved and left the hospital, thinking herself cured, but about three months ago she called on Dr. Dudley. The cyst had then partly filled again, and an operation was determined upon. In view of the embarrassment often met with at the time of the operation from a distended state of the intestines, careful preparatory treatment was adopted to diminish this source of trouble; bismuth, cocaine and medicines calculated to increase the tonicity of the muscular coat of the intestines, a mixture was given, two or three times a day, of calumba, rhubarb, and compound tincture of cardamom. The result was that absolutely no difficulty of the sort was encountered

The operation was performed October 29th, with the assistance of Dr. W. W. Jaggard, Dr. R. W. Bishop, and Dr. W. E. Casselberry, strict antiseptic details being observed. Both ovaries and tubes were removed, together with a large monocyst of the left broad ligament. The pedicle of the cyst was very vascular, and, after it had been transfixed and tied in two halves, it was found necessary to tie it *en masse* also below the line of transfixion. Its surface was afterward seared, above a Baker Brown clamp, with Paquelin's cautery. At noon, two hours after the operation, the patient had reacted well; the temperature was 100·7° F., the pulse 150, and the respiration 20; but she complained of nausea. The nausea continued, and on the evening of the 30th the temperature was 101°, the pulse 124, and the respiration 20. Throughout the day she had vomited incessantly, and had moaned and tossed. A peculiar talkative delirium followed. Morphine and atropine were given to control the vomiting, but the atropine was discontinued, for fear of its cerebral action. Hot water was tried, as suggested by Dr. Keith, to check the nausea and vomiting, but without success. Deodorized tincture of opium was substituted for the morphine, but the talkative delirium, nausea, and vomiting continued unabated. She retained only a little ice-water at long intervals. On the 31st, both morning and evening, the temperature was 99·8°, the pulse 110, and the respiration 20. The nervous symptoms were greatly exaggerated; the nausea and vomiting were unabated, and pain in the abdomen was complained of at times. Codeine was substituted for the other opiates, and small quantities of milk and lime-water were given at intervals. There was no tympanites. On the 1st of November, morning and evening, the temperature was 99·7°, the pulse 106, and the respiration 20. Talkative delirium, nausea, vomiting of bile—the "mouth-filling" of Keith—and abdominal pain were present, but there was no tympanites. A flow of blood began to take place from the vagina. On the 2d the evening pulse was 135, but the temperature and respiration were normal. The nervous symptoms were more distressing, and the patient had a pinched, anxious expression. Valentine's beef-juice was given, also strychnine in small doses and champagne, together with bisulphate of quinine by the rectum, and mustard was applied to the epigastrium.

On the 3d, the morning range of the temperature and pulse was as follows: 8 A. M., 101°, 130; 10 A. M., 101·2°, 160; 10.30 A. M., 101·6°, 178. Wild talkative delirium, nausea, vomiting, and abdominal pain persisted. The pulse, while very rapid, was not the feeble pulse of collapse. In consultation with Dr. W. H. Byford, the day before, it had been decided that the patient was dying of exhaustion, and Dr. Byford was averse to opening the incision. Dr. Dudley had had one case of peritonitis, following perforation of the posterior uterine wall, in Mercy Hospital, prove fatal from septic poisoning, although the temperature did not rise above 100°. With the aid of Dr. R. W. Bishop, he etherized the patient whose case was now under consideration, removed four or five stitches from the lower part of the wound, and inspected the abdominal cavity. The peritonæum was found injected, but no lymph was noticed, and there was no gas in the intestines. The pedicles were not covered with lymph. A disinfected sponge, on a holder, was passed into Douglas's *cul-de-sac*, and about half a fluidounce of bloody serum was removed. It was odorless, and was not further examined. A little iodoform was dusted into the abdominal cavity, and the incision was closed again, with the feeling that no good had been accomplished. This was at 10.30 A. M. At noon the temperature was 101°, and the pulse [illegible] at 2 P. M. 100° and 135; at 7 P. M., 100° and 140. Jactitation, wild delirium, nausea, and vomiting [illegible] pain in the region of the ovarian axis, but no tympanites. [illegible] was given by the rectum.

On the morning of the 4th the temperature was 100° and the pulse [illegible] and 130. Whisky, beef-tea, and milk were given [illegible] and bisulphate of quinine by the rectum. The [illegible] as before. In the afternoon the tongue was dry [illegible] to fetor, the nausea and vomiting were decidedly [illegible] At noon of the 5th the patient was evidently in better condition, the morning and evening temperature being 98° and 99°, and the pulse 120 and 130. A quart of strong beef-juice was given by the rectum, being thrown well upward. About three quarters of it was retained. The nausea and vomiting were slight. There was a spontaneous discharge of a large quantity of dark, tarry, fœtid fæces. The sutures were all removed. From this time the patient's recovery was uninterrupted, and she was now in good health.

Dr. Dudley would call attention to the following points: 1. *Preparatory treatment of the intestinal tract.* Was it possible to render the intestines manageable during the operation by any dietetic or medicinal agencies? He thought that the mixture of rhubarb, etc., had accomplished it in this instance. 2. *The retention of enemata.* He had been surprised that a quart should be retained on three successive days. He supposed that the liquid part was absorbed at once, owing to the state of the tissues resulting from exhaustion, and this seemed to have been indicated by the prompt return of moisture to the tongue after an injection. 3. *The re-opening of the abdominal wound.* Had it done any good? What produced the excessive nervousness, the nausea, and the vomiting? It was difficult to say. It had been asserted that a very tight ligature around the pedicle would act as a reflex irritant, and at times the sutures were capable of producing very obscure reflex symptoms. He had known uncontrollable vomiting to yield at once on the withdrawal of a rubber drainage-tube. It might have been that the patient whose case he had reported was just on the eve of recovery when the abdomen was re-opened. The fluid removed was small in quantity and odorless; the peritonæum, however, could secrete with wonderful rapidity, and then absorb the secretion. If the case was one of exhaustion, the beef, milk, and whisky deserved the credit; if it was one of sepsis, the re-opening of the abdomen had been the potent factor.

Dr. Henry T. Byford thought that the relief could hardly have come from the removal of so small a quantity of fluid. The fact that improvement followed so close upon the operation might be explained by the stimulating effect of the ether. The delirium seemed to him to have been either that of alcoholism or that of cerebral anæmia. He did not think that the nausea and vomiting could have been caused by the irritant action of the ligatures or sutures. It was a case of exhaustion, cured by the judicious use of beef, whisky, and milk.

Dr. Edward Warren Sawyer was surprised that no albumin had been found in the fluid withdrawn with the aspirator.

Dr. Flavius M. Wilder said that white of egg was frequently tolerated by the stomach when other matters were rejected.

Dr. W. W. Jaggard thought that the secretory and resorptive powers of the peritonæum were positively known. In a recent paper, Dr. Anton Wölfler had taken substantially the position now taken by Dr. Dudley. It was quite possible that the half a fluidounce of bloody serum found in the *cul-de-sac* represented the ultimate stage of the resorption of a much larger amount. Half a fluidounce, however, might contain sepsin or bacteria enough to produce the most fatal septicæmia, as the virulence of certain poisons bore no relation to their quantity. The mere re-opening of the incision seemed to act favorably under certain conditions, as was acknowledged by a number of leading surgeons, but the reason for it was unknown. Dr. Dudley deserved great credit for following the suggestion of numerous operators, although he knew positively that there was no foreign body in the abdomen.

Dr. W. E. Casselberry wished to emphasize the importance of preparatory treatment of the intestinal tract. He had been present at both the operations to which Dr. Dudley had referred, and had been struck by the difference in the behavior of the intestines. The mixture employed by Dr. Dudley resembled a favorite prescription of the late Dr. George B. Wood's for expelling flatus and restoring the tone of the muscular wall of the intestines.

Dr. Daniel T. Nelson thought it was highly important to avoid the use of opium when possible; in general terms, the less opium was given, the less was the tendency to vomiting. As to the pedicle, he had grave doubts of the propriety of the ligature *en masse*.

Dr. Sawyer had seen uncontrollable vomiting follow ligation of the spermatic cord. He deprecated the general dread of re-opening the abdominal incision. He referred to a case where life was saved by re-opening the abdomen and securing bleeding vessels.

The President approved of the opening of the cavity in the present instance. He was not certain that the prescription used had been the cause of the favorable state of the intestines. He did not think that the opium was the cause of the vomiting, for it subsided while the patient was still under the influence of that drug. Separate ligation of the vessels could hardly take the place of the usual methods of treating the pedicle, for the danger of hæmorrhage was too great. If the pedicle was completely destroyed, the risk of pinching nerve filaments would be diminished.

Dr. Dudley remarked that in such conditions as tubercular and papillomatous disease of the peritonæum the mere opening of the abdomen had sometimes exerted a favorable action. A discharge could not produce septicæmia unless it was large in amount or foul in character. From his positive knowledge of his patient's habits, he could say that the delirium had not been due to alcoholism.

NEW YORK OBSTETRICAL SOCIETY.

(*Concluded from page 110.*)

Dystocia from an Anomaly of the Fœtal Skull.—Dr. Garrigues related a second case as follows: The patient was an English lady, twenty-four years of age, whom he had seen in consultation. He found that she had been in labor for two days, but the os was only of the size of a silver dollar. He gave chloroform, introduced the hand into the vagina, and dilated the os without difficulty. The patient was then allowed to rest a while to see if pains would come on naturally. During the two preceding days there had been no true labor pains, although the patient had suffered all that time. Very little change taking place after dilatation, Dr. Garrigues put on the forceps, and, with the assistance of the family physician, labored for three hours in vain attempts to extract the head. The bones of the skull were so hard and the sutures so firm that they refused to yield in the least. The fontanelles were very small; the posterior one could be felt in the right occipito-posterior position. Although the woman's pelvis was well developed, it was perfectly evident that the child was too large and the bones of the head too greatly ossified to permit of delivery in the natural manner. The anterior fontanelle was then perforated, and the brain extracted without difficulty, but it was still impossible to make the slightest impression with the forceps. The cephalotribe was then applied, but it produced no cracking of the bones, and examination with the finger showed that the cranial bones had simply yielded like a plate of lead. The forceps was then re applied, and, the cranioclast being used also, the head was finally extracted. Dr. Garrigues remarked that he had found this combination of the forceps and cranioclast useful also in another case. The head having started, he removed the forceps and finished delivery with Simpson's cranioclast alone. He had once attempted to use Braun's cranioclast, but was not favorably impressed with it. He had employed Simpson's twice, and had found it answer every desired purpose. Braun's was larger, and filled the entire vagina.

Some further difficulty was experienced in extracting the child's shoulders, but this was finally accomplished by means of the blunt hook. Dr. Garrigues's attendance on the woman had extended over twelve hours; the operation proper had lasted eight hours, during which time three ounces of chloroform and two pounds of ether were consumed. The placenta was removed by the introduction of two fingers into the womb and the use of deep pressure upon the abdomen. The uterus was washed out with a solution of bichloride of mercury, one part to two thousand, and his pad applied. The patient did well. On the second day the temperature rose to 102° F., and for a time there was a profuse purulent discharge from the wounds in the vagina, but there had been no further trouble.

The child's head and shoulders were very large, it weighed eleven pounds and a half, was twenty-two inches long, and the shoulder girth was seventeen inches. The cranial sutures were very narrow, the fontanelles exceedingly small. The bones were very thick and elastic, which accounted for the fact that the cephalotribe made no more impression upon them than if they had been composed of a thick plate of lead.

Dr. Henry Griswold (present by invitation) said he had seen a case two years ago similar to the first one related by Dr. Garrigues. The woman seemed to be perfectly well developed in every respect, but there was absence of the vagina, uterus, and ovaries. There was a depression of the depth of a little over two inches where the vagina should have been. The woman had sexual desire, but did not menstruate. She had, however, the monthly molimen.

Dr. Hunter said that two cases parallel to that related by Dr. Garrigues had been under observation at the Woman's Hospital some years ago, in the service of Dr. Emmet. Both women were married, and the husband of each of them desired that an operation should be performed. Dr. Emmet made an artificial vagina about three inches in length, put in glass plugs, and kept the patients under observation a number of weeks. The tendency to recontraction was very great, and the first patient returned after a year in about her original condition. The other patient returned with firm contraction of the canal at the end of about six months. Dr. Hunter was of the impression that the formation of an artificial vagina in cases in which there was no uterus would not prove of much benefit; it was exceedingly difficult to keep it open.

Dr. John Scott, of San Francisco (present by invitation), referred to the case of a well-developed woman in whom an artificial vagina had been made, and who was then living happily with her husband. No trace of a uterus or ovaries could be found. In another case the patient was willing to pay any sum of money if he could assure her that the uterus was present, but, on learning that the organ was absent, she committed suicide.

Dr. Van Ness (present by invitation) said a girl, eighteen years of age, had applied for admission to the Woman's Hospital, having suffered greatly from her first menstruation, which had recently taken place. Thus far physical examination had revealed only a short *cul-de-sac*, without any signs of a uterus or ovaries. The fact that the patient had menstruated, however, would point to some trace of a uterus. There was now in the hospital a woman forty-five years of age, married twenty years, who had never had connection. Only a small

cul-de-sac could be discovered at the situation of the vagina. There was now a growth of some sort in the pelvic cavity as large as a child's head at term, presumably a fibroid.

Dr. Colin Mackenzie said a young lady had been brought to him, within the past six months, having never menstruated, and, on examination, no uterus or ovaries were to be found. Dr. Emmet, who saw the patient, said no operation was justifiable.

Dr. J. W. S. Gouley (present by invitation) said he had reported a case in the "New York Medical Journal," in 1866 or 1867, in which there was absence of the uterus and ovaries. The patient suffered a great deal from headache.

The Chairman inquired whether the pelvis had been measured in Dr. Garrigues's case.

Dr. Garrigues replied that he had not measured the pelvis, but he supposed, from the examination and from the general appearance of the woman, that it was perfectly normal in size.

The Chairman said that the inference certainly would be that the pelvis was smaller than normal, for where there was absence of any of the pelvic contents there should be a lack of development of the pelvis itself. This was so commonly the rule that, when he found a congenital defect of the rectum with a relatively small pelvis, he inferred that there was a large piece of intestine wanting. He had observed this fact in several cases. If the pelvis was small in cases of congenital absence of the intestine, he thought it would also be found to be small in cases of absence of the sexual organs. It was true, however, that in the newly born the colon was much larger comparatively than at a more advanced age. Judging by analogy, he would not suppose that an artificial vagina would remain open without a transplantation of skin.

Dr. Garrigues remarked that the late Dr. Blake, of this society, thought a child with premature ossification of the bones of the cranium had a tendency to become idiotic, and that this fact should be taken into consideration when we were called upon to decide the question of sacrificing the child to accomplish delivery.

The Chairman was of the impression that in the case narrated by Dr. Garrigues there was not that degree of ossification which would prevent brain development. A great deal, however, would have to be left to the judgment of the physician in determining what procedure to adopt in such cases.

Cæsarean Section.—Dr. Murray (present by invitation) reported a case which he had seen in consultation. The woman, aged thirty-two, had been in labor for thirty hours, attended by a midwife, before her physician was called. He found on his arrival that there was some deformity of the pelvis, but was unable to measure the superior strait on account of a large caput succedaneum. Simpson's forceps was applied to the head, but without success. When Dr. Murray was called the patient was almost moribund, the child's head was fixed, and the position was such that the diameters of the pelvis could not be taken. Perforation was performed, but it was still impossible to extract the child, and it was found that the conjugate would admit only two fingers, while the breadth was more than that of the hand. After taking with Braun's cephalotribe, Dr. Murray said nothing more could be done than to perform the Cæsarean section, but this was not consented to until later. Turning was performed, but it was then impossible to engage the child in the superior strait. Dr. Gillette having been added to the consultation, the Cæsarean section was performed. Not sufficient hæmorrhage took place from the uterus wound to wet a single sponge. The woman lived for two days and a half most of the time in a state of coma, and died. The point to which Dr. Murray wished to call attention was the difficulty, under the circumstances, of making out the diameters of the superior strait. He also remarked that one of the gentlemen present had suggested laparo-elytrotomy, and this probably would have been the proper operation to perform had consent been given sufficiently early. Dr. Murray said that he had seen a similar case, the deformity, however, not being so marked, in which he was enabled to extract the child without difficulty after perforation.

Tapping the Peritonæum for Tympanites.—Dr. Hunter related a case in which a patient was attacked with peritonitis three days after laparotomy, the temperature being controlled by the abdominal coil. There had been very little hæmorrhage during the operation, and no tube was left in the wound. The important feature in the case was the development of an excessive degree of tympanites, the distension being enormous. Long rectal tubes were passed by the anus, and much gas escaped, but still a great amount of distension remained and caused the patient much distress. By the twelfth day she was thought to be moribund; the pulse was over 170. Dr. Hunter then punctured the abdomen in the median line with a large hypodermic needle, and immediately gas began to escape, and continued to escape for half an hour. The patient very soon recovered from her state of collapse, and eventually went on to complete recovery. Dr. Hunter had not expected much benefit from the tapping, since in previous cases the needle had entered the intestine and let out the gas only from a limited portion of the gut. In the present case the tube happened to penetrate only into the peritoneal cavity, from whence the gas had been unable to escape. This was the only instance he had met with in which recovery had followed puncture for tympanites. The gas which escaped was not offensive.

Dr. Nicoll said that several years ago he saw a woman, much reduced in general health, suffering from a pelvic abscess which had discharged into the vagina. She was suffering from intense dyspnœa, the result of tympanites. As a means of rendering her condition more comfortable, he punctured the abdomen in several places with a slender aspirator needle, and much fœtid gas escaped, greatly to the relief of the patient, who then went on to complete recovery. Doubtless the intestine had been punctured, as the gas was of a foul odor.

Dr. Murray referred to a case in Bellevue Hospital, in which, some years ago, the abdomen was punctured for tympanites developed after an operation; a large amount of odorless gas escaped, and the patient got well.

The Chairman thought that in a large number of cases we could not tell whether the needle entered the intestine or only the peritoneal cavity. He had heard it stated that such punctures, even if they proved of no benefit, could do no harm, for, so long as one punctured living tissue, the opening would close again immediately on withdrawing the needle, particularly if the needle was small. This, however, was a mistake, especially when we had to do with cases of peritonitis. In healthy tissue a small hole would close immediately on withdrawing the needle, because of the elasticity of the tissue. But when one had to deal with a peritonitis in which the intestine was much inflated and its wall anatomically changed by an œdematous effusion into its muscular tissue, we found tissues which were no longer normal—tissues from which, at least in some cases, the elasticity had disappeared; and in such cases he had found at post-mortem examination holes still remaining patent which had been made by the hypodermic needle, and through which fæces had escaped into the abdominal cavity. In such cases the intestine was in a paralytic condition, and punctures with the hypodermic needle might prove dangerous. He did not say that they were dangerous in all cases, but that they were in some he had had opportunity to verify at autopsies.

Double Oophoritis a Cause of Absence of Menstruation.—Dr. Jacobi said he happened to be present when an autopsy

was made upon two bodies in the dead-house of the Bellevue Hospital that afternoon, one of the cases being that of a girl, seventeen years of age, regarding whose sexual history nothing further was known than that she had never menstruated. He observed that both ovaries seemed to be somewhat enlarged, the tissue being unusually white, and the general appearance that of ovaries affected with chronic inflammation. He asked if this was recognized as a frequent cause of absent menstruation. The body was well developed.

Distribution of the Diphtheritic Membrane.—The second case to which Dr. Jacobi referred was that of a child which had died after tracheotomy for diphtheria. It had lived two days and a half after the operation. There was slight bronchopneumonia of both lower lobes. There was a small membrane behind the tonsils, which, probably, could not have been seen during life, the tonsils hiding the membrane entirely. The lower face of the epiglottis was completely covered with the false membrane, while the upper, as was usual in such cases, was entirely free from the exudation. The lower larynx and trachea were covered by the membrane. In the trachea was a peculiarity which Dr. Jacobi had very rarely observed. In this locality, as a rule, we found at the post-mortem the pseudomembrane entire, and there was so much mucus present that the membrane could easily be peeled off, and the cases were rare in which even the true diphtheritic membrane was so deeply imbedded in this situation that it could not be removed. In the present instance a part of the membrane seemed to be lying loose on the surface, and could easily be removed, while beneath was another portion firmly attached to the mucous and submucous structures, which could not be removed without taking with it the underlying tissue. The case illustrated a statement which he had made on more than one occasion, that in the same case we might be able to raise the false membrane at one point and not at all at a point a centimetre distant. The same membrane extended down, probably, into the bronchi of the third order.

HENRY J. GARRIGUES, M. D.,
B. F. DAWSON, M. D.,
FRANK P. FOSTER, M. D.,
Committee on Publication.

Miscellany.

THERAPEUTICAL NOTES.

The Treatment of Locomotor Ataxia.—Eulenberg ("Lyon med."; "Glasgow Med. Jour.") has treated three hundred cases with hypodermic injections of silver, using the following formula:

Chloride of silver	2 grains;
Hyposulphite of sodium	10 "
Distilled water	5 drachms.

The injections are made in the back. The patient is said to obtain a rapid relief from pain, which, however, is only temporary. Besides silver, the writer uses local applications of cold, the constant current, and hypodermic injections of strychnine.

A Mixture for Whooping-Cough.—Roger ("Union méd.") is credited with this mixture:

Syrup of belladonna	1½ ounce;
Syrup of valerian, Syrup of digitalis, each	6 drachms.

Each teaspoonful contains about one twelfth of a grain of the extract of belladonna. The dose, for children under two years of age, is half a teaspoonful during the day, gradually increased every two days until two teaspoonfuls are administered in twenty-four hours. With children from two to five years of age, the dose may be carried up to six teaspoonfuls daily. The mixture is particularly recommended during the second stage of the disease.

Ipecac in Metrorrhagia.—Cheron ("Rev. méd.-chir. des mal. des femmes"; "Jour. of the Am. Med. Assoc.") reports favorably on the effect of small doses of powdered ipecac (three grains), which he administers every hour until twenty doses have been taken. It is then discontinued for twelve hours, and again given if the hæmorrhage has not been checked. The rationale of the treatment is, that small doses of the drug exercise a depressing effect upon the nervous system, and thus indirectly upon the vascular system.

A Permanent Surgical Dressing.—M. Marc Sée contributes an article upon this subject to the "Bull. de l'Acad. de méd.," in which he details the results of his method of treatment in several cases. His mode of procedure is, briefly, as follows: After finishing an operation, and just before tying the sutures, he sprinkles over the surface of the wound about a drachm of subnitrate of bismuth, which at once stops the oozing by forming a thin, dry layer, occluding the mouths of the small vessels. After introducing a drainage-tube, he closes the wound with quilled sutures, small rolls of iodoform gauze being substituted for the ordinary quills. The line of incision is then covered with a layer of bismuth, and a dressing of carbolized gauze is applied. It is not necessary to disturb this dressing until it is time to remove the sutures or drainage-tube. The advantages asserted for bismuth are its cleanliness, its property of absorbing fluids, the fact that it does not act as a foreign body when interposed between the lips of a wound, and, lastly, its cheapness. Stress is laid particularly upon the fact that it is rarely necessary to disturb the dressings during the process of healing.

Topical Application for Dental Caries.—Redier ("Union méd.") suggests the following mixture:

Tincture of benzoin	1 drachm;
Tincture of opium, Chloroform, Creasote, each	½ drachm.

Cleanse the carious cavity, and introduce into it a small tampon of cotton soaked in the mixture. This is to be left *in situ* for a few minutes, and then removed in case relief is not obtained. The action of the remedy is said to be prompt and almost invariably successful.

Ergot as a Remedy for Constipation.—Granzis ("Allg. med. Ctrl.-Ztg.") recommends ergot, in doses of ten grains every two hours, until three doses have been given. This treatment is particularly applicable to cases of constipation depending upon atony of the bowel.

The Hypodermic Use of Caffeine.—Huchard ("Jour. de méd. de Paris") suggests this combination for hypodermic injection in cases of collapse:

Salicylate of sodium	45 grains;
Caffeine	1 drachm;
Distilled water	1½ drachm.

Fifteen minims contain six grains and a half of caffeine.

An Ointment for Syphilitic Ulcers.—Terrillon ("Union méd.") gives the following formula:

Pyrogallic acid, Starch, each	5 drachms;
Vaseline	2 ounces.

This ointment is to be spread upon charpie, and applied to the ulcers once a day. A second application is not generally necessary, unless the lesions are very extensive. For this preparation a powder composed of equal parts of pyrogallic acid and starch may be substituted.

A Remedy for Diarrhœa.—Desprès (*Ibid.*) is credited with the following formula:

Chloroform	15 grains;
Alcohol	2 drachms;
Solution of acetate of ammonium	2½ "
Syrup of hydrochlorate of morphine	10 "
Water	3½ ounces.

Dose, a tablespoonful every half-hour.

Hydrochlorate of Pereirine in Intermittent Fever.—Ferreira (*Ibid.*) speaks highly of this drug, which he has used in a number of cases in which quinine produced no impression. Thirty grains daily is the dose recommended.

Transfusion of Peptonized Blood.—Afanassiew ("Prog. méd.") suggests that the principal danger in transfusion, that of the coagulation of the blood within the vessels, may be removed if a small quantity of peptone is added to the blood.

The Treatment of Sick-Headache.—Dr. W. Gill Wylie, of New York, has produced excellent results with the following method of treatment: So soon as the first pain is felt, the patient is to take a pill, or capsule, containing one grain of inspissated ox-gall and one drop of oil of gaultheria, every hour until relief is felt, or until six have been taken. Dr. Wylie states that sick-headache as such is almost invariably cut short by this plan, although some pain of a neuralgic character remains in a few cases.

The Consequences of Extirpation of the Spleen.—Mosler ("Deutsche med. Wochenschrift"; "Centralbl. f. Chirurgie") has made a number of experiments upon dogs with the purpose of determining definitely the result of removing the spleen. He draws the following deductions:

1. The spleen is not absolutely essential to the life of an animal.

2. After removal of the organ, its functions are carried on especially by the marrow of bones.

3. The changes in the blood observed for some time after removal of the spleen are such as to convince the writer that the organ is directly concerned in the formation of both the red and the white blood-corpuscles.

4. No change is noticed in the character of the gastric or pancreatic digestion after extirpation.

The Physiological Action of Cocaine.—Dr. H. M. Biggs, of New York, publishes, in a late number of the "Journal of the American Medical Association," a valuable article upon this subject, which is founded on a series of experiments conducted by the author in the physiological laboratory at Berlin. Twenty-one experiments are minutely described, and carefully prepared tables are added. The paper is such a scholarly one that we can not do justice to it in a brief abstract. The writer summarizes the results of his experiments thus: "In conclusion, then, the action of cocaine on the frog may be summed up as follows: 1. It has a powerful local anæsthetic action on the skin, the mucous membrane, and the eye. It usually produces mydriasis. 2. It has a depressant action on the heart, reduces the force and frequency of its pulsations, and finally paralyzes it (first the ventricles and then the auricles) in diastole. 3. In small doses it at first slightly increases the number of the respirations, then decreases it, and in large doses diminishes it rapidly from the first, finally causing death from a paralysis of respiration. 4. It at first slightly heightens and then greatly depresses the reflex action of the spinal cord in small doses. Large doses depress from the first. 5. Small doses at first slightly increase the irritability of the sensory nerves, then depress their irritability, and large doses depress from the first. 6. Both large and small (not very small) doses have a depressant action on the motor nerves. 7. It paralyzes the pneumogastric nerves. 8. Doses of moderate size diminish the excitability of the striated muscles. 9. The local application of cocaine to any of the more highly constituted organs or tissues causes a temporary cessation of their functional activity. 10. From the local and constitutional action on the different organs and tissues, it is rendered probable that its general action is a local one, exercised on all parts for which it has a chemical affinity, through its presence in the blood. The results of these experiments would seem to indicate the use of cocaine in tetanus and strychnine poisoning."

A Splenic Murmur in Intermittent Fever. Mariani ("St. Petersburger med. Wochenschrift") describes a systolic murmur which he has heard over the region of the spleen in patients with acute intermittent. He explains the phenomenon on the ground that it is probable due to dilatation of the splenic vessels following enlargement of the organ. It is also possible he thinks, that the arteries may be subject to a certain contraction and dilatation so that the blood meets with an obstruction in its flow through the spleen. The murmur is analogous to that sometimes heard in the uterine sinuses during pregnancy. The writer maintains that this condition has never before been described. He has noticed the murmur in eight cases, all of which were acute. In spleens which were affected with permanent or chronic enlargement he has never been able to detect it. He considers its presence a diagnostic sign of considerable importance, and implies that such cases are most benefited by a direct application of the interrupted current over the spleen.

The "New York Medical Journal" for January 3, 1885.—As our supply of that number of the "Journal" is nearly exhausted, we shall feel under obligation to any of our subscribers who do not preserve the numbers if they will kindly send us their copies, for which we shall be glad to pay the publication price.

The New York Orthopædic Society.—This new and promising society held its first annual meeting on the 29th of January, and elected the following-named gentlemen to office for the coming year: Dr. V. P. Gibney, president; Dr. A. B. Judson, vice-president; Dr. T. L. Stedman, secretary; and Dr. W. T. Bull, treasurer.

The Manhattan Eye and Ear Hospital.—Dr. David Webster, who for several years has held the position of assistant surgeon in the institution, has been appointed surgeon.

The Philadelphia Clinical Society.—At the meeting of January 23d, officers were elected as follows: Dr. Edward E. Montgomery, president; Dr. John B. Roberts, first vice-president; Dr. Amy S. Barton, second vice-president; Dr. Ida E. Richardson, corresponding secretary; Dr. I. G. Heilman, recording secretary; Dr. Mary Willits, reporting secretary; Dr. I. Brewer Hall, treasurer; and Dr. James B. Walker, Dr. Daniel Longaker, Dr. Henry Beates, and Dr. Henry Leffmann, councilors.

The New York Infant Asylum.—Dr. E. C. Wendt has been appointed pathologist, with a seat in the medical board, to the Maternity and House of Reception, *vice* Dr. William H. Welch, resigned.

The Health of the State of New York.—We quote as follows from the State Board of Health's "Bulletin" for the month of December, 1884: "The total reported mortality for the month is 6,378. The percentage of infant mortality is 33·6. From acute respiratory diseases the percentage is 18·8; from consumption, 14·6; from diphtheria and croup, 7·8; from typhoid fever, 1·6; from all zymotic diseases, 17·9. Diphtheria continues to prevail, the relative mortality being the same as in November. The greatest mortality for the month is from acute respiratory diseases. The returns for the month are more complete than last month, but still from many localities are less than they should be, assuming a rate of 20 per 1,000 annually as a low average for towns large enough to show little vacillation monthly. In Troy the actual burials for November were found, on investigation, to be 146, but 43 having been reported; the December returns show improvement, but are still incomplete. Returns from Cohoes are utterly unreliable, and are now under investigation by this board. The average annual death-rate of 108 localities is about 15."

Diphtheria in Michigan.—At a meeting of the State Board of Health of Michigan, held January 13th, the secretary, Dr. Henry B. Baker, made an elaborate report, for a copy of which we are indebted to that officer. The report contains the following paragraph: "Many outbreaks of diphtheria had been reported during the quarter. During the serious outbreak in Kalamazoo, from July 20 to December 20, 1884, over 260 cases and 54 deaths from diphtheria were reported to the Kalamazoo Board of Health. The health officer of Kalamazoo reported, December 22, 1884, that the epidemic in that city appeared to be nearly or quite at an end; but since that report, *and following the thaw*, there was a sudden increase of diphtheria in Kalamazoo, twenty cases being reported in one week." New cases continue to be reported from Detroit, the report goes on to say, at the rate of about thirty-five to forty a week. The total number of cases in Detroit for the year 1884, as collected from the weekly reports of the health officer, was over 1,300, and the number of deaths over 340.

Professor von Ziemssen, of Munich, according to the "Deutsche Medizinal Zeitung," has received the title of *Geheimrath*.

Original Communications.

ON THE MANAGEMENT OF BREECH CASES IN WHICH BOTH EXTREMITIES ARE REFLECTED UPWARD PARALLEL TO THE ANTERIOR SURFACE OF THE CHILD.*

BY WILLIAM T. LUSK, M. D.

IN the preparation of the following paper I am well aware that I have no novel suggestions to make, and yet I feel sure that to many practitioners a more precise formulation of the indications for the employment of the resources of the obstetric art in the difficulties which arise in that form of breech presentation where both extremities are reflected upward parallel to the body of the child would be welcome, and perhaps will contribute something to the diminution of infant mortality.

In all forms of breech presentations it is the rule that the natural forces are capable of effecting the delivery of the child without assistance. Where, in the interests of the mother or the child, however, interference becomes necessary, all are familiar with the fact that, when the legs are flexed, and both feet and breech present together, the bringing down of an extremity and the extraction of the child are accomplished by well-established procedures; while in cases where the extremities are parallel to the anterior surface of the fœtus, with the toes pointing over the shoulder, the operator is embarrassed by the absence of a natural handle by means of which extraction can be effected. But it is precisely in the latter class that Nature most often fails to finish her work, and in which obstetrical aid is called for. Tarnier gives as a reason for this the fact that the extended extremities act as splints, which interfere with the lateral flexion of the trunk, and, consequently, with its accommodation to the curve of the parturient canal.

Theoretically, cephalic version by gentle manipulations through the abdominal walls, performed during the latter part of pregnancy or in the early stages of labor, most completely fulfills the required indications, viz.: the saving of the child with the least risk to the mother. That, in cases where the breech is not engaged in the pelvic cavity and the membranes are intact, external version may be successfully accomplished, has been shown by Mattei, Hegar, and Pinard, all warm partisans of the measure. Tarnier at first opposed the proposition of Mattei on the ground of its impracticability and the risk of rupturing the membranes after the conversion of the breech into a shoulder presentation, but more recently has practiced the procedure in many cases successfully without inconvenience to the mother or child.†

In obstetrical practice outside of lying-in hospitals the method is not likely to come into common use. It presupposes great familiarity in the mapping out of the fœtus by abdominal palpation, a relatively considerable quantity of amniotic fluid, and the absence of excessive irritability of the uterine walls. Certainly in the case of most medical men the diagnosis of the breech is first made after the breech has descended below the pelvic brim—i. e., at a time when cephalic version has ceased to be an elective operation.

Ahlfeld* has suggested that in primiparæ the hand be introduced immediately after the rupture of the membranes, or at least while the introduction is still practicable, and that the anterior extremity be brought down as a prophylactic measure, leaving the child subsequently to be expelled by the natural forces. Zweifel, in his "Lehrbuch der operativen Geburtshülfe," makes the same recommendation, but Küstner, in common with most authorities, objects that the manœuvres requisite to bring down a foot are apt to weaken the uterine contractions and to determine the prolapse of the cord. In other words, in order to avert a remote danger, a near one quite as serious in its nature is invited.

Of course, when it becomes necessary to expedite delivery, in all cases where it is possible to introduce the hand to the fundus of the uterus without imperiling the uterine structures, and an extremity can be drawn to the vagina without resort to violence, such a method should be employed in preference to others. But in reality such cases are exceptional. Emergencies rarely arise before the breech has descended into the pelvic cavity. Most frequently the rupture of the membranes is followed by the complete escape of the amniotic fluid, and the speedy retraction of the uterus upon the fœtus. The introduction of the hand and forearm over the anterior surface of the child to the fundus then becomes a serious undertaking, and may lead to uterine rupture. Traction upon the extremity seized is not always followed by its descent, or where force is used the descent may be accomplished at the expense of a fracture. To be sure, the manœuvre is supported by the very high authority of Dr. Robert Barnes. "The wedge formed by the extended legs and the upper part of the trunk must," he says, "in some instances at least, be decomposed before delivery can be effected." He recommends complete anæsthesia, support of the fundus, gentleness in passing the breech at the brim, and applying the finger to the instep. "I have brought a live child into the world," he says again, "by this proceeding when forceps, hooks, and various other means had been tried for many hours." But Barnes does not conceal the difficulties of the operation, nor the address requisite for its successful employment, and many other accoucheurs less fortunate than he have placed on record their failures to decompose the wedge in the manner advised. I would urge, therefore, the utmost caution in seeking the feet, and that the operator abandon the attempt in all cases where address fails and force is found necessary.

If, at the time intervention becomes necessary, the breech is well engaged in the pelvis, the fœtus is of ordinary size, and the resistance offered by the pelvic floor is inconsider-

* Read before the New York State Medical Association, November 19, 1884.

† Ollivier, "De la conduite à tenir dans la présentation de l'extrémité pelvienne, mode des fesses," p. 103.

* Ahlfeld, "Arch. f. Gynæk.," vol. v, p. 174.

able, extraction may unquestionably be effected by hooking the index-fingers respectively into the anterior and posterior groins. In very easy cases the breech, when high in the pelvis, may be made to descend by traction in the anterior groin. The direction of the tractions, as Madame La Chapelle long ago insisted, should at the brim be downward and backward, in the cavity directly downward, and at the outlet downward and forward. It is, however, hardly necessary, in the presence of a body of experienced practitioners such as I address to-day, to note how often in primiparous women this manœuvre fails utterly at the critical moment. In such an event Braun von Fernwald * recommends the method of Boër, which consists in passing a single hand over the sacrum, and seizing the pelvis with the thumb in one groin and the index in the other.

Many, perhaps most, writers insist upon manual methods of extraction to the exclusion of all others. My own experience is favorable to the use of instrumental aids as additional resources, where the hand alone proves inadequate to accomplish the object aimed at. At the risk of exciting adverse criticism, I do not hesitate to advocate, in cases of need, the forceps, the fillet, the blunt hook, and, when the child is dead, the cephalotribe, and would recommend them in the order I have given.

I know that the right of the forceps to the place of honor in the foregoing list is not likely to pass unchallenged. Some months ago a former pupil of mine wrote me from the West that a medical man in his vicinity had applied the forceps to the breech, and had extracted the child alive. Both mother and child subsequently did perfectly well, but during the exit of the breech the perinæum was lacerated. A suit for malpractice was thereupon brought against the operator, and it was easy to array against him a formidable list of authorities who refer to the use of forceps in breech cases in terms of the strongest reprobation. The case was referred to me for arbitrament, and I had no hesitation in recommending a dismissal of the proceedings.

The chief objection urged against the forceps is to the effect that, by its construction, it is designed only to seize the fœtal head. As a consequence, therefore, when applied to the breech, to which its curves are not adapted, it does not grasp the presenting part securely, and is liable to slip off when tractions are employed, thus endangering the maternal soft parts. If, with the view to prevent slipping, the handles are firmly compressed, fracture of the thighs may result, the circulation of the cord may be accidentally arrested, or fatal injuries may be inflicted upon the fœtus by the pressure of the points of the forceps against the abdominal viscera. To obviate these drawbacks, Miles † has had constructed a pair of breech forceps apparently well designed for seizing the pelvic extremity, and has given the histories of two cases in which they were successfully employed. As, however, a forceps of special construction is unlikely to be but rarely at the disposition of the practitioner when an emergency calls for action, it is not with out interest know how far the ordinary instrument is available in practice.

From the time of the earliest period when the forceps was introduced to popular favor, there has been no lack of partisans for its employment as a tractor to the breech. Ollivier mentions among its earlier advocates André Levret in France, Roederer and Stein in Germany, and Bertrandi in Italy. More recently Jacquemier declares it to be preferable to the blunt hook, and says: "It is inexact to state that it would crush the pelvic bones, and inevitably kill the fœtus by bruising and lacerating the abdominal viscera. . . ." In his now famous article on the forceps, published in 1872, in the "Dictionnaire de médecine et de chirurgie" (1872), Tarnier stated that under exceptional circumstances neither Stoltz nor Dubois feared to apply that instrument to the breech, and added that he had several times imitated their practice with success as regarded the mother and sometimes as regarded the child. Where the fœtus was dead he made the autopsy with care, and had assured himself that the forceps had produced no lesion either of the pelvis or of the abdominal viscera. Hüter, in his excellent treatise on "The Obstetrical Operations" (Leipsic, 1874), declares that no better instrument exists for the extraction of the breech than the forceps. Dr. Henry Fruitnight, of this city, published in the July number of the "Virginia Medical Monthly," 1877, a successful case where the forceps was used at the suggestion of Dr. E. C. Harwood. Dr. I. E. Taylor informs me that he has applied the forceps to the breech six times with success. In the same year Dr. Agnew reported two successful cases to the London Obstetrical Society.

In 1877, Haake * published five cases, in which, as he says, to the astonishment of the physicians present, the extraction with the forceps was easily and quickly ended without the slightest detriment to the fœtus. Last year I saw, in consultation with Dr. F. A. Castle, a case of breech presentation in a primipara who had passed her thirtieth year. We both of us essayed extraction with the fingers, but in vain. The breech was in the pelvic cavity, but had not yet completed its descent through the cervical orifice. The fœtus occupied an oblique diameter, with the back directed to the left and front. In accordance with Haake's suggestion, I applied one blade of Simpson's forceps over the posterior surface of the thigh, and the other over the sacrum, with the extremity of the latter blade just above the crest of the ilium. In spite of the rigidity of the soft parts, the child was extracted alive in about fifteen minutes. The pressure marks of the forceps were inconsiderable. Dr. Harvey, Professor of Midwifery in the Medical College of Bengal, in an essay just received, reports six cases; in three out of six the success was complete, in one the forceps was without avail, while in the other two the instrument did not slip until it had brought down the breech so as to allow him in one case to get his fingers over the groin, and in the other to apply the fillet, which he had previously failed to do. Dr. W. H. Van Wyck, of this city, reports to me by letter two cases in which, in the years 1865 and 1867, he

* Braun von Fernwald, "Lehrbuch der gesammten Gynæcologie," p. 447.

† Miles, "The Forceps in Difficult Breech Presentations," "Am. Journ. of Obst.," vol. xii, p. 145.

* Haake, "Ueber den Gebrauch der Kopfzange zur Extraction des Steisses," "Arch. f. Gynæck.," vol. xi, p. 558.

extracted the children by the breech with the forceps. Both children were born living.

Since the invention by Tarnier of axis-traction a new impetus has been given to the method advocated.

With axis-traction not only is the resistance offered by the pelvic canal diminished, but, as Pinard states, the pressure is regulated and is not increased by traction. The fœtal portion is therefore seized solidly, and with the least risk of harm. Ollivier reports successes with Tarnier's latest model in his own practice and in thatof Budin, Thomas, Berthaut, Lobat, and Cayla.

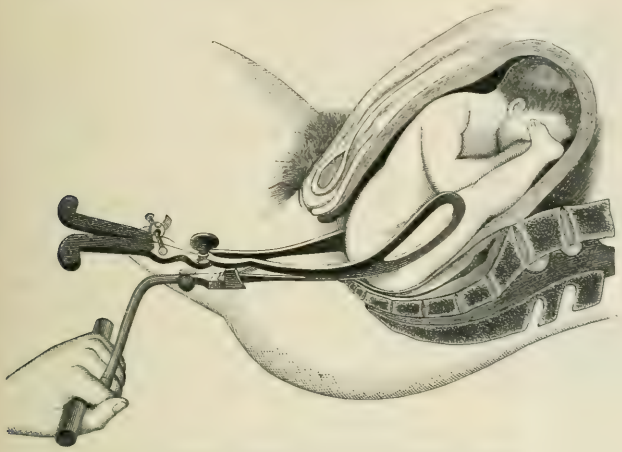


FIG. 1.—TARNIER'S FORCEPS APPLIED TO THE THIGHS. (Ollivier.)

Thus it will be seen that the weight of experience is favorable to the use of the forceps as a breech-tractor, while the objections are for the most part theoretical. As regards the rules governing the application of the forceps to the breech, it should be stated that the instrument is inadmissible so long as the breech does not engage in the pelvis. Haake limited its employment to cases in which the breech was already in the pelvic outlet, and after complete rotation had taken place. The history I have related shows that this rule is not inflexible even with the ordinary forceps. With the axis-traction forceps the indication is certainly extended, as a rule, to all cases where the breech has passed below the pelvic brim, and where the dilatation of the os is well advanced. If rotation has taken place, the blades should be applied over the sacrum and the posterior surface of the thigh, as recommended by Haake. If the hips occupy a transverse diameter, the blades should be applied to the lateral surfaces of the thighs, as suggested by Ollivier. The application of the blades over the trochanters with the extremities overlapping the crests of the ilia is to be deprecated, as the ilia are compressible and allow the forceps to slip (Ollivier). The extraction of the child should not be made an exhibition of strength. The rigidity of the maternal structures is rarely to be overcome by any justifiable degree of force. The slow descent of the breech, effected by intermittent tractions, insures the physiological softening of the tissues in advance of the presenting part. In this respect the rule is the same as in head presentations. As the genital canal softens and relaxes, but little force is required to effect the birth of the breech. The tractions are most effective if made during the pains. If possible, they should be aided by simultaneous pressure, exerted by an assistant, upon the fundus of the uterus. If these rules are observed, the efforts to extract the breech will, in a large number of cases, I am sure, be crowned with success. If they fail, at least no injury to either mother or child is likely to result from the trial.

If the forceps fails, or, owing to the non-engagement of the breech, it is contra-indicated, and an extremity can not be brought down without the employment of force, a resort to the fillet is admissible. The theoretical objections to its use are: 1. That the fillet is apt to become twisted, and that, when moistened with the vaginal secretions, it forms an uneven band, which, even with care, is capable of cutting deeply into the tissues. 2. That in some cases it causes partial extension of the extremity, and, as a consequence, slips forward upon the thigh, whence a fracture of the thigh bone becomes inevitable. The reports from the Lying-in Institution of Munich, where, owing to the advocacy of Hecker, the fillet has been assiduously tested, do not confirm these gloomy prognostications. Thus, in the last report of von Weckberger-Sternefeld, the records of thirty-one cases are given (twenty-one of primiparæ, nine of pluriparæ, and one not stated). The mothers all did well. One of the children was in a macerated condition when the fillet



FIG. 2.—THE FILLET IN DORSO-ANTERIOR POSITIONS.

was employed. Of the remaining thirty, twenty-four were born living. Of these, eight were partially asphyxiated, but seven were revived. In no one of the children born dead was the result in any way attributable to the means of extraction employed. Twenty-three of the children left the institution in a healthy condition. In four cases, deep pressure marks, but without excoriation, resulted from the fillet. In the others, either no traces of pressure were found, or they were of an insignificant nature. In all, the marks had disappeared in a few days. In one instance only fracture of the thigh occurred. The back of the child was turned to the right and to the rear. Ollivier has shown that it is the dorso-posterior positions that call for especial caution when traction is made at the groin. A glance at the accompanying diagram will show that it is not easy in these cases to direct the tractions in such a way as to avoid the partial extension of the limb, and the transfer of the pressure to the thigh bone. In a series of experiments in which a dead fœtus was dragged, by means of the fillet, through an artificial pelvis, Ollivier found that it was possible in dorso-posterior positions to prevent the extension of the thigh by passing the hand behind the breech and pressing forward during the tractions. He suggests, therefore, that in actual labor the danger under consideration could be avoided by exerting a similar pressure forward by means of the fingers of one hand inserted into the rectum. It is hardly necessary to add that when the fillet is used it should be passed over the anterior thigh, that only moderate tractions should be employed, that these are most effective when made during the pains, and that very effective aid can be furnished by conjoint pressure upon the opposite pole of the fœtus exerted during the tractions by a skilled assistant.

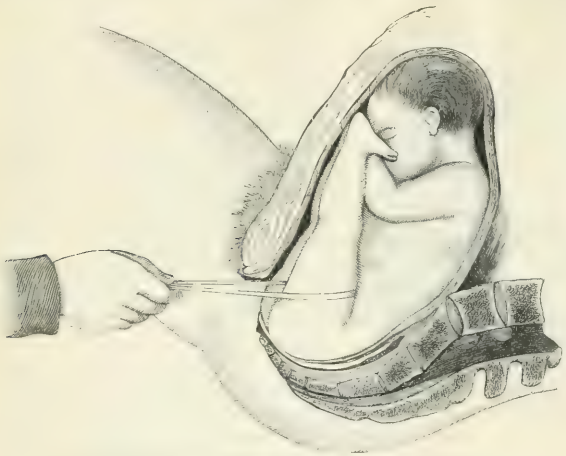


Fig. 3.—The Fillet in Dorso-posterior Positions. (Ollivier.)

The main drawback to the popularization of the fillet is the fact that its passage around the groin by the finger alone is by no means easy in the very class of cases in which it is principally indicated—viz.: those where the breech is high in the pelvis, and difficult of access. To be sure, with patience the knotted end of a handkerchief can sometimes be pushed around the flexure of the thigh, or, failing in this, an elastic catheter with an attached loop may be guided by a finger in the groin between the thighs, to serve as a means of conducting the fillet into position. Because of the difficulties, however, attendant upon both these plans, many porte-fillets have been devised. The one I now exhibit, which is a modification by Ollivier of an instrument invented by Tarnier for carrying a cord around the neck of the child in neglected shoulder presentations, is an ingenious example. It consists of a long-handled blunt hook, tunneled in the center, and terminating in an olive-shaped bulb. The central canal permits the passage of a long piece of whalebone, the extremity of which is furnished with a metallic eye to which a loop can be attached. When the whalebone is withdrawn, the eye occupies a hollow space in the olive-shaped extremity of the blunt hook. Below the handle the end of the whalebone is supplied with a button to prevent it from being accidentally withdrawn into the canal. A screw above the handle serves to fix the bone at whatever point is deemed desirable. The blunt hook is adjusted by passing it upward along the surface of the child, directed to the front to a point above the pelvis, and then directing the curve so as to adjust it to the groin. The whalebone is then easily pushed forward until it is felt by the finger of the physician between the thighs of the fœtus. The metallic eye is next directed outside of the vulva by the fingers, and the attached fillet is easily withdrawn by reversing the process described.



Fig. 4.

The fillet employed may be of any material. Every care should be taken to adjust it without forming folds or creases. In emergencies the nearest object has to serve the purpose. Ollivier recommends passing a lacing through a piece of rubber tubing of the size of the little finger. The lacing should be sewed to the extremities of the tube, a projecting portion serving to attach the tube to the eye at the end of the whalebone of the porte-fillet. The rubber tubing in his experiments admirably answered the purpose of protecting the tissues of the child from injurious pressure.

In the absence of other appliances, or should failure attend the measures already described, it is well to remember that the blunt hook owes its evil reputation not so much to its inherent defects as to lack of proper caution in its employment. It will not break the femur if adjusted in the groin. It will not produce serious contusions if the blunt end is carefully guarded by the finger. Injuries to the maternal organs can only occur where leverage movements are made. The pressure of the

curved portion upon the groin is not likely to produce serious lesions. Steady downward tractions made with moderate force, and with a hand in the vagina to guard the point of the instrument and to give warning of commencing extension of the thigh, will as a rule suffice to prevent the occurrence of serious accident.

Finally, it is proper to state that no instrument is capable of furnishing so secure a hold of the breech as the cephalotribe. If the child is dead, a fact rarely to be determined with positiveness except in cases where the cord can be felt, the cephalotribe should be screwed tightly to the breech, and may be trusted to act as a perfectly reliable tractor.

ON THE PATHOLOGICAL ANATOMY OF SENSORY APHASIA.

By R. W. AMIDON, A. M., M. D.,
NEW YORK.

(*Concluded from page 116.*)

Case VI.*—The patient was a widow of forty-six. She had never menstruated. For three months she had had continual bilateral headache, so much worse at night that sleep was impossible. She had not vomited, lost consciousness, nor had epileptic attacks.

On admission, February 22, 1882, her state was as follows: She had violent headaches; there was slight dilatation of the right pupil. When asked her name, she would turn her head, but say nothing. On repeating the demand, she replied, first, "What do you say to me?" secondly, "I don't understand," and the third time she replied correctly and gave her name. Sometimes, by repeating questions in this way two or three times, she would answer correctly. Often it was impossible to make her understand at all, and to all questions she invariably replied, "What do you say to me? I don't understand you! Cure me!"

Hearing and sight were intact. She read well, and answered questions which were written and shown to her. Common and special sensibility were intact. Motility and the reflexes were normal.

February 28th.—To all questions she answered, "Cure me!" The headache was apparently intense.

March 2d.—Whenever addressed she held up her head and said, "I do not understand." She died comatose at 2 P. M.

On autopsy, there was found a tumor the size of a walnut in the posterior part of the left temporal lobe. Above, it reached

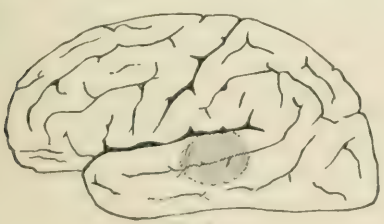


Fig. 6.

the fissure of Sylvius; below, it involved three quarters of the breadth of the second temporal convolution. It reached forward to within three centimetres of the anterior extremity of the temporal lobe, backward to within one centimetre of the posterior extremity of the fissure of Sylvius. It encroached slightly on the white matter, and was easily enucleated. (See Fig. 6.)

The tumor, on microscopic examination, proved to be a sarcoma.

Case VII.*—A widow, aged fifty-one, entered the hospital in a state of maniacal excitement.

She pronounced many words imperfectly, so that her speech was rather difficult to understand, while her flow of ideas seemed active enough.

When she became quiet and her attention was attracted, she did not appear very attentive, and manifested surprise if spoken to, as if confused, or as if imperfectly understanding what was said. When asked to protrude the tongue, give her hand, or raise the arm, she did not execute the movement, but would sometimes reply, "Call me Assunta."

If, without speaking, she was told, by a gesture, to make some movement, she obeyed with singular promptness.

Her mode of expression was notably altered; she articulated words well, but they were often unintelligible because of the omission of syllables or other changes. Being shown an object, the patient might call it by an absurd name: but, on being told the right one, perceived her error and pronounced the correct name over and over.

If shown an object of which she had the correct idea, but not the name, as a pin, she would appear to think a long time, and then, apparently tired out with the endeavor, she would say, "Prick, prick." She expressed some ideas spontaneously with perfect accuracy.

She perceived the slightest noises, and audition seemed perfect in both ears.

The acuteness of vision was unimpaired in both eyes. The left pupil was always smaller than the right. There was no lesion of the fundus oculi. Her mental faculties, after the subsidence of the delirium, seemed unimpaired. Sensibility and motility appeared normal. One day, while in the hospital, the patient had an apoplectiform attack. She was semi-comatose and speechless, and had paresis of sensation and motion on the left side of the body with exaggerated tendon reflexes. She recovered from this, but eight days later was seized with a right parotitis, with a temperature of 39·4° C. The paralysis came on in an aggravated form and confined the patient to bed, where she acquired bed-sores and soon died of pyæmia.

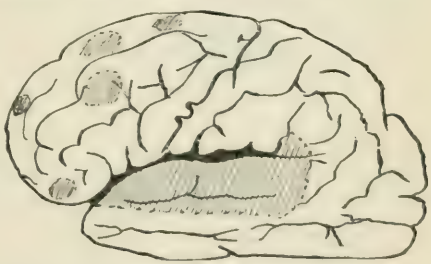


Fig. 7.

At the autopsy there was found an opacity, with thickening, all along the left Sylvian fissure. The membranes were tenaciously adherent in spots along the first and second frontal convolutions and on the orbital convolutions of both sides, and over the first and part of the second convolution of the left

* "Note sur un cas de surdité cerebrale." C. Girandeau, "Revue de médecine," ii, 1882, p. 446.

* La Sordità Verbale ed Afasia Sensoriale. Studio Clinico ed Anatomico patologico del Dott. Giuseppe Seppilli. "Rivista Sperimentale di Freniatria e di Medicina Legale," 1884, anno x, fascic. i-ii, p. 24.

temporal lobe. This meningeal adhesion extended back a little on to the external part of the supra-marginal gyrus. (See Fig. 7.) There was a very slight adhesion at the extreme tip of the right temporal lobe. The foot of the left third frontal convolution was intact.

Spots of cortical softening corresponded to these patches of adhesion, especially marked in the first and second left temporal convolutions.

Case VIII.*—A male, aged fifty-six. A year previously suffered with an intense headache, accompanied by some mental disturbance. As a child, he had epilepsy. He abused alcohol.

On admission, he had an air of hebetude, and seemed entirely oblivious of what was going on around him. To all questions he replied, "That there; yes, that." He talked little and in a confused manner, and also his articulation seemed changed. He showed indubitable signs of dementia; external impressions provoked no ideas, no sentiments, and his language was reduced to a very few phrases. His sense of hearing seemed acute. Commands accompanied by explanatory gestures he obeyed.

Voluntary activity was lessened, and he made all movements very slowly. He walked alone, but lifted his feet very little. His muscular force was well preserved. General sensibility and vision seemed well preserved. An ophthalmoscopic examination revealed no lesion. Some circulatory disturbances pointed toward atheroma of the aorta with hypertrophy of the left ventricle.

One month after admission, the patient died immediately after an epileptic attack, with contracture and turning of the head to the left.

At the autopsy there was found an area of softening occupying the entire second temporal convolution, the external half of the first and the internal half of the third temporal convolution, on the left side. (See Fig. 8.) The cortex in this region was completely destroyed. The basal ganglia were intact.

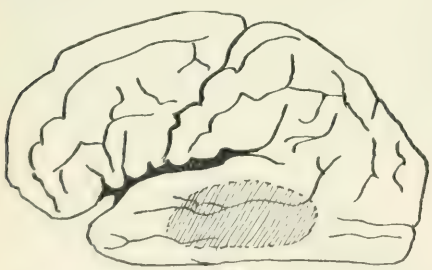


Fig. 8.

Case IX.† A man, aged seventy, made known his wants by ordinary language, but did not understand a single word spoken to him. He was in a condition of senile mental weakness. His hearing was good. He had visual disturbances, which suggested psychical deafness.

In the right hemisphere there was found an old cyst from softening in the place of the sulcus hippocampi, with complete destruction of the cuneus of the first and second occipital convolutions.

On the left side there was a small recent softening of the second and third occipital and second parietal convolutions. Along the first temporal convolution was a cyst full of a serous liquid.

* Seppilli, *l. c.*

† Monakow, "Arch. f. Psych. u. Nervenkr.," Bd. xiv, Hft. 3, 1883, quoted by Seppilli.

Case X.*—In a male, aged thirty-seven, speech was reduced to a few words. Understood nothing said to him. Comprehended gestures. Hearing was intact. He had left hemiplegia with contracture.

There was a cortical encephalitis of the right ascending parietal convolution. A second area of softening involved the first and the front part of the second temporal convolution of the left side.

Case XI.†—A woman, aged fifty-five, with motor aphasia. Could read writing or print, but did not understand spoken words. Read the papers with pleasure. Made her wants known by writing. There was found a diffuse sclerosis of the left third frontal convolution and insula, while a spot of softening occupied the first and second temporal convolutions.

Case XII.‡—A woman, aged forty-three, whose language consisted of inarticulate sounds. Understood nothing. Would take nothing that was given to her, and appeared deaf and stupid.

She was seized with epileptiform convulsions, followed by transitory right hemiplegia. A little later there was slight paresis of the left arm.

A gummy infiltration occupied the entire first and second temporal convolutions on the left side and the white substance underneath. The dura and pia mater and cortex were all massed together.

The right temporal lobe was equally involved except upon the upper and posterior part, the lesion extending over upon the inferior parietal lobule and the angular gyrus.

Case XIII.*—In this case speech was completely abolished. Did not understand what was asked of him except by gestures. The writing was reversed, and with the left hand. There was slight deafness. There was paralysis of the right extremities.

On autopsy, there was found embolism of the left Sylvian artery, with softening of the insula and the posterior part of the first temporal convolution and inferior parietal lobule. There was also cellular infiltration of the basal ganglia.

Case XIV.‖—A man, aged thirty, had motor aphasia and word-deafness. He understood words very imperfectly, some not at all. If spoken to in a loud voice, he did not reply. He had paralysis of sensation and motion of the right side of the face, paresis and anæsthesia of the right arm. His hearing was intact.

On autopsy, there was found a rupture of a small aneurysm situated on a small lateral branch of the external frontal artery, causing an effusion which covered the convolutions of the insula, and the anterior and upper part of the first temporal convolution. The outer part of the cortex underlying this clot was softened and of a yellow color.

Case XV.^—A woman, aged seventy-five, answered all questions incorrectly. Her spontaneous vocabulary was very good. She often corrected wrong words. She pronounced some things thickly. Her intelligence was weakened and confused. Her sensibility and motility were apparently intact.

The cerebral convolutions were atrophied. She had diffuse atheroma of the cerebral arteries, thrombosis of the Sylvian artery, and softening of the entire left first temporal con-

* Rosenthal, Erlenmeyer's "Centralblatt," No. 1, 1884, quoted by Seppilli.

† Magnan, "Gaz. des hôp.," No. 59, 1883, cited by Seppilli.

‡ Wernicke and Friedlander, "Fortschritte d. Med.," No. 6, 1883, quoted by Seppilli.

* Weiss, "Wiener med. Woch.," No. 12, 1882, quoted by Seppilli.

‖ Petrina, "Sensibilitatstörungen bei Hirnrindlasionen," Prague, 1881, quoted by Seppilli.

^ Wernicke, "Der aphasische Symptomencomplex," Breslau, 1874, cited by Seppilli.

volution and a part of the inferior parietal lobule. The insula was intact.

Case XVI.*—A man, aged forty-nine, whose speech consisted of queer, inarticulate sounds, except an occasional "If you please," or "Thank you." Often entered into long conversations with persons near him, evidently thinking he expressed himself well, and not conscious that he talked unintelligibly. When talked to, evidently understood nothing, and could not read writing or print.

He had right facial paresis and right hemianæsthesia. There existed softening of the supra-marginal gyrus, the angular gyrus, the first and second temporal convolutions, and a part of the neighboring occipital lobe of the left hemisphere.

Case XVII.†—A man, aged sixty-eight, understood nothing said to him. He answered always wrongly, while he spoke correctly. His intellect was weakened. His hearing was good. There was found a softening involving the left first temporal convolution, except its anterior third. This disorganized cortex, and also the corresponding border of second temporal convolution, had a brown color.

Case XVIII.‡—A man of fifty had motor aphasia and word-deafness. There was right hemiplegia, with hemianæsthesia to touch, pain, and heat. His hearing was good. There was softening of the lower third of the first frontal convolution and the upper and anterior part of the first temporal convolution of the left side.

Case XIX.*—A woman of forty-two, whose speech was unintelligible. Understood absolutely nothing. Her sensibility and motility were both good. The convolutions of the left temporal lobe were jelly-like; also the right temporal lobe was slightly softened. A section showed that the softening was confined to the cortex, on the right side of all the temporal convolutions except the basilar, and on the left side to the same region. The foot of the third frontal convolution was not included.

Case XX.‖—A man of fifty-eight. Pronounced only the word "dijon." Did not understand the most simple demand. Did understand gestures. His intelligence was weakened. There was slight weakness of the lower part of the face and the extremities on the right side. There was softening of the first and the upper part of the second temporal convolutions, extending back on to the parietal and occipital lobe, and forward on to the base of the first frontal convolution. A section showed a focal lesion in the substance of the third frontal convolution.

Case XXI.^—A female was suddenly seized with amnesic aphasia. There was no affection of sensation or motion; smell and taste were normal. She kept both eyes turned to the left. The ophthalmoscopic examination was negative.

There was embolism of the parieto-sphenoid branch of the left Sylvian artery. The entire left lower parietal lobule was the seat of a softening which extended somewhat upon the second occipital convolution.

Case XXII.◊—A male, aged sixty-four, had right hemianopsia, agraphia, aphasia, and ataxia.

On autopsy, there was found an area of softening in the left occipital lobe, and the posterior parts of the second temporal and inferior parietal convolutions. This softening extended in toward the lateral ventricle. A second area of softening, in the left external capsule, encroached on the lenticular nucleus and the anterior part of the internal capsule.

Case XXIII.*—A woman, aged thirty-seven, had been in the Charité, in the service of Hardy, for six weeks for a slight right hemiplegia, with aphasia. She could pronounce a certain number of words easily, but expression of ideas by speech was much impaired. At first she had indisputable word-blindness. She read, but did not understand. She wrote correctly at dictation, and read it, but did not understand it at all. During the next fifteen days she gradually became completely aphasic, and had a very pronounced right hemiplegia. Both these symptoms were variable.

On autopsy, there was found a gliomatous tumor, the size of a mandarin orange, in the inferior parietal lobule.

Case XXIV.†—An adult male was suddenly attacked with inability to be understood; wrong words were substituted. There was no paralysis. He had a pressure feeling and slight pain on left side of head. He was depressed. There were hallucinations of vision. He could not write from dictation at first.

Three months later he cut his throat.

The arteries at the base were atheromatous in patches. There were miliary aneurysms, and several small cavities containing serum scattered throughout the occipital lobes. In the left hemisphere, just above the lateral ventricle, there was a yellow spot twelve mm. in diameter. At the extreme posterior end of the fissure of Sylvius, just above its superior margin in the supra-marginal convolution, there was a cavity two cm. in diameter. In the outer member of the right lenticular nucleus, adjoining the external capsule, was a pear-shaped cavity, five by twelve mm. in diameter.

To supplement the pathological facts in the preceding pages, there is really very little to add.

The profound study to which aphasia has been subjected has led observers to make a sharp clinical and anatomical distinction between motor and sensory aphasia.

Sensory aphasia, clinically, may be:

1. Word-blindness: where the patient can talk or write spontaneously, but where, with or without mental or visual disturbances, there is an inability on the part of the patient to understand written or printed speech, even though he may read it aloud correctly. In short, a state in which all visual impressions connected with language, except gestures, fail to be transformed into visual verbal images.

2. Word-deafness: where the patient can talk or write spontaneously, but where, with or without mental or auditory disturbances, there is an inability on the part of the patient to understand articulate speech. In short, a state in which all auditory impressions connected with language fail to be transformed into acoustic verbal images.

3. A combination of both word-blindness and word-deafness.

Sensory aphasia is at times associated with amnesic and motor aphasia, right hemiplegia, mental disturbances, and hemiopic defects of vision.

Before the subdivision of sensory aphasia was made, it was often noticed that aphasic symptoms did not invariably

* Broadbent, "Lancet," 1878, cited by Seppilli.

† Claus, "Der Irrenfreund," No. 6, 1883, quoted by Seppilli.

‡ Petrina, *l. c.*, quoted by Seppilli.

* Kahler and Pick, "Vierteljahresschrift. f. d. prakt. Heilkunde," Nos. 1 and 3, 1879, quoted by Seppilli.

‖ Kahler and Pick, *l. c.*, cited by Seppilli.

^ Fritsch, Wernicke, cited by Starr.

◊ The Visual Area in the Brain determined by a Study of Hemianopsia, by M. Allen Starr. "Am. Jour. of the Med. Sci.," January, 1884, p. 65.

* Déjérine, Soc. de biol., July 17, 1880, "Prog. méd.," 1880, viii, 629.

† Webber, S. G., "Boston Med. and Surg. Jour.," December 20, 1883, vol. cix, p. 580

point to a lesion of the left third frontal convolution and insula, Broca's center for articulate speech. But in these cases this region was often entirely intact, and the lesion was found behind and below the motor area of the left hemisphere.

In the light of our present knowledge, we designate these cases of sensory aphasia either word-deafness, word-blindness, or both, entirely distinct from motor aphasia, the lesion of which Broca so accurately located.

Thus the lesion of sensory aphasia in the case of word-blindness is apt to be included in the region about the posterior extremity of the fissure of Sylvius, the inferior parietal lobule, the angular gyrus, and the second occipital convolution of the left side, or parts subjacent to them.

In the case of word-deafness the lesion is apt to include the first and second temporal convolutions of the left side, or parts subjacent to them.

This first of these areas, physiologists have long taught us, is in animals intimately connected with vision; the second, with audition; hence we have learned to call them the visual and auditory areas of the brain, respectively.

Of the twenty-four patients whose cases form the basis of this paper, eight, with lesion of both visual and auditory regions of the left hemisphere, had "word-blindness" and "word-deafness"; two, with lesion of the visual area, had "word-blindness"; and fourteen, with lesion of the auditory area, had "word-deafness."

A CASE OF
GUNSHOT WOUND OF THE INTESTINES
TREATED SUCCESSFULLY BY LAPAROTOMY WITH SUTURE OF THE INTESTINES.*

By WILLIAM T. BULL, M. D.,
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The propriety of exploring the abdomen for gunshot wounds has been amply discussed by many surgeons, both here and abroad. The majority still oppose it, notwithstanding that the very favorable results of abdominal operations for pathological lesions are generally acknowledged. Otis, Sims, Gross, Dugas, McGuire, Kinloch, and Parkes, in this country; Legouest, in France, and Nussbaum, in Germany, have urgently advocated operative interference. But they have been compelled to frame their conclusions from theoretical considerations and statistical data, and have been unable to support their views by the record of a single successful case. In fact, up to the last twelve months I find but two cases recorded in which thorough abdominal exploration was resorted to by laparotomy. Kinloch, in 1882, opened the belly and sutured five pistol-shot wounds in the mesentery and intestine. Two other wounds escaped observation. The patient died in thirty hours. Lloyd, of the Queen's Hospital, Birmingham, performed abdominal section [illegible] operative peritonitis three days after a pistol-ball had perforated the small intestine in two places. The intestine was sewed into the abdominal wound and the cavity drained. Death followed in two hours.† Last summer, however, Kocher, of Berne, sutured a pistol-shot wound of the anterior wall of the stomach through an incision in the median line, and the patient recovered. The case is briefly reported in the "American Journal of the Medical Sciences" for October, 1884:

"A boy, aged fourteen, was admitted into the hospital half an hour after having received a wound in the region of the stomach, from a pistol-shot, aimed at him from a distance of five paces. He was pale, and complained of abdominal pain; the abdomen was swollen, and distinctly dull on percussion inferiorly. Pressure on abdomen caused pain. A quarter of an hour later, hiccough, severe epigastric pain, vomiting, pallor, and symptoms of collapse came on. There was tympanitic resonance from the ensiform cartilage to the umbilicus, with complete dullness from the navel downward, and in the flanks. The lightest percussion caused severe pain. Three hours after the injury laparotomy was performed. On opening the abdominal cavity in the region of the navel a great quantity of dark blood escaped. The bullet wound was discovered with comparative ease; it was situated on the anterior surface of the stomach, toward the greater curvature, in the direction of the fundus. The wound was circular, with sharp edges, and about half an inch in diameter. The bullet could not be found, nor was there any aperture of exit. The edges of the wound were united first with two catgut ligatures like an ordinary wound, and then a continuous silk suture was applied for the distance of about an inch, so as to invert the serous coat around the wound. Recovery was retarded by an abscess which formed in the track of the sutures in the abdominal wound."

As a further contribution to this subject I wish to present the following history, and with it I have the pleasure of showing you the patient. It is now three months, lacking a few days, from the time when the operation was performed, and he has quite recovered his usual health.

William McElroy, a truck-driver, twenty-two years of age, was brought to the Chambers Street Hospital at 10 P. M., November 2, 1884, by an ambulance from the police station of the tenth precinct. A half-hour previously he had been accidentally shot with a pistol of caliber ·32, the ball entering the abdominal wall near the navel. On admission, he was found to be perfectly conscious, warm, with a pulse of 96, of good volume; temperature 97·8° F., respiration 18. He had vomited solid food before admission. He retched frequently, complained of great pain all over the abdomen, and had tenesmus. The abdomen was tender, but not swollen nor tympanitic. The wound of entrance was situated an inch and a half below the navel, and an inch and a half to the left of the median line. It was half an inch in diameter, with blackened edges. The bullet could not be detected anywhere beneath the skin. The wound was not probed. A dressing of iodoform gauze and borated cotton was applied after thoroughly washing the skin with a two-and-a-half-per-cent. solution of carbolic acid. One sixth of a grain of morphine was given hypodermically.

Twelve hours later, November 3d, 10.30 A. M., when seen by myself, his condition was as follows: pulse 102, respiration 30, temperature 100·2°. He had severe abdominal pain, although he had received twenty-one minims of Magendie's solution (in four injections) since admission. He had slept for about half an hour after each injection. He had vomited a little watery fluid, with particles of food. His urine had been drawn, and contained no blood. Nothing had been passed *per rectum*. The abdomen was normal in appearance (save for the wound) and to the touch, but slightly tender all over. The rectum was normal. He had received nothing by the mouth but ice, except

* Read before the New York Surgical Society, January 27, 1885.

† Brit. & Med.-Chir. Journal, March 21, 1885.

(by mistake) a cup of milk, which was shortly afterward thrown up. A cold-water coil had been put on the body and the dressing made lighter. A probe could not be made to enter the cavity with gentle manipulation.

Seven hours later, seventeen hours after the accident (Nov. 3d, 5.30 P. M.), his condition was practically unchanged. He had passed urine voluntarily. The operation was performed with the assistance of Dr. F. W. Murray, Dr. C. A. Jersey, and Dr. Mack, Dr. Morton, Dr. Kirby, and Dr. Ten Eyck, of the house staff. Dr. B. Farquhar Curtis, Dr. C. A. Powers, Dr. A. B. Jessup, Jr., and several others, witnessed it. The following antiseptic precautions were observed: Two large atomizers sprayed the operating-room for two hours before the operation with a five-per-cent. solution of carbolic acid. The room itself (which was 25 × 35 or 40) was heated to 80° F., and all the solutions used were warm. For the instruments and hands a five-per-cent. solution of carbolic acid was employed. The sponges were fresh from carbolic acid after having been purified with permanganate of potassium, and bleached with oxalic acid (Keller's process). The towels, which were not new, were soaked in a five-per-cent. solution of carbolic acid for an hour. The catgut was Kocher's; the large silk for the abdominal wound had been boiled in carbolic acid, but the finer, "No. 1" (the iron-dyed silk of Snowden), which was used for the wounds of the gut, was not put into carbolic acid till the operation was begun. During the operation warm water was used for the towels and for washing the sponges, but the final sponging of the cavity was done with two-and-a-half-per-cent. carbolic-acid solution.

A vertical incision, two inches long, into the bullet wound, showed that it was directed in a zigzag course through the parietes, and actually perforated the peritonæum. The usual incision was then made in the middle line, from the umbilicus to just above the pubes. On opening the peritonæum, bloody serum, without any fæcal masses, but containing small clots, flowed out freely (at least two pints), floating the coils of intestine into the wound. On the free border of the first portion of gut presenting was a slight incised wound of the serous coat only, which was doubtless made by the scissors. It was tied with catgut over an artery clamp. Several coils of intestine, representing three or four feet in length, were then pulled out of the wound and carefully examined. The intestine and mesentery were coated here and there with clots and flakes of fibrin, and these were so adherent that, to dislodge them and see the surface clearly, it was necessary to rub the peritonæum firmly with the sponge two or three times, and this both on its upper



Fig. 1.

and lower surface. The gut was lightly congested, and its coils were not adherent. These were placed under layers of towels, and occasionally drenched with warm water. The first wound, shown diagrammatically in Fig. 1, was about half an inch in diameter, situated midway between the attached and the free border of the intestine, and several feet from the cæcum. The serous coat was clean-cut, the mucous membrane lacerated and everted. It bled easily when its edges were separated, but not till then did yellow fæces, of the consistence of gruel, escape. (The same was true of all the wounds. The everted mucous membrane acted as a plug.) The abdominal wound was then plugged with large sponges to shut off the cavity, leaving only space enough for the protrusion of the loop of six inches, which contained the wound. This was spread out on a towel, emptied of fæcal matter through the bullet wound, and held with both hands by an assistant. The mucous membrane was inverted by making traction with two hooks, so as to convert the round hole into a longitudinal slit, parallel with the transverse diameter of the gut. The peritoneal edges were then approximated by five sutures inserted according to Lembert's method. Iodoform was rubbed along the line of suture. (This plan was followed with all the other wounds.) After removing several more loops the cavity of the pelvis was empty, and the cæcum, the sigmoid flexure, the rectum, and the bladder were inspected after sponging out considerable bloody fluid, with clots. The bullet was detected at once, lodged in the upper surface of the sigmoid flexure, close to its mesenteric border. (Fig. 2.) It



Fig. 2.

was just beneath the peritonæum, but, on removing it, the wound was found to enter the lumen of the bowel, which was quite empty. Three sutures closed the wound. The open pelvis was then protected with sponges, and more intestine drawn out from under the left edge of the abdominal wound. A third perforation was encountered, similar to the first in size, but situated on the upper surface of the gut, near its free border. A fourth and fifth were also found close together, and separated only by

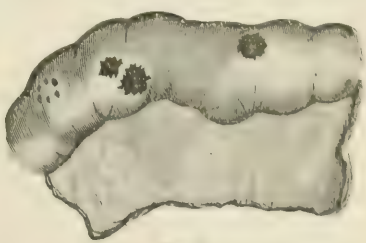


Fig. 3.

a ridge of the serous coat, nearly opposite the preceding one, but an inch higher up, and a sixth one about three inches further on. (Fig. 3.) These four wounds were all within a length of four inches of the intestine. The two which were so close

together had ragged and everted edges, from which the serous coat was stripped off for a distance of an eighth of an inch. The bowel contained fæces, and was treated as before described. But the fourth and fifth wounds were converted into one oval slit by trimming off the ragged edges, and twelve sutures were required to close this, while five each were put into the other



Fig. 4.

two wounds. The oval wound, made by trimming the two adjacent ones, embraced about one third the caliber of the bowel, and its axis, when sewed up, was oblique in direction. The others were parallel with the transverse axis.

A few loops of intestine still remained in the cavity. In removing them, the seventh perforation was found, several inches beyond the sixth. It was closed with five sutures. The small intestine, except the duodenum, was now all out. A sponge on a holder was passed into the epigastric and both lumbar regions. No blood or foreign matter was detected. The great omentum was not seen.

The pelvis was again sponged out, this time with a two-and-a-half-per-cent. solution of carbolic acid, and the intestines were replaced, the lines of suture being inspected as they were encountered. The wound in the middle line was closed with heavy silk sutures, passing through the entire thickness of its walls, and superficial catgut sutures. The incision in the bullet wound was sewed up in the same way, a drainage-tube being left at its lower end. An iodoform and borated cotton dressing was applied.

The operation lasted two hours. The ether was not well borne. Shortly after commencing, the pulse was 112, the respiration 38; at the end of the first hour, pulse 132, respiration 44; at the end of an hour and a half, pulse 140, respiration 52. At this time the breathing stopped for a moment, artificial respiration was resorted to, and the legs elevated for the remainder of the operation. At its close the pulse was 134, the respiration 39. Whisky, one drachm, and tincture of digitalis were several times injected subcutaneously, and, on the patient's being placed in bed, a hot-air bath was given and continued two hours. His strength improved rapidly. Six hours later a cold-water coil was applied.

November 4th, 9 A. M. (fourteen hours after the operation), pulse 120, respiration 27, temperature 99·5°. He had had cracked ice by the mouth, two enemata of Valentine's beef-juice and whisky, four hypodermic injections of whisky and digitalis, and seven minims of Magendie's solution in two injections. He had passed three ounces of urine (sp. gr. 1·024, acid, no albumin, many healine and few granular casts). He complained of slight pain and constant thirst, and had slept little. He had occasionally had hiccough, and had twice vomited a dark-green, odorless fluid.

2 P. M., pulse 108, respiration 29, temperature 99·5°. He had had ice, Vichy water in teaspoonful doses, two nutritive enemata, and fifteen minims of Magendie's solution in three injections. He had vomited the same green matter four times, and had pain afterward, but at no other time. He had slept several hours. A few teaspoonfuls of beef peptonoids, and from half an ounce to an ounce of water, had been given by the mouth, but they had been discontinued. His pupils were normal; his tongue was moist, but coated; his abdomen tender, but not swollen.

Second Day, 9 A. M.—Pulse 92, respiration 26, temperature 99·5°. He had had by the mouth Vichy and hot tea, with milk, but no sugar (in teaspoonful doses); by the rectum, two enemata of Valentine's beef-juice, and whisky; hypodermically, twelve minims of Magendie's solution. He had slept several hours, and on awaking was bright and cheerful, complaining only occasionally of pain. Urine, 30 ounces.

6 P. M., pulse 92, respiration 20, temperature 101°. He had had two enemata of beef peptonoids and whisky (all, thus far, had been retained), and fifteen minims of Magendie's solution in two injections. He had vomited twice a brownish fluid. There was more abdominal pain, with slight swelling and tenderness. The wounds were normal. The ice-water coil was continued. A rectal tube was introduced to relieve tympanites. Urine, 19 ounces.

Third Day, 9 A. M.—Pulse 80, respiration 17, temperature, 100·5°. He had had beef-tea, Vichy, and hot tea by the mouth; two enemata; and fifteen minims of Magendie's solution in two injections. He had vomited twice, and had a desire to evacuate the bowels. He still had pain, and the abdomen was tender and slightly distended. 6 P. M., pulse 84, respiration 18, temperature 101°. Drainage-tube removed.

Fourth Day, 9 A. M.—Pulse 84, respiration 17, temperature 100°. During the last twenty-four hours he had vomited three times a small quantity of brownish fluid. The alimentation had been as before, with the addition of small doses of dry champagne, and he had had fifteen minims of Magendie's solution. He had slept much, but was restless when awake, and had little pain, but desired to have a passage. The tongue was moist, and the abdomen less distended. 6 P. M., pulse 87, respiration 17, temperature 102°. He had had fifteen minims of Magendie's solution, had vomited twice, and was irritable. After an enema of soap and water there was a free, watery, ill-smelling movement, containing small fæcal masses.

Fifth Day, 9 A. M.—Pulse 84, respiration 17, temperature 101·5°. 6 P. M., pulse 84, respiration 24, temperature 102°. He had had thirty minims of Magendie's solution, and nourishment as before, but two enemata. There had been three evacuations, similar to the first one, fluid, but not watery, fœtid, and containing little flakes and masses of fæcal matter. He had vomited three times. There was suppuration about two of the sutures in the abdominal wound.

Sixth Day, 9 A. M.—Pulse 82, respiration 18, temperature 101°. 6 P. M., pulse 76, respiration 18, temperature 101°. He had had one thin movement, and had vomited brandy and soda, and also bismuth-and-opium powders, but had retained plenty of peptonized milk, champagne, and beef-tea, and there had been less pain. The wound about the sutures was swollen, and, on taking out several of them, there was found a collection of pus external to the peritoneum. It communicated with the tracts of the sutures. The pus was not decomposed. All the sutures were taken out but the two or three upper ones; the wound was stuffed with carbolized compresses, and the cold-water coil was withdrawn. The bullet wound was likewise slit open through a part of its extent.

Seventh Day, 9 A. M.—Pulse 84, respiration 20, temperature 99·5°. 6 P. M., pulse 84, respiration 18, temperature 100°. There had been two dark-colored passages of pasty consistence, he had vomited once or twice very small quantities of the contents of the stomach, and he had had occasional pain. The abdomen was no

longer swollen. The wound gaped widely, but was granulating except at one or two points. The urine was similar in character to that found before. It averaged forty ounces daily. The tongue was natural. He had had six minims of Magendie's solution in the twenty-four hours.

Eighth Day, 9 A. M.—Pulse 82, respiration 20, temperature 99°. 6 P. M., pulse 86, respiration 20, temperature 100°. There had been three movements like the last mentioned in the last forty-eight hours, but no vomiting and no decided pain. He complained only of being hungry, and of the discomfort of lying on the back. The abdomen was normal but for the wounds, which were granulating.

From this time the patient's convalescence was uninterrupted. The passages became less frequent and more solid. From the fifteenth day they were about natural. He vomited on the eleventh day, and twice on the twelfth, but never afterward. His appetite was excellent, and on Thanksgiving Day, twenty-four days after the operation, he ate the sumptuous repast provided, including plum-pudding. Several sinuses which formed in the granulating wound required slitting up, and a large number of skin-grafts were applied on two occasions. After the carbolic acid, Peru balsam, and, afterward, iodoform dressings were employed. At the end of eight weeks the large wound was cicatrized. He was discharged December 31st. The cicatrix was firm, but it is growing softer, and he is wearing a strong abdominal supporter. The functions of the alimentary canal are performed normally, and he feels, and apparently is, in good health. The urine, however, presents the same morbid products that it did during his treatment.



FIG. 5.—Showing the cicatrix of the abdominal section (A) and that of the bullet-wound (B), three months after the operation.

I am not prepared at the present moment to do more than submit for your consideration the facts contained in this history. To discuss further details, such as the indications for operation, the technique, the antiseptics, and the management of all varieties of visceral wounds, would be beyond my present purpose. I hope to have an opportunity for that at a later date, when I shall report a case of wound of the liver with great hæmorrhage, in which the patient died before the operation was completed. But I desire now to call attention to the fact that operative interference for gunshot wounds of the abdomen has been put to a practical test, and that it has been successful. And I hope that other members of this society may share my conviction, that this plan of active treatment is now justified by these two successful cases, and that it should be adopted (within proper limits) to the exclusion of the "let-alone" policy.

THE EARLY USE OF THE KNIFE IN ANGIOMATOUS NÆVI

AS COMPARED WITH OTHER METHODS OF TREATMENT.*

BY SAMUEL W. SMITH, M. D.

MR. PRESIDENT AND FELLOWS OF THE ASSOCIATION: In presenting this paper to your consideration, I will at the outset express my decided preference for the early and more general use of the knife in dealing with these troublesome and unsightly vascular growths which appear on the face of infants and so rapidly increase in size. I am aware that this will seem to you a bold position to take, antagonistic as it is to many eminent and trustworthy authorities; nevertheless, we are here for an interchange of views gathered from actual experience, regardless of their conflicting relation to the theory and practice of others. Facts are stubborn things, and we can not afford to ignore them, however unwelcome they may be. It is not necessary that I should consume your time with a review of the various plans of procedure recommended by others, such as the application of caustics, the use of coagulating injections, ligature, electrolysis, acupressure, hot needles, etc. I concede that all these have their respective advantages and disadvantages; but none, I firmly believe, is so immediate in good results as the use of the knife, while in my opinion they are more fraught with danger by the absorption of some putrescent material. I use the term *angiomatous nævi* without particularizing the exact pathological character of these growths, as to whether the venous or arterial elements predominate, for it not infrequently happens that the two exist in equal proportions. The rapidly increasing size of these tumors with the growth of the child makes their treatment at an early stage of development a matter of considerable importance, whatever may be the course of treatment adopted for their removal. I have seldom met with a case where I should have hesitated to apply the knife from a lack of confidence in the results.

The following two cases are selected from those of a number of patients, treated by me at Demilt Dispensary, suffering from these vascular growths. I have selected them for my paper because at an early date in their history I saw them and proposed an operation with the knife, when the tumors were comparatively small. I think the history of these cases will speak more forcibly and conclusively than I can write in vindication of the early use of the knife in angiomatous nævi, as compared with other modes of operation for their removal.

* Read before the New York State Medical Association, November 20, 1884.

Case I.—*Angiomatous Nævus of the Face successfully removed with the Knife after some other Method had been tried, endangering the Life of the Patient.*—Mamie T., aged eight months, born of healthy parents, in October, 1883, was brought by her mother to Demilt Dispensary, when four months old, for advice in relation to a birth-mark and small tumor on the side of the face. The mother informed me that she first noticed the swelling underneath the birth-mark some two months previously, and that it seemed to be getting larger. Examination showed the following conditions: The wine-mark was of about the size of a twenty-five-cent piece, and situated just below the zygoma and in front of the tragus; the tumefaction, of about the size of a hickory-nut, was not adherent to the skin, soft and inelastic to the touch, compressible, and increased in size whenever the child cried. I advised the immediate removal of the tumor with a knife, but the mother refused to have it done at that time, and left the dispensary. One month later the mother returned with her child—the tumor had perceptibly increased in size—and said she would have me remove the tumor if I would use hot needles. Hot needles were not used, and she left the dispensary, to return again three months later, under the following circumstances: Some two or three weeks prior to her second return to the dispensary she had evidently found some one who had carried out her plan of treatment for the removal of the tumor and birth-mark. I will not repeat the history of the operation as given to me by the mother, lest I do injustice to some surgeon or institution. Suffice it to say, the child was brought back to me simply an object of pity, suffering intensely from the effects of some kind of operation. The whole side of the child's face was swollen to an extreme degree, completely closing one eye, and extending over the side of the forehead into the scalp. The wine-mark had disappeared, and instead there was a dark-grayish ulcer, with thick bands of gangrenous connective tissue covering the tumor, which had increased to the size of a walnut. The carotids were throbbing, the respiration was hurried, the pulse was not easily counted and irregular, with a temperature of 103° (axillary), frequent attacks of vomiting, and a tendency to stupor. I carefully syringed out the ulcer with a solution of bichloride of mercury, 1 to 2,000, and with a pair of scissors cut away a number of gangrenous connective-tissue bands, which brought into view several pockets of pus. Thoroughly syringing these out, I carried my dissection a little farther, when a mulberry-like mass, containing a number of large blood-vessels distended with venous-colored blood, rolled up, and there was a rather profuse hæmorrhage. Passing a double ligature with an aneurysm needle underneath the tumor, I crossed the ligatures and firmly tied them on either side, completely controlling the hæmorrhage. The greater portion of the mass above the ligature was cut away, and the wound thoroughly cleansed with the bichloride-of-mercury solution. Twenty-four hours following the operation the patient had very much improved. The tendency to vomit had disappeared. The temperature had fallen to [illegible]; the respiration was nearly normal, the pulse was 110 and regular. A few drops of whisky in a little lime-water were given for a few days after each nursing. From this time on the patient did well. The wound was thoroughly cleansed twice a day with the bichloride-of-mercury solution, and dressed with vaseline. At the end of the seventh day the ligatures, with the remainder of the tumor, came away, leaving a healthy granulating wound, which healed kindly, and left no vestige of the tumor to be seen or felt.

Case II.—*A Large Angiomatous Nævus of the Upper Lip of a Child Three Months Old successfully removed with the Knife.*—Baptiste P., aged three months, born of healthy parents, was brought by its mother to the dispensary April 1, 1884, for advice in relation to a small tumor of the lip, accompanied by a wine-mark. The mother informed me that, when the child was born, she noticed that the lip was stained with the wine-



Fig. 1.

mark, and that five or six days later she noticed a small, hard lump on the lip. This tumor, though small at first, increased rapidly in size until, at six weeks old, when the child was brought to the dispensary, it was about as large as a common marble. Examination showed that the tumor involved all the tissues of the lip. It was compressible and doughy to the touch, and enlarged whenever the child cried; it was not pulsatile in character, and the wine-mark discolored the mucous membrane as well as the skin over the lip.

I recommended to the mother the removal of the tumor by an operation with the knife. This she refused to permit, and took the child away without further counsel. On April 29th she returned to the dispensary with the child, asking advice in relation to a hæmorrhage which had developed in the tumor, and which was the result of an operation elsewhere. She could not give me a correct account of what had been done to the child since its previous visit to the dispensary, but said that it had been taken to a clinic somewhere in the city, where an operation with hot needles or similar appliances had been performed. Since this operation the child had refused to nurse, and become very feverish. Ulceration had set in, followed by this excessive hæmorrhage, and this so alarmed the mother that she decided to go again to the Demilt Dispensary. The appearance of the child was very bad. The respiration was rapid, the temperature 102° (axillary), and the child subject to frequent attacks of vomiting. In examining the tumor, I discovered a small pocket of pus beneath the skin, which seemed pent up and overlain by a thick scab. I removed the scab, thoroughly cleansed the cavity with a solution of bichloride of mercury, 1 to 2,000, and then applied a light compress saturated in a strong solution of tannic acid. This controlled the hæmorrhage. I informed the mother that if the child got over its present fever I would operate by removing the tumor entire. The lip seemed so unsightly to her that she said she would rather the child should die under an operation than live in its present condition. I therefore gave preparatory treatment, and in the course of five or six days the child had so far recovered that I decided to operate on the following Sunday at my office. A cast of the tumor, and this photograph, which I here show you, were taken on the Saturday before the operation. The tumor was now enlarged to the size of an English walnut.

The child was in fair condition. The fever had abated, and she was able to retain food upon the stomach, although very anæmic from the loss of blood resulting from the former operation. On June 8th, in the presence of Professor J. W. Wright and my assistants, Dr. Segar and Dr. Carpenter, I placed the little patient under ether and proceeded to operate. I cut away about four fifths of the entire lip, leaving as much of the vermilion border

and of the orbicularis oris muscle as I could, in order to assist in the formation of a new lip. During the operation the coro-



Fig. 2.

nary arteries were held by my assistants, so that there was no great loss of blood. After removing the tumor I dissected up the edges of the integument on either side, and brought the parts together, using one hare-lip pin, and uniting the edges of the wound by fine catgut sutures. The after-dressing was a



Fig. 3.

piece of lint laid over the wound and kept moistened night and day, by the aid of a drop-glass, with a solution of bichloride of mercury, 1 to 2,000, for the first forty-eight hours.

On June 10th I removed the hare-lip pin without disturbing the dressing. On June 15th I removed the dressing and found the wound united by first intention. On the same day I allowed the babe to nurse its mother, which it did readily and well. This photograph, which I now pass for your inspection, was taken ten days after the operation.

TWO CASES OF POISONING BY "ROUGH ON RATS."

By L. T. DAY, M. D., Westport, Conn.,
late house surgeon to the connecticut general hospital, new haven.

Case I.—I was hastily summoned, at 10.30 P. M., on December 27th, to see Mr. H. and his son, and learned the following history:

J. H., aged fifty-three, a fish-dealer, is a robust, healthy man, little subject to sickness.

December 26th, about 5.30 P. M., he ate very freely of smelts prepared in the following manner:

Taking from the pantry-shelf a pie-tin on which was a piece of meat rolled in "Rough on Rats," he tossed the meat to the dog, thinking it had been cooked. There was also quite a layer of the poison on the tin, and, supposing it was flour, he added more flour to it, and then proceeded to roll the fish in the flour and poison.

After supper he went to his place of business as usual, and smoked a cigar. In about half an hour he felt sick at his stomach. Thinking, perhaps, it was the cigar, he laid it aside, but in a few minutes he vomited profusely.

At 8 P. M. he went home, where he again vomited, became dizzy, and had an intense headache. During the night he vomited three times more, and his bowels moved once. He passed a restless night.

27th, A. M.—He felt dizzy, and had some headache and a tired feeling in his legs, as though they were going to slip from under him.

He attended to business as usual, and about noon took two compound cathartic pills. He thought he had a "bilious attack."

At 10.30 P. M. I saw the patient for the first time and learned the facts stated above. He was lying on a sofa with his head tied up. His face was flushed, and he complained of headache, soreness in his bowels, weakness of his legs, dryness of the mouth, and great thirst. Pulse 82, strong; slight fever. As he seemed quite comfortable, with the exception of headache, not having vomited during the day, I gave him twenty grains of bromide of potassium.

28th, 8 A. M.—On attempting to rise he was so dizzy that he went back to bed, but rose later in the day. He had some headache, and his pulse was 80.

P. M.—Has had profuse watery diarrhœa during the day, the bowels moving every half or three quarters of an hour. Complains of great dryness of the mouth and a burning sensation in the stomach. Has not vomited, and has eaten nothing. I gave him milk to drink, prescribed nothing for the diarrhœa, but continued the bromide.

29th, A. M.—Feels considerably better, and the diarrhœa has ceased. In the afternoon he went to New York, as usual, on business.

Case II.—W. H., a son of the first patient, aged sixteen, pale and anæmic, was subject to considerable sickness during his early years.

December 26th, at 5.30 P. M., he ate from ten to twelve of the fish as prepared by the father, and in about three quarters of an hour vomited; he then went to church (his mother, thinking he had overloaded his stomach during the Christmas festivities, was not alarmed at the symptoms) at 8.45 P. M. He felt sick, came home, and vomited six or seven times during the night.

27th, A. M.—Felt very dizzy and weak; vomited during the day ten or twelve times; bowels quiet. About noon he took two compound cathartic pills, which did not operate.

I found him, at 10.30 P. M., sitting in a rocking-chair, with a bowl in his lap ready to vomit. Pulse 84; temperature 99° F.; face flushed, with the eyelids puffed out, and the conjunctiva congested. He complained of headache, pain in the stomach and bowels, weakness of the legs, and great thirst. Suspecting arsenical poisoning, I gave the following:

℞ Tinct. ferri chlorid. ..... f ʒ ss.;
Sp. ammon. aromat ..... f ʒ j;
Magnesiæ ..... ʒ ss.;
Aquam ..... ad f ℥ ij.
M.

This I prepared from my medicine-case as a substitute for the hydrated sesquioxide of iron. I gave him one half of the mixture, which he retained about fifteen minutes. I then got him to bed, put a large mustard-paste over the epigastrium, and gave him minute doses of calomel every half hour for the vomiting, with ice for the thirst.

28th, A. M.—Passed a fair night, with no vomiting. Pulse 60; temperature 97·5° F.; tongue badly coated; breath very

offensive; pain in the stomach; abdomen retracted, with tenderness on palpation. Gave at 11 A. M. two tablespoonfuls of castor-oil with an equal quantity of lemon-juice. This he retained until 1 P. M., when he vomited about a pint of liquid as green as grass.

5 P. M.—No movement of the bowels as yet, and no more vomiting. Pulse 80, and very weak. Ordered brandy every two hours, and a drachm of the sediment of the iron mixture every two hours.

9.30 P. M.—Considerable pain in the stomach and bowels. Kept up the mustard-paste, and ordered an eighth of a grain of sulphate of morphine every hour until he was comfortable.

29th, A. M.—Passed a comfortable night, sleeping about six hours. Pulse 72, very weak. Very little pain in the bowels. Gave two rectal injections, with no effect.

30th, A. M.—Gave two compound cathartic pills.

12 M.—Gave a high rectal injection of soap and water, with the tube introduced twelve inches. He retained the injection about fifteen minutes, when he had a large watery movement, which resembled as much as anything a decoction of sea-mud, and was very offensive.

9 P. M.—Has had two more movements, the last one of a more natural character. The brandy and the iron mixture to be kept up.

31st, A. M.—Feels decidedly better to-day, having no pain and no more passages.

Pulse 72. Ordered three grains of sulphate of cinchonidine three times a day. The iron mixture to be stopped. He sat up a short time.

January 1st, A. M.—Pulse 70, stronger. Ordered two drops of tincture of nux vomica every four hours, to clear the tongue and promote the appetite. He sat up for two hours.

2d, A. M.—Gave two drachms of compound licorice powder. He ate a fair breakfast. The bowels moved naturally toward night.

3d, A. M.—Found the patient dressed and sitting up, feeling quite like himself. He ate ravenously. The eyelids were still somewhat puffed up. Patient discharged.

It seems strange that the true nature of the trouble was not ascertained until some thirty hours after the victims had eaten the poison, when Mrs. H. happened to ask what Mr. H. had been doing with that pie-tin. When he told her, she exclaimed, "My God, that's poison!"

The wife and one boarder, not being hungry, were saved the dangerous consequences of a stomachful of "Rough on Rats."

In Case I the food was very imperfectly masticated, owing to the patient's teeth being decayed and few in number, so that the poison did not become thoroughly disseminated and as much absorbed as in Case II; hence the mild attack as compared with that in Case II.

On December 30th, in order to satisfy myself as to the precise poisonous ingredients in the "Rough on Rats," I wrote to the chemist and proprietor, Mr. E. S. Wells, of Jersey City, asking him to give me the names of the poisonous ingredients, and received the following reply:

"Jersey City, N. J., *December 31, 1884.*

"*Dr. L. T. Day.*

"Dear Sir: If you treat as for arsenical poisoning you will hit it, in so far as actual poisoning is concerned.

"Respectfully, E. S. Wells."

There ought to be a law compelling manufacturers of poisons for general use to print on the label of packages containing such poisons the name or names of the most toxic agents of the compound, thus enabling physicians to treat cases of poisoning more intelligently and successfully.

Book Notices.

A Manual of Dermatology. By A. R. Robinson, M. D., L. R. C. P. and S. Edin., Professor of Dermatology at the New York Polyclinic, etc. New York: D. Appleton & Co., 1885. Pp. 647. [Price, $5.]

Although Dr. Robinson modestly states in the preface to this work that it is intended to be the basis of another, which shall be larger, more pretentious, and more original, we consider it to be, as it stands, a most meritorious book and a highly creditable addition to our stock of dermatological text-books. The author has been known for a number of years, both by articles published in the journals and by the part he has taken at the meetings of the New York Dermatological Society and the American Dermatological Association, as one who never accepted opinions at second-hand, but always worked out subjects for himself, and was given to defending his conclusions with the tenacity that springs from well-founded convictions. Such a man is just the one to write a text-book, provided he has also the art of teaching, and this art Dr. Robinson has shown that he possesses.

Dermatology is one of the departments of medicine in which Americans have most distinguished themselves within the past fifteen years, and it is now no easy matter for an individual American to write much on the subject that is altogether original; but the amount of originality that is to be found in this book is surprising. It is most conspicuous in the matter of pathological anatomy, and is well exemplified by the fact that sixty-five of the eighty-eight illustrations represent the results of the author's own researches, as well as by his marked personal views of sycosis, pompholyx, trichophytosis, lichen ruber, lichen planus, sudamina, comedo, milium, herpes, pemphigus, and a number of other diseases, and of the nerve terminations in the Pacinian corpuscles. Miliaria is classed with papular eczema; lichen planus is considered as an inflammatory affection, and lichen ruber as an hypertrophy of the epidermis—a paratypical keratosis; but perhaps the most noteworthy of the author's views on pathology is the one that places psoriasis among the hypertrophies of the epidermis, making it a hyperplasia of the rete—a doctrine that was originally maintained by Dr. Robinson, and is now very widely accepted.

Turning from pathology to ætiology, diagnosis, and treatment, we find them treated of in an equally satisfactory manner. The descriptions of the various diseases are full enough for the practitioner's purposes, but not over-burdened with details that would be of interest only to the specialist. In the matter of treatment, Dr. Robinson is not an adherent of any "school"; both general and local measures are fairly appreciated by him. In the management of eczema and psoriasis, he lays stress on the necessity of giving alkalies, and he makes the degree of activity of the inflammatory process the guide to the local treatment of eczema. Principles and indications are thoroughly inculcated, and they are of far more service than all the formulæ that were ever written.

Although concise, the work is a complete text-book, and contains much more than is to be found in most treatises of its

class. While it is likely to prove of great value to the professed dermatologist, it is eminently a book for general practitioners and students, and its points of excellence are so many and so pronounced that we look to see it become a general favorite.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Organic Materia Medica. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Second Edition. With Two Hundred and Forty-two Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxxix–511.

The Induction Coil: its Varieties and the Differential Indications for their Use. By A. D. Rockwell, M. D. [Reprint from the "Medical Record."]

Fourth Annual Report of the Secretary of the State Board of Health of West Virginia (preliminary), for the Year ending December 31, 1884.

Correspondence.

LETTER FROM BOSTON.

The Boston City Hospital.

BOSTON, *February 9, 1885.*

THE old saying in regard to the holders of hospital appointments, that "none resign and few die," does not hold true of the Boston City Hospital. The *medical* staff has changed pretty constantly ever since the date of its organization, so that at present only two of the original appointees remain on duty. With the *surgical* staff, however, it has been different. Previous to last year the latest appointee was Dr. George W. Gay, who has held the position of junior surgeon for about twelve years; but during the past few months three vacancies have occurred.

The first change was by the resignation of Dr. William Ingalls, who during the war rendered faithful and meritorious service as medical director in one of the army corps of the Army of the Potomac. The vacancy caused by his resignation was filled by the appointment of Dr. W. P. Bolles, who has been connected with the hospital as house surgeon, pathologist, and surgeon to out-patients, for many years. Within the past month two more vacancies have occurred. One was caused by the resignation of Dr. W. C. B. Fifield. The other vacancy was caused by the death of Dr. William H. Thorndike.

Three years ago, while performing an operation, Dr. Thorndike poisoned his hand, and lymphangitis and cellulitis followed. After a long convalescence he was able to attend to his business, but never with the same energy as before. He had been troubled with a cough all the winter, but continued about his work till he contracted pneumonia, from which he died within forty-eight hours of the premonitory chill.

Dr. Thorndike was known all over New England as a skillful operator; in fact, many of the boldest operations ever done in our city were performed by him.

The vacancies caused by Dr. Fifield's resignation and Dr. Thorndike's death have been filled by the appointment of Dr. Edward H. Bradford, whose name is familiar to the readers of the Journal through his contributions to orthopædic surgery in your columns, and that of Dr. Abner Post, Associate Editor of the "Boston Medical and Surgical Journal."

Both these gentlemen have been surgeons to out-patients, and were considered in the line of promotion. The vacancies in the Out-Patient Department have been filled by the appointment of Dr. M. F. Gavin, who for seven years has occupied the position of trustee to the hospital, and by that of Dr. H. L. Burrill, formerly house surgeon to the hospital, and of Dr. F. H. Watson.

Changes have recently been made in the manner of appointment in the Out-Patient Department of the hospital. Before, in the special departments (except the ophthalmic and gynæcological), there was a physician who had charge throughout the year, and an assistant who did the work when his chief desired it. Now the trustees have made these "assistants" "associates," having equal privileges, seniority being the only difference.

Heretofore the management of the hospital has been kept tolerably free from political interference, but the present indications are that the politicians will have the naming of three incoming trustees, who will conduct the institution not so much as a hospital as a party machine.

In the past the power of selection for staff appointments has been vested in the staff, they sending two names for each position to the trustees, who confirmed the appointment of one of the two selected, generally taking the first name presented. The amendment of rules changing this privilege, and giving the power wholly to the trustees, can only be made by a three-fourths vote of the trustees, and, as this body stands to-day, it can not be done, a number believing that the hospital staff can better manage its own affairs without any outside help, while others, the minority at present, think that new appointments come from too limited a circle. The reigning party in the present city government desires to appoint to the vacancies men who will vote for this change. There is, however, a split in the party which has the majority, and in other city appointments the minority, with a few disaffected from the other side, have controlled matters; and, as the same factors are to be employed in the appointing of two of the three trustees, the fight is watched with interest by those who have the welfare of the institution at heart, for the future control of the hospital depends upon the issue.

LETTER FROM WASHINGTON.

Medical Legislation.— Young Women at Clinics.

WASHINGTON, *February 9, 1885.*

THE results of medical legislation this winter have, up to this time, been entirely negative. The bill of the most interest to the profession—that providing for the erection of the Army Medical Library and Museum—still slumbers on the Speaker's table, which this session promises to be a mausoleum for the waifs lying thereon. Mr. Stockslager, the Chairman of the Public Buildings Committee, has been successfully antagonized by Mr. Randall, the Chairman of the Committee on Appropriations, and the opportunity has thus been cut off by which the bill could have been brought up. As there remain only twenty days for legislation, its prospects look dark; although a determined effort may bring it up, medical men interested in this great national library should make themselves heard on the question now.

The Health Conference bill has again been introduced into the House, this time by Mr. Ward, of Indiana. The bill was referred to the Committee on *Agriculture!*

Coeducation of the sexes prevails here. At a surgical clinic at one of the hospitals recently there were four young ladies present with the class. The subjects for instruction on that occasion were three cases of fistula in ano and two of phimosis. The fistulæ were cut, and the elongated prepuces duly abbreviated in the presence of the class, but the young women, it is said, have not since been regular attendants.

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NEW YORK, SATURDAY, FEBRUARY 14, 1885.

ABDOMINAL SURGERY IN GENERAL HOSPITALS.

A late number of the "Lancet" contains a brief and unassuming article by Mr. J. Greig Smith, of Bristol, in which he mentions twenty-five laparotomies, performed in the infirmary of that place, with only one death, and that due only indirectly to the operation. The writer states that the operations were done in the general operating-theatre, and no restriction whatever was put on students or visitors who might care to be present; but he adds this important statement, that "in all these cases *Listerism was observed in its fullest details.*" This short paper is only one of many such as are hidden away in medical journals, and do not receive the thoughtful attention of readers, merely because so small a number of cases is reported. It is a great mistake to infer that because a man reports only a few cases his deductions may not be quite as valuable as those drawn from the results of a long series of operations. In proof of this the reader is referred to an elaborate paper by Terrier (in the "Revue de chirurgie" for January), founded upon his last twenty-five cases of ovariotomy.

The point in Mr. Smith's statistics is that they seem to form a powerful argument in favor of Listerism, especially in peritoneal surgery. If this were an isolated case we might ascribe the English surgeon's success to his good fortune, or to the fact that he "chose his cases," but the practice of performing laparotomy in general hospitals is one that has become quite common in our own country. If the truth were known, the statistics are not bad either. Mr. Tait appeared to think that there was need of more centralization, so to speak, in our abdominal surgery, but he might have added that there was need of more cleanliness. Probably no surgeons understand the principles of antiseptics better, and carry them out worse, than Americans. Fluctuating as they do with every change of foreign opinion, now for, and now against certain systems, it is not always easy to tell to which system of antiseptics they give the preference. Some operators have abandoned the spray entirely, others employ it in an irregular and half-hearted way, and many who believe in it feel called upon to apologize for their attachment to an ancient superstition.

It is not our intention to engage in the old discussion of the merits and demerits of Listerism, but we simply desire to put this question: If in large general hospitals, in which the hygienic surroundings are none of the best, abdominal sections are not only daily performed, but, through strict attention to antiseptics, are successfully performed, is it not well to give the patient this chance on *every* occasion? Mr. Thornton has been sneered at because he insists on excluding from his operations spectators who have been exposed to septic influences, but the majority of American operators not only do not guard against this danger, but do not try to neutralize the evil results by such a simple means as the spray. No matter if a man does report a brilliant series of cures without the use of a single germicide, there is such a thing as doing one's whole duty to the patient, and, by a few simple precautions, at least increasing her chances of recovery. The statistics of general operators should not be disregarded by specialists, since the lesson is a most valuable one.

ABSCESS OF THE LIVER.

This affection seems to have attracted considerable attention of late, not only in New York but abroad.

From the fact that Dr. Janeway, whose article we published in the last issue of the journal, refers to eight cases which came under his observation within a period of a few months, we should be inclined to draw the inference that the statement made in Reynolds's "System of Medicine," that "suppurative inflammation of the liver is a rare disease in temperate climates," is not strictly true, especially as Dr. Janeway informs us that he has met with two other cases since his paper was written. Dr. Janeway, contrary to a recent Italian writer, refers many cases of suppurative hepatitis to a traumatic origin. The latest foreign communication upon this subject is contained in an article by Ughetti, in the "Rivista Clinica," entitled "L'Epatite Suppurativa." After an elaborate study of the disease from all standpoints, and a careful analysis of a large number of published cases, the author draws the following conclusions, some of which appear to be at variance with those of Dr. Janeway: Suppurative hepatitis is not a rare disease in southern Italy; traumatism is the *rarest* cause of abscess of the liver, dysentery being the most frequent. In case of doubt it is always better to practice exploratory puncture; a radical operation should be at once resorted to as soon as the diagnosis is confirmed. It is not necessary to secure peritoneal adhesions before incising the abscess.

Whatever differences of opinion there may be as to the ætiology of suppurative hepatitis, it seems to be pretty generally agreed that the true treatment is a prompt evacuation of the abscess, with the establishment of free drainage. As Dr. Janeway justly points out, the question turns principally upon the matter of diagnosis, as the condition is frequently very obscure. Doubtless many cases of abscess of the liver have gone unrecognized by observers not possessed of his acumen.

THE POSITION OF FOREIGN MEDICAL STUDENTS IN PARIS.

The French medical journals, having agitated themselves to no purpose over the question of whether women should be admitted to the competitive examinations at the hospitals, have now developed an equal amount of warmth in regard to the propriety of allowing foreign students the same privileges that are accorded to Frenchmen. The "Union médicale" displays a degree of liberality, as well as common sense, that does credit to that excellent journal; but we have observed sentiments

expressed by one of the other Paris journals which were marked by a very narrow and selfish tone. The effect of some of these absurd utterances, if they should ever become embodied in the form of laws, would be to destroy whatever of prestige the Paris School of Medicine still possesses in the eyes of foreign students, and to add to the rapidly increasing numbers of those who are deserting the French school for the more liberal institutions of Germany.

It would certainly be just to oblige all foreigners to contend for prizes under precisely the same conditions as the native students; but to proscribe foreigners entirely from the *internat* would be a narrow policy, and one that would tend to rob Paris of whatever influence she now possesses in the medical world. We can not believe that this is the policy of a free-hearted, generous nation.

THE SANITARY CONDITION OF ST. LOUIS.

An interesting pamphlet upon this subject has been published by the Commercial Club of St. Louis, in which cholera epidemics are traced directly to impure water. A careful study is made of the sanitary condition of the city, and the ground is taken that St. Louis is not prepared for a visitation of Asiatic cholera, or rather is "prepared in the same sense that a city built wholly of wood is prepared for an outbreak of fire."

The means to be adopted for the prevention of the disease are thus summarized: All wells should be sealed up when it is possible, those which are left being carefully examined. In districts where sewers are not accessible, earth-closets or water-tight vaults, which can be readily emptied, should be the only ones permitted. Free public hydrants should be established in tenement-house districts. "In time of cholera," it is justly remarked, "it would certainly be cheaper to give the people water for nothing than to let them drink from wells."

Appended to the pamphlet is a useful table showing at a glance the total death-rate in various large cities of England and the United States in the epidemics of 1849, 1854, 1866, and 1867. The entire purport of this little paper goes to show that the sanitary engineers of St. Louis have resolved to make thorough work with existing evils in their city.

MINOR PARAGRAPHS.

KOCH'S LABORATORY.

A correspondent of the "British Medical Journal" writes an interesting letter upon this subject, which furnishes quite an insight into the routine work in the celebrated German bacteriologist's laboratory.

Dr. Koch is described as giving his personal attention to his students, who are nearly all his own countrymen. The class is small, and each man is expected to devote his entire time to the work. Teacher and students live together in the most intimate manner, and the former is said to be always kind and attentive. Not to quote in detail the methods of research in the laboratory, it may be enough to add that they are such as require a considerable knowledge of bacteriology, and hence the course is not one which is adapted for a novice.

"The few foreigners," says the writer of the letter, "who have had the privilege of obtaining permission from the German Government, are unanimous in their appreciation of Dr. Koch's obliging conduct, and of the immense amount of knowledge that they have acquired."

MEDICINE IN JAPAN.

We have received a unique little publication containing the transactions of the "Sei I Kwai," or Society for the Advancement of Medical Science in Japan, which gives a very favorable view of the progress of the healing art in that country. The first eight pages of the pamphlet are in English, the remaining fifty being in Japanese. The society is in a flourishing condition, possesses a library and museum, and numbers eighty-six members. The editor urges very strongly the advisability of encouraging the study of medicine in foreign languages, especially in English and German, since it will "hasten the coming of the time when Japan may begin, in a measure, to repay the debt that she owes to the Western world for the wealth of learning made available to her."

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 10, 1885:

DISEASES.	Week ending Feb. 3.		Week ending Feb. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	0	0
Typhoid Fever	6	3	5	3
Scarlet Fever	95	10	89	19
Cerebro-spinal meningitis	6	6	7	6
Measles	163	35	107	33
Diphtheria	67	26	47	24

The Abuse of Medical Charity.—Dr. C. E. Nelson invites the general practitioners of New York to attend a meeting, to be held at his house, No. 109 East Thirty-fifth Street, on Wednesday evening, February 18th, at half-past eight o'clock, to consider this question.

"Gaillard's Medical Journal."—We learn that the publication of the journal founded by the late Dr. Gaillard will be continued by M. E. & E. W. Gaillard, who announce that they have secured an able corps of collaborators.

Dr. E. C. Spitzka has resigned the professorship of neuro-anatomy at the New York Post-Graduate Medical School and Hospital.

An Outbreak of Rinderpest in Poughkeepsie having been reported to the State Board of Health, the Assembly has granted an appropriation of $5,000 to be used in suppressing the disease.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 1, 1885, to February 7, 1885:*

Waters, William E., Major and Surgeon. Granted leave of absence for one month. S. O. 24, Department of the East, January 31, 1885.

Wilson, William J., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon to Fort Preble, Me. S. O. 27, Department of the East, February 5, 1885.

Woodruff, Ezra, Captain and Assistant Surgeon. Ordered from Willet's Point, New York Harbor, to Department of Dakota. S. O. 30, A. G. O., February 5, 1885.

Taylor, Marcus E., Captain and Assistant Surgeon. Ordered to Department of the Missouri. S. O. 30, A. G. O., February 5, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service—January 1 to February 7, 1885.*

Stoner, G. W., Surgeon. When relieved, to proceed to Washington, D. C., for duty as chief of Purveying Division, January 16, 1885.

Benson, J. A., Passed Assistant Surgeon. When relieved, to proceed to Chicago, Ill., for duty, January 12, 1885.

Carmichael, D. A., Passed Assistant Surgeon. When relieved, to proceed to Cairo, Ill., for duty, January 3, 1885.

Ames, R. P. M., Passed Assistant Surgeon. When relieved, to proceed to New York, N. Y., for duty, January 14, 1885.

Urquhart, T. M., Passed Assistant Surgeon. To proceed to Norfolk, Va., and assume charge, January 12, 1885.

Brooks, S. D., Assistant Surgeon. To proceed to Evansville, Ind., and assume charge, January 14, 1885.

Carrington, P. M., Assistant Surgeon. To report to Surgeon-in-Charge, St. Louis, Mo., for temporary duty, January 17, 1885.

Long, W. H., Surgeon. Relieved at Detroit, Mich., to proceed to Chicago, Ill., and assume charge, February 4, 1885.

Godfrey, John, Passed Assistant Surgeon. To proceed to Vicksburg, Miss., and Memphis, Tenn., as inspector, February 6, 1885.

Bennett, P. H., Assistant Surgeon. To assume temporary charge of the service at Detroit, Mich., February 4, 1885.

Williams, L. L., Assistant Surgeon. To report to the officer in charge at Detroit, Mich., for temporary duty, February 7, 1885.

Resignation.

Miller, T. W., Surgeon. Resignation accepted by the Secretary of the Treasury, to take effect March 1, 1885. February 4, 1885.

Promotions.

Stoner, G. W., Surgeon. Promoted and appointed Surgeon by the Secretary of the Treasury, from January 16, 1885. January 14, 1885.

Godfrey, John, Passed Assistant Surgeon. Promoted and appointed surgeon by the Secretary of the Treasury, from March 1, 1885. February 6, 1885.

Appointments.

Carrington, Paul M., M. D., of Georgia, having passed the examination required by the regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, January 16, 1885.

Williams, L. L., M. D., of South Carolina, having passed the examination required by the regulations, was appointed an assistant surgeon by the Secretary of the Treasury, February 6, 1885.

Society Meetings for the Coming Week:

Monday, *February 16th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians, New York; Hartford, Conn., City Medical Association.

Tuesday, *February 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *February 18th:* Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

Thursday, *February 19th:* New York Academy of Medicine; Roman Medical Society, New York (private); New Bedford, Mass., Society for Medical Improvement (private).

Saturday, *February 21st:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

Dr. Edwin S. Gaillard, whose death we briefly chronicled last week, had been a resident of New York for about five years, but during that brief period he made himself felt among the few whom his journal, the "Richmond and Louisville Medical Journal," had not before reached. For many years that journal was a power in the profession, more particularly in the southern and southwestern portions of the country. After it was transferred to New York, when its name was changed to "Gaillard's Medical Journal," it continued to exercise no small influence. We are glad to learn that its publication will be continued, a number of the deceased editor's colleagues having chivalrously volunteered to contribute to its pages.

Edwin Samuel Gaillard, M. D., LL. D., was a native of South Carolina. He was born in 1827, and received his academic education at the University of South Carolina. In 1854 he took his medical degree from the South Carolina Medical College, and in 1873 he received the degree of LL. D. from the University of North Carolina. During the late civil war he served with the Confederate army, and, after the close of the war, he established himself in practice at Richmond, where he founded the "Richmond Medical Journal." He subsequently settled in Louisville, where he continued the issue of his journal under the title of the "Richmond and Louisville Medical Journal." During his residence in Louisville he was at different times connected with two of the medical colleges of that city as a member of the faculty. After he came to New York the state of his health was such that for most of the time he was able to do little more than his editorial work.

Dr. Gaillard's personal qualities caused him to be held in warm esteem by those who knew him, and his professional acquirements commanded the respect of thousands who never had the pleasure of meeting him face to face. As an editorial writer he was a man of great power, and, as he combined the functions of editor and publisher, he was undoubtedly possessed of good business qualities.

Letters to the Editor.

THE MYSTERY OF THE ST. LOUIS CHOLERA MORBUS.

To the Editor of the New York Medical Journal:

Sir: The truth is that St. Louis is very much afraid of New Orleans, and with much show of justice. The cholera of 1848 and 1849 was landed in New Orleans as early as December 2, 1848, and the steamboat Amaranth brought it from there to St. Louis on December 27th, having thirty cases on board. On January 2, 1849, the Aleck and St. Paul arrived, one with forty-six cases, the other with twenty-six. From this beginning, and other arrivals, there were 4,317 deaths in 1849, 838 in 1850, 845 in 1851, and 802 in 1852. Cholera was scarcely absent from St. Louis a single month, summer or winter, during those four years. The great emigration to the gold fields in California was going on, and St. Louis was the grand starting-point for the trip over the plains.

There was no cholera in St. Louis in 1853, but in 1854 it was again brought up from New Orleans, and no fewer than 1,534 lives were swept away. Then she was free till 1866, when she received it both from New Orleans and from New York, and

had 3,527 deaths, and 684 in 1867. Up to this time St. Louis had few or no water-closets or sewers, and depended almost exclusively upon surface wells for her water supply.

In 1873 cholera was imported into New Orleans as early as February 9th, and the St. Louis health authorities reported 3 cases of fatal cholera morbus in May, 35 in June, and the absurd number of 210 in July, while in August they reported 109 deaths from cholera morbus and 80 from cholera, not Asiatic; and in September 50 deaths from cholera morbus and 12 from non-Asiatic cholera. Quite late they admitted 392 deaths from Asiatic cholera, while others counted up 685.

St. Louis still has over 20,000 surface wells, although it has an abundant supply of hydrant water which the people are not obliged to take. It also has an equal number of out-door privies, and, although it is reasonably well sewered, the citizens are not forced to have water-closets with sewer connections. Hence the best citizens and medical men fear cholera, and also do not trust their health officers. They are making a determined effort to have all out-door privies and surface wells suppressed.

J. C. PETERS, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 27, 1885.

The President, Dr. R. F. WEIR, in the Chair.

Epithelioma of the Penis.—Dr. C. K. BRIDDON presented a man forty years of age, who submitted to amputation of the penis by one of his colleagues in the Presbyterian Hospital in August, 1884. The operation was performed a short distance behind the glans. In October following, the patient entered Dr. Briddon's service at the hospital, and, on examination, it was found that there was a return of the disease in the stump, with induration of some of the inguinal glands. Dr. Briddon amputated the penis, according to the plan devised by Demarquay, by making two elliptical incisions, circumscribing the penis at the root and terminating in the peritonæum just in front of the anus. The perineal portion of the spongy urethra was then dissected from the corpora cavernosa, turned down, and stitched to the margin of the perineal wound about an inch in front of the anus. The penis, was then drawn forward and dissected from the pubes, hugging the front of the bone closely with the knife, and cutting off the crus from the ramus on either side. Dr. Briddon suggested that this step in the operation would be improved by hugging the crura of the penis with the knife as they joined to form the covering of the body, as in that way a greater length of blood-vessels would be insured outside the triangular ligament. The indurated inguinal glands were removed at the same operation. Union was retarded by faulty drainage. There was already evidence of return of the disease in the stitch-holes in the inguinal region, and possibly just above the scrotum, but whether the induration above the scrotum depended upon a return of the disease, or whether it was due to the induration surrounding the sinus which had existed for some time, he was not prepared to say, although it was probably due to the former. The patient experienced no difficulty in passing his urine, although he was obliged to take a sitting position when he emptied his bladder.

Dr. W. T. BULL referred to a case which he reported to the society about a year ago, in which precisely the same operation had been performed, and in which, although the inguinal glands were enlarged upon both sides, and were indurated, they disappeared altogether very soon after the operation. Already a year and a half had elapsed since the operation, and there had been no recurrence of the disease.

A Case of Gunshot Wound of the Intestines treated successfully by Laparotomy with Suture of the Intestines.—Dr. BULL then read a paper with this title. [See page 184.]

Dr. H. B. SANDS considered Dr. Bull's case to be one of great value as a contribution to abdominal surgery, and as calculated to encourage a resort to operative measures in the treatment of penetrating gunshot wounds of the abdomen. Of course, it was desirable to avoid abdominal section, if possible, in desperate cases, and in cases in which spontaneous recovery seemed probable. In Dr. Halsted's case the operation was not undertaken with much hope of saving life. The most important question relating to practice was, how should the doubtful cases be excluded? The evidence of penetration of the intestine was in most cases uncertain. In very few instances, so far as his experience and knowledge went, even where the intestine was perforated, was there a demonstration of the fact by an escape of fæces or intestinal fluid from the opening in the abdominal wall. Dr. Bull, in his case, did not seem to have satisfied himself by probing that the bullet had even entered the abdominal cavity. On the other hand, there were some cases in which there was every reason to suspect that a bullet had perforated the hollow viscera within the abdominal cavity, but in which some doubt was afterward felt on this point in consequence of the prompt recovery of the patient. Dr. Sands would like to ask Dr. Bull what symptoms convinced him that his case was one of perforation of the intestine. If, in doubtful cases, this point could be settled, it might be the duty of the surgeon, in the light of the success obtained by Dr. Bull, and in view of the almost uniform mortality of such injuries, to open the abdomen, a procedure which might afford the only means of saving life.

Dr. BULL thought it was generally acknowledged that it was impossible to name any particular symptoms which indicated positively that the intestine had been wounded. It had been stated by authors that if there was general tympanites, and blood escaped by the rectum, one could infer that the intestines had been wounded. A large number of authorities had stated that there was no way to determine whether or not the intestines had been perforated. Dr. Parkes, of Chicago, in a paper read before the American Medical Association, in which he detailed the results of a series of experiments performed on animals, had stated that, as a result of his experiments, it was impossible to form any conclusions from the symptoms as to the direction in which the bullet had gone, or as to the amount of damage which it might have done, except within certain limitations. Dr. Bull thought it not right to say that, in the absence of symptoms, the intestines were probably uninjured. These considerations, and the fact that in this man's case it was uncertain whether the wound entered the cavity of the abdomen or not, had led him to explore the bullet-wound first, and, when it was found that the wound did enter the abdominal cavity, the abdominal section was made. It seemed to him that the difficult question was not so much what kind of cases we were to operate in, as what kind of cases it was not desirable to operate in. Dr. Halsted had mentioned a case which was a very desperate one from the first, but, at the same time, it was one of those cases which would certainly have terminated fatally without interference, and he thought interference in such cases was justifiable if there was a prospect that the patient could sustain the operation. This was difficult to determine. Therefore, given an abdominal wound, with the patient in good condition, without any symptoms which enabled the surgeon to determine whether or not the intestines had been perforated, he believed it proper to first explore the wound, and, if the wound was found

to enter the peritonæum, to also enter the peritoneal cavity by operation, and endeavor to remedy the damage done.

Dr. L. A. Stimson asked if laparotomy had ever been successful after fæces had been extravasated into the abdominal cavity.

The President was under the impression that such cases were on record. The president also remarked that it was difficult to form an opinion with reference to the amount of damage done in cases in which the symptoms of collapse were very marked, as in Dr. Halsted's case. The second case reported by Dr. Bull was one in which he assisted the operator, and also in deciding the question as to whether or not the operation should be performed, and he readily recalled the difficulty in reaching a conclusion as to whether the shock came from injury of one of the viscera or from hæmorrhage. He thought it utterly impossible to determine this question positively, and believed it to be justifiable to make an exploratory incision and examine with the fingers; or, better still, in cases of suspected hæmorrhage, to introduce a small sponge attached to a sponge-holder.

Dr. Sands would like to inquire of the surgeons of the Presbyterian Hospital who might be present as to the exact nature of a case in that institution which was supposed to have been one of perforating wound of the stomach, and in which the patient recovered without operation. If it could be proved to have been a case of perforation of the stomach or intestine, it would show that nothing could have been gained by surgical interference. He thought it impossible at present to formulate our experience so that it would enable us to determine positively when to operate.

Dr. Stimson thought it possible that a ball of small caliber could perforate the stomach without causing an escape of the contents of the stomach into the peritoneal cavity.

Dr. Briddon remarked that there was a class of cases in which it was doubtful whether or not the operation of laparotomy should be performed, and one question to be decided was, whether perforation of the intestine had taken place. At one time he had regarded shock as a very important symptom in deciding this point, but had subsequently given it up, inasmuch as the condition of shock varied so much in different individuals.

Dr. Bull said that in the class of cases referred to by Dr. Briddon, if the intestines were not found perforated after an exploratory incision, he would not consider that the patient's chances had been very much impaired by the operation. If the gut was not damaged, no special harm would be done by making an exploratory incision, and if it had been perforated there were many chances in favor of recovery after the operation. He thought that his attempt in the case which he had reported was influenced by the history of a case which he had seen four or five weeks before this patient came under his observation. It was that of an Italian woman, thirty-five years of age, who was shot in the belly, the ball entering just below and to the left of the umbilicus, and in which there was no more evidence of damage done to the contents of the abdominal cavity than in the case of the patient upon whom he operated. For a week no one was able to say whether or not the woman had peritonitis, but gradually symptoms increased, and she had well-marked suppurative peritonitis. An abscess formed near the [illegible] and extravasation of fæces took place, secondary [illegible] with the loss of only about two ounces of blood occurred from the epigastric artery, and the patient died. At the autopsy it was found that the intestine had been perforated by the ball at only two places, one in the sigmoid flexure, and the other in the ileum. As soon as he learned the result of the autopsy, it occurred to him that there were but two wounds of the intestine that the patient was in good condition when she entered the hospital, and that abdominal section with such trifling lesions to deal with would have offered every chance of success. If he should see such a case to-morrow, he would feel that the best advice he could give would be to have an exploratory incision made. He thought that, if the members present would recall autopsies in cases of gunshot wounds, they would find that the number of perforations in some of them had been very small, and also that it was doubtful if a case of recovery could be recalled where there had been undoubted clinical evidence of intestinal perforation.

Dr. Sands said that in cases like those mentioned by Dr. Bull he should feel very strongly inclined to follow the practice which he had adopted. In Dr. Hinton's case, in the Presbyterian Hospital, the bullet, which was a small one, entered from behind, and it would have been almost impossible to follow its track through the tissues which it penetrated; but where the wound was in front it could be readily explored, and the operative procedure adopted by Dr. Bull would doubtless commend itself as judicious. He would be disposed to operate promptly in such cases as these, as a preventive measure, rather than to perform laparotomy in cases in which the patient was apparently in a hopeless condition.

Dr. T. M. Markoe said that, on the other hand, it was but right to take up the opposite view of the question. He remembered a patient who had been brought to the New York Hospital some years ago, a sea-captain who had received a pistol-shot wound while attempting to suppress a mutiny. He was standing upon the rail of his ship, and the mutineer was below him, so that probably the bullet entered the abdomen from below upward. It entered upon the left side, midway between the umbilicus and the superior spinous process of the ilium. The patient was brought to the hospital after considerable delay. There was no evidence of fæcal extravasation or hæmorrhage, and the shock was moderate. The patient was in exceedingly good condition. Peritonitis and death, however, were expected, but the case progressed from day to day without the development of peritonitis, and the patient recovered without a single bad symptom. To be sure, it might be said, and it had been said at the time, that it was a case in which the ball had evaded the hollow organs, and had slipped off somewhere to one side and become encysted; and who could settle the question whether or not internal organs were wounded? He simply mentioned the case because it was only fair to have both sides of the question presented.

Dr. Sands said the case mentioned by Dr. Markoe recalled to him one in which a bullet had been found encysted in the great omentum in the body of a dissecting-room subject. When the bullet was discovered a further examination was made in order to determine, if possible, the course it had followed, and a cicatrix was found in the back, over one of the lower intercostal spaces on the right side. There were also found adhesions between the opposed pleural surfaces, a cicatrix in the diaphragm, one on the upper, and another on the lower surface of the liver.

The President referred to a case which he had seen during the war, in which there was found a lodgment of a bullet in the omentum where it hung suspended in the abdominal cavity. He also remarked that the gunshot wounds which presented themselves in our civil hospitals were made at short range, and that experiments conducted on many cadavers in the late war showed that in nearly every instance such wounds involved the solid or hollow viscera. While opposing the usual principle and advocating a bolder treatment of penetrating gunshot wounds, he thought that Dr. Bull had laid too slight stress upon the danger of exploratory incision. He had been struck with that fact in laparotomies for intestinal obstruction, done by himself and witnessed in the practice of others, where the exploration

had made it necessary to take out the entire intestines in the hunt for the point of obstruction. He had not yet seen a case in which such a general overhauling of the intestines had been followed by recovery. He therefore thought it well to distinguish between exploration of the peritoneal cavity and exploration of its contents. With regard to Neuber's intestinal plug, he had for some time past, in order to be in readiness for such a case of internal obstruction, provided himself with several large-sized vaginal suppositories, together with several pieces of the largest-sized macaroni, to be used singly or in bunches, and sections of the finger-rolls used at dinners—to put into the intestines to stitch the gut over, and allow them to remain, to be dissolved subsequently. He had not, however, had an opportunity of using any of these articles. Treves's rubber bags, which he had shown at a former meeting of the society, were easily collapsed by an incautious puncture with the needle.

Dr. F. Lange remarked that, interesting and instructive as Dr. Bull's case was, it admitted the question whether, in this individual instance, the patient's life could not have been saved without operation. At the time of the operation the patient was in a fairly good condition, there was no evidence of peritonitis, and his general condition was such, seventeen hours after the injury, as to render it exceedingly probable that no extravasation of the contents of the gut had taken place. He would like to ask Dr. Bull if, taking into consideration the condition of the parts injured found at the operation, the closure of the small wounds by opposition of the gut and fibrinous deposits, and the nature of the exudation, he would regard the recovery of this patient as improbable without operative interference. Second, he would like to ask if Dr. Bull thought it possible that, a number of injuries of the intestine being present, there might have been some probability that manipulations of the gut could have reopened some of the bullet-holes, and allowed infection of the peritonæum to take place in consequence of the operation itself. His remarks did not in the least diminish the value of the operation so far as it was an exploratory operation, but the question was, What had the operation afforded? What did it do? It cleaned the peritoneal cavity, it was true.

Dr. Lange thought that the indications for an exploratory operation were far clearer in cases in which a short time after the injury the symptoms of peritonitis were present than in those in which they were absent for such a length of time as in the case reported by Dr. Bull.

Dr. Bull replied that it was impossible to say whether or not the wounds would have remained closed. Where so many wounds had been made in the intestine, even if no fæcal contents escaped at the time of making them, a sufficient amount of irritation would be produced to give rise to peritonitis, and there was, moreover, the liability of foreign matter being introduced by the bullet, which would produce damage entirely independent of the wound of the gut itself. He would say that in a patient with seven wounds in the intestines there were next to no chances of recovery by any conservative plan of treatment.

Dr. Briddon asked if eversion of the mucous membrane did not interfere with the process of repair, if the wounds were left alone.

Dr. Lange replied that it did, so far as the mucous membrane extended, but he did not see why the peripheral part might not be closed.

Dr. Briddon remarked that mucous membrane would not unite with the peritoneal covering, and, if such wounds were left to themselves, would not small abscesses form at the site of eversion?

Dr. Lange replied, Not necessarily.

Removal of the Uterus and its Annexa by Abdominal Section; Death on the Sixth Day from Peritonitis excited by the Presence of a Sponge.—Dr. Briddon presented a specimen, and read the following history of the case:

"N., aged twenty-seven, came under my observation for the first time on the first day of November, 1884, when I was furnished with the following history: She was delivered of her first and only child three years ago. She suffered on that occasion from post-partum hæmorrhage, and was informed by her physician that she had a tumor. Eighteen months subsequently she began to suffer from menorrhagia and metrorrhagia, which conditions increased so much that on several occasions there was great difficulty in controlling the flow. In July, 1884, she began to suffer from pain associated with the discharge of large clots. In October she became so much exhausted that she had to take to her bed, where I found her. She was a tolerably well-nourished, but much exsanguinated woman. An examination of her lungs, heart, and urine had yielded negative results. Inspection detected nothing but a very moderate prominence in the hypogastric region. Palpation discovered a tumor in the median line, which had the configuration of the uterus, and which reached to about the level of the umbilicus. Auscultation could detect no pulsation of the fœtal heart. Examination by the vagina found the os patulous and the cervix shortened, and the finger came in contact with a tumor apparently projecting into the cavity of the uterus. Bimanual examination made out that the vaginal mass was continuous with the tumor above the pubes. The diagnosis of submucous fibroma was made, and it was advised to use hypodermic injections of ergotin three times a week until the local conditions were favorable for enucleation.

"*November 29th.*—She had an attack of hæmorrhage of a very alarming character, which only yielded to the liberal use of ergot and the tampon. The condition of acute anæmia that followed this was of a very serious character, with intense thirst, vomiting, restlessness, and sighing respiration. At one time preparations were made for the intravenous use of salines. Nothing was retained but iced champagne, which was given continuously, and it was only by the most assiduous care of her attendants that she was tided over. Then it was determined, by the liberal use of such food and wine as she could assimilate, to prepare her for such operative procedure as might be necessary to prevent another hæmorrhage.

"January 1, 1885, her condition appeared to warrant a more thorough examination. A large tupelo-tent was introduced into the cervix, and in twenty-four hours she was etherized, when a finger introduced into the cavity of the uterus detected a pretty large tumor, which was continuous with the wall of the cavity. When the hand was introduced into the vagina, two fingers could be passed through the cervix and directly up to the left cornu, and when these two fingers distended the cavity of the uterus no tumor could be felt within, but bimanual examination proved that the tumor occupied the right side of the uterus and the corresponding broad ligament, and it was determined to remove the tumor by the abdominal section as soon as her condition appeared to warrant it. She was put upon nutritious diet and a liberal use of Burgundy.

"After the end of the first week in January the patient's condition appeared to warrant the contemplated interference. She was prepared by the usual aperient, and thorough personal disinfection; the room in which it was proposed to do the operation was properly prepared; the instruments, with a single exception, were boiled, brushed, and soaked in carbolic-acid solution; sponges, round and flat, were prepared a week before. A hypodermic of morphine and atropine was administered at 2.30, January 10th, and the patient was placed under the influence of ether.

"An incision was made in the median line from below the umbilicus to just above the pubes. After the arrest of hæmorrhage from a few bleeding points, the peritonæum was opened and the tumor exposed. It was found to involve the right side of the uterus, passing into the corresponding broad ligament. There was also found a small cyst in the ligament, and unconnected with the uterine tumor, also a cyst as large as a lemon in the left ovary. The tumor was held down in the pelvis so firmly that it was found impossible to lift it out until after ligation and separation of the broad ligaments. This division was made well outside the tubes and ovaries. Even after this liberation it was

found difficult to bring the supra-vaginal portion of the cervix into the view. A stout cod-line was then passed round the tumor and tightened by an écraseur so as to compress the cervix temporarily preparatory to the application of an elastic ligature, which was passed twice round and clamped. The cod-line was then removed, and the section of the tumor was absolutely bloodless. It was intended to transfix the pedicle above the ligature with some gilt steel acupressure needles, but they were not deemed sufficiently strong, and a trocar was used. This was the exception referred to in the statement that all the instruments had been scrupulously cleansed, the trocar was clean, and was in the carbolic-acid solution, but it had not been so thoroughly treated as the others. There was nothing to clean out of the peritonæum save a little blood from stitch-holes, and that was absorbed by a flat sponge. The abdominal walls were brought together by silk sutures. There was some little difficulty in placing the stump outside the walls; it was well dusted with iodoform, and twelve layers of fifty-per-cent. iodoform gauze were used in the dressing, supplemented by a quilt of bichloride jute.

"The tumor weighed three pounds. It was of a soft, succulent character—so soft, indeed, as to convey the impression that it was fluctuant, probably of the myxomatous variety. A subsequent examination made out that it was a soft fibroma.

"On the day following the operation the condition of the patient was satisfactory; her pulse was frequent, and her temperature was 103° F., but her general appearance was good; she complained of some pain, due to the traction of the stump. She was given opium in moderate doses in the form of enemata, and a refrigerating coil was applied to the abdomen. On the second day her temperature was 102°; the vomiting had ceased. On the third day the temperature was down to 101°, and everything seemed hopeful. On the fourth day there was a very unfavorable change; her temperature went up to 104°. I made a very careful examination, and could find no cause. When I was informed of the change in her condition, I took a glass drainage-tube with me, supposing that there must be something confined within the cavity of the peritonæum that required an outlet. On removal of the dressing there was absolutely no evidence of anything that would warrant interference; there was no abdominal distension and no tenderness, and I supposed the symptoms must be due to blood-poisoning. She was given stimulants and hypodermics of morphine, and the refrigeration was kept up; but it was all in vain; the temperature came down a degree, but the heart failed rapidly, and she died on the morning of the sixth day.

"The following is the report of Dr. William Henry Porter, who made the autopsy, twelve hours after death:

"'The external abdominal wound was the only surface abnormity; the abdomen was opened by straight and elliptical incisions, so that the wound and attached stump were removed entire. The incision to the right of the wound bisected a small pocket of pus, which communicated with the operation wound by one of the stitch-holes.

"'*Thoracic Cavity.*—Heart and lungs normal, excepting a little fatty change in the former; weight of heart 13 oz. (4043 grammes), of lungs 24 oz. (746 grammes).

"'*Abdominal Cavity.*—No distension of abdomen, or undue accumulation of gas in intestines; no general peritonitis. Spleen firm and dark in color; weight 11 ounces (3421 grammes).

"'*Kidneys.*—Both glands larger than normal; weight of each 6 oz. (186 grammes); they are anæmic; capsules normal and non-adherent; underlying renal surface smooth; cut surface granular; cortex thickened.

"'*Microscopic Examination.*—The epithelial cells, both of the straight and convoluted tubules, showed the protoplasm to be in a state of fine granular metamorphosis. This had caused the cells to become swollen, and in many places the lumen was nearly closed by them. At other points the cells were becoming detached. The interlobular tissue was swollen and œdematous. The lesion is that of an acute parenchymatous metamorphosis of the renal cells, one which develops during the last few days or hours of life, and is often found at the necropsy. When the intestines were detached from the mesentery, at a point thirteen feet below the stomach, a collection of pus was found located in the last layer of the mesentery, and bound to the intestinal wall by fibroplastic inflammatory exudation. From this point down to the cæcum the small intestine and a part of the colon were in the pelvic cavity, and more or less glued together by inflammatory exudation. The recto-vaginal pouch was covered by a layer of recent deposit, and a very small amount of pus. The stumps left by excision of the ovaries were not inflamed. The inside of the wound bore evidence that the healing process was progressing favorably. One end of the elastic ligature external to the clamp protruded into the peritoneal cavity, possibly pulled through during evisceration.

"'In the iliac fossa, near the cæcum, a sponge was found seven centimetres in diameter. It was almost, if not entirely, encapsulated by inflammatory lymph.

"'The wound and stumps being in such good condition, and the pelvic inflammation being most advanced on the right side, points toward the foreign body as the cause of inflammation.

"'*Liver.*—Weight sixty ounces. It was slightly fatty; a few points resembling fat emboli, or commencing pyæmic foci, were found; the hepatic cells showed fatty infiltration and degeneration, also bile pigmentation.

"'The cause of death in this case may be ascribed to the original operation, peritonitis, and an overworked pair of kidneys.'

"The fatal flaw in the technique of this operation was the omission to count the sponges before the closing of the wound. I can not plead ignorance of the necessity for attention to so important a detail, for I was conversant with the accidents from such cause published in the literature of the subject. How it could have happened, surrounded as I was by my trustiest friends—men accustomed to deal with such cases—is more than I can tell."

Dr. Sands had recently heard of an instance in which a few months ago ovariotomy was performed, and one or two days after the operation unpleasant symptoms developed. It was then found that a sponge was missing; the surgeon opened the abdominal cavity and removed the sponge, the unpleasant symptoms disappeared, and the patient recovered.

Dr. Markoe referred to a case in which the accident of leaving a sponge in the bottom of a wound occurred in his observation. It was one of deep sinus of the popliteal space, which for many months had been treated by a medical gentleman by the use of sponge tents. Finally Dr. Markoe was called upon to operate. In order to facilitate following the track of the sinus, he injected the cavity with black ink for the purpose of staining every part of the tract, and at the operation he followed out every part of the sinus with the greatest care. The late Dr. Van Buren assisted him at the operation. No disease of the bone was found. Subsequently the case did very well, but the sinus remained as obstinate as ever, and after a time the gentleman went to Philadelphia, where he consulted one of the leading surgeons in that city, who recommended an operation and performed it, and in its performance disclosed the presence of a piece of sponge, as large as the smallest commonly used, which was lodged in the cavity and was surrounded by dense fibroplastic material. The foreign body was removed and the patient recovered. He had the satisfaction of dividing the responsibility with the gentleman, who had previously used sponge tents, as to who had left the sponge in the wound.

Dr. Stimson said there was a practical lesson to be learned from Dr. Briddon's case, as the accident was plainly the result of using a handful of small sponges for the purpose of holding back the intestines, instead of one large flat sponge.

Dr. Briddon remarked that his directions always were to use the small sponges only during the operation of making the incision in the abdominal wall down to the peritoneum. Then they should all be removed, and afterward the large flat sponge employed.

Dr. R. J. Hall asked if we were justified in assuming that an aseptic sponge left in the peritoneal cavity would cause peritonitis.

Dr. A. G. Gerster wished to add two cases, not on account of the fact that sponges remained in the wound, but because he was able to say that the sponges were not forgotten, but remained in spite of the wound being carefully explored for them. The sponges which he used were Florida sponges, prepared after the method of Keller, which had left some of them exceedingly brittle. After having removed the breast of one patient it was necessary to open deep into the axillary cavity. Sponges were packed into the deepest portion of the cavity during one part of the operation, and there one of them became so matted and united with the wound surface that, when the sponge was seized to be extracted, a portion of it separated from the rest of the sponge and remained behind, being of about the size of the last joint of one's thumb. The surface of this fragment was so smooth from the blood-clot inclosing it that it was not recognized on subsequent exploration of the wound with the finger. The external wound healed by first intention throughout. Everything seemed to be doing well, and at the expiration of ten days he withdrew the drainage-tube, which had been placed through a counter-opening made in the latissimus dorsi muscle. A day or so afterward high fever suddenly set in, without any apparent reason; but soon the nature of the disturbance was disclosed, for a fluctuating swelling, with redness of the skin, developed in the axillary region, and a large quantity of pus was evacuated, when the piece of sponge was discovered and removed. A similar instance had occurred to him in a case of extirpation of the rectum, where a portion of a sponge remained in the deepest part of the wound beyond the pelvic fascia. It resulted in the formation of an abscess in the prevertebral connective tissue, and the case terminated fatally by septicæmia.

The President remarked that it seemed that in Dr. Gerster's first case the sponge did no damage until it was exposed by the removal of the antiseptic dressing.

Dr. Gerster remarked that he would be rather inclined to believe that there were septic substances in the sponge which produced the trouble, although there was no suppuration before the dressings were removed. There was a case on record which he remembered to have read some years ago, reported by Volkmann, who once performed exsection of the hip joint and left a sponge in the acetabulum, which remained for a long time, causing no trouble whatever, but finally trouble was developed, and it was removed by operation four or six weeks after the performance of the exsection.

Dr. Briddon referred to the fact that this accident had occurred in one of Tait's cases, and that Tait referred to ten others in which it had happened.

The President remarked that a paper had recently been published in which twenty cases of the occurrence of this accident had been reported.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 5, 1885.

The meeting was called to order by the retiring president, Fordyce Barker, M. D., LL. D., who introduced to the Academy one of its ex-presidents, Dr. James Anderson; Dr. Theophilus Parvin and Dr. S. Weir Mitchell, of Philadelphia; Dr. John S. Billings, of the army; and Dr. George C. Shattuck and Dr. James R. Chadwick, of Boston.

Dr. C. R. Agnew offered a resolution inviting Professor Merriam, of Columbia College, to deliver a lecture before the Academy on the Temple of Æsculapius, which was adopted.

Dr. Barker then read his retiring address. [See page 141.]

The President's Inaugural Address. Dr. Abraham Jacobi, the newly elected president, then took the chair. He thanked the Academy for the extraordinary proof of its confidence that he would do all in his power to promote its welfare. After remarks of respect for Dr. Barker, he contrasted the manner of support of institutions like the Academy in this country with that of like institutions in Europe. Here the physician who worked for the building up of institutions for the promotion of science and the health of the public did so without pecuniary consideration from the Government, and while discharging the duties of the active practitioner. In this peculiar position he was constantly reminded of the aphorism, that the aim of all medicine was the promotion of the health of the people. This might be one reason why we were sometimes reminded that America had never produced a John Hunter or a Virchow, etc.; but it ought not to be forgotten that in all England there had been but one John Hunter, and in all Germany but one Virchow. But American medicine was not without its names of honor, which would not be forgotten so long as a medical literature existed. Many of the distinguished physicians of this country had been, or were still, members of the New York Academy of Medicine, and he suggested that such of the older members as were disposed to withdraw from its active duties, in deference to the younger and more active members, should not forget that those with wisdom and learning but without experience often listened with pleasure and profit to those with wisdom, learning, and experience. He hoped that soon, instead of only one or two sections of the Academy doing active work, all of them would be flourishing. The different medical societies of the city ought to hold their meetings in the halls of the Academy. The time would come when the medical profession would be the guardians of the public health, and would be consulted as to all legislation bearing upon sanitation. He expected the day to arrive when the president of the Board of Health would be appointed by the wise men in medicine; when no board of education or of charities would be complete without a medical member; and when the most improbable thing of all would arrive, that the public would acknowledge that the government of hospitals was not complete without medical advisers in their boards.

A consideration of medicine during the eighteenth century formed the main part of the president's address. Altogether, he said, the medicine of the eighteenth century exhibited a peculiar character. The first position had to be conceded to France, and he referred to such names as Bichat and Broussais; but at present France possessed few men whose names would go down to posterity. In England there was the great John Hunter. Germany, which had occupied the background, at the present time stood in advance of all other countries in scientific medicine. Medicine during the eighteenth century was in that unsettled state most suitable for the development of such senseless deceptions as homœopathy, etc., and, when pathology had advanced to some degree under Rokitansky and his followers, the public was in that position where it preferred the homœopathist's pill-box to the pathologist's post-mortem case.

The time recently had been, or rather now was, when a new theory in pathology could change the basis of all ætiology. It was not necesary that he should say he had in mind bacteriology. He mentioned the subject in this connection to direct the attention of the Academy to the importance of its aiding, as far as it could, the scientific settlement of this question which had now come to take such a strong hold on the minds of the profession. But music, doubtless, was a good thing, yet in Berlin, where fifty thousand or more learners were constantly thumping the keys of the piano, the people had lifted their voice in opposition, and pronounced piano-playing a nuisance. So bacteriology might be a very good thing, and all were willing to

hear the expression of the matured opinion of such authorities as Koch and his peers, but when fifty thousand self-constituted, but incapable, authorities were constantly calling our attention to newly discovered bacilli, which were alleged to be the cause of this or that disease until the next one came along, he thought it was also time here to cry "Stop!" The speaker then said that he thought bacteriology had too often to beg the question, and he then called attention to the fact that the symptoms arising from the chemical reaction of certain poisons resembled very much those of the infectious diseases which it was maintained were caused by vegetable organisms.

Before closing, Dr. Jacobi made a brief eulogy of medicine in this country, and said that the American medical man had received, appropriated, and digested the results of foreign scientific labor, to which he had also added his own. He felt as Holmes had written years ago, "I am too much in earnest for either humility or vanity."

Dr. Chadwick, of Boston, then read a letter from Dr. Oliver Wendell Holmes, directed to Dr. Barker, and also presented the latest photograph of Dr. Holmes, after which the Academy adjourned. [Dr. Holmes's letter will be found elsewhere in this issue of the journal.]

NEW YORK CLINICAL SOCIETY.

Meeting of December 26, 1884.

Dr. A. A. Smith in the Chair; Dr. W. Duncan McKim, Secretary.

Typhlitis.—Dr. Swift asked for the experience of the society as to the location of pain in the beginning of typhlitis.

Dr. Kelsey had usually found it over the right iliac fossa.

The Chairman said that in a case which he had had during the past summer the pain had existed all over the abdomen.

Dr. Swift then related the case of a patient who had several diarrhœal passages in the early morning, and when Dr. Swift saw him, a few hours later, general pain over the abdomen. There was no nausea, nor rise of temperature. The next day the pain continued. In the evening there was marked tenderness in the right iliac fossa, and the temperature was 101° F. The next morning the pain and tenderness were limited to an area of about two inches in diameter, over the right iliac fossa; the evening temperature was 101°. The pain and tenderness continued in this region for about five days, when the patient recovered. Just before the attack, a pill, containing cubebs, turpentine, and iron, had been taken, and Dr. Swift thought that this pill had lodged in the vermiform appendix.

Lodgment of Gunpowder in the Roof of the Mouth.—Dr. Delavan mentioned the following case: An Italian, suffering with tubercular laryngitis, who presented a pretty clear history of syphilis and of treatment with local applications of nitrate of silver, had several deep and extensive cicatrices just in front of the velum palati, also a number of blackish dots in the roof of his mouth. These peculiar spots Dr. Delavan found it hard to account for until he learned that the patient had once shot himself in the mouth and pharynx, in an attempt at suicide. The spots were evidently due to the lodging of gunpowder in the mucous membrane.

Obstruction of the Rectum from Pelvic Exudate.—Dr. Kelsey related the case of a patient who had perimetritis four years ago, since which time she had suffered from obstruction of the rectum. Before she came under Dr. Kelsey's care a small *bougie à boule* had been passed with difficulty. Dr. Kelsey was unable to pass the finger up the rectum. A large and distinct mass of pelvic exudation was found in Douglas's *cul de sac* and the uterus was immovable. A No. 4 rectal bougie was passed, the next day a No. 6, and the third day a No. 7 was passed up four inches from the anus. Dr. Kelsey was hopeful of keeping the rectum open by the constant passing of bougies. He stated that this was the only typical case of rectal stricture from external pressure which had ever come under his observation.

The Chairman thought that dilatation in such a case would sooner or later cause a fresh cellulitis, and so make the patient's condition worse than ever. He raised the question whether abdominal section could be of service in this case.

Dr. Abbe would prefer, if necessary, to make an exploratory abdominal incision rather than do a colotomy.

Fissure of the Anus.—Dr. Kelsey stated that for the past two years he had not been obliged to stretch the sphincter for fissure of the anus, but had used instead a weak solution of nitrate of silver—never of more than five or ten grains to the ounce. In a recent case the patient was cured by a single application of a ten-grain solution, and in another and very severe and obstinate case a cure was effected in three weeks by this method.

Dr. Abbe has cured cases by the application of the solid stick. He thought the principle was simply to supply a coating of coagulated albumin.

Septic Conjunctivitis.—Dr. McKim narrated the following case: As a lady was walking in the street one afternoon the contents of a garbage-barrel were emptied into a cart close on her left. A strong stench was noticed, but nothing more. Toward evening her left eye began to water, but no foreign body had been felt. The next morning the lids of the left eye were much reddened and swollen, and there was an abundant muco-purulent discharge. Careful search showed no foreign body. The right eye, as yet in a normal condition, was sealed. The next day, the patient having removed the sealing during the night, the right eye was found hyperæmic, and subsequently furnished a profuse muco-purulent discharge. The following day the daughter, who admitted having neglected the caution urged upon her in caring for her mother's eyes, was found with a double catarrhal conjunctivitis. A day later the husband had a mild, purulent conjunctivitis of both eyes. The interest of the history lay in the fact that the morbific agent, apparently derived from the garbage-barrel, seemed to have acted, not as a mechanical, but as a septic irritant.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of February 3, 1885.

The President, Dr. F. W. Bartlett, in the Chair; Dr. Frank H. Potter, Secretary.

Practice by Midwives.—The committee appointed to consider the advisability of regulating the practice of midwives for the city of Buffalo reported in favor of such regulation. This committee (consisting of Dr. Hartwig as chairman, Dr. H. R. Hopkins, Dr. William Ring, Dr. P. W. Van Peyma, and Dr. John H. Pryor) recommended that, in view of the serious evils connected with the practice of ignorant midwives, the Legislature be requested to pass a bill compelling the examination and licensing of midwives in and for the County of Erie. A rough draft of a bill was then presented providing for a board of examiners, and for the examination and registration of all persons other than physicians now practicing, or who should hereafter be desirous of practicing, midwifery in this county. It was the opinion of the meeting that the recommendations should be acted upon, and the bill was then referred back to the same committee, with instructions to arrange the matter in proper shape to be presented to the Legislature; to obtain legal advice, if necessary; and to report at a subsequent meeting.

Persons discharged from Asylums as not Insane.—Dr. William D. Granger read a paper upon this subject, the interest of which turned upon the relation of the profession to patients before their admission to an asylum. Before a patient could be admitted it was necessary that two physicians should be convinced that insanity existed, that they should make a sworn statement to this effect, and that this statement should be approved by a judge of a court of records. Every certificate must contain the words "*Is insane*," or the commitment would not be legal. Upon the patient and the certificate being presented at an asylum, the superintendent was obliged to receive him. There was no discretionary power in the matter. All the authorities agreed upon this point, and it was a just provision, both to the court, to the physicians, and to the patient. The patient having been admitted, it became the duty of the asylum physicians to make a full diagnosis and refer him to the proper ward for treatment. If full evidence of insanity was not present at the time of the first examination, it was the duty of the superintendent to keep the patient under close observation until a definite conclusion could be formed. This was necessary because the patient might have "concealed delusions, hallucinations, and illusions," and the first examination not suffice for their discovery. Then, again, the case might be of a paroxysmal character, and the patient be admitted during the intermission, when further observation would, of course, be necessary. Under this strict plan, no person was retained in an asylum who was not insane. In Utica, during the past forty years, 268 patients had been discharged as not insane, an average of 6·5 per annum. In Buffalo, during four years, 23 had been discharged, an average of 5·8 per annum. During the past year eleven have been discharged from Utica; from Buffalo, ten; and it would be observed that this was considerably above the average. Now, the discharge of these persons did not reflect any discredit upon the physicians who had made the certificates of insanity. The patients were generally found to be suffering from one of the following diseases: delirium tremens, dipsomania, meningitis, cerebro-spinal meningitis, hysterical mania, hysterical epilepsy, or active delirium from other causes which were obscure; and it might be questioned whether an asylum was not a proper place for them. Again, in the cases of persons coming from the poorer classes, the physicians had often to decide between the jail, where they found the patient confined, and an asylum, and wisely preferred the latter. This was certainly humane, and deserved commendation.

The term insanity, as interpreted by the law, might easily be made to include the diseases above mentioned. The last enactment upon this subject read as follows: "The terms 'lunacy,' 'lunatic,' and 'insane,' as used in this Act, shall include every species of insanity, and extend to every deranged person and to all of unsound mind, other than idiots." From this it appeared that the discharge of patients, suffering from the above-mentioned diseases, as not insane, did not reflect upon the skill of the physicians who had made the certificates.

The author then proceeded to consider how much truth there was in the sensational accounts of the attempted incarceration of sane persons in the asylums. He had recently noticed in a reputable newspaper of Cleveland, Ohio, a statement to the effect that half of the persons detained as patients in the lunatic asylums of that State were sane, and unlawfully kept in those institutions. Charges against the asylums, in this respect, had been made by newspapers in this State. It was hardly necessary to say to the members of this association that they were entirely unwarranted. In order to make it possible to incarcerate a sane person in an asylum, it was necessary to assume that the friends of the patients were designing, the physician who signed the certificate corrupt, the judge willing to be bribed, and the superintendent unscrupulous and dishonest. The conspiracy, as it was frequently called, involved too many absurd suppositions. As a matter of fact, an attempt of this kind was exceedingly rare, and was always discovered. During thirty years but three attempts had been made at Utica, and they had failed in the end. No attempt of this kind had been made at the Buffalo asylum.

The author also wished to compliment the profession on the character of the certificates presented at the asylum. They showed an amount of care and professional skill that was highly commendable. Only in a few instances was there anything wrong or objectionable found in them.

In the discussion, replying to Dr. Van Peyma, who asked where the line was drawn that divided sanity from insanity, Dr. Granger said that insanity was a *disease*. It was as absurd to say that every one was more or less insane as it would be to say that everybody had typhoid fever, or phthisis, or any other disease. Its diagnosis was to be determined by a knowledge of the physiology of the nervous system, and of the derangement produced in it by disease. That it was sometimes difficult to recognize this disease in its early stages or in its obscure forms was no more to be wondered at than the difficulty in recognizing incipient phthisis or any other disease that was subtle in its approach. It was often difficult to decide as to the sanity or insanity of a person, but the physician must be convinced of the presence of disease before he wrote the certificate.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of December 24, 1884.

Dr. John A. Wyeth, Chairman *pro tem.*

Dr. R. Van Santvoord presented specimens as follows:

Diphtheritic Croup.—In the first case the patient was a child, thirteen months old, an inmate of the Randall Island Hospital. Death occurred within about twenty-four hours after the inception of the throat trouble. The autopsy revealed false membrane about half way down the trachea.

Pleurisy, Pericarditis, and Pneumonia.—These specimens were from the body of a man who, two weeks before his death, complained of pain over the pericardium and shortness of breath. Subcrepitant râles, and afterward bronchial breathing, were heard over the lower lobes, the apex beat was in the nipple line, and the area of dullness extended beyond the area of impulse of the apex. It was noteworthy that such marked lesions should have escaped the attention of a competent diagnostician, who examined the patient several times. The autopsy revealed opacity of the arachnoid, excess of fluid in the cerebral cavities, with œdema of the membranes. A pint of fluid was found in the left pleural cavity, the left lower lobe was compressed, the left upper in a condition of gray hepatization, commencing to resolve, and the entire lobe œdematous; the right upper lobe was in a state of red hepatization, and the middle and lower lobes were in a less advanced stage of inflammation. The pericardium contained over eight ounces of blood-stained fluid, and its surfaces were coated with a moderately thick layer of lymph. The left ventricular opening of the heart would admit three fingers, the right four; the cavities were dilated, and the walls had slightly undergone fatty degeneration. There was a moderate amount of interstitial nephritis.

Dr. Van Santvoord presented several other specimens.

Dr. Ripley requested Dr. Van Santvoord to make the same statements to the society that he had made to him privately concerning the first specimen.

Dr. Van Santvoord said the point alluded to by Dr. Ripley

was one raised in the Academy of Medicine on the occasion of the reading of a paper on tracheotomy in diphtheritic croup by Dr. Winters. The author held that laryngeal obstruction caused congestion of the lungs and subsequent broncho-pneumonia, whereas Dr. Ripley held that stenosis of the air-passages leading to the air-cells produced emphysema and consequent anæmia. Dr. Van Santvoord said that Dr. Ripley's view was the one commonly accepted by pathologists, and that statistics showed that broncho-pneumonia was but exceptionally present in cases of death after tracheotomy for stenosis, the chest being usually over-resonant, and the lungs in a condition of emphysema. Consequently, Dr. Van Santvoord should say that the idea of preventing the occurrence of broncho-pneumonia was not an indication for tracheotomy in laryngeal stenosis. The specimen which he presented supported this view, and where broncho-pneumonia was present it had developed prior to the occurrence of diphtheria.

Dr. Ripley did not wish to prolong discussion on this subject at present, but would simply say that since the reading of Dr. Winters's paper he had obtained the results of three post-mortem examinations in croup which went to support his view as set forth by Dr. Van Santvoord, and in one of the cases he was present at the autopsy himself. The child had died of croup after tracheotomy, and in that instance the lungs showed no signs whatever of pneumonia, but, on the contrary, the air-cells were distended, and the lungs bulged out through the first incision into the walls of the chest.

Trypsin as a Solvent of Diphtheritic Membrane.—Dr. Chapin presented the lungs and tubes which had been removed from a child three years of age, dead of blood poisoning from diphtheritic croup. It had been suffering from a bronchitis, and, when after some days a diphtheritic patch developed on the tonsil, dyspnœa soon occurred, and demanded tracheotomy, which was done under difficulties. The child breathed easily after the opening had been made into the trachea and a false membrane had been expelled, but the next day dyspnœa began again, and in the afternoon was as severe as before the operation, although somewhat different in character. Dr. Chapin then threw trypsin into the tracheal wound by means of a coarse atomizer, and soon afterward the child again breathed perfectly freely. The use of the pepsin extract was continued during the night, but the child died the following day, not of dyspnœa, but of blood poisoning. The autopsy showed that the membrane in the trachea below the opening was partially digested, and he thought the relief to the obstruction in the deeper passages had been effected by means of the digestive properties of the trypsin. Dr. Chapin had not found tracheotomy in these cases a simple operation, and in the present one there was a marked rise of temperature and pulse after the tracheal opening had been made.

Dr. J. Lewis Smith had employed extractum pancreatis in six or eight cases, mixed with bicarbonate of sodium, and had found that the faucial and laryngeal membrane had disappeared much sooner than usual. He was not prepared to say whether the result was brought about by the trypsin or by the bicarbonate of sodium, or by both. In his opinion, we should perform tracheotomy even where there could be little hope of giving the child more than temporary relief, notwithstanding the possibility of increasing popular prejudice against the operation.

Dr. Wyeth said, with reference to tracheotomy being regarded as a simple operation, that in the last case in which he performed it for a foreign body in the larynx, it proved to be very difficult. The trachea in that case did not lie exactly in the median line.

Dr. Ripley hoped trypsin might prove successful in dissolving false membrane in croup, but his experience with solvents had not been favorable. In one instance, however, he poured lime-water into the tracheotomy wound by the teaspoonful at a time, and it had the effect of dissolving the membrane. He did not regard the entrance of a teaspoonful of liquid into the trachea as harmful; it would not reach the air-cells, and if it did it would do no harm. He had frequently noticed a rise of the temperature shortly after tracheotomy, but if the disease did not progress it would fall the next day.

Dr. W. P. Northrup had looked over the records of the New York Foundling Asylum, after the discussion on Dr. Winters's paper at the Academy, and found there had been sixteen autopsies after diphtheria with marked laryngeal symptoms, and in all the false membrane extended down into the smaller bronchial tubes, in one reaching within 1 cm. of the base of the lung. As far as he could remember, in about four of the cases there was marked pneumonia; tracheotomy was performed in about four cases, but twelve were entirely relieved of dyspnœa, some by means of a cannula inserted between the vocal cords.

Dr. A. Jacobi remarked that it was necessary to have the statistics of a large number of cases in order to establish facts regarding diphtheritic croup. Here he would call attention to the well-known fact that membrane in the trachea and bronchi manifested a greater tendency to become macerated than elsewhere. This was one reason why success had followed applications of lime-water, alkaline waters, extractum pancreatis, etc. A good many children suffering from croup died with symptoms similar to those which existed before death when tracheotomy was not performed. In other words, they died of stenosis, but the stenosis was of a different character. It was true that there was dyspnœa, and recession of the supra- and infra-clavicular and diaphragmatic regions, but the dyspnœa did not occur in the same degree as when uncomplicated laryngeal stenosis existed. In the latter form of respiratory obstruction the breathing was long-drawn and slow, whereas in the majority of cases of bronchial stenosis, due to descent of the croupous membrane, the respirations were shorter, more frequent, and more like those of pneumonia and bronchitis. Children suffering from these symptoms did not die alone of dyspnœa from stenosis, but of the accompanying pulmonary congestion, bronchitis, œdema, etc. He thought this fact should be taken into account in diagnosis, and also in prognosis after tracheotomy.

Dr. Ripley asked whether Dr. Jacobi meant that in laryngeal stenosis the respirations were slow.

Dr. Jacobi said he did.

Dr. Ripley thought it was a mistake. He had the record of over a hundred cases in which the respirations had been taken, and they were invariably hurried. This was true not only in croup, but also in asthma. It was true the respirations varied a little in secondary croup from what they were at an earlier period, but he did not think it was due to any inflammatory process, but rather to the fact that the obstruction to respiration was distributed more generally over the lungs, and more particularly to the fact that by this time the child had become exhausted. The apparent length of the respirations in stenosis of the larynx was due to the peculiar noise made as the air passed through the glottis.

Dr. Jacobi remarked that the statement which he had just made, that many cases must be observed in order to determine a point regarding croup, had another illustration; he had observed in several hundred cases of croup that in laryngeal stenosis the respirations were slow, whereas Dr. Ripley had observed in a hundred cases that they were hurried. Theory, he thought, would support his own view: a flask would become filled with a fluid less rapidly with a narrow than with a broad mouth, and the same fact was true, he thought, of the lungs; when laryngeal stenosis existed, it required a longer time for the air vesicles to become distended, and he did not think the child

would voluntarily shut off one respiration to make another when the lungs were not distended to their usual degree.

Difficulty of Diagnosis between Pleurisy and Pneumonia in Children.—Dr. J. Lewis Smith related the following case, and requested Dr. Northrup to give an account of the post mortem: An infant, aged eleven months, had for two months been ailing with whooping-cough. Ten days preceding the 24th of the month the bronchitis accompanying the whooping-cough became aggravated. Then, in addition to capillary bronchitis, there was an almost flat percussion sound over the right side of the chest except anteriorly, where the dullness was less marked. He supposed, therefore, that the child had pleurisy with effusion. The attending physician afterward aspirated the chest and failed to withdraw any fluid. Dr. Smith was obliged, then, to accept the probable diagnosis of pneumonia with thick fibrinous exudation over the lung. The difficulty often existed of distinguishing between pneumonia and pleurisy with effusion in children under fifteen months of age. In the present instance, as in many cases, no enlargement of the affected side could be noticed; not even bulging in the intercostal spaces.

Dr. Northrup then gave the results of the autopsy. The lungs were much more than usually compressed, and were slightly adherent anteriorly. In the pleural cavity was a pint of greenish-yellow fluid containing pus. The lung was so carnified that it scarcely rose to the surface of the water. Dr. Northrup said there were records of as many as from seventy-five to one hundred post-mortem examinations on the books of the asylum in which a mistake in diagnosis had been made between pleurisy and pneumonia in children.

The Chairman presented four specimens removed in operations upon the lower jaw of as many different patients.

Miscellany.

Oliver Wendell Holmes to Fordyce Barker.—At the last meeting of the New York Academy of Medicine, held February 5th, Dr. James P. Chadwick, of Boston, read the following open letter:

"Boston, *February 4, 1885.*

"My dear Dr. Barker: You must allow me to join my best wishes to those of the friends who will surround you as you take leave of the office which you have filled so ably and happily.

"I trust that you have not forgotten the day when you were with us at the opening of our Boston Medical Library. I know full well that we remember your presence, and how much it added to the pleasure of the occasion. Our Library Association, I hardly need tell you, has proved eminently successful—I want to say because you smiled upon its birth, but I dare not, for you have smiled upon a great many births, not every one of which, perhaps, has had the good fortune of the infant institution which you joined us in welcoming.

"You may have learned some of our secrets during that visit. Who knows? There are sparks of intelligence still left among us. At any rate, ever since you left Boston we have kept an eye upon you. As soon as it was learned that you had been spending some little time here, you were made president of the New York Academy of Medicine. As soon as you got back, for *some* reason, the Academy took a new start, and has been flourishing ever since. All my informants agree about the fact, and they add that it is due to your own faithful administration and energetic efforts.

"We of Boston congratulate our brethren of New York that they have had the great advantage of your services during these last eventful years. The gratitude of the medical profession will keep alive the memory of its past benefactors. We must trust the future for its *vis a fronte*, but in the broadest and loftiest period of progress the leaders will look back to the days of up-hill work when our honored friend lent all his vigor to that *vis a tergo* which they will feel pressing them forward to larger and higher achievements.

"Pardon me for addressing this open letter to you. You can retire 'to blush unseen' while some friend is reading it, if it is thought worthy of that honor. "Always faithfully yours,

"Oliver Wendell Holmes."

The Medical Society of the County of Kings.—At the sixty-fourth annual meeting, held January 20th, officers for the ensuing year were elected as follows: President, Dr. J. A. McCorkle; vice-president, Dr. B. F. Westbrook; secretary, Dr. Z. T. Emery; assistant secretary, Dr. G. R. Butler; treasurer, Dr. W. B. Chase; librarian, Dr. J. A. Ray; censors, Dr. Charles Jewett, Dr. A. R. Matheson, Dr. J. T. Conklin, and Dr. William Wallace.

The following circular, issued by the society's committee, consisting of Dr. Francis H. Stuart, Dr. Alexander Hutchins, and Dr. A. J. C. Skene, relates to a most commendable undertaking:

"The medical profession of the city and the general public have long experienced the want of a central plan of registry for nurses. Time valuable to the sick has been lost in the search for a nurse. It has not been an infrequent experience for a messenger to spend hours in the effort to secure one. One was not at home, another engaged, a third would not take such a case, a fourth was not suitable, and so on till a long list furnished by the physician was exhausted. If one was at last obtained, it was by accepting what could be had rather than what was needed. There has been no means of knowing the qualifications and fitness of nurses. Nor has the misconduct of nurses in given cases been known except to the parties who suffered from such misconduct. To meet this long-felt want the Medical Society of the County of Kings has resolved to establish a Directory for Nurses, at the library of the society, 398 Fulton Street, between Smith Street and Gallatin Place. The support and co-operation of the *entire* medical profession is earnestly invited to this project. Its success depends upon this support. It can be given best in the following ways:

"1. By sending to the secretary a list of the names and addresses of all the nurses who from personal experience you can recommend. *Please do this at once.*

"2. By inducing all your nurses to register immediately; and,

"3. *By procuring hereafter every nurse you need through the Directory.* This last is especially important, as it accustoms both patients and nurses to use the Directory, and teaches them its value. If you wish to get one of your usual nurses through the Directory, it will only be necessary to furnish your patient with a list of those you desire. The secretary will refer your patient to any of them that may be disengaged.

"To all nurses so vouched for, whether graduates of training schools or not, will be sent applications requiring them to state name, residence, age, length of experience in nursing, from what training school, if any, he or she has a diploma, whether any particular branch of nursing is preferred to others, whether willing to go to contagious diseases or insanity, the price per day and per week, and the names of three or four physicians and of a like number of families as references. These will be inquired of and the answers filed. The application of each nurse will be carefully and conscientiously examined by the committee, and, if accepted, will be permitted to register. The information regarding each nurse will be recorded in index-books specially prepared for the purpose. Nurses will be required, after they have registered, to keep the Directory informed of all engagements and when an engagement has terminated; to likewise notify the Directory of his or her readiness to respond to another call.

"This is an outline of the work proposed. Such directories have been in successful operation for several years in Boston and Philadelphia. In those cities they are now regarded as necessities. It is hoped that by the cordial interest and support of the medical profession of Brooklyn and vicinity this Directory may serve a like beneficent purpose.

"A fee will be charged each nurse on registering, and a fee will be charged those for whom information regarding desirable nurses is furnished. At an additional charge, the nurse will be found and sent to the house. Telephone connection and District Telegraph messenger

service will be made use of. Every effort will be made to secure the utmost promptness and efficiency.

"A committee of ladies interested in the success of the enterprise will assist the committee of the society in conducting the Directory.

"The charges will be as follows:

"For registration (paid only once, by the nurse)	$3.00
After May 1, 1885, this charge will be	5.00
"For furnishing addresses of disengaged nurses (paid by the patient)	
between 7 A. M. and 6 P. M.	1.00
between 6 P. M. and 10 P. M.	2.00
between 10 P. M. and 7 A. M.	3.00
"For finding and sending nurse, an additional	1.00
"For wet nurses (uncertified)	5.00
"For wet nurses (certified after special medical examination)	10.00

"All charges must be paid in person or by letter, cash in advance.

"When a nurse is ordered by telegraph the money must be sent by telegraphic money order in advance."

The Collective Investigation of Disease.—The Collective Investigation Committee of the Medical Society of the State of Pennsylvania has issued circulars with regard to acute pneumonia and acute rheumatism. As regards pneumonia, the circular calls for information about its epidemic prevalence, its communicability, its association with other prevalent diseases and with defective sanitary conditions, its symptoms, duration, and result, and its treatment. In the case of rheumatism, the queries relate to its antecedents, the frequency with which certain symptoms occur, the common ailments to which those who suffer from it are liable, the climatic conditions with which it is associated, and its treatment.

The Health of Michigan.—Under date of February 5th, the secretary of the State Board of Health, Dr. Henry B. Baker, summarizes the reports made to the board by various local observers for the month of January. The summary shows that, as compared with the average for the same month in the seven preceding years, there was an increase of neuralgia and erysipelas, and a decrease of pneumonia, diphtheria, intermittent fever, measles, dysentery, remittent fever, and scarlet fever. Diphtheria was reported from forty-two towns, measles from four, and small-pox from one town, South Boardman.

The Death of Dr. John Montgomery, of Adrian, Ohio, a physician well advanced in years, and of a most creditable record, took place at his home on the 29th of last month. The deceased was a graduate of the Western Reserve Medical College, of Cleveland, and the father of our esteemed contributor, Dr. Liston H. Montgomery, of Chicago. In an extended and appreciative obituary notice of the late Dr. Montgomery, the "Tiffin Tribune" says: "He was a man of pure character, of broad culture, and deeply impressed with the responsibilities of his profession. He was a diligent student to the end of his life."

The New York County Medical Association.—At the next meeting, to be held Monday evening, February 16th, at the College of Physicians and Surgeons, Dr. Theodore R. Varick, surgeon-general of the State of New Jersey, will read a paper on "The Protective Treatment of Open Wounds."

THERAPEUTICAL NOTES.

Terpene in Chronic Affections of Mucous Membranes.—M. D'Espine (Bull. gén. de thérap.) speaks highly of this preparation of turpentine in chronic bronchitis and nephritis. He administers it in doses of from three to six grains. It appears to have a specific action.

A Local Application for Elongated Uvula.—M. Monin ("Union méd.") employs the following mixture:

Hydrochlorate of morphine	4 grains;
Extract of potato	1 drachm;
Tincture of coca	2 drachms;
Glycerin	1½ oz.

The back of the pharynx and the soft palate are to be painted with this solution to relieve the cough caused by elongation of the uvula.

Kola.—M. Monnet ("Bull. gén. de thérap.") has made an exhaustive study of the physiological and therapeutical properties of this drug. He draws the following conclusions from his experiments: Kola acts as a cardiac stimulant, increasing the number, force, and regularity of the contractions. This property is probably due to the caffeine and theobromine contained in the nut. At a further stage of its action it regulates the pulse, increasing its amplitude while it renders it slower. Since it has a decided diuretic action, kola is especially recommended in cardiac affections accompanied by dropsy. In general, it may be said that the drug increases the contractions of the smooth muscles, while it paralyzes the striated. It has marked tonic properties, and is therefore indicated in anæmia and chronic wasting diseases. Kola favors digestion, either by increasing the secretion of the gastric juice or by causing increased contraction of the smooth muscular fibers. It would seem to be specially indicated in atonic dyspepsia. It is a valuable remedy in chronic diarrhœa, but its exact action in this direction is not known.

Antiseptic Medication of the Intestinal Tract.—M. Dujardin-Beaumetz (*Ibid.*), in a recent lecture upon this subject, recommends the following as a safe and efficient intestinal antiseptic:

Essence of peppermint	30 drops;
Bisulphide of carbon	6 drachms;
Water	1 pint.

From eight to twelve tablespoonfuls of this solution are to be given daily. It is affirmed that, when diluted to this extent, the bisulphide of carbon is innocuous and has a specific action on the germs of putrefaction within the intestine. It is necessary to add water to the solution as fast as it is withdrawn; otherwise the bisulphide loses its properties.

The Local Use of Rhigolene.—Dr. B. W. Richardson ("Lancet") recommends the local application of rhigolene in cases of burns. He makes a saturated solution of spermaceti in rhigolene, and adds camphor to saturation. The mixture is applied to the burn on a piece of cotton. The rhigolene evaporates at once, and leaves a coating of camphor and spermaceti. The relief is said to be almost immediate. Iodine dissolved in rhigolene (five grains to the ounce) is stated to form an excellent spray for ulceration of the throat or as an antiseptic for foul wounds. The author says that a very useful antiseptic liquid for inhalation may be made by mixing rhigolene with strong ammonia-water, and then decanting the water off. If camphor is added to this solution, a perfect preservative fluid is obtained, in which fresh organs may be placed at once.

Oil of Turpentine in the Treatment of Diphtheria.—Dr. Jósefowicz ("Centralbl. f. d. ges. Therap."; "Jahrb. f. Kinderheilk.") has treated several cases of diphtheria with this drug, used both internally and locally. He affirms that under this treatment the membranes rapidly separate or are dissolved, while the general condition of the patient is speedily improved. The effects of the drug upon the kidneys are regarded by him as transitory and not at all serious.

The Treatment of Dysentery with Iodide of Phenol.—Rosenfeld (*Ibid.*) recommends this drug highly. He uses the following mixture:

Pure iodine	4 grains;
Carbolic acid	8 "
Glycerin	1 ounce.

From one to two teaspoonfuls are given, in an enema, three or four times a day. The bloody stools cease, and the tenesmus rapidly subsides under this treatment. Of a hundred and forty-two patients who were treated in this manner during an epidemic of dysentery, only six died.

An Antiseptic Inhalation for Whooping-cough.—M. Bouchut ("Union méd.") suggests this preparation:

Essence of thyme	24 drachms;
Alcohol	8 ounces;
Water	24 "

This solution may either be used for inhalation, or be boiled and the vapor allowed to spread through the room in which the patient sleeps. The writer recommends that at the same time a teaspoonful of syrup of carbolic acid be administered three times a day. Five ounces of this syrup contain two grains and a half of carbolic acid.

Original Communications.

ON SURGICAL TUBERCULOSIS.

BY R. J. HALL, M.D.

(*Concluded from page 154.*)

BESIDES those already mentioned, the most important reports on the discovery of tubercle bacilli in surgical lesions are the following: Schuchardt and Krause,* already referred to, demonstrated the bacilli in ten cases of synovial and three of bone tuberculosis in the lining membrane of fourteen tubercular abscesses, none being found in the pus which they examined from four of these; in three cases of tubercular glands, three of tubercle of the skin and lupus, one of the sheaths of the tendons, and one of the muscles. In all these the bacilli occurred very sparingly. In a tubercular nodule in the tongue, a tubercular testicle, and two cases of tubercular disease of the female genital organs, on the other hand, the bacilli were very abundant. Bacilli were found in all the tubercular lesions they examined. Demme† found the bacilli in two cases of ozæna scroph., as well as in the three cases of lupus mentioned before. Chiari‡ found them in pus from carious disease of the vertebræ, and from tubercular cervical lymphomata. Celli and Guarneri,* in scrofulous lymphatics; they also made successful inoculations from these, but failed to find any bacilli in three tubercular joints and four cases of lupus. Brouilly‖ found them in an abscess of the epididymis, a fungoid tendo-synovitis, a tubercular abscess of the thorax, and a fungoid osteitis of the rib—very sparingly in all. Wesener,△ in two tuberculoses of the testicle and epididymis, two of the female genital organs, two of the bladder, and in pus from a tubercular ulcer of the neck. F. Marchand◊ found it difficult to find the bacilli in fungoid joint diseases and in pus from the same. Debove‡ found them in pus from tubercular epididymitis, a presternal and a costal abscess. W. Müller‡ found the bacilli, as a rule, in thirty to thirty-five cases of fungoid disease of bones and joints. He found none in a number of cases, even after examining twenty or more preparations, and these were especially such as were undergoing spontaneous cure. In four cases the bacilli occurred in very large numbers. Coze and Simon‡ have seen them in the granulations of fungoid joint disease, and sometimes in pus from the same; also in the purulent discharge from the uterus of a patient with pulmonary tuberculosis. Kanzler,** in four cases of osteomyelitis and osteosynovitis, and fourteen times in pus from thirty-one cases of tubercular disease, including suppurating lymphomata (7 [2 positive]), bone and joint disease (13 [8 positive]), ulcers of skin, (7 [4 positive]), of nasal mucous membrane (2, negative), and suppurative otitis media (2, negative). Gondolphe* found them in pus from cold abscesses, in fungoid disease of bones and joints, tubercular epididymitis, and renal tuberculosis. M. Hanat† publishes a case of panaritium, either originally tubercular, or, as suggested by a reviewer, possibly infected by the bistoury used to incise it, and followed by a tubercular ulcer of the forearm; in the pus and in sections large numbers of bacilli were found. Koch,‡ besides the cases already referred to, has examined thirteen of joint and ten of osseous tuberculosis, finding the bacilli in all, and failing to find them only in pus from one case, where, however, inoculation was successful. He found them, further, very sparingly in five tubercular testicles; very abundantly, on the other hand, in four cases of tuberculosis of the pelvis of the kidney, one of the bladder and urethra, one of the supra-renal capsule, and one of the uterus and tubes. No bacilli were found in the pus from an abscess of the kidney, but inoculation gave a positive result. Eschle* has found abundant bacilli in the discharge from two cases of suppurative otitis media, both patients having pulmonary tuberculosis. Voltolini‖ describes a similar case, the bacilli being also very abundant. The same author△ found bacilli in three cases of pharyngeal tuberculosis, all accompanied by tubercular disease of the lungs or larynx, and mentions that he usually finds them in the secretion from laryngeal ulcers. In a later publication◊ he gives in detail an interesting case of a child of five years in whom the first symptom was the appearance of bilateral cervical lymphomata, followed by hoarseness and, subsequently, aphonia. Only the swollen epiglottis could be seen laryngoscopically, and a certain diagnosis was made only by the discovery of tubercle bacilli in the secretion. B. Fränkel‡ had some time previously announced the regular occurrence of the tubercle bacilli in the secretion from tubercular laryngeal ulcers, having found them in twenty-two cases examined during life, and five after death. During the discussion which followed the reading of Fränkel's paper, Lewin‡ stated that he had succeeded in finding the bacilli in the same way. Some doubt was thrown on the reliability of Fränkel's observations by Friedländer, because in the preparation presented to the society no tubercle bacilli were to be seen. The preparation, however,

* "Fortschritte der Med.," 1883, No. 9.

† "Prag. med. Wochenschr.," 1883, No. 1. Ref. in "Cent. f. klin. Med.," 1883, No. 12.

‡ "Ber. klin. Wochenschr.," 1883, No. 15. Tuberkelbacilli im Kindesalter.

* Ref. in "Cent. f. klin. Med.," 1883, No. 34.

‖ "Rev. de chir.," 1883, No. 11.

△ "Deutsche Arch. f. klin. Med.," B. xxxiv, S. 583.

◊ "Deutsche med. Wochensch.," 1883, No. 15.

‡ "Le progrès médical," 1883.

‡ "Centralbl. f. Chir.," 1884, No. 3.

‡ "Bull. gen. de therapeutique," 1884, p. 241.

** "Berl. klin. Wochenschr.," 1884, Nos. 2 and 3.

* "Lyon médical," 1884, No. 18.

† "Bull. de la soc. des hôp.," 1884.

‡ "Mittheil.," B. ii, 1884.

* "Deutsche med. Wochensch.," 1883, No. 30. Tuberkelbacilli in dem Ausflusse bei Mittelohreiterungen von Phthisikern.

‖ "Deutsche med. Wochenschr.," 1884, No. 2. See also "Zeitschrift f. Ohrenheilkunde," B. xiii, S. 202. A. Gottstein, Die bisheregen auf das Vorkommen von Tuberkelbacillen bei der Otorrhoe gerichteten Untersuchungen, etc.

△ "Breslauer artzlich. Zeitschr.," 1884, Nos. 7 and 8; ref. in "Centralbl. f. klin. Med.," 1884, No. 30.

◊ "Deutsche med. Wochensch.," 1884, No. 24.

‡ "Berl. klin. Wochenschr.," 1884, No. 4.

‡ "Berl. klin. Wochenschr.," 1884, No. 3. Verhandl. der Berlin. med. Gesellsch.

was some weeks old and faded, and at the next meeting of the society Fränkel was able to make a satisfactory demonstration of a number of preparations. Guttmann * has recently reported two cases of tubercular ulcers of the soft palate, in both of which immense numbers of bacilli were found.†

In a review of the literature given above it will be seen that, as a rule, the bacilli are abundant in tubercular lesions of mucous membranes and internal organs, while they are found very sparingly in those of the skin, bones, and joints—a rule, however, not absolutely without exceptions. Two important practical subjects remain to be considered—namely, the means of diagnosis at the command of the surgeon, and the indications for treatment.

For the first, as a rule, the clinical diagnosis is not difficult. All that we have been accustomed to consider scrofulous must be classed as tubercular, with the exception, probably, of those superficial affections of the skin and mucous membranes which are rather diseases of the scrofulous than scrofulides. No doubt, also, further observation will show the presence of the bacillus in some of these apparent exceptions.‡ But far more than this must be included. Its forms are so various, and its course so dissimilar in different cases, that sometimes before operation only a probable diagnosis can be made, and that largely by exclusion. We must be prepared to recognize tubercular lesions of the bones, the joints, the skin, etc., in both children and adults, who, except for this one affection, present all the appearance of the most blooming health. We must be prepared to find it running an acute course, in a bone or joint, for instance, producing in a few days, or weeks, an amount of disorganization that would ordinarily require months or years; and again existing in the same situation for the greater part of a lifetime, and scarcely causing derangement of function.

Usually the gray, gelatinous, miliary tubercle, either on the surface of a membrane, or scattered through the tissues, with here and there white specks, denoting caseous degeneration, can be readily recognized with the naked eye. Not very infrequently, however, cases will occur in which neither clinically, nor on microscopic examination, a certain diagnosis can be made. The question then arises, Have we any simpler means than the tedious and difficult examination for the usually small number of bacilli?

It is quite certain that neither the epithelioid nor the giant-cell is characteristic of tubercle.* While it may be true, as Ziegler states, that, "for the later stages of the tubercle nodule, caseation is characteristic," † yet this is not always present, and closely similar degenerations occur as the result of so many pathological processes that it can not be relied on for the diagnosis.‡ Giving up, then, as has been done in regard to all other pathological processes, the idea of a specific cell form, pathologists have fallen back upon the characteristic structure of the tubercle. This consists, as defined by Ziegler, ¤ in "a non-vascular nodule (Knötchen), which does not grow beyond a certain size, and, having attained a certain stage of development, undergoes cheesy degeneration." We may add to this, as Ziegler does a little farther on, that usually many of the cells are epithelioid, and that the nodules usually contain one or more giant-cells. Even this characteristic structure, or something very similar, can be produced by the irritation of various foreign bodies, if we may rely on the statements of Baumgarten ‖ and the experiments of H. Martin, △ who professes to have produced, by the action of various irritant foreign bodies, a structure histologically identical with true tubercle, and differing from it only in being non-infective.

Be this as it may, however, the fact remains that before the discovery of the tubercle bacillus the whole domain of tubercular lesions had been mapped out entirely by the aid of the histological criterion, and that since Koch's discovery the bacillus has not been found except in tissues presenting the characteristic structure, nor, so far as investigations extend at present, has the bacillus been wanting in any form of the disease which had been classed as tubercular on anatomical grounds.

Practically, therefore, the simple microscopic examination of the tissue affords a perfectly reliable and simple means of diagnosis. Where sufficient material can not be obtained for this purpose, we can only have recourse to inoculation, or to the method described by Unna,◊ who found that by partially digesting hardened specimens, and examining the precipitate that had fallen, the bacilli were

* "Deutsche med. Wochensch.," 1884, No. 21.

† See Virchow's "Arch.," 97, H. 1, S. 21; Baumgarten, Miliare Gummigeschwülste der Milz, nebst Bemerkungen über die anat. histol. Differentialdiagnose zwischen Gummata und Tuberkeln.

‡ Ziegler, *op. cit.*, S. 178.

¤ Ziegler, *op. cit.*, S. 179.

‖ Virchow, "Arch.," 97, H. 1, S. 29. Miliare Gummigeschwülste der Milz, etc.

△ "Arch. de physiologie," 1881, tome vii, p. 131. Tuberculose des séreuses et du poumon, pseudo-tuberculose experimentale; and *Ibid.*, tome viii, p. 49. Nouvelles recherches sur la tuberculose spontanée et experimentale des séreuses.

See, also, Ziegler, "Experimentelle Untersuch. über die Herkunft der Tuberkelelemente," Würzburg, 1875, and "Untersuch. über pathol. Bindegewebs- und Gefässneubildung," Würzburg, 1876; ref. in "Lehrbuch," 2te Aufl., 1ter Theil, S. 162.

◊ "Internat. Med. Congress," 1884, Section in Dermat. and Syphilis. Report in "Brit. Med. Jour.," August 30, 1884, p. 425.

observable in quantity. As regards treatment, the discovery of the bacillus has taught us, when local recurrence takes place after operation, to seek for the cause, not in any mysterious predisposition of the tissues to tubercular inflammation, but in the failure to completely remove the infecting material. As for any specific action by internal treatment, we are apparently farther from success in this direction than ever. Buchner * and Kempner † have indeed reported favorable results from the treatment of pulmonary tuberculosis by arsenic, and Landerer ‡ and von Langenbeck * in a small number of cases of fungoid disease. Stintzing,‖ on the other hand, in sixteen cases of phthisis, most carefully observed, found practically no benefit at all. Parrot and Martin ▵ found the bacillus more resistant than that of splenic fever. Solutions of corrosive sublimate, salicylic acid, superoxygenated hydrogen, bromine, quinine, and creasote, in the strength of 1 to 1,000, were all useless. Carbolic-acid solution, three per cent., was effective only after forty-eight hours, and six per cent. failed in twenty-four hours. With these figures in view, I am inclined to receive Doutrelepont's ◊ report of favorable results in lupus, from the application of 1-to-1,000 corrosive-sublimate solution, with great reserve. Koch ‡ gives the following result of his and Gaffky's experiments in this direction: "At different times rabbits received injections of pure cultures (of tubercle bacilli) in the anterior chamber of the eye, in order to test the influence of substances which interfere with the development of the tubercle bacillus, . . . besides numerous other substances, arsenic, helenin, and sulphureted hydrogen were administered to the animals, and always in the largest possible doses, and for weeks at a time. We have not been able to observe a favorable action by any substance in a single case. All the animals died tubercular, just as rapidly as those which were not treated." Koenig,‡ moreover, after stating that he has for years past carefully tested the different agents recommended, especially iodine, mercury, and arsenic, and that none of them have shown anything like a specific action, continues: "In no single case have I been able to determine that arsenic had a permanent good or bad influence on the course of the disease, whether situated in the joints, in the skin, or in the kidneys." Invaluable as iodoform still proves as a dressing, especially after operation in tubercular cases, it has certainly not satisfied the expectations excited by Mosetig-Moorhof's * and Mikulicz's † earlier publications. Although Marchand,‡ by proving that iodoform causes the rapid disappearance of giant-cells from the inflammatory products surrounding foreign bodies, has given some anatomical evidence in favor of a possible special action of iodoform on granulations containing these, yet the fact that even those surgeons who use iodoform most extensively demand at the same time the complete extirpation of all tubercular tissue, does not speak strongly in favor of a specific action.

On the other hand, a more intimate acquaintance with the course of tubercular processes, and especially the observations of Baumgarten,* who, in about every third or fourth cadaver, dead from other causes than tuberculosis, finds some vestiges of tubercle, prove that it is by no means always the malignant process that observation of only the more acute cases would lead us to believe; that, in fact, many cases tend to spontaneous recovery. I am inclined to think myself that, in most cases, the course which the disease will take is settled from the first, either by the nature of the soil or the amount of the infecting material, and that it is far less influenced by treatment, whether general or local, other than operative, than surgeons generally suppose.

When the specific character of the disease was first recognized, and the frequency noted with which subjects of fungoid or other local tubercular processes fell victims to acute miliary or pulmonary tuberculosis, it was but natural that surgeons should have advocated early operative interference for the sake of prophylaxis.‖ This ground has been completely cut away by the statistics of Koenig,▵ already mentioned, according to which, in seventy-nine per cent. of all cases of tubercular bone and joint diseases examined, older tubercular deposits were found as the probable source of infection. Baumgarten's work, cited above, makes it probable that in a still larger percentage of cases the surgical affection is secondary. The failure of these too sanguine

* "Die ätiologische Therapie und Prophylaxis der Lungentuberculose," München and Leipzig, 1883; ref. in "Fortschritte der Med.," 1883, No. 18, S. 590.

† "Ueber die Behandlung der Tuberculose mit Arsen," "Berl. klin. Wochenschr.," 1883, No. 31.

‡ "Centralbl. f. Chir.," 1883, No. 47.

* "Berl. klin. Wochenschr.," 1884, No. 19, S. 301.

‖ "Zu Buchner's ätiologischer Therapie der Lungentuberculose," "Aertzliches Intelligenzblatt," 1883, No. 30, and "Centralbl. f. klin. Med.," 1883, No. 32.

▵ "Rev. de méd.," 1883, No. 10.

◊ "Monatsch. f. prakt. Dermat.," 1884, No. 1; ref. in "Centralbl. f. klin. Med.," 1884, No. 14.

‡ "Mittheil.," B. ii, S. 69. See, also, Schill and Fischer, *ibid.*, S. 131. Ueber die Desinfection des Auswurfs der Phthisiker. Sputum treated in different ways and tested by inoculation, five-per-cent. carbolic-acid solution, effective on bacilli and spores in twenty-four hours. No other disinfectant, even very strong, including 1-to-500 corrosive-sublimate solution, of value. Frantzel, "Verhand. des 2ten Congresses f. innere Med.," Ueber Tubere. "Cent. f. klin. Med.," 1883, No. 37. Used inhalations on human subject of menthol, camphor, naphthalin, creasote, aniline, crude carbolic acid, and mercury, without result. Hiller (*ibid.*) used inhalations of gases, steams, sprays, parenchymatous injections into the lung, subcutaneous injections and internal administration of different substances, including corrosive sublimate, iodoform, bromine, ethyl and methyl alcohol, arsenious [and boric acids, with no effect on the process in the lung or on the bacilli.

‡ "Tubercul. der Knochen und Gelenke," Berlin, 1884, S. 89. See also "Fortschritte der Med.," 1883, No. 21. Dr. Alb. Johne, Die kasige Pneunomie, speciell die sogen. Hüttenrauch-Pneumonie oder Hüttenrauchtuberculose des Rindes. Remark on page 690.

* Volkmann's "Samml.," No. 211. Der Iodoform-Verband.

† Langenbeck's "Arch.," S. 196. Ueber die Verwendung des Iodoforms bei der Wundbehandlung und dessen Einfluss auf fungöse und verwandte Processe.

‡ Virchow's "Arch.," H. 3, 93, S. 518. Ueber die Bildungsweise der Riesenzellen um Fremdkörper und den Einfluss des Iodoforms hierauf.

* Volkmann's "Samml.," No. 218. Ueber latente Tuberculose.

‖ Hueter, "Die Scrophulose und ihre locale Behandlung als Prophylaxe gegenüber der Tuberculose," Volkmann's "Samml.," No. 175, and "Wiener med. Wochenschr.," 1882, No. 19. Ueber Behandlung der Lymphome.

▵ "Tuberc. der Knoch. und Gel.," 1884, S. 33.

expectations, the small but nevertheless noticeable number of cases in which acute tuberculosis directly follows operative interference,* and, above all, the frequency of local recurrence, added to the often unsatisfactory results as to function after resection of joints, have caused a decided reaction in favor of more expectant treatment. Now, as before, however, we possess but one means of limiting or cutting short the local tubercular processes—that is, the complete extirpation of all the diseased tissue, as advocated by German surgeons in general, and especially by Volkmann in 1879,† and recently at Copenhagen ‡—and as improvements in operative technique and wound-dressings diminish day by day the dangers, and render results more certain and satisfactory, we shall, I am confident, have recourse more and more frequently to early and radical operation.

CERVICAL PREGNANCY.#

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The writer was asked by Dr. Alexander, on December 10th, to see, in consultation, a patient with the following history:

A married woman, who had borne eight children; the last labor terminated by forceps; had been pregnant about three months; the pregnancy was attended with no abnormal symptoms until two weeks ago, when there was a slight discharge of blood; this continued until within two days, when severe pains of an expulsive character occurred, accompanied by free discharge of blood. At the consultation she was found suffering from more or less continuously severe expulsive pains; face was quite pale, and clothing covered with blood.

Introducing two fingers into the vagina, a large globular tumor could be felt as occupying the position of the cervix, filling up the pelvis, and the os turned back and situated so high that the fingers could not be passed around the anterior lip without producing unbearable pain from pressure of the hand upon the external parts. The anterior lip was softer and less resisting. To the left side could be felt a fissure, as from a previous laceration of the cervix, within which was distinguished a mass apparently having a fibrous connection with the cervix. This appearance, with the distended cervix, led to the diagnosis of a possible polypus complicating and probably inducing the abortion. It was decided to place her under an anæsthetic, and determine more fully the condition. Under ether, the anterior lip was found to terminate, at the os, in a membranous surface, over which the fingers could be passed into the cervical canal, which was greatly dilated. Breaking through the membrane, the true nature of the condition was declared to be one of cervical pregnancy. The placenta was attached principally to the anterior segment, though a thinner layer covered the posterior wall. The placenta was not so intimately connected with the mucous surface as in a uterine pregnancy at the same period, and was thinner than the ordinary placenta of the third month. The most intimate connection of the fœtal envelopes was at the margins of the os, where the membranes hung in fringes which could not be pulled away. After removal of the mass, the cervical canal was large, hollowed out, and the body of the uterus could be felt above it, something like the neck upon a bottle. The body would barely admit the finger, and was lined with a deciduous membrane. The fœtus escaped notice during the expulsion of the mass, but was discovered subsequently upon the patient's clothing. It was three inches long, and comparatively well developed.

A review of the literature of this condition shows it to be extremely rare, Lusk's only, of the text-books upon obstetrics, giving it mention, and that incidentally in the discussion of placenta prævia. Rokitansky was the first, and only one, to draw attention to these peculiar cases in which the ovum finds itself in the cervix uteri instead of the body, and which he describes as so-called secondary cervical pregnancy. He concludes that in these cases an ovum, after fixing itself in the membrane of the uterus, and after complete clothing with a decidua reflexa, is soon driven downward by uterine contractions into the cervical canal, its attachment lengthening into a stalk, by the growth and stretching of the decidua and the uterine glands, detachment not taking place; that the ovum continues to grow in the cervical canal, distending it and constituting a true cervical gestation. The free-hanging ovum thus excites uterine contractions, and occasions, from time to time, hypostatic mechanical hyperæmia, and then floodings.

The death of the embryo is readily produced under these circumstances; and it may happen when the ovum is ruptured by the contractions or burst by exertion, the embryo escaping. A considerable portion of the membrane, or at least the stalk, may remain behind, and form, with the bleeding, a fibrinous polypus, by the accretion of coagulum and fibrinous layers. Kiwisch attributes these to the retention of the fibrinous portion of the coagulum in hæmorrhage.

An extract from a report of a case by W. Hinck, in "L'Union médicale," January, 1861, illustrates the occurrence of this unusual form of pregnancy:

A woman, aged twenty-two, believed she was pregnant for the first time in December. She had enjoyed good health until that time, when, after a fit of violent anger, lumbar pains and metrorrhagia appeared. She was admitted to the hospital with symptoms of puerperal metritis. Examination gave the impression of two tumors in the abdomen, one under the other. Through the os externum uteri the head of the child was distinctly felt. A fœtid discharge took place from the vagina, and irritative fever set in. Afterward the patient felt something pass; a placenta of the size of the palm of the hand escaped, saturated with ichor. Attempts were made with the caoutchouc pessary to provoke labor. An enormous quantity of fœtid ichor escaped when the pessary was withdrawn. The fœtus was extracted by the hand; it was in a state of decomposition. The finger then passed into a cavity full of ichor, larger than a child's head, situated in the middle of the abdomen. The patient only survived a few days. On the dissection, the uterus was found consisting of two parts, quite distinct; the body of the volume of a hen's egg, which contained a remnant of placenta, and a cervix of which only the posterior wall and the two lips of the vaginal portion remained distinct; in the remainder of its periphery it was lost in the walls of the sac of

* [illegible] "Lehre der Knoch. und Gel." 1884, S. 46, and Chauvel, "De la [illegible]," Rev. de chir., 1884, No. 9, p. 756.

† [illegible] "Ueber die Ursache und die Bedeut. der fung. Gelenkentzund," Verhandl. d. Congr. [illegible], 1879, 169.

‡ International Med. Congress, 1884.

Read before the Obstetrical Society of Philadelphia, February 5, 1885.

ichor. The diagnosis pronounced by Rokitansky, to whom the particulars were submitted, was "Necrosis cervicis uteri dilatatæ et retenti fœtus."

Rokitansky's observations were made upon the dead body, and the ovula thrown off have been exhibited by Dohrn, Mettenbauer, Hegar, and others; but it remained for Schülein to communicate the first clinical observations of pronounced cases of this form of pregnancy. In three cases observed by himself it occurred in primiparæ. A fourth case, which came under the observation of Dr. Veit, concerned a second pregnancy.

All the women were pregnant from two to four months when their symptoms led them to apprehend abortion. They had suffered from labor-like pains and had large hæmorrhages, which, as a rule, had ceased for some months when they applied for treatment at the clinic.

The cervix was more or less distended, according to the month of pregnancy, presented a globular appearance, and the body projected like a protuberance from the surface of the tumor.

One will more frequently have opportunity to observe forms of transition from normal abortion to this condition, although one will dare to give the name of so-called cervical pregnancy only to the more pronounced cases. The condition will be a difficult one to determine in a primipara with tense abdominal walls. In one of Schülein's cases the appearance was similar to that observed in hæmatometra, but etherization showed that only the cervix shared in the distension, and that the body was quite small and placed upon it. The condition may also be confounded with tumors, but the symptoms are usually sufficient to settle the diagnosis. It is difficult to determine the cause for this misplaced gestation.

It is against all preconceived views to suppose that the ovum has developed primarily in the cervix. According to these, it must have glided down into the cervix from its first lodgment in the body. It is difficult to say when this happens, for the patient will usually have bled some weeks before she comes under observation, and it would be difficult, if not impossible, to discover the ovum in the cervix, even in the early stage of development. It is probable the admission of the ovum into the cervix occurs with the very inception of labor-like pains. If the ovum has not completely loosened itself, but still hangs to a pedicle situated in the uterus, which, the investigations of authors named above show, arises from the extended decidua, it can thus be nourished and will increase in volume.

In single, uncomplicated abortion, as soon as uterine activity is excited, be it from an abnormal state upon the part of the mother or the fruit, there is widening of the internal os, into which the point of the ovum is pressed. The cervix stretches more and more; finally the ovum presses through it and the external os, arriving in the vagina, from whence it easily passes away.

If, however, the external os is not dilated, and the uterine contractions do not open it, the ovum is driven down by the continuous uterine activity into the cervix, and there remains.

This disturbance of the course of pregnancy may be occasioned either by abnormal narrowing of the external os, through flexion, abnormal hardness, cicatricial cords, or growths. The same hindrances are observed, now and again, at the close of pregnancy, except that at the latter period the complete expulsion of the fœtus into the cervix is impossible. Many times the expulsion may be incomplete, from the attachment of the decidua to the fundus being too firm to be overcome, when, by the lengthening of the pedicle, a cervical pregnancy is produced independent of narrowing of the external os. Parry cites one case of vaginal pregnancy in which this pedicle existed, and from which the fœtal nourishment was probably derived. Sometimes the opening may be hindered, as Spiegelberg has rendered prominent, by the external orifice of the uterus being situated so far back and upward that the direction of the expulsive force does not concern the dilated place.

If this abnormal narrowing of the external os is held for a principal cause of the occurrence of cervical pregnancy, one should, as is the result, meet with this complication most frequently in primiparæ. One may incidentally meet with an abnormally narrow os in the multipara, which retains like that of the primipara, and at the end of pregnancy can come to the so-called conglutination os described by Naegele and Benicke, and, under similar circumstances, can lead to cervical pregnancy. The abnormal narrowing of the multipara is, however, more frequently due to cicatricial cords and growths of the cervix, which hinder the escape of the ovum. This can occur but rarely in abortions during the early months, for, if the external os, as is mostly the case, is penetrable for the joint of the finger, the point of the ovum is pressed into it, and it will then come to distension or to bursting of the ovum and its expulsion.

The investigations of Müller have led him to believe that placenta prævia is due to abortion begun at an early period, but arrested at the lower uterine segment, to which the villi attach themselves. It does not seem to us an impossibility that the abortion may be arrested after the passage of the ovum into the cervical canal, and the villi may then attach themselves and supply the developing product with nutrition. It is not necessary to suppose that the ovum here meets with soil any less adapted by nature to its needs than if it had escaped into the abdominal cavity and developed an abdominal pregnancy. The history of the case beginning this paper justifies, we think, such a view. In that case the external os had been enlarged by a laceration, and at the examination would admit two fingers; the enveloping membrane of the fœtus was very intimately connected with the external mucous membrane of the cervix—so intimately, indeed, that it appeared continuous, and could not be entirely removed, but hung like fringes from the margin of the os; while there was a decidua lining the uterus, which was not so thick or so firmly attached as to justify the view that it had served as a pedicle to anchor the ovum and sustain its subsequent nutrition, but rather such a sympathetic lining of the uterine body as occurs in unison with ordinary extra-uterine pregnancy.

In the treatment of cervical pregnancy the extreme improbability of the maturity of the fœtus in its abnormal situation, the continuous hæmorrhage, and in many cases

the signs of breaking down and decomposition of the ovum and its envelopes, will demand an immediate delivery. This delivery will be difficult or easy, according to the circumstances. The finger may pass readily through the external os, or one must create an artificial opening by distinct incision. The latter was necessary in two of the cases described by Schülein, while in the one seen by the writer two fingers could be introduced without difficulty.

If hæmorrhage occurs, it should be arrested, and, where an incision has been necessary, it will be advisable to introduce a cotton tampon saturated with liq. ferri pernitrat. to prevent adhering together of the wound margins.

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A CASE OF GASTROSTOMY.*

By GEORGE R. FOWLER, M.D.,

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Mrs. C. N., aged fifty-five, born in England, was admitted to the hospital May 7, 1883. Her father and mother died of old age. The patient had enjoyed good health up to nine months previous to her admission, although she had been addicted to the excessive use of both tobacco and alcohol for upward of forty years. Her first symptoms consisted of pains, more or less steady, and occasionally lancinating in character, and referred to the gastric region. Eleven weeks ago she began to have difficulty in swallowing and regurgitation of food. Soft food could be easily swallowed at first, but more recently only liquids could be managed. There was no history of traumatism. She has become greatly emaciated since the first onset of symptoms. Upon admission, she complained of pain upon swallowing, just above the clavicle; liquids were swallowed without much difficulty. Temperature, 100° F.; pulse, 100; tongue furred; bowels constipated.

Examination with an œsophageal bulbous bougie revealed an obstruction at eight inches and a half from the prolabia, through which a No. 8 F. was finally passed; a slight amount of blood followed the withdrawal of the bougie. Stethoscopic examination revealed a bruit, on swallowing, over the sternum and on a level with the second and third ribs.

Within a few days after her admission to the hospital it became necessary to resort to rectal alimentation. The beef peptonoids of Reed & Carnrick were used in this way, and served a useful purpose. Owing, however, to the presence of hæmorrhoids, the enemata were not retained without the presence of a morphine suppository upon each occasion.

On May 21st, the difficulties in the way of properly sustaining the patient by the mouth having increased, I decided to attempt her relief by gastrostomy. Four hours before the operation, with some difficulty she managed to swallow a little whisky and water. Fifteen minutes before the anæsthetic was given a hypodermic injection of one third of a grain of morphine and one hundredth of a grain of atropine was administered, and at the last moment fifteen minims of dilute hydrochloric acid in a little water, followed by about two ounces of a saturated solution of bicarbonate of sodium, were swallowed by the patient. Nitrous oxide-chloroform was given to produce primary anæsthesia, and this was followed by ether. An incision was made, two inches and a half long, commencing at the median line and running obliquely from right to left, parallel to and about one inch below the lower border of the seventh and eighth left costal cartilages. The sheath of the rectus was divided on a director and the muscle cut through. No hæmorrhage occurred. The peritonæum being divided, the viscus, presenting at the opening, distended by the carbonic-acid gas evolved from the mingling together of the acid and alkaline-carbonate solution previously swallowed, was identified, by the arrangement of its vessels, as the stomach. The presenting part was transfixed by two long steel pins, such as are commonly used by ladies for hat-pins, placed at right angles to each other, and supported by the abdominal parietes, thus holding the stomach-walls in accurate apposition with the parietal peritonæum. Silver-wire sutures were then passed through the abdominal walls, about three fourths of an inch from the edges of the wound, and through the stomach-wall, an endeavor being made, as far as possible, to only include its peritoneal and muscular coats, and to attach to the abdominal wall a portion of the stomach represented by a circle about two inches and a half in diameter. These sutures were clamped by drilled shot, and a second circle of sutures of carbolized silk was used, uniting the immediate edges of the wound in the abdominal wall to the stomach. The two steel pins were then removed. The operation was conducted under antiseptic precautions, including the spray. A perforated oil-silk protective, dipped in a solution of mercuric bichloride, 1 to 1,000, was placed next to the wound, and a dressing of naphthalinated oakum applied.

The dressings were removed on the fourth day, the patient in the meanwhile remaining as comfortable as before the operation. The condition of the wound was all that could be desired. There was a very narrow line of redness around the edge of the abdominal wound, and the portion of exposed stomach-wall was covered with lymph. The parts were in a thoroughly aseptic condition. Redressed.

On the fifth day the temperature, which up to this time had remained at and below 99° F., rose to 103·25°, and, although but four grains of opium had been given during the preceding twenty-four hours, and that in connection with enemata consisting of beef peptonoids, egg, whisky, milk, and extractum pancreatis, the patient was partially narcotized. There were some tenderness and tympanites. The dressings were removed, and the clamped shot, being found buried in the tissues to some extent, were removed together with the silver-wire sutures, and carbolized catgut was substituted. Wound aseptic. In the evening the temperature rose to 104·5°. A diarrhœa had set in during the day, and three grains of opium had been given in divided doses, at intervals of several hours, for its relief; the patient, however, was decidedly narcotized, and on the following morning, six days after the operation, she sank and died.

At the autopsy, made twelve hours after death, it was found that the visceral and parietal peritoneal surfaces, where they had been brought in contact by the sutures, were pretty firmly united, although they could be separated. The lungs were pigmented and emphysematous; the right lower and left upper lobes were nearly solid, and the outer part of the base of the right upper lobe was passing into the second stage of pneumonitis. The part of the stomach attached to the abdominal wound was the pyloric third, near the lesser curvature. The inflammation was purely local, and did not extend more than ten centimetres from the wound. There was a marked gastritis of a chronic character. The intestines, both large and small, were inflamed, and the vessels of the duodenum and jejunum were very much injected. The enteritis was most marked at the upper part of the bowel. There also existed a slight colitis. The liver was fatty and passively congested. The kidneys were in no way abnormal.

The œsophagus was found to be the site of an extensive carcinomatous deposit occupying about the middle third of the canal. It was permeable through the entire strictured portion,

* Read before the Brooklyn Pathological Society, together with pre[illegible] of specimen, November 15, 1884.

although admitting but a No. 6 F. bougie. Ulceration had not yet commenced.

This adds another to the list of fatal cases of gastrostomy for the relief of cancerous obstruction in the œsophagus, and this was not a completed operation. As will be noticed, the first stage of the operation—that of securing adhesions between the parietal and visceral portions of the peritonæum—only was attempted; and this was but partially accomplished, the patient dying from an enteritis and commencing pneumonia before union was complete. From my own observation, as well as the experience of other operators, I am convinced of the propriety of dividing the operation into two stages, as first suggested by Howse, and indorsed and carried out by Bryant, of Guy's Hospital. It was my intention to carry out, in this case, a suggestion made by myself in reporting a former case of gastrostomy *—namely, that of postponing the making of the incision in the stomach as long as possible, in order that greater stability of the adhesions might be secured, and in the meanwhile feeding the patient by means of a fine aspirator needle passed carefully through the portion of the stomach-wall presenting at the abdominal wound. This would enable one to keep the wound and the parts surrounding it perfectly dry, thereby contributing to the comfort as well as safety of the patient. When deemed advisable, perhaps after the lapse of a fortnight, the usual small incision into the stomach might be made.

THE DIAGNOSTIC VALUE OF CILIATED COLUMNAR EPITHELIUM IN CASES OF HYDROSALPINX AND PYOSALPINX.†

By FRANK FERGUSON, M. D.,

LECTURER ON GENERAL PATHOLOGY AT, AND PATHOLOGIST TO, THE LONG ISLAND COLLEGE HOSPITAL, BROOKLYN; PATHOLOGIST TO ST. LUKE'S HOSPITAL, NEW YORK, ETC.

In the "Archives of Medicine," vol. xi, No. 2, p. 205, William M. Thallon, M. D., says of the Battey-Tait operation: "Second, does the fluid come from the Fallopian tube? In determining this second point, my friend, Dr. Frank Ferguson, of New York, has made a most admirable suggestion. As a result of a large number of examinations, he concludes that the presence of cells of columnar ciliated epithelium is pathognomonic."

In the same journal, vol. xii, No. 1, p. 79, in a paper on "Removal of the Uterine Appendages," Mr. Lawson Tait says: "In conclusion, I have only to say that I have examined with great care the contents of many Fallopian cysts, and have never seen, though I have especially looked for, columnar ciliated epithelium. The suggestion of Dr. Frank Ferguson has, therefore, been anticipated and exhausted."

The material which I present to the society to-night shows eighteen Fallopian cysts. These cysts vary in size from a moderate distension of the tube, with occlusion of its fimbriated extremity, to that of an orange. In some instances only one tube is cystic, but in the majority of the cases both tubes are involved. In all the cases which I present the tubes are connected with their uteri, and have been removed post mortem.

They have been removed from subjects varying in age from eighteen to fifty years. Some of the specimens were obtained from single women, some from married women or widows, and some from prostitutes. In almost every instance there have been extensive old pelvic adhesions.

In the recent state I found, in all these cysts of the Fallopian tubes, columnar ciliated epithelium. I have examined the contents of many other cysts besides those exhibited, and with the same result.

Some of the material which I now show has been in thirty-per-cent. alcohol for nearly three years, and this afternoon I found in all these cysts, but one, the epithelial cells which normally line the Fallopian tubes. While ciliated epithelium has been seen in tumors of the ovary, it is so rare an occurrence, and other methods are so entirely at our disposal to distinguish those tumors from hydrosalpinx and pyosalpinx, that it does not detract much from the value of the diagnostic sign now advanced. This variety of epithelium is one of the most easily recognized of all the histological elements which enter into the composition of the human body.

I hoped to be able to demonstrate these cells to you to-night by aspirating the cysts with a hypodermic needle, and placing the fluid withdrawn under the microscope without any special preparation, but there are so many present, and so much material is to be presented by others, that I would deem it a very great favor if the society would appoint a committee to examine the contents of these cysts microscopically.

A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.

By CHARLES A. LEALE, M. D.,

PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

(*Concluded from page 95.*)

Differential Diagnosis between Asiatic Cholera and Arsenical Poisoning.—The symptoms of poisoning by arsenic have been compared and likened to those of epidemic cholera, and by some writers have been stated to be very much alike, but physicians who have carefully observed each may readily make the differential diagnosis.

In the "American Journal of the Medical Sciences" for January, 1880, I gave an account of five cases of attempted suicide by taking large doses of arsenic, and detailed many of the symptoms I had the opportunity to observe. The symptoms are so different that one familiar with either Asiatic cholera or arsenical poisoning will have no difficulty in making the classification.

The effects of eating putrid cheese are sometimes like many of the symptoms of epidemic cholera. On three occasions I have been called to attend cases of acute cheese poisoning where several members of a family were suffering

* "Annals of Anatomy and Surgery," vol. vi, 1882, p. 27.

† Read before the Brooklyn Pathological Society, November 13, 1884.

from violent vomiting and purging entirely different from the ordinary attacks of cholera morbus. In these cases, although we have vomiting, purging, and the collapse or algid stage, yet there are symptoms of fever within the first twenty-four hours, and frequently an eruption appears, so that a differential diagnosis is rendered easy.

Diet.—As a grateful article of diet in New York, I have found plain clam broth nutritious and well borne during the acute stage. Also, a little later, chicken broth, raw eggs with ice-cold water, milk and water thickened with rice or barley. The pulp of our fresh, ripe fruits, judiciously taken at proper times, I have always found beneficial.

Great caution must be observed during convalescence.

Cholera in the Infant.—Very young infants, in apparently perfect health, do not well tolerate an attack of Asiatic cholera, and children up to the age of twelve also suffer very much. The most rapidly fatal case observed by me, during the epidemic of 1866, was in a child of Peter Crow, aged three years. The little one was playing marbles when I visited his prostrate father, convalescing from the cholera. The child was picked up by a neighbor as he fell in crossing the sidewalk; he was soon vomiting and purging, in collapse in less than an hour, and only the great strength and former robust health of the child enabled him to live through the first hour. He rallied slightly, but in less than seven hours from the time he was at play in the street he was dead. The suddenness of this death caused great terror in those watching him. I did not leave him a moment from a short time after the commencement of the attack till death, but all my efforts proved unavailing; he had been so profoundly overwhelmed by the poison that he died as quickly as from a large dose of arsenic.

Is cholera a disease amenable to treatment? is a question often asked, and by many denied; but experience has taught that a very large proportion of even the severest cases of the disease may end in recovery if the proper medicinal treatment is early resorted to, and our profession can point with pride to its success in promoting a convalescence or, at the early stage, in preventing the violence of the disease from killing the sufferer.

My experience in private practice in New York city, during the epidemic of 1866, strongly tends to confirm this conviction, as in at least ten parts of the city where I was early called to treat the disease all the patients recovered, while in others, where the violence of cholera was allowed to continue unchecked, at least one out of three died. In no instance was this better illustrated than in the case of Mrs. Christopher Jones, whose husband was convalescing from a mild attack. She remained waiting for me over five hours from the appearance of her first symptoms, and when I got back, on my return from the cholera hospitals at Black well's Island, I found her in the algid stage of the disease. She had vomited and purged to such a degree that she presented the appearance of a dusky-red Egyptian mummy. I had left her in the morning a beautiful, rosy-cheeked young woman, and cheerfully told her, after examining her husband, that it was her duty to give him some delicious fruit to hasten his convalescence. She walked over a mile to procure peaches for Leo, and in a few hours was herself stricken with the disease, and actually died without the care that had been given to her husband. When I saw her on my return, as she was dying, only a few hours after I had left her in apparent health, the contrast was so great as to place her beyond recognition. Her screams and pain had so demoralized her attendants that, in response to her entreaties for fresh air, her bed had been removed to the middle of the street, where she was, at my midnight visit on a very dark night, surrounded by a crowd of people holding candles and emblems of religion, repeating the prayers for the dying. I remained with her until after death, personally directed the necessary sanitary measures, had the father and children removed from her house, and the epidemic there was checked.

During the epidemic of cholera I daily prescribed for a very large number of those living in the infected district and elsewhere, who sought advice for the nausea and diarrhœa so often preceding the Asiatic cholera.

Some called once only, and others several times for a week. Not one of those who were thus treated presented any grave symptoms, or had severe cholera. And, on the other side, of all the cases of which I kept a record, not one of those who had the disease had ever had any of the preliminary symptoms treated.

My first six cases of obstetrics, after entering private practice, illustrate the effects of Asiatic cholera upon the woman with child.

My observations during the months of July, August, and September, 1866, of pregnant women, in a neighborhood where the epidemic prevailed, caused me to conclude that the intense fear of being exposed to the disease, without really having it, may produce a shock sufficient to either kill the fœtus *in utero* or to bring about a premature delivery. Also that an attack of Asiatic cholera, from its violence, may suddenly kill the unborn child, but that, if the mother recovers, she may go until the end of the ninth month of pregnancy, when she may safely be delivered of her macerated, dead child. Also that there are other women, of either the delicate or robust organization, who will carry a child until the end of term, notwithstanding the most fearful commotions. The histories of our wars and epidemics boldly bring this class into view.

They are the mothers of our Cæsars, Napoleons, and American Indian chieftains.

Illustrations:

I was called to attend Mrs. K., of West Fifty-second Street, July 10, 1866. She was an exceedingly timid woman. Cholera prevailed extensively in her neighborhood; she became very much alarmed; had an early miscarriage, followed by profuse hemorrhage, she partially recovered, but ten years after was suffering from the effects upon her nervous system.

Mrs. L. Q., residing in West Fiftieth Street, sent for me to examine her, as she said that, in the absence of motion, she believed her child to be dead; that she had had an attack of cholera during the summer, when she was about seven months pregnant, and since then had felt no life. Mrs. Q. presented a peculiar haggard, anxious expression of countenance, plainly indicating her great fear. On careful examination, the general contour of the fœtus could be plainly distinguished, but not the slightest activity could be produced. Within twenty-four hours after my

first examination, on August 4, 1866, I easily delivered her of a small fœtus, apparently of about seven months' growth. The child was perfect in form, but presented the appearance as though it had been in boiling water, whereby the outer skin could easily be removed, as the passage of the finger, even gently, over its back caused the skin to peel off as easily as wetted tissue-paper, leaving the child of a purplish-red, glazed appearance. I easily extracted the small placenta, which showed commencing fatty degeneration. The uterus contracted firmly. The secretion of milk occurred regularly; this was easily controlled, and the mother made a complete and rapid recovery.

My third case was that of Mrs. F. G., a multipara, residing in West Fiftieth Street. She lived in the cholera district, and had been very much alarmed, but never had the disease. On August 28, 1866, I delivered her of a fœtus that had been dead for at least ten days. She recovered.

Fourth case: Mrs. W., whom I delivered of a six-and-a-half-months' macerated fœtus that had been dead a long time.

Fifth case: Mrs. K., a delicate little woman, of great courage, residing near the cholera patients. She had previously had three miscarriages, and was very anxious to have a living child. On September 20, 1866, I delivered her of a fine child. Mother and child did well.

Sixth case: I delivered Mrs. D., September 28, 1866, of her first child, a boy, at full term. Mrs. D. lived in the midst of a cholera district, but had never been afraid of the disease; both she and her child did well.

None of the women, it will be seen, died after delivery, although some had had intense fear. As these include my first six cases of obstetrics in private practice, and nothing of importance referable to the epidemic of cholera subsequently recurred, a further citation of cases is unnecessary, as they followed the usual course.

Gout and Asiatic Cholera.—On the 14th August, 1866, I was requested to go immediately to see Mr. B., aged fifty-five years, residing in West Fiftieth Street, an Irish gentleman of means without any occupation, whom I had previously treated during several severe explosive attacks of gout of the great toe and knee joints. This gentleman had a similar attack of cholera to that of Dr. Howard, and the same treatment relieved him. The influence of Asiatic cholera in curing a patient with gout was in this instance, as I imagine it was in others, of no avail in preventing subsequent attacks, as, within nine months after having had cholera, Mr. B. was under my professional care for very severe inflammatory gout.

Several years ago I studied all the epidemics of scarlet fever occurring in New York since it was first recognized as a distinct disease, and was surprised to see the irregular rise and fall of the tidal waves of death. In examining the various conditions supposed to increase or control an epidemic, I found many incomprehensible facts.

There are still mysterious problems in regard to the origin of epidemics, causing some observers in a locality to attribute cholera to atmospheric causes, others to argue that it may become endemic anywhere in the torrid zone, and others, now including by far the larger proportion of the profession, that it is due to a special parasite or ferment, capable of always reproducing the disease if planted in a suitable soil.

Dr. Frank H. Hamilton's Sanitary Results at the Work-house on Blackwell's Island.—After the epidemic had continued from the 28th of July to the 6th of August, during which period, of about eight hundred inmates, one hundred and twenty-three died, on August 10, 1866, Dr. Hamilton * addressed a letter to Dr. E. Harris, Registrar of the Board of Health, informing the department that he had fulfilled a promise made to the Board of Commissioners that he would drive out the cholera from the work-house in from three to five days, and that, on Monday, the pledge was redeemed.

Conditions of Life most conducive to an Attack of Cholera.—First comes great nervous exhaustion, when the vital forces are in a partially paralyzed state, and where the resistance to disease would be materially lessened. We have just this condition when we seek for the cause of ordinary cholera morbus, which so frequently appears in great violence after placing in the stomach articles of diet difficult to digest when the mental and physical forces are weakened, but which, during the robust states of the mind and body, produce no ill-effects.

In studying the histories of epidemics of Asiatic cholera, we soon perceive the fact of the great danger existing to those taking charge of and washing the soiled linen of patients; therefore, laundresses are particularly exposed, and statistics record the great mortality among those thus employed. In the spread of the contagion from place to place, nothing appears so potent as woolen garments, imperfectly dried, on which the bacilli are allowed to remain in a condition ready to assume active virulence whenever exposed to heat and moisture as they are unpacked.

Malignant epidemic cholera appears to attack all the races of mankind. The valuable reports of Dr. Ely McClellan, of the United States Army, amply confirm this opinion in regard to the negro race, and Dr. V. B. Hubbard, United States Army, also tells us that cholera prevailed to a considerable extent among the native Indian population, and that, in the Indian Territory, where he was on duty during the epidemic of 1867,† cholera occurred among the following tribes: Cherokees, Creeks, Caddos, Comanches, Seminoles, Wichitas, Delawares, and Shawnees, and that many of the Indians had no medical attendance, or treated each other with Indian remedies, which, so far as he could learn, consisted chiefly of oak-bark and other indigenous vegetable astringents.‡

Liability of Physicians to Attacks of Cholera.—Physicians and clergymen in daily attendance upon cases of malignant Asiatic cholera rarely fall victims to the disease if they observe the rules of hygiene, sleep in wholesome rooms, and live temperate lives; and the popular mind often wonders at this exemption, attributing it to a charm or some mystic influence. Many a time have I been secretly asked by the superstitious friends of the victims of infectious diseases how the gift had been acquired. Dr. Frank H. Hamilton # informs us that, of the fourteen house physicians and surgeons employed in the several buildings—at the work-house, penitentiary, and lunatic asylum—some

* Letter from Frank H. Hamilton, M. D., to E. Harris, M. D. Flint's "Practice of Medicine," third edition, p. 188.

† "Cholera Epidemic in the United States, 1867."

‡ Report from Fort Gibson, Cherokee Nation, pp. 57-59. Circular No. 1, War Department, Surgeon-General's Office, Washington, June 10, 1868.

"Theory and Practice of Medicine," A. Flint, M. D., p. 189.

of whom were in constant attendance upon the sick, not one suffered from the epidemic.

After becoming exhausted from almost constant attention to the malignant cases of cholera, I had an attack of the cholerine, but was soon well again. The danger I easily overcame by taking of the following mixture—℞ Tr. opii camph., tr. cardam. comp., tr. zingiberis, equal parts—a teaspoonful in hot sugar-water every hour until the symptoms were relieved. The remedy quickly relieved, and I did not lose a day off duty.

I had one physician under my care with cholera, Byron Howard, M. D., residing at 263 West Fifty-fourth street. I was sent for on the 14th of August, 1866, and found him with the painless rice-water diarrhœa and frequent vomitings, intense pain in the bowels, and cramps of the lower extremities. I kept him in a warm bed, and gave the general treatment. He convalesced rapidly. I disinfected and fumigated thoroughly, and not another case occurred in the house.

I may here be permitted to allude to the devotion of our army medical officers, as illustrated by the faithful services of Colonel McGill, U. S. Army. Dr. McGill had performed the most arduous duty with his command during the epidemic cholera. His wife took cholera at 8 A. M., and died about 10.30 P. M., July 17, 1867. On the 19th of July Dr. McGill took the disease, and on the following day, at 3.30 P. M., died.

Caution to Physicians against Rash Experiments.—Do not sacrifice a useful life unless there is a moderate guarantee that the benefit will sufficiently compensate others. Men have been known to drink the water containing the dejections of cholera patients; some have not been at all affected, while others have died in a few hours.

Others have made heroic *experiments by the injection of cholera-blood upon man and animals in search of the cause of cholera.* In the report* of the Cholera Commission at Marseilles, consisting of MM. Sicard, Taxier, Loucel, Livon, and Chareyre, the members offer, among other conclusions, the results of their demonstrations upon the rabbit, and state that the cholera is transmissible to the rabbit, as demonstrated by injection of the blood of a cholera patient at the algid period into the veins of the rabbit, causing the rabbit to die in twenty-four hours, with lesions entirely like those of cholera.

In the report of the Cholera Commission of 1878 in the United States there is an account of the death of "Dr. Obermeir, Virchow's assistant in the Berlin Hospital, which followed in consequence of his audacious boldness in the endeavor to detect the cause of cholera. He had many specimens of choleraic disease in his room, and finally injected cholera-blood hypodermically into his arm, and died in an hour, while endeavoring to examine his own blood microscopically."

Constant Attendance of Physician and Nurse demanded.—Owing to the disease of such rapid course, the importance of frequent visits by the physician must be apparent. For one who is able to pay for the necessary means to save life, I would have four trained nurses to each patient, and place two on duty together, the daily service being divided into terms of six hours, each set of nurses doing duty for one half of each day and night, each couple always being ready for duty promptly on the hour. Some of the inexperienced will be horrified at the expense; but ample experience in this city has taught me never to leave anything undone. I have had four trained nurses thus work harmoniously together, and have found that they had just as much as they possibly could do. In one instance of acute mania, during an attack of facial erysipelas, with frequent attacks of heart syncope, kidney disease, general anasarca, and pulmonary œdema, seen with me by my friend Dr. Austin Flint, I feel confident that, with fewer than the four excellent graduates of our training school for nurses, who were so judiciously selected for me by Miss Adelaide S. Mabie, T. N., our patient would have died, whereas she recovered, and is now living in the enjoyment of good health.

We shall be met by opposition, but very seldom, perhaps, by men who, in early life, have had to struggle to secure a position, who would give a large sum to a charitable purpose, or expend money lavishly for mere pleasure, yet refuse to do their duty while the opportunity lasts; but, if death should occur, would subsequently go through life seeking in vain forgiveness for their sins of omission.

Directions to be strictly obeyed by Nurses to protect themselves from the Cholera Poison.—Never eat a particle of food or take any drink during the six hours you are on duty. The habit of some nurses of tasting all delicacies sent to the sick is as dangerous to themselves as it is disgusting to the invalid.

Duration of the Disease.—Dr. Buell,* in summing up the cases treated in one of the New York hospitals in 1854, remarks that, of 469, the average duration of the diarrhœa was three days and six hours.

Medication.—Dr. Hutchinson, at the New York Academy of Medicine, March 21, 1866, stated that he had acted his part in two epidemics—one, in 1849, in the Mississippi Valley, and the other near New York—and he had come to the conclusion that the preferable plan was to disturb the patient with as few medicines as possible.

Dr. J. T. Metcalfe,† in speaking of the prophylactic measures to be adopted, refers to the importance of quarantine and sanitary regulations, and, after the disease has merged into the algid state, to the necessity, if we must expect success, of the arrest of the painless diarrhœa.

Kidneys.—Inactivity of the kidneys and suppression of urine may follow the excessive vomiting, diarrhœa, or perspiration of the algid stage. In seeking the restoration of the suspended function of the kidneys, use the greatest caution. If death occurs, they will be found contracted and almost bloodless. To establish the restoration, I have found dry cupping over the loins to be beneficial; and, as a good diuretic, I have found nothing more gentle or efficient than the compound infusion of buchu, uva ursi, and juniper berries, largely diluted with warm water. Of course, the physician will see the propriety of not endeavoring to estab-

* Medical Record, October 25, 1884.

* "Medical Record," 1866, p. 56, Lecture by A. Clark, M. D.

† Opening of the discussion by Dr. J. T. Metcalfe at the New York Academy of Medicine, February 21, 1866.

lish a flow of watery excretion from the kidneys so long as the liquid elements of the blood remain much below the normal standard.

Sequelæ—Effects on the Morale.—A severe attack of Asiatic cholera often produces a change in the disposition and morale of an adult rarely recovered from. For an active, vigorous, and prosperous man or woman to be thus suddenly stricken down is like a severe shock to the nervous system. I have watched the subsequent lives of those who were formerly very prosperous and brave, and in different spheres of life noticed the entire change after attacks of cholera—the merchant will fail in business; the professional man become visionary, and seek new fields for usefulness; the ambitious mechanic depend upon his friends; and the laboring man become a chronic inebriate. I could give names and residences of illustrations in each of these classes.

The United States Government has done much to aid the profession in the study of epidemic Asiatic cholera. The valuable report, by the late lamented Brevet Lieutenant-Colonel J. J. Woodward, M. D., U. S. Army, on epidemic cholera in the army of the United States during the year 1867, and the history of the cholera epidemic of 1873 in the United States, including the report of the late Supervising Surgeon John M. Woodworth, M. D., U. S. M. H. S.; and reports prepared under the direction of the late Surgeon-General Joseph K. Barnes, M. D., Brigadier-General, U. S. Army, including "A History of the Cholera Epidemic of 1873 in the United States," by Ely McClellan, M. D., U. S. Army; "History of the Travels of Asiatic Cholera," by John C. Peters, M. D., of New York city; and the most complete bibliography on cholera ever prepared or published in any language, by Brevet Colonel John S. Billings, M. D., LL. D., U. S. Army, published by the War Department at Washington, 1875—are works of the greatest professional importance, and bear testimony to the abundant fruitful results following the various appropriations made by the United States Congress for the furtherance of the study of the science of medicine and the welfare of mankind.

Have the recent scientific investigations been of any practical advantage? Have we learned anything of service to guide us through epidemics that we did not know last year? The following synopsis of a recent scientific report confirms the advantage of an acid reaction of the stomach as the best mode of preventing an attack of cholera: Several years ago Dr. McClellan, U. S. Army, gave us many printed histories of the acid treatment. In the sixth report of Dr. Koch, of the German Cholera Commission, dated Calcutta, February 2, 1884,* he tells us that "another peculiarity of the cholera bacteria is that they die, upon drying, much more quickly than most others. Commonly all life is extinct after three hours' drying. It has also been noticed that their development only takes place well in substances having an alkaline reaction. A very small amount of free acid, which would have little or no effect on other bacteria, puts a marked check to their growth.

"In a healthy stomach they are destroyed, which is shown by the fact that neither in the stomach nor the intestines of animals which had been constantly fed on the cholera bacilli, and then killed, were any found. This last peculiarity, together with the impossibility of their withstanding drying, gives an explanation of the every-day observation, that infection so seldom occurs from constant intercourse with cholera patients. Evidently, that the bacilli may be in condition to pass the stomach, and bring about the cholera in the intestines, peculiar conditions must be present. Perhaps, when the digestion is imperfect, the bacilli might be able to pass the stomach; and the fact observed in all cholera epidemics and in India, that those suffering from indigestion are especially subject to cholera, may bear out this view. Perhaps a peculiar condition, analogous to the period of inoculation of other bacteria, would enable them to pass the stomach uninjured."

The danger to New York city of an epidemic of cholera within the next year is very great, if the strictest sanitary rules are not followed. New York has advantages possessed by very few large commercial cities. It has an abundant supply of exceedingly pure water, brought a distance of forty miles from a water-shed situated in one of the most beautiful parts of our State.

Microscopical Examination.—For at least ten consecutive years I regularly examined the sediment of our Croton after allowing a bathtubful to remain settling all night, during the periods of midsummer and autumn. After dry seasons, I found present all the vegetable and animal growths illustrated in our Board of Health reports by Dr. Chandler, and found that these could easily be destroyed by two ready methods and at comparatively no cost. The first is by thoroughly boiling the quantity required for drinking purposes, this to be placed in large clean bottles, or jugs, or glass demijohns, surrounded by ice until required for use. The second, which may be employed by the very poorest, who may not be able to keep an abundance of ice, at a cost of less than ten cents a month for a large family, is to put enough powdered alum to cover a silver dime-piece into a pitcher containing two quarts of water, and allow it to remain for one hour, when all dangerous animal and vegetable growths will have been found dead and settling to the bottom. It may be asked if the alum will not do harm. Experience and my personal observations at the alum springs of Europe, where I have seen strong alum-water drank daily, convince me that in much larger quantities it often acts most beneficially in catarrh of the stomach, and I have never known it to do the slightest harm.

Sewage.—No city has a better location for a perfect system of sewers than New York—situated on and covering the entire island of Manhattan, and surrounded by sea water, with currents ever-flowing, in or out, corresponding with the rising and falling of the daily tides. The island is long and narrow, with a high ridge running along the center for nearly its entire length—representing a ship with bottom up, the edges corresponding to the East River on one side, and the Hudson River on the other, with drains and sewers commencing near the highest point, at the center—at Broadway and Fifth Avenue—then taking divergent courses, down hill, to either side at the river.

New York has been taxed sufficiently for the building

* Translated from the "Berliner Klinische Wochenschrift," March 31, 1884, for "Science."

of the most serviceable sewers, and I believe all work of this character done for the last ten years, by our Board of Public Works, to have been much better than that of the preceding ten years.

The danger of New York in connection with the water supply and sewage systems, in my opinion, is in those houses where the water-closets and sinks have, during a greater part of the day, no running water. Occupants of such dwellings invariably, in a year or two, present symptoms of general septic poisoning, which not only produces bodily ills, but at times so much affects the mind that I have known it to produce failure in profession or business, general loss of ambition, the grossest immorality from a worried mind in a sick body; and I have also personally observed death, and, still worse, several cases of incurable insanity—all traceable to preventable causes in insanitary homes. Even now the homes of some of our rich New York residents can properly be called only sepulchres, thousands of dollars having been spent in them upon all means for excluding sunshine and fresh air. They are loaded with draperies, bric-a-brac, ancient paintings, statuary, etc., but the plumbing is imperfect, the furnace-heated cellar-air ascends heavily charged with carbonic-acid gas, and the ever-weary, languid, unhealthy victims persist in blindly following supposed fashion. Woe will surely follow in such households if Death, in the guise of Asiatic cholera, once gains an entrance.

Even if cholera should appear in America, New York offers advantages as a place of residence over most country villages and towns, in consequence of its vigilant Health Department, its sewers, and water supply; and a review of the results of previous epidemics strongly confirms this opinion. Only recently, during the summer, after reading an article concerning the filthy state of New York streets, I drove through several of those complained of, and went from Fifth Avenue to the river. I must confess that I felt proud of living in such a clean and beautiful city, and can not too strongly express my detestation for those who, in their frequent visits to Europe, go only to the best quarters, and return to the city, where they are blessed by so many luxuries and comforts, only to vilify it, and say we should copy from the Old World. At different seasons of the year I have visited London, Paris, Turin, Rome, Naples, Florence, Strassburg, Venice, Amsterdam, Antwerp, Cologne, Geneva; and on our own continent I have visited all the small and large cities from the extreme north in the Dominion of Canada to the southern part of Florida. I did not confine myself to visiting the palaces of the princes and the rich only, but I also went into the by-ways and alleys, often in company of the best guides and officers of police, and, as a result, I must candidly assert that, as a place of residence for the rich and the poor, few places on earth offer the sanitary advantages of New York. And as a safe haven to reside if cholera came to this country, these thoroughly equipped sanitary homes of New York offer the safest place to either keep exempt from cholera, or, if it is contracted, to recover from the disease.

The first week in October, 1884, I took a carriage drive over one hundred miles of New York State and Connecticut, and in August through forty-eight miles of the State of New Jersey, passing through some of its most beautiful villages. I observed the men, women, and children, and for over the hundredth time was convinced that the happiest and healthiest and most useful people, as well as the most unfortunate and distressing poor, live in the cities, the contrast becoming greater with the age and density of the population.

As a place of residence during an epidemic of Asiatic cholera, therefore, New York city offers great advantages over the usual country resorts our citizens seek as places of health and recreation. With an efficient Health Department, good sewers, an abundance of pure Croton water, clean streets, and our usual prevailing winds, New York, in my opinion, is a place of safety. My personal experience during the summer of 1866 amply confirms this conclusion, as in not a single instance did I see more than one case of cholera in any house where they had perfect plumbing, pure air, good sewer connections, and an abundance of water. I have remained on professional duty in New York at least fifteen years during the entire heated term of our summer, and, should an epidemic of Asiatic cholera appear in America next year, I would consider my own city home the best place for the protection of my wife and six children.

Conclusions.—Asiatic cholera only appears in America as an epidemic, which in two or three years exhausts itself. Its cause is dependent upon a peculiar bacillus or ferment, which, when planted in a suitable soil, causes malignant cholera. The experience of a very large proportion of the profession, years ago, empirically demonstrated that a decided acid reaction of the secretions of the stomach and bowels prevented an attack.

Asiatic cholera is a self-limited disease, attacking all the races of mankind and at all ages; it is of very short incubation and duration; it may prove fatal as rapidly as in three hours from the time of apparent health; it is amenable to treatment and good nursing. In the treatment, the first object is to place the patient in the recumbent position, maintain the temperature of the body by the application of artificial external heat—counter-irritants, such as mustard and camphor over the abdomen, are good; and to supply the blood with water, lost by excessive vomiting and purging, allow the patient to swallow ice in small pieces, or to slowly sip pure water; for nourishment, give only liquid food, such as clam-juice, meat-broth thickened with rice or barley, brandy or whisky, largely diluted tea, coffee, or coca infusion, raw eggs, and cream diluted with water. Avoid acute indigestion by overloading the stomach with food hard to assimilate. As medicine to prevent the disease, in the anæmic, give tr. ferri chlor., ten drops in a wineglassful of water three times a day; in the robust and plethoric, ten drops of the aromatic sulphuric acid in a wineglassful of water three times a day. Medicinal treatment for the disease, diffusible carminatives and anodynes, such as: ℞ morphin., gr. j; tr. cardam. comp., ℥ j; tr. capsici, ℥ iij; sp. camphor., ʒ j. M. For an adult, a teaspoonful in two ounces of water every fifteen minutes, until the symptoms are rendered tolerable; then give guardedly until the effects of the anodyne can be noticed in the diminished size of the pupil. This treatment may be required for at least three

days, after which, if the disease appears to be controlled, the treatment for an ordinary convalescence may be followed. The treatment for the young and infants would, of course, be modified to correspond with the known effects of the anodynes at these more susceptible ages. As relapses are apt to occur, it is well to keep the patients under observation for at least ten days, if the attack has been a severe one, and to avoid all causes of mental depression, as a shock, such as hearing of the death of a dear one, may so depress the vital forces that death may follow. For the painful cramps of the muscles of the extremities, nothing relieves so quickly as circular compression with the hands of the attendants; a cramp of the calf of the leg may frequently, in a few seconds, be overcome by moderately firm bandaging, the bandage to be removed the instant the cramp ceases.

Remove, as quickly as possible, all soiled linen, and purify by either drying by artificial heat or by immersing them in a solution of alum, one part of alum to fifty of water, allowing them to remain for an hour after thorough soaking. The advantage of alum over other substances to destroy germs I have found to be: That it quickly destroys all deleterious vegetable or parasitic germs, it is very soluble in water, does not stain, and rarely affects any of the ordinary dyes.

Quarantine, if absolutely perfect, will surely prevent cholera in America. Cholera historians tell us that the disease is indigenous in Central Asia. A large proportion of those affected with cholera will recover.

The diseases following cholera are caused by injury done to the organs during the transit of the bacilli, and not to any retention of the special poison itself.

Cholera is a disease beyond the reach of the local practitioner to prevent or control; only those vested with governmental authority have the power to enforce the necessary quarantine and means for extermination. It is, therefore, a disease to be battled with by the public authorities, and, in case of its return, I feel assured that all physicians who have personally struggled with Asiatic cholera in the homes of the afflicted will gladly, during any future epidemic, quickly do their duty.

If cholera comes to this country, do not get panic-stricken, but quietly continue in the even tenor of your lives, and the great probabilities are that, even if you do get it, recovery will quickly follow. The modern science of the physician has robbed the disease of most of its former terrors.

DOES QUININE ABORT PNEUMONIA?*

By L. EMMETT HOLT, A.M., M.D., New York,
PHYSICIAN TO THE NORTHWESTERN DISPENSARY; INSTRUCTOR IN THE NEW YORK POLYCLINIC.

Great advances in our positive knowledge have been made since we began to study the natural course of disease uninfluenced by drugs. Again and again have we found that sudden and unexpected changes in the symptoms for the better may come from natural causes, when, had we accidentally administered some favorite drug at the time, it would have been well-nigh impossible not to believe that these events stood in the relation of cause and effect.

The skepticism regarding the abortion of acute diseases, particularly those of a zymotic character, is constantly increasing. It is to a rank among diseases of this class that lobar pneumonia seems rapidly advancing within the past few years. The discovery in the exudate of a peculiar micrococcus, first fully described by Friedländer, and since confirmed by Maguire and others, will go far to settle this vexed question.

Probably no disease, however, has afforded such a scope for the application of abortive measures as lobar pneumonia. Venesection, antimony, veratrum viride, aconite, calomel, quinine, and many other remedies have, each in its turn, had their advocates, their popularity, and their decline. Most of them are obsolete at the present time. Some are still strongly advocated.

The use of quinine in this connection appears to be a practice distinctly American, both in its origin and in its general application. English and continental writers either do not mention it at all, or merely allude to the esteem in which it is held here. The prevalence of malarial fever here has led to the use of quinine for nearly every conceivable disease, often with good results, often with negative results; sometimes, and not infrequently, too, positive harm has been done.

Two well-known American writers on pneumonia still pronounce quite strongly in favor of quinine as an abortive remedy in that disease. One says it can do no harm, and may favorably modify the course of the disease when it fails to abort it. Another writer states that a full dose of quinine given at the outset often aborts pneumonia. His favorite method of administration, he tells us, is to combine it with half a grain of morphine, to give two drops of the tincture of aconite every two hours, to apply a mustard poultice to the chest, and to administer a cathartic. With such a combination, why he should believe the quinine to be the efficient agent he does not state.

While I do not wish to be understood as denying the possibility that lobar pneumonia may be cut short by quinine, I still believe that a critical examination into those exceptional cases where this result seems to be achieved would reveal the existence of some other factor in the problem.

I wish to call especial attention to a class of cases which in many respects closely resemble pneumonia, and occur under circumstances where one might easily be led to believe that disease had been aborted by quinine. I refer to the pulmonary symptoms which occur with malarial fever.

Two years ago, while studying somewhat minutely all the cases of malarial fever in children which came to the dispensary, I met with a number of patients whose history of a remittent or intermittent febrile movement, beginning quite abruptly and passing off with sweating, left very little room for doubt of the fact that they were suffering from malarial poisoning. My attention was called to the chest by the very rapid breathing. This was frequently sixty or seventy a minute, and in two or three cases it

* Read before the Medical Society of the State of New York, February 3, 1885.

reached one hundred. Cough, although present, was not regarded as very significant, as it is so common in malarial cases.

On examining the lungs of these patients, physical signs were found which were quite uniform, and which at first puzzled me very much. In several cases there was an appreciable amount of dullness, although, as a rule, the signs were chiefly on auscultation. The breathing was very high-pitched, usually broncho-vesicular in quality, but several times it was pure bronchial breathing. The voice-sounds were exaggerated. Sometimes no râles whatever were heard, at others fine mucous, and occasionally subcrepitant, râles were present. There was no part of the chest which seemed to be affected by special preference. Sometimes both apices were involved, sometimes only one. The right middle and the right lower lobe have been affected when the rest of the chest was normal, or nearly so. Once or twice the axillary region of one side was found to be the principal or exclusive seat.

In the course of several months, at the time referred to, seven such cases were seen, malarial fever being especially prevalent at that season. I have seen four cases since that time.

In those which came first under observation, at the first examination a diagnosis of pneumonia was made without hesitation. When, the following day, these patients were found running about the house, with a normal or nearly normal temperature and respiration, I must confess to some surprise, which was not materially lessened when, on an examination of the chest, it was found that all the signs of the day before had vanished completely, or had dwindled to those of a slight bronchial catarrh.

It seemed clear that some other explanation must be sought than pneumonia, or malarial disease complicated by pneumonia. Sometimes the pulmonary symptoms and signs returned with the next exacerbation of fever. About such there could be very little doubt regarding the existence of an intense pulmonary engorgement depending upon the malarial poison. This was finally adopted as the most plausible theory by which to explain all the cases.

Had I been seeking to establish the value of quinine in aborting pneumonia, some of these cases might, without a very great bias of opinion, have been so construed. But I was skeptical regarding this fact, and studied these cases more critically. Some of the patients were given no quinine. The pulmonary symptoms then diminished very much as the fever remitted, but returned as the fever rose again. Where only small doses of quinine were administered, the symptoms were greatly modified during the next exacerbation. Where full doses were given, the disease was promptly and permanently controlled.

All authors agree that any abortive measures in pneumonia, to be effective, must be used at the very outset — within the first twelve hours after the onset at least.

I think there was only one of these patients who was seen on the day of his attack. The majority were seen on the second day, some not until the third. A distinct history of a remission of symptoms was almost invariably given, these becoming more and more severe with each succeeding exacerbation of fever.

In viewing these cases collectively, several points of peculiarity are brought out, by considering which we may, I think, avoid mistaking them for true pneumonia.

In the first place, the temperature is usually higher than we expect to see on the first or second day of pneumonia. In several of these cases it was 105° or 105.5°, and in one or two over 106°.

Another point, and a more important one, is the want of correspondence between the high temperature, the rapid breathing, and the physical signs, on the one hand, and the general appearance of the patient on the other. There is no other disease, I think, in which a patient can have so high a temperature and show the effect of it, in his face and general condition, so little as in malarial fever. I have been saved from pronouncing an unqualified diagnosis of pneumonia in several of these cases merely from the fact that the patients did not seem sick enough to have pneumonia with that temperature.

I think we all come to recognize this amount of general disturbance as a valuable means of diagnosis in many diseases, without being able accurately to define it.

A third point is the presence of splenic enlargement. It is true that this might be mistaken for consolidated lung, but, if the possible error is borne in mind, it will not often be made. As these malarial cases are usually very acute ones, and as it is only during the paroxysm of fever that the diagnosis is likely to be difficult, we may expect to find a marked enlargement of the spleen. I have rarely found it wanting.

Notwithstanding all, there are some cases in which a positive diagnosis from a single examination of a patient is impossible.

If such a case is closely watched for twenty-four hours without active treatment of any sort, it becomes very apparent that it is not pneumonia when we find that the temperature shows a marked fall, usually of four or five degrees, with a corresponding remission in all the symptoms, and changes in the physical signs, as described.

A form of pernicious intermittent is mentioned in which the poison produces an intense engorgement of the lungs with the congestion of the spleen and other organs. Intense dyspnœa and hæmoptysis are usually present.

None of my cases were severe enough to merit the term pernicious. The patients all recovered. Yet I do not see why the same explanation may not hold in regard to them. The literature of malarial disease, so far as I have been able to study it, has but little to say regarding pulmonary congestions, except in the pernicious variety, either in children or in adults. I do not think these cases are very rare, even in the forms of malarial fever which we meet with in New York.

As stated at the beginning, my own observations on this subject have been made chiefly on children. I think these congestions are more common in early life than in later years.

The question naturally arises, Supposing these cases had been allowed to go on untreated, would they finally have resulted in the development of a true pneumonia?

This is, of course, an exceedingly difficult point to determine. So far as the condition of the lung is concerned,

we know that it must be very nearly the same as in the first stage of pneumonia. On theoretical grounds it might seem very easy for it to pass on into the other stages. However, the facts show that this is not likely to occur.

Those cases which had been allowed to go on two or three days without treatment yielded almost as promptly to antiperiodic remedies as those seen earlier.

In answering the question whether quinine aborts pneumonia, the source of error above alluded to must be borne in mind. It is believed that many of these cases can be explained upon this ground.

23 PARK AVENUE.

Book Notices.

Pyuria, or Pus in the Urine, and its Treatment. Comprising the Diagnosis and Treatment of Acute and Chronic Urethritis, Prostatitis, Cystitis, and Pyelitis, with especial reference to their local treatment. By Dr. ROBERT ULTZMANN, Professor of Genito-Urinary Diseases in the Vienna Poliklinik. Translated, by permission, by Dr. WALTER B. PLATT, F. R. C. S. (Eng.), Demonstrator of Surgery in the University of Maryland, Visiting Surgeon to Bayview Hospital, Baltimore. New York: D. Appleton & Co., 1884. Pp. 98. [Price, $1.]

DR. ULTZMANN'S little brochure is so familiar to most readers of German that it needs no extended criticism. No one will dispute the translator's apology for rendering the work into our own tongue. The style presents that admirable clearness and purity which distinguish the popular Vienna lecturer, and we may always be sure that he leaves no subject unintelligible. The book consists of five chapters, preceded by a short introductory section upon the physical and chemical character of pus. Chapter I treats of urethritis; Chapter II of catarrh of the neck of the bladder; the three succeeding chapters discuss, respectively, cystitis, pyelitis, and pyelo-nephritis, and, lastly, the treatment of pyuria.

About one third of the volume is devoted to therapeutics, the author dilating upon his peculiar method of local treatment, especially the so-called "deep injections."

The translator's work is, in the main, satisfactory, although there are several careless errors in spelling (even upon the title-page), which indicate hasty proof-reading. In more than one instance the German construction of sentences is followed too closely to suit an English ear. The book is neatly bound and printed on good paper, and the illustrations, ten in number, are well executed. A short index would add to the value of the work.

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Surgery. A Treatise on Surgical Injuries, Diseases, and Operations. By John Eric Erichsen, F. R. S., LL. D., F. R. C. S., etc. Eighth Edition, revised and edited by Marcus Beck, M. S. and M. B. Lond., F. R. C. S., etc. With nine hundred and eighty-four engravings on wood. Vol. II. Philadelphia: Lea Brothers & Co., 1885. Pp. xxviii–33 to 1205, inclusive.

A Manual of Human Physiology, including Histology and Microscopical Anatomy; with special reference to the requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Translated from the fourth German Edition with additions, by William Stirling, M. D., Sc. D., Regius Professor of the Institutes of Medicine, or Physiology, in the University of Aberdeen. With 176 Illustrations. Vol. I. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xxxi–514. [Price, $4.50.]

Insanity and Allied Neuroses: Practical and Clinical. By George H. Savage, M. D., M. R. C. P., Physician and Superintendent of Bethlem Royal Hospital, etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. viii–544.

The Student's Guide to Clinical Medicine and Case-taking. By Francis Warner, M. D. Lond., F. R. C. P., Assistant Physician, Lecturer on Botany, and late Medical Registrar to the London Hospital, etc. Second Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–211. [Price, $1.75.]

A Compend of Surgery. For Students and Physicians. By Orville Horwitz, B. S., M. D., Resident Physician at the Pennsylvania Hospital, etc. Second Edition, revised and enlarged, with Sixty-two Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 9 to 156, inclusive–vii.

Biennial Message of Gov. Jacob B. Jackson to the Legislature of West Virginia, Session of 1885.

The Diagnosis and Treatment of Chronic Nasal Catarrh. Three Clinical Lectures, delivered at the College of Physicians and Surgeons, New York, by George Morewood Lefferts, M. D., etc. [Reprint from the "Medical News" and from "American Clinical Lectures."] St. Louis: Lambert & Co. Pp. 49.

L'Epatite Suppurativa. Di G. B. Ughetti, Professore, etc. [Reprint from the "Rivista Clinica."]

On the Necessity of Providing for the Better Education of Children with Defective Hearing in the Public Schools. By Samuel Sexton, M. D., etc. [Reprint from the "Medical Record."]

Address in Medicine, delivered before the Medical Society of the State of Pennsylvania, 1884. By W. H. Daly, M. D., Pittsburgh, etc.

Extensive Burn, involving the Cavity of the Knee Joint. By W. H. Daly, M. D., Pittsburgh, etc. [Reprint from the "British Medical Journal."]

Denison's Seasonal Climatic Map of the United States. Graphically illustrating combined Humidity Statistics with Isotherms, Wind Statistics, and Seasonal Tables. Compiled from Data of the Signal Service Bureau by Charles Denison, A. M., M. D., etc., Denver, Colorado. Chicago: Rand & McNally.

Transactions of the College of Physicians of Philadelphia. Third Series, Volume the Seventh.

Cerebral Localization in Relation to Insanity, with Cases. By J. M. Carnochan, M. D., etc. [Reprint from the "Medico-Legal Journal."]

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Being a Series of Resolutions passed by the Medical Officers of Schools Association, January 7, 1885. London: J. & A. Churchill, 1885. [Price, 1s.]

A Case of Unilateral Spasm of the Tongue. By Edmund C. Wendt, M. D., New York. [Reprint from the "American Journal of the Medical Sciences."]

Transactions of the American Dermatological Association, 1884. Official Report, by W. T. Alexander, M. D.

Cases of Arsenical Dermatitis. By James C. White M. D., etc. [Reprint from the "Boston Medical and Surgical Journal."]

Psoriasis—Verruca—Epithelioma; a Sequence. By James C. White, M. D., etc. [Reprint from the "American Journal of the Medical Sciences."]

Seventeenth Annual Report of the New York Orthopædic Dispensary and Hospital.

Martin's Directory of the Druggists of the United States and Canada, 1885. [Price, $2.50.]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 21, 1885.

THE REPORT OF THE SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE.

Surgeon-General Hamilton's report for the year 1884, together with the statistics appended to it, forms an attractive volume. In view of the responsibility that still rests on Dr. Hamilton's bureau as our only national safeguard against the introduction of cholera and other pestilential diseases, Congress having thus far failed to provide for any other comprehensive system of sanitary administration, the state of the service is of the greatest interest to every inhabitant of the country. Such being the case, we are glad to be able to say that our inference from reading the report is to the effect that the bureau is prepared to do all that could reasonably be expected from an organization already charged with other onerous work, and having at its disposal but a small appropriation with which to perform the task.

In the matter of quarantine—using the term in the wide sense given to it in the admirable remarks addressed by Dr. Van der Poel to the Medical Society of the State of New York early in this month—the utmost importance must be attached to the system of sanitary inspection of emigrants from Europe and their effects by our agents at the ports of embarkation. It is with pardonable pride that Dr. Hamilton alludes to the fact that this measure originated with his predecessor, the late Surgeon-General Woodworth. It is to be hoped that too great a reduction has not been made in the number of ports at which such agents are now maintained, and that there will be no failure to increase the number before the cholera starts on its voyage across the Atlantic. With quarantine in its narrow sense, that of an indiscriminate and irritating obstruction of travel and transportation, the bureau seems to have no sympathy. That it adheres to the position it took some months ago in the matter of the disinfection of rags before their shipment to this country does not appear to us to run counter to this statement.

The volume contains much that is of interest relating to the ordinary work of the bureau, the care of sick and injured seamen of the merchant service, and concludes with a number of carefully compiled statistical tables and a few clinical histories. It appears that the service is in danger of finding itself without a hospital at the port of New York in the course of the current year, as the lease of the property now occupied for that purpose on Staten Island is about to expire, and Congress has made no provision to meet the case. This omission seems to have been due to some extent to the puerile objections entertained by some of the citizens living in the neighborhood of the property that it has been proposed to purchase to the effect that a hospital is not a desirable institution for the locality. "In reply to this objection," says the report, "it is only necessary to say that the hospital must be *somewhere;* that a similar feeling on the part of the citizens of New York would drive out of that city some of the noblest hospitals on the continent; and that contagious diseases are not received into general hospitals, but are treated at special quarantines or other special hospitals. A marine hospital is not a pest-house."

BRILLIANT RECORDS IN ABDOMINAL SURGERY.

The "British Medical Journal" for January 31st is in many respects a notable number, since it contains no fewer than four articles bearing upon the subject of abdominal surgery, three of which present the statistics of prominent ovariotomists.

Dr. Keith's report on thirteen cases of supra-vaginal hysterectomy, with only one death, will be read with deep interest, not so much because records of success are always attractive, but because the reader will cherish the faint hope that he may be able to discover its secret. But this secret still eludes us; Dr. Keith himself seems rather at a loss to account for it. He continues to regard the spray as a "useless ceremony," and believes that "few (among whom Mr. Thornton is excepted) are careful enough" about the details of operations. The word antisepsis with him is simply a synonym for cleanliness, so that it is difficult to see why he clings to the former word. "We must look for greater success in hysterectomy," he writes, "in the developing of the technical methods of operating."

Dr. Keith is not very clear as to his manner of treating the pedicle after hysterectomy, but he appears to differ with the Germans, as a rule, in favoring the intra-peritoneal method. The perfect frankness and bluntness which characterize the great Edinburgh surgeon's statements must carry conviction to the hearts of even his opponents, while his statistics are more convincing than any arguments.

Dr. Savage reports in the same journal one hundred and four cases of abdominal section during a single year, with nine deaths. His deductions are important. He believes in operating early, and, moreover, he uses drainage-tubes more frequently than formerly. After removal of the uterus he advises their employment in all cases where there is likely to be oozing. The tubes generally employed are too short, he thinks; he has them made as long as eight inches. Dr. Savage's conclusions with regard to pyosalpinx are interesting. He believes that the condition can be recognized before operation, that it is generally due to gonorrhœa, and that laparotomy furnishes the only certain means of relief. The closing sentences, upon the *toilette du péritoine*, are highly significant. "I am never afraid of my sponges," he says; "I attend to them myself, and so know the life-history, as it were, of every one of them from the moment they leave the shop where I purchase them until they do service in an abdominal cavity."

The statistics of Mr. Tait's one thousand operations have already appeared elsewhere. They are of great interest, especially those which relate to the removal of the uterine appendages. His results in hysterectomy are rather significant when compared with those in his other cases of laparotomy, since he

lost nineteen out of fifty-four patients. In every instance in which the pedicle was treated by the intra-peritoneal method he records death from oozing. Mr. Tait justly regards this operation as the most serious one in peritoneal surgery, and he believes that the ideal method is yet to be discovered.

In an able editorial in the same number the evidence presented by Mr. Tait is summed up, and the verdict is given that "the mortality must be far lower than four per cent. before surgery can encourage oöphorectomy for mere theoretical purposes, nor is an operation always justifiable because the patient recovers from it."

A study of such records can not fail to be instructive to American operators. They will certainly be regarded by many as a strong argument in favor of the uselessness of the spray.

REMOVAL OF THE CANCEROUS UTERUS.

For a subject which has been discussed as much as this, the question of removal of the uterus for malignant disease is still in a very unsettled state. We turn to recent German literature, and it fairly teems with brilliant statistics and loud praise of the operation. Occasionally some conservative surgeon raises a dissenting voice, but he is speedily "cried down" by more enthusiastic or more successful operators. Whatever may be the real judgment of the American profession with regard to this extreme measure, we can not but believe that they will sympathize entirely with the sentiments expressed at a recent meeting of the Obstetrical Society of London. The gentlemen who joined in the discussion were entirely at harmony in the opinion that in most cases complete removal of the uterus for cancer of the cervix was unjustifiable, supra-vaginal amputation being the operation indicated; and that even in malignant disease involving the body of the organ the radical procedure was of doubtful propriety, since one could never be sure that the affection was limited to the uterus. Stress was laid upon the latter objection by Mr. Alban Doran, who demonstrated anatomically the exceeding richness of the broad ligaments in lymphatic plexuses, all of which communicate with the uterus and vagina, so that it is almost impossible for the disease not to spread into the neighboring tissues.

Dr. Playfair and Mr. Thornton were equally positive in their opinions that in removing the cancerous uterus the surgeon could seldom entertain the hope that he had eradicated the trouble. We regard this united and decided expression of disapproval on the part of some of the most thoughtful and experienced English specialists as more significant than any reports of isolated cases.

MINOR PARAGRAPHS.

THE DISCOVERY OF THE MIGRATION OF THE WHITE BLOOD CORPUSCLES.

At a recent meeting of the French "Académie des sciences" the statement was made that Dutrochet published, in 1824, an accurate description of the migration of the white corpuscles which agrees in all the essential points with the results of Cohnheim's subsequent observations. The reader will hardly agree, however, with the gentleman who maintained that "all the honor should belong to Dutrochet and not to Cohnheim."

The "Deutsche Medizinal-Zeitung," commenting upon this matter, asks very pertinently whether the lenses then in use were of such power as to render the necessary observations possible.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

The figures that have now been made public by the association charged with the collection and apportionment of the fund show that the collection for the year 1884 fell somewhat short of that for the preceding year. This fact is attributed in some degree, and no doubt with justice, to the depressed state of business at the close of the year; but it is difficult to see why the financial situation should not have operated to diminish the receipts through the auxiliary trade channels as well as those from the church organizations; the fact is, however, that the trades gave an increased amount, one that nearly made up for the falling off on the part of the churches. Besides the depression in business, the report alludes to the circumstance that the weather was very unfavorable on the day that the chief collection was taken up from the churches; perhaps this may account for the fact that only the Jews increased their contribution over that of the year before.

THE SUPPLEMENTARY REPORT OF THE ENGLISH CHOLERA COMMISSION.

Dr. Klein has submitted to the English Government some additional information with regard to the work of the Commission. His report deals mostly with the results of examinations of tank-water which was collected in a limited cholera district in Calcutta. He asserts that he visited the tank in which Koch found the comma bacilli, on the presence of which in the water the German investigator largely based his theory of the parasitic origin of the disease. Dr. Klein admits that he found undoubted bacilli in the tank, but he adds this damaging statement: "There has occurred during the whole of November, 1884, one single case of cholera, although about two hundred families use the water." Facts such as these (and others are promised) will compel the Berlin school to look to its laurels.

A WORD TO OUR CONTEMPORARIES.

On one or two occasions we have intimated our appreciation of the compliment that some of our contemporaries have done us from time to time in adopting our articles as their own. That appreciation is unchanged, but we have no craving for more compliments of the sort; indeed, they have become too numerous to be endured. The last number of an English journal contains several articles taken from our columns, all without the slightest credit; there is a weekly journal published in this country that almost regularly appropriates a number of our items; and very recently one of the most pretentious of our contemporaries gave its readers as original matter a paragraph which, save for a slight change in the opening sentence, appeared in our issue of June 14, 1884. Enough of this sort of thing has happened, and we give notice that we shall discontinue the exchange with those journals that persist in appropriating our contents.

NEWS ITEMS, ETC.

The University of Buffalo.—The Alumni Association of the Medical Department of the University of Buffalo will hold its annual meeting on commencement day, Tuesday, the 24th inst. The programme includes an address of welcome, by Professor M. D. Mann; the president's annual address, by Dr. E.

C. W. O'Brien; a paper on "The Relation of the Faulty Education of Girls to the Diseases of Women," by Dr. W. W. Potter; a paper on "Monomania," by Dr. W. D. Granger; and papers on sanitary matters, by Dr. Van Pelt, of Detroit, and Mr. George E. Mann, of Buffalo. These exercises will be succeeded by the annual banquet and reunion.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 17, 1885:

DISEASES.	Week ending Feb. 10.		Week ending Feb. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	5	3	11	3
Scarlet Fever	89	19	67	11
Cerebro-spinal meningitis	7	6	5	5
Measles	107	33	135	24
Diphtheria	47	24	75	36

The New York State Medical Association.—The First District Branch will hold its first special meeting at the Clarendon Hotel, in Brooklyn, on Wednesday, the 25th inst., at 2 P. M. The following named papers will be read: "Note on Contracture of the Bladder consequent on Cystitis," by Dr. J. W. S. Gouley; "Puerperal Eclampsia," by Dr. N. C. Husted; "Oleate of Cocaine," by Dr. E. R. Squibb; and "Disinfection," by Dr. R. M. Wyckoff. A collation will be served at 6 o'clock.

A Dispensary for Nervous Diseases has been established in Brooklyn, with Dr. Landon Carter Gray and Dr. Lewis D. Mason for attending physicians; Dr. I. H. Platt, Dr. G. R. Butler, Dr. J. McManus, and Dr. F. A. Jewett, for associate attending physicians; and a pathologist and a consulting staff of eight gentlemen.

Koch's Laboratory.—The difficulty of obtaining entrance as a student in Koch's laboratory is so great that, as was stated in our last issue, few foreigners succeed in securing the permission of the German Government. Dr. F. S. Billings, whose appointment as pathologist to the New York Polyclinic is mentioned in another column, received, on Tuesday last, special permission from that government to enter the laboratory as a private student.

"Gaillard's Medical Journal."—We learn that this journal is to be edited by Dr. P. Brynberg Porter, with Dr. T. Gaillard Thomas and Dr. George T. Harrison, of New York, Dr. Hunter McGuire, of Richmond, and Dr. C. H. Mastin, of Mobile, as collaborators. Dr. Porter has had considerable experience in medical journalism, and may be counted upon to do good work in his new undertaking.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 8, 1885, to February 14, 1885.*

Town, F. L., Major and Surgeon. Granted leave of absence for twenty days. S. O. 13, Department of Texas, February 4, 1885.

Rountree, S. Q., Captain and Assistant Surgeon. From Portland, Oregon, to his proper station, Fort Spokane, Washington Territory. S. O. 20, Department of the Columbia, February 7, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending February 14, 1885.*

Gerrish, Jere Perry, Assistant Surgeon. When relieved at Key West, Fla., to proceed to Charleston, S. C., and assume charge. February 11, 1885.

Kalloch, P. C., Assistant Surgeon. To report to Passed Assistant Surgeon Peckham at Wilmington, N. C., for examination for promotion. February 10, 1885.

Glennan, A. H., Assistant Surgeon. Relieved from duty at New Orleans, La., to proceed to Key West, Fla., and assume charge. February 11, 1885.

Society Meetings for the Coming Week:

Monday, *February 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *February 24th:* New York Surgical Society; New York Dermatological Society (private); Buffalo Obstetrical Society; Boston Society of Medical Sciences (private).

Wednesday, *February 25th:* New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Cumberland County, Me., Medical Society (Portland); Berkshire District, Mass., Medical Society (Pittsfield); New York State Medical Association (Fifth District Branch—Brooklyn—special).

Thursday, *February 26th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; Roxbury, Mass., Society for Medical Improvement (private); New York Orthopædic Society.

Friday, *February 27th:* New York Clinical Society (private); Yorkville Medical Association (private); New York Society of German Physicians.

Saturday, *February 28th:* New York Medical and Surgical Society (private).

The Death of Dr. Louis Elsberg, Professor of Laryngology and Rhinology in the New York Polyclinic, Professor of Laryngology in the Medical Department of Dartmouth College, and physician to Charity Hospital, took place rather suddenly on Thursday morning, the 19th inst. His health had been seriously undermined for a long time. A further notice of the deceased will be given in a succeeding issue.

The Death of Dr. William Braithwaite, of Leeds, England, the founder and senior editor of the "Retrospect of Medicine," is announced as having taking place on the 31st of January, in the seventy-eighth year of his age.

OBITUARY NOTES.

James Gray Thomas, M. D., was born near Bloomfield, Kentucky, June 24, 1835. He began his medical studies in Louisville, in the school in which the late Samuel D. Gross, M. D., LL. D., then taught. He graduated in medicine from the University of the City of New York in 1856, and began his life-work in Bloomfield, the place of his birth and his early home. He subsequently settled near Sardis, Mississippi, where he was in general practice when the late war broke out. He entered the Confederate service as a surgeon, and continued in that capacity till the war closed. He married in Savannah, November 16, 1865, and made that city the place of his residence. He served in the Legislature of Georgia through the sessions of 1875 and 1876. This apparent divergence from the line of his chosen vocation was made by him in obedience to a sense of public duty and in compliance with the urgent solicitation of eminent citizens who desired to return to the Legislature a judicious and public-spirited medical man, who would lead in procuring the enactment of laws relating to the interests of hygiene in the State. In accepting such public trusts he was especially moved by the hope that he might help to obtain for the State an effec-

tive health board. During the session of 1875, the first of his service, the Legislature passed "an act to create a State Board of Health for the protection of life and health, and to prevent the spread of disease in the State of Georgia, and for other purposes." He took a most important part in the preparation and passage of this measure. The board thus created consisted of nine physicians, together with the Comptroller-General and Attorney-General and State Geologist, and it chose Dr. Thomas as its first president, his name appearing as such in its printed reports for the years 1875 and 1876. He was diligent in his attention to the work of the board, and endeavored faithfully to make its ministrations effective for the good of the commonwealth. For the first time in the history of the State, "physicians were recognized as an active and working element in its government." Systematic efforts were made throughout the State to increase the number of those who would favor sanitary reform, to establish a correct method of obtaining and using vital statistics, to organize local boards of health, to define the powers of such boards, to defend the people on the coast-line and over avenues of traffic with the interior against the incursions of pestilence from abroad, and to teach them to recognize and fight against preventable diseases within their own borders. A due supervision of all the public charities of the State was also to be provided for. In fact, a great movement was started which was intended to secure for the State the inestimable blessing of a good body of health laws, wisely administered. In all this admirable work Dr. Thomas was justly prominent, and, had he and his associates been sufficiently sustained by legislative grants and appreciative public opinion, greater results would have been immediately realized.

The good he did, in turning away somewhat from the cherished and most congenial occupations of private practice to serve in public life, will link his name as that of a benefactor with the sanitary history of his State and with the annals of State medicine throughout our entire land.

In 1877 "an act was passed by his State Legislature to provide for the drainage of Chatham County, so as to protect the State from epidemics of yellow fever and other diseases, and to appropriate for said purposes one third of the State tax of said county for the year 1877, and appointing five commissioners to carry the law into effect." On the organization of the commissioners, March 7, 1877, Dr. Thomas was elected their chairman. He took an active and zealous part in the work of the commission, and was its chairman at the time of his death. "The work done by this commission has been effective not only in promoting the public health and material prosperity of the chief commercial ocean gateway of the State, but also in contributing to arrest wholly any invasion of yellow fever since 1876."

"In the winter of 1881 Dr. Thomas had strongly urged the importance of organizing in Savannah a citizens' Sanitary Association looking to the improvement of the public health through the united efforts of private citizens, and as auxiliary to established public methods of sanitation. The result was a public meeting held in the 'Long Room' of the exchange, December 14, 1881, largely attended by leading citizens of Savannah. By special invitation, the meeting was addressed by Dr. Thomas. His views were so warmly adopted that the organization of the proposed association was immediately authorized, and carried into effect February 10, 1882. On this occasion he was elected president of the association, which began with an enrollment of 250 members, subsequently largely increased. Dr. Thomas continued in this office to the time of his death."

Thus, while the doctor was assiduous in the private practice of his calling, and never neglectful of its solemn obligations, he was always concerned about the welfare of the public and ready in suggesting judicious plans to enlist public-spirited citizens in measures for the general health. He was rarely absent from his work, and only for brief periods of rest, when those for whose health he felt a deep sense of responsibility were least liable to be exposed to epidemic influences. He was an esteemed member of the American Public Health Association, and no one who had the privilege of attending the session of that body in Savannah will forget how much the success of the meeting turned on his unostentatious but effective services, and how freely and courteously the hospitalities of his delightful home were dispensed.

His interest in the National Board of Health was early, consistent, and continuous, and he did what he could to advocate the doctrine of the necessity of the establishment and maintenance of that body as the most ready, effective agency through which to give the entire country the benefit of adequate sanitary supervision and police, to lessen the ravages of indigenous, preventable diseases, and to prevent the introduction on the coast-line of such as threatened to invade the country from without.

He was ever willing to do the work that pressed upon him to be done, and to turn aside even from the most congenial occupations of home life and the routine of his daily practice, if only the claim was addressed to his keen sense of public duty. He was not only a physician, he was also a patriot. It was in obedience to such motives that he left Savannah at the close of November last, although not feeling well, to attend a meeting in the city of Washington to complete the arrangements for the International Medical Congress to be held in that city in the year 1887.

He was taken ill on the railway train near Richmond, but continued on to his destination. After reaching Washington his malady took the form of pneumonia. His good wife was sent for; his sympathetic medical brethren aided her in her affectionate and devoted ministrations. At one time the disease seemed to be checked, but the arrest was only simulated; he grew weaker, and on the morning of Saturday, December 6, 1884, departed this life, following, as we have credible evidence, those who have endeavored to imitate the Good Physician.

Even this brief narrative of the life of an exalted member of the medical profession would be very incomplete if we did not make one or two more allusions to the quality of the work that he did day by day for the patients who leaned upon him for sympathy and treatment. He was always on the alert to learn anything which might be for the advancement of his science and art. He was ready to seize a new idea, to develop and utilize it. He was studious and meditative in the line of his calling, notwithstanding the activity of his life, and succeeded in finding time to keep up with the advance in medical literature. It is to be regretted that he did not write more. His paper on Dengue, in the sixth volume of the "Transactions of the American Public Health Association," is an admirable contribution to the discussion of that obscure and most distressing malady.

His opinions, oral or written, on the medical questions of the day were always marked by freedom from passion and by a plain intention to avoid on the one hand the bondage of prejudice, and on the other hasty deduction and restless change. While he was alive to every good impression and suggestion of progress, he was deliberate and judicial in committing himself to that which was new. His honesty and prudence were manifested in these and many other ways, and his patients and professional brethren trusted him implicitly and were not disappointed.

His personal appearance was most attractive and commanding. Tall in stature, he was erect and [illegible] in his carriage, impressing even casual observers with the fact that he was a man of more than ordinary force. He carried a good head above

broad shoulders; his face was "benignant and serious," and on his manly features a light was radiant which came from a good heart. There was an indescribable quality in his presence and manners which won the confidence of all, but especially impressed and charmed his friends and companions.

It is a source of joy and inexpressible satisfaction that there are so many good and true men in the medical profession of the United States. The whole fraternity may well join in thankfulness that the career of Dr. Thomas among his colleagues, neighbors, and friends was blessed as it was to his family, his patients, and the State; that he attempted with so much modesty and unflinching purpose to realize in his daily work and in his public services so high an ideal, and that his last professional act, in the performance of which he gave his life, included the grand idea of the brotherhood of nations and the community of science and benevolence. From those who knew him well the source of the power in his life was not hidden; it sprung perpetually from a humble belief, not only in the supernatural, but in a personal, triune God, upon whose mercy he had cast himself, and whose law he strove to know, to love, and to obey.

C. R. Agnew.

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of February 5, 1885.

The President, Dr. B. F. Baer, in the Chair; Dr. W. H. H. Githens, Secretary.

Cervical Pregnancy.—Dr. E. E. Montgomery read a paper on this subject. [See page 208.]

Dr. Goodell remarked that he had no knowledge of cervical pregnancy. One case which had been sent to him as such was epithelial cancer of the cervix. How could such a case be diagnosticated without a post-mortem examination? Dr. Montgomery's hypothesis of an arrested abortion was probably the correct solution of such a case as he had described. The fœtus might be forced out of the body of the uterus and arrested in the cervix by an unyielding os or by cicatricial bands. Some years ago a physician of Philadelphia who had a large obstetrical practice, borrowed his écraseur for the removal of a supposed uterine polypus, which proved to be a fœtus in its amniotic sac. Dr. Goodell had never been able to understand how [illegible] could make such a mistake, but the description [illegible] of cervical pregnancy had thrown light upon the matter. Dr. Montgomery's description of the distended [illegible] would apply very well to a uterine polypus with a long pedicle, and a mistake in diagnosis might easily be made.

Dr. Montgomery questioned the primary occurrence of cervical pregnancy. He believed the fœtus had originally taken its [illegible] in the body of the uterus and had been forced into its lower position subsequently; but it might be primary—the internal os being patulous the same condition that sometimes caused [illegible] might cause the entire fecundated ovum to be [illegible] in the cervix.

Ruptured Uterus.—The President presented the specimen and [illegible] the history of which will be published in full in the "American Journal of Obstetrics".

Mrs. F., colored, thirty-two years of age, married ten years, had had four children at term and one miscarriage. The last child was expected with the forceps and was still born. November 14, 1883, she was taken in labor. A midwife in attendance pronounced everything correct. After a few hours of severe pains, the patient "felt something break in the womb," and labor ceased, but was replaced with sharp pains all over the abdomen, and blood escaped in great quantity from the vagina. Collapse ensued, and she was thought to be dead; but a slow reaction occurred, and her attendants waited for labor to begin again. Dr. Fisher was called to see her ten days after the accident. He found her abdomen tender and tympanitic, and a mass like the head of a fœtus in the right hypochondriac region. The pelvis was empty. Her temperature was 103° F.; pulse 108 and small. Rupture of the uterus, with escape of the fœtus into the abdominal cavity, was diagnosticated. Dr. Baer was called in and confirmed the diagnosis. The patient refused operative assistance and preferred to die in peace, but five days later asked to be relieved. Preparations were made for laparotomy. An examination *per vaginam* revealed a gangrenous pus escaping freely and the placenta loose and hanging from the vagina, the hand passed readily through the os uteri and through a tear in the right wall of the cervix into the abdominal cavity, and came upon the trunk of the child. The latter was extracted through the vagina by version by the feet. It was putrid. The parts were well irrigated with carbolized water, and the hand, again introduced, entered an adventitious sac and nowhere came in contact with intestines or other viscera. The uterus was well contracted and quite small. The uterus and sac were washed out with carbolized water until it returned pure. The patient died of septicæmia ten days after the removal of the fœtus. Dr. Baer was in full accord with the principles advanced by Dr. R. P. Harris in his paper entitled "If a Woman has ruptured her Uterus during Labor, what should be done to save her Life?" ("Amer. Jour. of Obst.," October, 1880, p. 809), in which he advised that the abdomen should be opened and the peritoneal cavity thoroughly cleansed. In this case, however, Nature had protected herself by forming an adventitious cavity, and there could be no reason to open the abdomen to clean this out, as it could be reached from below more directly and without injury to the soft parts.

Dr. Henry M. Fisher said that in Germany a distinction was made between lymphatic septicæmia and phlebitic septicæmia. In the first form the poison was absorbed by the lymphatics, and inflammation of serous surfaces, with exudation, was the consequence. In the phlebitic form, numerous emboli were formed, and hectic fever and local pus formations, the result of these emboli, were found. At the autopsy in this case pleural and pericardial effusion was found. It would be remembered that peritonitis occurred very soon after the rupture.

Dr. Goodell remarked that he had come intending to criticise Dr. Baer for not resorting to laparotomy, but he found himself agreeing with both Dr. Harris and Dr. Baer. In recent cases laparotomy should always be performed, but in fifteen days an adventitious sac had been formed, and the dangers to the patient would have been increased by the operation. He had seen two cases of rupture of the uterus, both of which occurred in the practice of a physician who never used the obstetric forceps, and had to send four miles for a consultant. In the first case peritonitis rapidly supervened, the abdomen became very much enlarged, and the situation of the fœtus could not be ascertained by palpation. The abdomen was not opened. After long groping, the fœtus was found close under the diaphragm. He had great difficulty in extracting it, as the loops of intestines became entangled between its legs; the placenta was also found in the abdomen. In the other case, the body of the fœtus had escaped into the abdomen, but the head was still in the uterine cavity; it was extracted with the forceps. Both patients died. In both cases it would have been far better to open the abdomen. ("Amer. Jour. of Obstet.," vol. x, 1877, p. 478.)

Dr. Harris was in accord with Dr. Goodell and Dr. Baer as

to the proper treatment of the case reported. It was too late to do anything when the physician was called. The general opinion was coming around to coincide with his way of thinking concerning the propriety of laparotomy in all cases as soon as reaction from the shock of rupture and hæmorrhage had been established. In the cases reported, after such treatment, fifty per cent. of the patients had recovered. One woman had been reported as having ruptured uterus in four successive labors with delivery *per vaginam* and without laparotomy, and she survived it all; but such a case was phenomenal. Three cases in Europe have been treated by removal of the uterus, as in the Porro operation. The patients all died. There seemed to be no reason for such a method. In most cases the split extended through the cervix, and thus free drainage from the abdominal cavity was secured. One reason for closing the cervical rent by sutures was to avoid the danger of cancerous growths, to which that lesion was supposed to give rise.

Dr. LONGAKER remarked that many of these patients died from the profound shock and hæmorrhage immediately following the accident. Two in his experience had died within two hours, one of them undelivered.

The PRESIDENT was glad to hear Dr. Harris make the distinction as to the propriety of laparotomy in his case, where the patient was not seen until fifteen days after the accident, and was suffering from septicæmia. He had intended to perform laparotomy, and was prepared for it, but, when he found the newly developed sac, he changed his plan, as he thought nothing could be gained by it.

Ovarian Cysts. — The PRESIDENT exhibited two ovarian cysts. Mrs. B., a widow, entered his private hospital December 18, 1884. She commenced, eight months before, to suffer from frequent calls for micturition, with severe scalding pains, symptoms apparently of cystitis and urethritis. The uterus and ovaries were in good position and seemed normal, but two weeks later there was a burning pain in both ovarian regions with a perceptible bulging, largest on the right side. The menses had ceased and the doctor in attendance suspected pregnancy, but exposure was denied at that time. The abdomen enlarged rapidly, and the patient finally acknowledged the possibility of pregnancy and thought she felt movements of the fœtus. At seven months uterine hæmorrhage commenced and continued every day; the mammæ were atrophied; there were no signs of the presence of a fœtus; there was some fluctuation; the sound was passed and the uterus was found empty and not enlarged; the face was wasted and had an anxious expression, and the pulse was quick. A diagnosis of ovarian cyst was now made. A deep diagonal sulcus could be made out in the abdominal tumor, the largest portion being on the right side; the tumor was smooth-surfaced and without nodules. The cervix was soft, patulous, high up, and drawn to the left. When the tumor was moved the uterus moved with it, as shown by the handle of the sound. Immediate operation was advised and performed. An incision three inches and a quarter long having been made, two large tumors were revealed. Both were tapped. The left one, which was free from adhesions, was withdrawn without difficulty, and its pedicle was transfixed, ligated, and dropped. The larger tumor, although free from abdominal adhesions, could not be drawn out, and it was found to be very tightly adherent to the uterus, which seemed to be one mass with it. As the fluid drawn from this tumor was clear, it was not improbable that it was a cyst of the broad ligament. It became necessary to enucleate the cyst, and a long gaping wound was left in the broad ligament. This was transfixed and tied as a pedicle, but after the final division had been made the ligature slipped and the hæmorrhage was immense: ten hæmostatic forceps were applied temporarily, and the bleeding points were firmly secured. The wound of the broad ligament was closed by ten interrupted sutures. The operation lasted two hours and a half; the patient collapsed, and he feared she would die on the table; but she reacted, and recovery was uninterrupted. The patient sat up in two weeks.

An incident which occurred on the fourth day showed the necessity of the proximity of a physician or a thoughtful nurse. A scream was heard from the patient, an announcement of a sudden pain on the right side; she said something seemed pulling inside of her. Dr. Baer was near and was called, he feared internal hæmorrhage, but at once inquired how long it had been since she had passed water, and learned that it was four hours. The catheter was immediately used and complete relief was secured. After this the catheter was not required until the tenth day, but from the tenth to the twentieth day there was entire inability to pass water except by assistance of the catheter. She went home on the twenty-third day.

The points of special interest in this case were: 1st. The patient being entirely well, symptoms of gonorrhœa presented themselves, and were followed by (2d) amenorrhœa for seven months, and then by (3d) daily hæmorrhages for a month and a half. 4th. Oöphoritis and large tumors forming in eight months and a half from the initial symptoms.

Dr. BEATES said that a young lady was obliged to separate from her husband one month after marriage, in consequence of domestic trouble. Her menses continued regular, but her abdomen enlarged as rapidly as if she were pregnant. Her health failed, and at the expiration of nine months an ovarian tumor was removed. Recovery was complete and rapid. In another case he found numerous omental and enteric adhesions, which were easily separated, but pelvic adhesions required enucleation of the cyst, which left a large V-shaped wound in the broad ligament, as described by Dr. Baer. Hæmorrhage was very free; in trying to dissect off the tumor from the fundus of the uterus, that organ was badly wounded; the cavity was opened, and required to be closed by sutures. Great tympany followed this operation, and breathing became almost impossible; the patient recovered.

Calculi in the Female.—Dr. J. W. SNOWDEN exhibited the stones and related the history of the case. He was called, June 1, 1884, to see Mrs. L., aged twenty-three years. She was born and had resided in a limestone region in New York. Up to thirteen years of age she was troubled with enuresis, wetting the bed almost nightly. After this she ceased passing her urine during sleep, but was obliged to rise for this purpose two or three times during the night. She could not retain her urine night or day after the desire to pass it came on. If she could not reach a convenient place, she would wet her clothes. She married when seventeen years old. Two months after marriage she began to have cystic irritation, and soon passed sabulous matter and small calculi. These symptoms continuously increased. Physicians whom she consulted said she had catarrh of the bladder, but none made an examination for stone. Once she was obliged to call on a medical man to remove a calculus which had become impacted in the urethra. Two years ago she spent a summer in New Jersey, during which time she passed no gravel, but the irritation of the bladder continued. When Dr. Snowden first saw her she was urinating very frequently, with more or less pain. She passed stones daily, with a great deal of sabulous matter. The urine looked as if there was a quantity of ordinary sand in the bottom of the vessel. He proposed an examination for stone, which she refused [illegible]. He gave her benzoic acid, which entirely stopped the passage of the sabulous matter and relieved her in every way, but she still occasionally passed a small calculus. This [illegible] two or three months, when the irritation of the bladder became

worse than ever. She could only pass her urine in the erect posture, and with as much effort as a woman in labor. He insisted upon an examination for stone, but the slightest touch excited such intense pain, even when she was well etherized, that, being alone, he could not manage her, and sent for Dr. B. F. Baer in consultation.

A calculus, measuring about an inch and a half in its longest diameter, was found in the bladder, and removed by Dr. Baer after rapid dilatation of the urethra. This afforded marked relief, and she soon seemed entirely cured; but in a short time her urine began to dribble continually while she was in the recumbent posture at night. During the day she retained and passed her urine naturally. Dr. Snowden advised her to get up at stated intervals and empty her bladder, which had gradually relieved this trouble. She was now quite well, except that she urinated rather more frequently than natural.

CHICAGO MEDICAL SOCIETY.

Meeting of February 2, 1885.

Peroxide of Hydrogen.—Dr. Boerne Bettman read a paper on this drug, with special reference to its use in aural and ophthalmic practice. The history of its use in medicine was summarized, and a sketch was given of its chemistry. Compared with various antiseptics and germicides it had certain advantages, among which was the fact of its relative innocuousness. The author had made some microscopical observations of its action on pus. The pus corpuscles and bacteria were put into active motion when a drop of the peroxide was allowed to flow under the cover-glass, and little bubbles of nascent oxygen were evolved. The corpuscles lost their spherical form, shrank, assumed a crescentic shape, and became heaped up as a mass of detritus. The bacilli were affected in a similar manner—in a few seconds they were transformed into a dead mass mingled with the decomposed pus corpuscles and surrounded by seething bubbles of gas. The therapeutical action of the drug had been explained by its suddenly parting with a portion of its oxygen. He had used it in upward of thirty cases of purulent otitis media, employing a preparation containing twelve volumes of the gas, according to the following method: The parts were thoroughly cleansed with tepid water and dried with absorbent cotton; then from eight to twelve drops of the remedy were instilled into the ear. The patients rarely complained of pain. The parts were then cleansed, and the mucous membrane was seen to have assumed a milky-white appearance. The liberated gas entered the deepest recesses of the middle ear, dislodged decomposing material, and destroyed the bacteria that were imbedded in the tissue. If the perforation was small, the remedy could be injected directly into the middle ear. It had also been used successfully in the treatment of dacryocystitis and in one case of chronic trachoma, which had run its course, but where there still remained a mucoid discharge. Five cases of dacryocystitis had yielded to it after having been subjected to routine treatment with astringents, carbolic acid, Bowman's probes, gelatin bougies, etc.

Dr. E. Tracy had seen the peroxide of hydrogen solution used in Paris by Péan as a spray in ovariotomy, and also by Lucas in dacryocystitis, but had seen no manifest advantage that should entitle it to a preference over certain well known and well-tried remedies, among which he mentioned permanganate-of-potassium solution. It was of considerable importance to ascertain to just what factor of the peroxide solution the alleged virtue was attributable. It was a fact that the solution was rendered more permanent by virtue of an acid, and the acid most commonly employed was hydrochloric and sometimes sulphuric. The former was generally the one selected. The quantity of acid used was very small; but, small as it was, it might have considerable influence. It should always be ascertained which of the acids had been used, as minute quantities of sulphuric acid might have very deleterious effects in certain cases. The best test for the presence of the peroxide in solution was a crystal or two of permanganate of potassium.

Dr. W. W. Allport had used the remedy in treating alveolar abscesses and pulpless teeth by filling the cavity of a tooth with the solution; effervescence occurred, and assisted in the cleansing of the cavity.

Dr. J. S. Marshall had treated burrowing abscesses, when for obvious reasons he did not wish to make an external opening, by injecting a solution freely. The relief was much more rapid and satisfactory than from other agents he had used.

Dr. G. Newkirk had used it in cases which were not blind abscesses, and obtained satisfaction. He found it difficult to obtain the substance reliable and to keep it perfect.

Dr. Bettman assented to the suggestions of the last speaker, and admitted that the drug did not keep well, and that it was of importance to obtain a reliable article. He felt sure that the effect on pus was due to the liberation of oxygen.

Missed Abortion was the title of a paper read by Dr. P. O'Connell, in which he gave a report of a case that he had treated, and then exhibited the pathological specimen, which was a mummified-looking mass of the size of a man's closed fist, and consisted of two fœtuses and placentas, apparently encysted in the membranes. His patient was twenty-six years of age, and had one child two years old. Three months after her last confinement the catamenia reappeared, and continued regularly for some months, when they ceased. In addition, the other usual symptoms of pregnancy were present. Three months from the commencement of pregnancy the patient fell, striking rather heavily on her hands and knees. A slight sanguineous vaginal discharge, lasting a few hours, followed the fall, after which the abdomen, that had previously become enlarged, slowly diminished to its normal size, and her health slowly but steadily deteriorated. She had almost constant aching, with occasional severe pain, and a sensation of "going to sleep" was experienced in her left lower extremity. She could not lie on her left side.

Careful palpation of the hypogastrium gave no evidence of uterine enlargement. The left inguinal region was tender on deep pressure. The uterus was fully an inch lower than normal, with the os and the cervical canal so patent as readily to admit the index-finger. The anterior segment of the cervix was thickened. The uterus was a little enlarged, but in no wise sensitive. The sound penetrated to a depth of two inches and a half, and to the left. There was no hyperæsthesia of the vagina, although its mucous membrane was congested. The cervix was congested, and bled readily and freely. There was only a slight leucorrhœal discharge. Ergot and strychnine were prescribed. Soon after the first dose had been taken, uterine contractions set in, resulting in the expulsion of the mass, which was decomposed and abominably ill-smelling. It had, doubtless, lain free in the uterus for at least three months. On closely questioning the patient, she said that during August, which was extremely hot, she felt very cold at night, so as to require heavy bed coverings; that she had had chills frequently, and once a well-marked rigor. These symptoms, with itching, an erratic rash on the skin of the lower abdomen and back, general malaise, and slowly increasing debility, clearly pointed to the absorption of septic matter. The pain in the left lower extremity was due, of course, to the dead weight of the uterus on the branches of the sacral plexus of nerves.

The Treatment of Chronic Spasmodic Bronchial Asthma with Apomorphine. Dr. G. W. Webster reported two cases,

neither of which had yielded to other remedies or been much affected thereby:

Case I.—Mr. G., an Englishman, thirty-four years of age, married, a carpenter, had suffered from bronchial asthma for over a year; he had been in the United States two years and three months. During the past summer, especially at night, his attacks of spasmodic asthma were very severe. In December last, in addition to his asthmatic trouble, the patient suffered greatly from spasmodic attacks of coughing, which lasted several minutes. He had also been confined to his bed for some days. The remedies directed to the relief of his cough, many of which had afforded no relief whatever, were superseded by apomorphine in gr. $^1/_{30}$ doses *per os* every three hours for the first day, and gradually increased to gr. $^1/_{10}$ *ter in die*. After one day's treatment, he passed a comfortable night. The succeeding night he rested very well indeed, and was up and about on the third day. On the fourth day the remedy was discontinued. The attacks of coughing returned, but in a much less severe form. The use of the remedy was again renewed in $^1/_{10}$ gr. doses three times a day and continued for a fortnight, when it was again discontinued. During this time he was able to follow his vocation. More than four weeks had elapsed since he ceased treatment, and there had been no recurrence of his difficulty.

Case II.—A laborer, aged fifty-eight, had had chronic bronchitis with asthma every winter for many years. A few weeks ago he suffered greatly from dyspnœa, with râles over his entire chest; his face and extremities were cyanotic, and he was gasping for breath. Apomorphine was given in doses of $^1/_{30}$ grain every two hours. On the succeeding day the patient was considerably relieved, and in another twenty-four hours he could breathe freely. The remedy was continued a few days longer in $^1/_{10}$ gr. doses three times daily, and he so far recovered that the writer had not been called to see him.

Dr. C. T. Fenn recited an interesting case of frostbite that had come under his observation recently. He referred to the mismanagement of the case at first, in which those who attempted to render assistance by rubbing with very cold snow and ice had also endangered themselves. This portion of his report related particularly to the careless method of using a very useful article, as was often done, he thought, by the laity in other cases of illness before a physician was called.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of November 13, 1884.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Cirrhosis of the Lung.—Dr. H. Messenger Ayres showed a specimen taken from the body of a man who was a laborer in a foundry, where he had long been accustomed to breathe an atmosphere laden with metallic and mineral substances, and was also exposed to frequent changes of temperature. His habits were none of the best as to either eating, drinking, or breathing; so that it was not surprising that the air-passages should have felt the first brunt of the disturbing factors. [The speaker then gave a summary of our knowledge of cirrhosis of the lung.] The clinical history of this case had begun with the usual symptoms of acute bronchitis becoming chronic. The inhalation of the iron and carbon, together with other heavy dust-particles, kept up a continuous irritation, and consequent flow of blood to the delicate epithelial mucous membrane along which they were carried to the air-vesicles. From the fact of their heaviness they were difficult to dislodge, notwithstanding the excessive local secretion and violent spasmodic efforts made for their extrusion. The constant tendency of these particles was to imbed themselves in the single layer of epithelial cells which lined the air-vesicles, already softened and proliferating under this flow of blood to them. The glandular or adenoid character of the epithelial structure of the air-vesicles was a point worthy of the most careful scrutiny and attention, here as elsewhere in the body where epithelial tissue occurred. In this case there was a true diapedesis or translation of these heavy particles from the air-surfaces of the vesicles into the epithelia, and through them into the intercapillary spaces occupied by soft connective tissue. These particles followed the same course as the plasma which was excreted by the bronchial endothelial capillaries into the intercapillary spaces for the maintenance of tissue-cells, and, as a consequence, we found these dark pigmentary masses distributed along the course of the soft connective tissue, the lymphatics and the bronchial glands. The presence of these irritating particles in these positions excited the flow of blood, and increased proliferation of the connective tissue took place, which thus became the prominent lesion. When this connective tissue subsequently contracted, it still further impeded the true pulmonic circulation. As a consequence, there was a damming up of the venous circulation upon the right side of the heart and all parts connected with it, leading to general dropsy and degenerative changes. This same contraction of the cicatricial tissue might affect the nutritive circulation of the lung tissue, whereby some parts were underfed and starved, while others were overfed, engorged, or hyperæmic—all leading to local collapses, infarctions, and degenerations.

The extent of lung involved varied in different cases. The larger size and arrangement of the right lung and the bronchus which supplied it rendered it liable to earlier and more special invasion; but, since the exciting cause was general, where it was long continued, both lungs became in time more or less involved.

The primary area of disturbance was toward the roots of the lungs and upon the air-vesicles nearest that region. The contraction of the connective tissue around this region interfered both with the entrance and with the exit of air, the dilating effects of the former falling upon the bronchia, while the expulsive compression of the peripheral air-cells by the respiratory muscles and chest-walls tended to dilate and break down the partitions between them and bring about the well-known condition of emphysema. Special attention was drawn to the lymphatic glands at the root of the lung, where the pigment was very abundant and very dark. These glands sometimes suppurated and formed large depots of pus, encroaching on the chest contents. Pleuritic complications, as in the present case, sometimes occurred, giving rise to similar results. It would perhaps better aid us to appreciate what had taken place in the transmigration of this foreign matter if we examined an analogous process which occurred in tattooing.

Epithelioma of the Scalp; Removal; Recovery.—Dr. H. F. W. Risch presented a specimen which, from its macroscopical aspects, indicated an epithelioma. It had been removed from the scalp of a gentleman sixty-two years of age, September 5, 1882. According to the history given by the patient, it had been a small, hard, movable, wart-like tumor as long as he could remember, not giving him any inconvenience until about five years before its removal, when he wounded it with a comb. It remained sore, and gradually became larger under the use of plasters and ointments. Three years later he had "a magical herb doctor" try to "pull the thing out with the roots" and what not. From that time on it enlarged and became very painful, and also caused general headache. It was still movable and without lymphatic implications. The excision was done by the speaker at his office. The somewhat profuse bleeding was controlled by pressure. The wound was drawn together with ligature silk, but a gap of an inch and a quarter was left to cicatrize. The dressing was of old linen compresses wetted with a

warm solution of carbolic acid in glycerin and water. With the exception of some sloughing of fascia, the wound healed in four weeks' time. There had thus far been no sign of a return of the disease, and the patient was very comfortable.

Strumous Testis; Removal; Recovery.—Dr. Frank W. Rockwell presented a tuberculous testicle removed last March from a man of sixty. The patient, a carpenter, had first noticed his disease six weeks before presenting himself for treatment. He had been in perfect general health, but, after lifting a heavy package, rapidly developed symptoms of tuberculous epididymis. An exploratory incision was made, evacuating a hydrocele which complicated the disease and rendered a positive diagnosis difficult. Examination of the testicle revealed the epididymis as a hollow sac, containing pus and granular *débris*, and the organ was therefore extirpated completely. A catgut ligature was used for the cord, and the wound was dressed with napthalin and wood-flour. The dressing was not changed frequently. The wound healed, and the patient was about in three weeks. He had remained well ever since. The speaker advocated extirpation of the testicle in this class of cases, first, because the patient was at once relieved of a probable source of constitutional infection, or disease of the genito-urinary tract, the operation ranking with removal of strumous glands or joints; secondly, because to a laboring man of advanced years, as in this case, or even a young adult, time was an important element, and everything depended on his speedy restoration to his usual open-air avocations. Among the better classes, or where both testicles were affected in a young adult, perhaps doubt might be entertained as to so radical a procedure.

Dr. J. H. Hunt remarked that he had seen a section of the specimen, and it had seemed to him interesting, for, when he first examined it, he found so much connective tissue in strands forming alveoli that he was inclined to consider it epitheliomatous; closer inspection, however, revealed that the alveoli were simply formed by the increase of normal connective tissue. The mistake was due to imperfection in staining and other details. He found the seminiferous tubules full of *débris*.

Horseshoe Kidney.—Dr. Frederick H. Colton presented a handsomely mounted horseshoe kidney, showing it in its normal position as it rested upon either side and in front of the lumbar vertebræ, with the isthmus running across the fourth. The renal veins and the vena cava were painted blue, the aorta red, and the ureters yellow. There were three of the last, two coming off from one side. The specimen was anomalous inasmuch as it had no pronounced arterial supply—the renal arteries were wanting. Only a few twigs could be seen entering the organ from the aorta. The main supply came, probably, from under the organ. He had prepared the specimen some years ago in conjunction with Dr. Leuf.

Myxoma of the Thumb.—Dr. George Wackerhagen related the following case, and exhibited the specimen: Margaret O'Donohoe, aged thirty-three years, of Irish parentage, born in Holland, the mother of seven children, gave no family history of tumor or tuberculosis. She first complained of pain in the thumb when at laundry work about seven years ago. Two years after this she noticed a small tumor on the palmar surface of the first phalanx of the left thumb, which grew very slowly, and gave no pain until two years ago, and then only on pressure. The tumor was hemispherical in shape, measuring an inch and a half in its longest diameter and three quarters of an inch in its shortest diameter. It was covered to a limited extent by normal skin loosely connected with the tumor by fibrous tissue. The tumor was covered throughout by a very delicate fibrous capsule. There was a number of smaller tumors connected with it, varying in size from that of a pin-head to that of a bean. The tumor consisted largely of mucous cells, with granular and fibrillar intercellular substance. There were extensive areas of fatty metamorphosis in the interior.

Interstitial Fibroid of the Anterior Wall of the Uterus.—On behalf of Dr. W. F. Gardiner, Dr. Leuf showed a uterus having a fibroid tumor occupying the whole of the anterior wall above the internal os. The specimen was interesting in that it demonstrated the possibility of readily mistaking this condition for an anteflexion. The tumor had encroached but little upon the uterine cavity, while its forward projection toward the bladder was most decided. In a case like this, the symptoms of vesical irritation and the anterior angular deformity felt by the finger might lead to a diagnosis of anteflexion. The sound, however, would expose the fallacy, and this fact was additional proof of the advisability of using that instrument.

The Diagnostic Value of Ciliated Columnar Epithelium in Cases of Hydrosalpinx and Pyosalpinx.—Dr. Frank Ferguson read a paper with this title. [See page 211.]

Dr. A. J. C. Skene remarked that he would say a word on the specimens because of their importance in establishing the diagnostic value of ciliated epithelium in these diseases. The case under discussion stood, in his mind, "Lawson Tait *versus* Frank Ferguson." He would take sides with Ferguson because he was in the right. Tait simply would not believe that another had found what he himself did not discover, and would remove the tubes any way, and so failed to see the value of being able to make a diagnosis as maintained by Ferguson. He believed, however, the early and certain diagnosis of these diseases to be very valuable, and it was easy to come to a positive conclusion by aspirating the tumor and searching for the characteristic cells. Hardly any danger to the patient could be imagined if proper precautions in regard to cleanliness were taken. It was an easy matter to treat all these cases if they were diagnosticated early. Two cases occurred to him that had some bearing on this subject. They had been treated by Dr. Cushing and himself. In one there was frequent gushing of fluid from the uterus. The patient had an irregular tumor. She was relieved and cured by aspiration. He would not say that pyosalpinx was as readily cured by this means, but recalled one such case resulting in recovery after the withdrawal of four ounces of pus by aspiration. It was, any way, always better for the surgeon to know exactly what he had to treat. It was also of value to differentiate between an ovarian and a tubal enlargement. On the other hand, it was poor policy to await the growth of an ovarian tumor up into the abdomen before making a diagnosis. Lawson Tait was the champion of the tube of Fallopius, and it was to be regretted that he stood upon the ground he now occupied. If Mr. Tait, as he professed, had exhausted the subject, Ferguson had not. One year ago Ferguson had either twenty or twenty-one specimens of salpingitis, and in all but one or two of these did he find the characteristic ciliated cells that lined these ducts. He had a case himself but a short time ago, in which he aspirated the fluid contents of a pelvic tumor, and found it contained ciliated cells. The diagnostic value of these could hardly be overestimated.

The President inquired as to the practicability of finding the tube by examination *per vaginam*. He thought the members present would like to hear something on that point.

Dr. Skene continued that there would be hardly any difficulty, as the tube began to settle down behind the uterus into the *cul-de-sac* as soon as it commenced to fill. It could be more readily made out by bimanual examination, provided the abdominal muscles were not too rigid or the walls too full of fat. Probably the best way was to pass the finger as high into the vagina as possible and then press directly backward against the sacrum, when the tumor would easily be felt between the bone and the finger. Often it was hard to tell whether it was an

ovarian cyst, a distended tube, or encysted inflammatory products; but it was always easy to aspirate. To do this it was proper to discover the point of greatest fluctuation and introduce the needle there. No harm could be done in this way. A vessel of any importance could be felt by the examining finger and easily avoided. These needle punctures were harmless, as was so well illustrated in those made to relieve abdominal distension due to flatus.

The Committee subsequently reported as follows:

"We, the undersigned, having been appointed a committee of five by the president of the Brooklyn Pathological Society, pursuant to a motion made to that effect by Dr. Frank W. Rockwell, and seconded by Dr. J. W. Hunt, at the stated meeting held on November 13, 1884, met at the residence of Dr. B. F. Westbrook, on the evening of November 22, 1884, and then received Dr. Frank Ferguson, who presented to your committee for investigation a specimen of pyosalpinx removed from the body of a woman that day, and other old specimens of salpingitis which had been preserved in dilute alcohol for periods varying from a few months to two years.

"Nothing but the fluid contents of these cysts was examined, and it was obtained by the same person in exactly the same way each time—i. e., the wall of the cyst was made tense by slight pressure, when a small puncture was made with a shawl-pin, and the slide immediately applied to the exuding drop or two of fluid, which was at once covered with a thin cover-glass and then examined. Nothing was added to the fluid upon the slide.

"Specimen No. 1 was fresh, being from a case of double pyosalpinx. Your committee, in a short time, succeeded in finding cells of ciliated columnar epithelium, the identity of which was satisfactorily demonstrated to all present.

"Specimen No. 2 was one of unilateral hydrosalpinx, and had been in dilute alcohol for at least two years. In this it was impossible to detect any ciliated cells.

"Specimens Nos. 3, 4, 5, and 6 were either cases of hydrosalpinx or pyosalpinx, and well-marked cells of ciliated columnar epithelium were found in all of them.

"Your committee, having been in session for a considerable time already, decided it to be useless to spend any more time upon the rest of the specimens, as the result of the examination thus far demonstrated the diagnostic value of these ciliated cells in cases of salpingitis beyond the slightest doubt.

"It may also be well to state further that each member of this committee has had satisfactorily demonstrated to him, either by himself or some other member of the committee, the ciliated cells found in Nos. 1, 3, 4, 5, and 6.

"Dr. Ferguson was not present during the course of the examination.

"(Signed) { Benjamin F. Westbrook, *President*,
Jo. H. Hunt,
Charles Jewett,
J. C. Shaw,
A. H. P. Leff, *Secretary*."

Gastrostomy.—Dr. George R. Fowler read the history of a case. [See page 210.]

CLINICAL SOCIETY OF THE NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 17, 1885.

Dr. Andrew H. Smith in the Chair.

Discussion on Diabetes.—Dr. Satterthwaite remarked, in opening the discussion, that our ideas of glycosuria might be grouped about the four clinical phenomena that characterized the disease, viz., inordinate thirst, excessive appetite, bodily emaciation, and glucose in the urine, the latter being always the prime symptom that decided the nature of the disease. The ordinary chemical tests established the presence of sugar, if it existed in any quantity; on the other hand, tests that indicated only a minute quantity of sugar had little clinical value, as normal urine contained a small proportion of grape-sugar. The occurrence of sugar in the urine might be explained by studying the results of observations by Claude Bernard, Schiff, Landois, Klebs, Pavy, Eckhardt, and others, who had shown that injury to the sympathetic filaments, either at their roots or in any part of their course, or of the cervical or thoracic ganglia, would cause glycosuria; also any agents, such as curare, chloroform, ether, chloral, amyl nitrite, or carbonic oxide, that would temporarily paralyze these nerves, might be considered causative. The peripheral nerves, such as the pneumogastric and the sciatic, might also, by reflex action, accomplish the same result, as many experimenters had shown. In all these cases it was believed that vaso-motor paralysis of the hepatic vessels took place. With the increased current of blood to the organ it was thought that superoxidation took place. Injury to the parenchyma of the liver was also shown to induce glycosuria, and injection of unusual amounts of saccharine material or of material that was capable of conversion into the former. Abnormal action of the pancreas was also thought to induce this condition, and the morbid changes found in the organ post mortem seemed to sustain this view.

The post-mortem appearances were also in accord with these ideas, for, though the liver had been found diseased in about one half the cases, in a large number the nervous system was found to have been involved, and in such a manner as to sustain the physiological experiments. Thus, Klebs had reported a case in which he found unusual dilatation of the hepatic and splenic arteries, and von Recklinghausen had made somewhat similar reports. Though Dickinson's description of the microscopic appearances in the brain did not imply anything distinctive, Richardson had made an important contribution to the pathological anatomy by finding an ossific growth pressing on the pons, while Dompeling had observed a tumor of the size of a nut occupying the whole of the right half of the medulla, Ponocklo had detected an infiltration of the cervical ganglia with connective tissue, so that the nerve fibers and cells had virtually disappeared, and Silver and Harley had found lesions of the cord and pneumogastric respectively.

The change in the kidneys was a prominent phenomenon. Rokitansky had observed it in sixty-seven per cent. of his post-mortems of diabetics, but there was hardly any doubt that this metamorphosis was secondary, as indeed our clinical experience demonstrated. It was not to be expected that the organs could do an increased amount of work continuously and not show the effects of it; and this they usually did by their increased size and the swollen and otherwise altered condition of the parenchyma. Though the lungs had been found diseased in a large proportion of the post-mortems (in about fifty per cent. tubercular, according to Griesinger), it was not certain that this condition preceded the diabetes; indeed, such statistics as were at hand appeared to show that all pulmonary lesions, whether those of pneumonia or those of phthisis, were concurrent and late features of the malady.

In considering the ætiology of diabetes, it was plain at the outset that it was found most frequently in persons of neurotic constitution, and especially in families where there was insanity or epilepsy. The exciting cause was frequently some violent impression upon the nervous system, as by mental emotion, physical injury, sexual abuse, and possibly alcoholism and the opium habit. Whether exposure to cold and malarial infection

were to be classed among the causes was not clear. It was most frequent in males who had passed middle age.

The symptomatology of the disease was incomprehensible unless we adopted the three subdivisions of temporary, mild, and severe forms, when it would be found that the cases naturally fell under one or the other head. In a case of temporary glycosuria, while there might be inordinate thirst, increased appetite, and some diminution in weight, all the symptoms yielded readily to a restricted diet and a moderate amount of medicine. The disease, once arrested, was cured. When the attack followed the taking of chloroform, ether, etc., it was even less severe, and hardly disturbed the economy to an appreciable degree. In the mild form, the same treatment reduced the disagreeable phenomena to a minimum, and the patient continued to enjoy fair health and might have a complete disappearance of the trouble for a considerable length of time. In the severe forms, however, the disease was never under complete subjection; although a restricted diet would always modify some of its most unpleasant features, still the patient gradually failed, and, sooner or later, some complication was noted, such as nephritis, phthisis, a cardiac disorder, gangrene, carbuncles, etc., that ended his life often in a most unexpected manner. Usually death was brought about by uræmia, possibly by acetonæmia in a small percentage of the cases, but of this there was every reason to speak guardedly.

Of the twenty or more tests for sugar, there were few that could be recommended except Trommer's and Fehling's for qualitative analysis, and the volumetric, differential-density test (Roberts's) and George Johnson's for estimating the quantity. Fehling's had gradually superseded Trommer's because it demonstrated a smaller quantity of sugar and was less liable to misinterpretation in the hands of inexperienced persons. It would be best to mix the several ingredients afresh each time it was used, as the preparation was unstable. The formulæ given for this purpose by Flint, Jr., and Bailey were the best. The volumetric method (with Fehling's standard solution) was theoretically the best, because it insured accuracy and was rapid. Practically it was difficult to tell at what moment the suboxide of copper was deposited. Great errors might, therefore, result, and the apparatus was somewhat elaborate and expensive. The most accurate in ordinary clinical work was Roberts's, but it was necessary for the fermentation to proceed at a moderately high temperature (about 70°), and even then it required twenty-four hours. The apparatus was, however, inexpensive and simple, a good ureometer being the thing of prime importance. Dr. George Johnson's method theoretically exceeded all others for quick work and accuracy, as the apparatus could be carried in the pocket and the quantity of sugar estimated at the bed-side. It was a color test, and the quantity of sugar was determined by comparing the saccharine urine after the application of picric acid and potash with a standard solution of test-solutions. The fact that a large number of persons could not distinguish the finer shades of color upon which the test depended, prevented its being generally accepted.

One of the first principles to be laid down in the treatment of glycosuria was that the patient should adhere rigidly to a restricted diet from which all sugar and starchy food was excluded, and that each case should be treated according to its special indications. Thus neuralgic pains were best combated by opium or its alkaloids. Codeine, as recommended by Pavy, had not only general favor, because it was an agreeable sedative and did not materially increase the combustion that was a natural feature of glycosuria. But other sedatives, such as bromide of potassium, had also been found useful, as well as cardiac depressants in connection with a restricted diet. Ergot and ergotin, it was said, were also found had also added materially, as would be supposed by a study of the ætiological factors. Certainly at the present time Clemens's solution of the arsenite of bromine (dose, $\frac{1}{16}$ to $\frac{1}{24}$ of a grain, three times a day) was the most popular empirical remedy. Gluten and bran-bread were not generally acceptable to diabetic patients, as they found them very disagreeable. The complications often needed attention, and so cod-liver oil for the pulmonary disorders, tincture of chloride of iron for the failing renal power, Fowler's solution for the pruritus and eczema, digitalis, alcoholics, and diffusible stimulants for heart failure, had to be recognized as important factors in the treatment.

Dr. Satterthwaite based his views upon a certain amount of personal observation. He believed, however, that few if any physicians could speak from a very extensive experience in the treatment of glycosuria, as it was unquestionably a comparatively rare disease. Among the first ten thousand patients treated at the New York Post-Graduate Medical School and Hospital there had been but three diabetics, and this tallied exactly with Romberg's statistics at the Vienna Poliklinik. The speaker had, however, collected forty-one cases occurring in his own practice and in that of his friends, and had used the data thus furnished.

Dr. William H. Porter then read a paper on the subject. [It will be published hereafter.]

Dr. Bache McE. Emmet said that he had the records of only two cases of this trouble, and both of them had been of the temporary variety. He considered the disease dependent upon an affection of the vaso-motor system. In all probability, there was at first an excitement of this system, followed by a paresis. He directed his treatment to the overcoming of this exhausted state; tonics, and especially strychnine, were employed, and a cure had been effected in from six to eight weeks. Both of his cases had been in women, and were accompanied with certain troublesome symptoms. They had a constant desire to urinate, and suffered from a urethritis, which was probably caused by the irritating character of the urine. There was also an elytritis, accompanied with intolerable itching; the mucous membrane, too, had a peculiar dry and glistening appearance. This was probably caused by the dribbling of the urine back into the vagina. This condition he had treated with emollients, such as flaxseed and glycerin, and the symptoms had yielded readily.

Dr. W. O. Moore said that Rollo, in 1798, first called attention to eye trouble in diabetes, although Blankaarst, in 1688, mentioned a case of blindness from this disease, in which, however, it was subsequently found that both the diabetes and the blindness were due to a tumor of the brain. The affections of the eye in diabetes mellitus were disturbances of refraction and accommodation, cataract, opacities in the vitreous, retinitis with and without hæmorrhages, and atrophy of the optic nerve and retina from cerebral causes. Disturbances of refraction and accommodation occurred in the progress of the disease when the general muscular tone was impaired, and they were improved by the fitting of convex glasses and by the use of eserine locally, thus restoring the accommodation. They also usually subsided without treatment, when the condition of the patient was improved. Cataract was the most common of the diabetic disorders, and had long been recognized, usually occurring after the disease had made considerable progress in both eyes. It was apt to be soft, but might be hard and firm. It occurred, according to Roberts, once in forty-five diabetics, while Bouchardat had found it once in thirty-eight. The prognosis in diabetic cataract was not so good as in the uncomplicated cases, still he recalled two cases where the result of an operation had been all that could be hoped for. If projection of light was good, he would operate in any case of fully formed diabetic cataract.

The ætiology of cataract in this disease had been much discussed, and in this connection the experiments of Dr. Weir Mitchell on frogs were interesting. He produced cataract in those creatures by injecting syrup into them, but the opacity of the lens would disappear again when the frog was soaked in water. To prove that the opacity thus produced in the lens was not due to desiccation, he placed ten frogs in long bottles with wide necks, and let them remain there for a time; the frogs became emaciated and shrunken, but no opacity in the lens appeared. The clinical fact remained that in diabetes insipidus we did not find cataract. It was probable that it was produced by the change in nutrition due to the abnormal condition of the blood.

Opacities in the vitreous were frequently found in the progress of diabetes, merely as small hæmorrhages into its substance, which were absorbed slowly and gave rise to great annoyance. Again, there might be retinitis glycosurica, with or without hæmorrhages. The former variety had been found quite frequently in the later stages of the disease, and had given rise to confusion in diagnosis, as the retinal appearances were like those found in Bright's disease. In some of these cases albumin had been found, and in others it had not. Vitreous hæmorrhages usually accompanied this particular form of trouble, and, as a rule, they were recurrent, yet in retinitis albuminurica, so called, it was of common occurrence, which might be a good diagnostic point between the two. Retinitis without hæmorrhage was occasionally seen, and in this variety the more ordinary appearance of œdema and opacity of the retina were observed. This form generally terminated in atrophy of the retina and optic nerve.

A rare condition was that of an increase of fat globules, so that they could be seen floating in the blood-vessels, such a case having been reported by Dr. Heyle ("Phil. Med. Times," vol. x) as lipæmia retinalis. All the retinal changes were probably due to the blood dyscrasia, although Dickenson considered them due to the brain-tissue changes. Of 1,009 cases of retinitis treated at the New York Eye and Ear Infirmary during the past fifteen years, thirty-six were due to albuminuria, and none to diabetes. Of 2,302 cases of cataract, only one was of the diabetic variety.

Dr. S. E. Post referred to the increased excretion of urea as a proof of the hepatic lesion. According to the latest investigations, the final product of leucin and tyrosin was urea, which was, chiefly at least, produced by the liver. Its persistent increase would tend to show, therefore, some derangement of the normal functions of that organ, even though no lesion could be proved.

Experiments with Moleschott's iodoform treatment had been made by Dr. Josephine Chevalier and herself. No dietetic regimen was instituted, one of the two patients living upon a mixed diet, while the other, who was of a lower social grade, lived upon bread and tea. In each case the dose was from fifteen to thirty grains a day, and the whole course of treatment covered six months, during which time the limits of safety were approached three times. Upon the appearance of toxic symptoms the sugar and urea were both increased to or above their original quantities, and when the drug was discontinued for a time to allow of the subsidence of this complication they would again decrease to the same amounts they had reached before the exacerbation. Previous experimenters had remarked that the benefit from iodoform in diabetes was obtained in the first few days of its use, and that no further improvement followed, the inference being that the system became habituated to it, and a larger dose was probably required. According to her investigations, however, this arrest was because too much, not too little, of the drug was used. Iodoform apparently accumulated in the system. In its administration, therefore, one must be prepared to have the treatment interrupted from time to time. One to two grains would probably be a large enough dose for all practical purposes at first, although the toxic symptoms were not of much consequence, as they soon disappeared. A number of objections have been urged to the treatment with iodoform, but in the cases reported none of them had been found insurmountable, even the eructations having been overcome by giving the whole dose in capsules at night. Theoretically, there was much in favor of iodoform; in small doses it acted as a sedative to the nervous system, particularly the cerebral centers, it affected the liver before it did any other extra-cranial organ, and caused a primary augmentation of cerebral tension, excepting in the most overwhelming doses—results particularly desirable in the disease under discussion. In the therapeutic dose it had a mild laxative effect; hence it obviated rather than aggravated the usual constipation. Probably, if we were better acquainted with the best modes of administration, we should find it a very valuable remedy in the treatment of this difficulty.

In the patients that she had reported as under this iodoform treatment the diabetic symptoms had developed shortly after the menopause, and the expression "climacteric diabetes" had been made use of by a Chicago physician.

The speaker then reported a case of diabetes insipidus.

(*To be concluded.*)

Miscellany.

The Illinois State Board of Health.—We are glad to see such appreciation of the excellent work done by the board as is shown in the following passage in the biennial message of the Governor of the State: "The State Board of Health, which was in its inception very difficult to establish by legislative enactment, has steadily grown in usefulness and popular favor, until now it is one of the most important bureaus of the State government. By reason of the able management of its members, and especially of its secretary, the medical profession of the State has been very much elevated and improved. Incompetent beginners have been prevented from practicing. The grade of medical education required for practice has been raised to a respectable and safe standard, while mountebanks and quacks have been driven from the practice of their wiles and deceptions on the people of this State. The health of the citizens and their protection from inroads of contagious and epidemic diseases have been faithfully and carefully watched. Rules for sanitary care and regulation and instruction as to prevention and cure of prevalent and especially dangerous diseases have also been so successfully published and promulgated that it is believed thousands of lives have been saved."

The New York Polyclinic.—At a recent meeting of the Faculty it was decided to establish a pathological department and laboratory, and Dr. Frank S. Billings, of Boston, has been invited to take charge of the same. Dr. Billings has been intimately associated with Virchow, in pursuing his pathological studies, for a period in all of about six years, and has spent the past six months in Germany in investigating the bacillus question. He has brought with him a complete apparatus for bacillus culture. Rooms are to be fitted up in the Polyclinic building with special reference to original research and instruction in this important department.

Fatal Hæmorrhage from an Injury to the Tongue.—Dr. A. B. Sweet, of Hanley, Minn., sends us a newspaper clipping recounting the death of a child, fifteen months old, one week after a fall from a chair in which it bit its tongue, the wound being no larger than the head of a pin. The account concludes with this statement: "It appears that profuse bleeding in the event of wounds is hereditary with one branch of the family." Dr. Sweet says: "Will some contributor to the jour-

nal give advice as to treatment in such a case, and does it require more than minor operative surgery? Should we not consider the hæmorrhage due to congestion from the probable concussion of the brain more than from a diathetic condition?"

The Mariani Wine of Coca.—Messrs. Mariani & Co. have issued a pamphlet which contains striking testimony to the value of their well-known *vin Mariani à la coca du Pérou* from such men as M. François Franck, of Paris, and Dr. Louis Elsberg, of this city. The pamphlet contains a good deal of information about the coca-tree, and, in view of the attention that has lately been drawn to coca, will no doubt lead to extensive trials of the Mariani wine in this country. It may certainly be said of the preparation that its taste is most agreeable, a fact which is of no small consequence in the case of many invalids.

The Use of Vaseline in Articles of Food.—We learn from the "Gazette hebdomadaire de médecine et de chirurgie" that some of the French bakers have hit upon the expedient of making cakes with vaseline instead of lard or butter, and that the Council of Hygiene has very properly taken the ground that the practice ought to be prohibited, both because there is no nutriment in the petroleum derivatives, and because it is by no means certain that their ingestion may not be injurious.

THERAPEUTICAL NOTES.

Ozone in the Treatment of Chronic Nervous Affections.—M. Eyselein ("Arch. de neurol.") believes that ozone has a specific action in several nervous diseases. Although he has not yet published any statistics on the subject, he has made a sufficient number of observations in hospital practice to enable him to speak positively. The effect of ozone seems to be sedative as well as hypnotic.

Bromoform as an Anæsthetic.—Bonome and Mazza ("Centralbl. f. chir.") have performed a number of experiments with this bromine compound, as a result of which they draw the following conclusions: Bromoform is a general anæsthetic, slower in its action than ether and chloroform, but otherwise closely resembling them. There is no preliminary stage of excitement, but bromoform seems to cause a diminution of the irritability of the brain. Respiration is not affected, nor is there any danger of cardiac paralysis. Nausea and vomiting do not occur during the stage of recovery. The quantity of bromoform required to induce profound anæsthesia is less than that of chloroform, and the patients recover more rapidly. Given by the mouth, it acts as a hypnotic; its subcutaneous use is not unattended with danger. Experiments were made with the bromides of ethyl and ethylene also, but these are regarded as less safe and efficient than bromoform.

A New Method of treating Gonorrhœa.—Senftleben ("Monatsh. f. prakt. Dermatol.") uses small medicated bougies, which he introduces into the urethra by means of an instrument that he calls a "pistol" (probably similar to a Sims's uterine applicator), pushing them down to the membranous portion, where they are left to dissolve. The first application is said to be very painful, but the sensitiveness soon disappears. The following is the formula for one variety of these bougies:

Subnitrate of bismuth,	each	15 grains;
White of egg,		
Gum arabic		45 "
Glycerin		5 drops;
Mucilage		1 drop.

Meredith bougies, from 7 to 10 cm. long.

Solutions of sulphocarbolate of zinc, corrosive sublimate, and nitrate of silver are also used in amounts varying from one sixtieth of a grain (of the sublimate) to two grains. The following advantages are alleged: 1. The application is strictly localized at the seat of the inflammation, the exact situation of which may be determined previously by means of the endoscope. 2. The medicinal substance remains in contact with the urethral mucous for a long time, which is not the case when injections are given. 3. The inflammation is cut short, so that the danger of stricture is averted. The patient is not satisfied with pursuing the treatment until all discharge has ceased, but continues it until not a single sensitive spot remains in the urethra.

Cocaine in the Treatment of Gonorrhœa.—At a recent meeting of the New York Medical and Surgical Society, Dr. George A. Peters mentioned that he had lately injected a solution of hydrochlorate of cocaine into the urethra, for the relief of chordee, and that it had not only accomplished that purpose, but also decreased the discharge so decidedly that the patient subsequently continued its use on that account.

Resorcin.—Cattani ("Monatsh. f. prakt. Dermatol.") recommends an ointment composed of from 15 to 30 grains of resorcin to 2½ drachms of vaseline. He reports cases of epithelioma of the skin, bedsores, diphtheritic inflammations, etc., which were much benefited by the use of the ointment. When wounds of the skin are dressed with a one-per-cent. solution of resorcin, they heal rapidly, without suppuration, and with little tendency to the formation of scars.

Perosmic Acid in the Treatment of Neuralgia.—In our issue of September 6, 1884, p. 279, we gave a summary of Wildermuth's experience in the treatment of neuralgia with osmic acid. Fränkel ("Berlin. klin. Wochnschr."; "Practitioner") states that he has made numerous experiments upon animals with perosmic acid, to determine the exact effect of deep injections of the drug, as recommended for the cure of neuralgia. Severe local inflammation took place, resulting in extensive degeneration of the nerves and muscles, and the influence of the remedy upon neuralgia was inferred to lie in the fact that it exercised a direct action upon the medulla of the nerve. Caution is advised in its use.

Iodide of Potassium in the Treatment of Pneumonia.—The "Practitioner" summarizes two articles on this subject by Schwartz ("Bull. gén. de thérap.") and Gualdi ("Boll. della R. Acad. Med. di Roma"). Schwartz recommends the administration of six grains of the drug every two hours, and records a number of cures under this treatment. Ice-bags were applied over the affected lung. Gualdi has followed the same method in many cases with great success. Both observers agree that the use of the remedy causes a speedy disappearance of the fever and dyspnœa, while the local condition remains unchanged. It should be given at the outset, and the applications of ice must not be continued after the stage of congestion is past. It is noted that children respond to the treatment better than adults.

A Combination of Bromides for Epilepsy.—Erlenmeyer ("Centralbl. f. Nervenheilk."; "Centralbl. f. die ges. Ther.") recommends the following formula:

Bromide of ammonium		30 grains;
Bromide of potassium, Bromide of sodium,	each	1 drachm;
Water		24 ounces.

The whole is to be given in the course of twenty-four hours. It is said that the use of this mixture does not cause bromism, even acne not having been observed under its action, and that its control over the attacks is very decided.

Dundakin.—According to Häckel ("Dtsch. Med.-Ztg."), this new drug, called also *doundakin*, is obtained from the bark of the *Sarcocephalus esculenta*, a native of Senegambia. It is a bitter resinoid body, soluble in water and in alcohol, having astringent and antipyretic properties, and has been suggested as a substitute for quinine.

Fibrin-Peptone.—M. Grehant ("Progr. méd.") uses this preparation as an artificial food. Its composition is as follows:

Pepsin	30 grains;
Hydrochloric acid	1 drachm;
Fibrin	3 ounces;
Water	1 quart.

It is to be given by the mouth.

A Resolvent Ointment.—M. Mallez ("Union méd.") gives the following formula:

Iodide of lead		75 grains;
Iodide of potassium, Extract of belladonna,	each	30 "
Extract of opium		8 "
Lard		12 drachms.

This ointment is recommended for use in cases of orchitis, to be applied night and morning, also, applied along the course of the urethra, to promote the absorption of surrounding deposits in cases of gonorrhœa.

Original Communications.

ON THE SURGICAL DISSEMINATION OF CANCER.*

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NEW YORK.

THE subject in question, not being mentioned by the authors of text-books on general and special surgery, and unknown in periodical literature, seems of sufficient importance to deserve consideration. The present essay is an *a priori* consideration of a possibility or probability occurring in the course of the development and treatment of cancer; an outline of a train of thought based on clinical observation, that may deserve more extensive study in the future.

The subject-matter itself is not strictly new, observations bearing upon it having been made and published from time to time in an unconnected manner. The leading idea of this essay was originated in the year 1877 by observing the course of a striking case of rapid dissemination of cancer. Since then a number of other cases have accumulated tending to confirm those first impressions. When, finally, Czerny's observation (published in 1883) and König's remarks on operative dissemination of tuberculosis (both published in the "Centralblatt für Chirurgie," 1884) appeared, the interest of the author was quickened by their strong confirmatory, though indirect, evidence.

They both, like the author, did not advance anything absolutely new, as everybody knows that many patients operated on for joint-tuberculosis died subsequently, and soon after the operation, of meningeal or other forms of disease. But they drew attention to the fact that the *post hoc* might be in many cases also a *propter hoc*.

The author's case in question was as follows:

I. A., an aged lady, of robust health and a cheerful disposition, presented herself for treatment on account of an elevated ulcer of the outer margin of the sole of her right foot. It had existed for over thirteen years, growing very slowly, until it had attained the size of three inches by two inches and a half in diameter. It was segmented, each segment showing a distinct epidermidal margin, the edges of the ulcer somewhat overlapping the normal skin. While open, the purplish-red ulcer discharged large quantities of a clear serum, but, if the patient refrained from walking, it readily cicatrized over, to become sore again on her using the foot. Previously the pain or inconvenience had been very slight, nor were any glands infiltrated. Lately, however, the sore had become very painful.

Excision was proposed, and carried out in the autumn of 1877, when the base of the new growth was found to be attached to the plantar aponeurosis, which accordingly had to be removed too. The wound healed rapidly by granulation. The diagnosis of granuloma made previous to the operation, and based upon the benign development of the disease, was confirmed on microscopical examination made by Dr. I. Adler, of this city. A favorable prognosis was expressed, and the patient was encouraged to use her foot. Immediately upon cicatrization being completed, a number of small, purplish, pigmented nodules made their appearance in and about the scar, and well up the leg, increasing daily in number and size. Any doubts about the formidable character of the new growth were dispelled then, and a high amputation of the thigh was at once proposed to, but declined by the patient, who, however, finally submitted to the operation in May, 1878. A mass of enlarged glands was also removed from below Poupart's ligament. Both wounds healed by the first intention, but the operation did not delay the patient's impending fate. A few days after the removal of the limb the patient inquired about the significance of a disturbance of vision which she had noticed for four weeks, but, in her excitement preceding the amputation, omitted to mention to the author. It will suffice to say that a retro-bulbar node, causing first diplopia, finally protruded the eyeball from its socket in a frightful manner, and that the entire body of the patient became covered with innumerable nodes and nodules in an astonishingly short time. The patient's death by suicide fitly closed the tragedy, which did not fail to make upon the author a deep and lasting impression. Post-mortem examination revealed that all the organs, especially the viscera, were permeated with thousands of nodules of pigmented cancer.

Undoubtedly, then, we must have had originally a true granuloma, which at the time of the first operation was undergoing the not unusual change into cancer, some portions of the tumor then removed still presenting the characters of a connective-tissue growth, as Dr. Adler's examination had proved. But is the fact of this change of a benign into a malignant neoplasm alone sufficient to explain its astonishingly swift dissemination? Certainly not, as all processes of dissemination observed in malignant new growths, local and systemic, are notoriously slow, and not to be compared with that in the foregoing case. By "slow" is understood a spread in "*étapes*," as the French say, or marches, to use a strategical term. That is, a modus which is not continuous, but interrupted, and is characterized by well-defined phases of activity and seeming rest.

First comes the simplest and most immediate spread *by contact* with neighboring tissues, which generally lasts for a considerable time, but soon is followed by the second phase—that is, that of the infection of the pertinent *lymphatic vessels and glands*. These serve as a barrier for a certain period of time, till, a large vein becoming involved, transplantation by embolism extends the disease to one or more rather distant organs. This last one would form the *third*, or *generalizing* phase of infection.

In the case related to you, local and general dissemination seem to have taken place simultaneously, and in a manner closely resembling certain physiological and pathological experiments performed on animals, where substances capable of multiplication are injected into the parenchyma or directly into the circulation. The assumption of a mechanical rapid distribution of the infective bodies is almost imperative, and this rapid mechanical distribution of the infective elements may have been accomplished by the manipulations involved in the performance of the operation.

Observations similar to, if not as striking as, the one related, have multiplied in the experience of the author, extending over forty cases of amputation of the breast done since the year 1878, and the practice of every busy surgeon must yield a not inconsiderable number of instances of the same character. As none of the cases of this character pos-

* Read before the New York Surgical Society, February 8, 1885.

sess the elements of proof positive, it would be unnecessary to weary your patience by records of similar cases, but it is important to tell you that the practical wisdom of an older generation of surgeons has impliedly admitted the truth of our assumption by advising amputation of an extremity affected by what was then termed "cancer," in preference to a mere extirpation of notoriously malignant growths. And the value of this advice is twofold: first, it more surely eliminates all foci of disease than an excision, however comprehensive; and, last, but not least, the field of operation being more or less distant from the seat of the disease, handling of the tumor and manipulative dissemination of its elements are less likely to occur than otherwise.

Now let us consider what amount of force and energy is employed in the handling of tumors by physicians, and whether this handling does not possess some or all the characters of that form of manipulation which the French denote as "massage."

A careful physical examination of the tumor, especially if made by the aid of anæsthesia, will be, and notoriously is, frequently accompanied by the use of a good deal of necessary or unnecessary force. The handlings or manipulations ordinarily in use during the performance of bloody operations on tumors to be dissected out of surrounding tissues have positively the character of massage, and occasionally a very rough form of massage, too. And the employment of anæsthetics has certainly not had the effect of increasing the gentleness of operative interference. Suffice it to say that the manipulation employed on a tumor of the breast and the lymphatic glands occupying the adjacent axillary cavity, during an operation lasting one or two hours, certainly may have the dignity of a manipulative *séance*. And all of you know that a skillful massage of thirty minutes will often cause a massive extravasation of blood to disappear from the vicinity of a sprained joint, and that three or four sittings may dispel the largest part of a solid infiltration of an inflammatory character from this or that part of the body. Now, just bear in mind how many formed corpuscular elements, be they cells or broken-up portions of a firm clot, must be propelled through the lymphatics and veins into the general circulation at each massage, and the idea of the probability of the propulsion of cancerous elements of an unfixed, minute (that is, embryonic) character, and situated especially in recently involved places about the margins of a tumor, is very plausible indeed. The analogy of these artificial processes is *a priori* evident, and the fact that mechanical irritation—that is, another form of massage—favors the spread of malignant disease, stands fully in accord with this assumption. Finally, it seems appropriate to adduce here Billroth's authority as a pathologist in these his words: "I consider it most highly probable that both the continuous and the discontinuous spread of carcinomata are effected (*vermittelt*) by the dissemination of corpuscular elements, but admit that, so far, we are unable to prove this in all cases." *

The author does not wish to have it understood as though he considered this mode of dissemination the rule, but he believes that in a number of cases of malignant disease operative treatment may hasten rather than retard death. This statement seems to contradict the results of statistical investigation as laid down by such authorities as von Winiwarter and Gross, whose meritorious works are well known to all surgeons.

But this contradiction is partial only, and is justified by the nature of statistical results in general, which we know are arrived at by summing together cases widely different in character, though all representing the same disease.

Our critical attention will necessarily be first directed to the comparative estimates by averages of the duration of life of patients operated on for cancer of the breast and patients not subjected to operative treatment.

Here we see that Winiwater finds the average duration of life from the beginning of the disease of the patients operated on to be about 39·5 months, whereas that of patients left to their fate is almost 33 months. The former, accordingly, live on an average about six months and a half longer than those not coming under the surgeon's knife.

On further examining the figures it will be remarked at once, that the number of observations of non-operated cases is very small as justly compared with those operated on, one being 97, the other 519. Take into consideration, furthermore, that many, if not all, of the non-operated cases were subjected to all manner of irritative treatment, greatly influencing their rapid development and dissemination; finally, that many of them may have been such as show a formidably malignant character, deterring even the boldest operator, and it will be easy to comprehend that the rate of mortality as calculated for these 97 cases is unreliable and too high if applied to all cases of unoperated cancer, many of which, not being very malignant, did not come under operation at all. But let us analyze the class comprising those subjected to operation. Here we find that somewhat over *nine per cent.* of the cases were permanently cured by the operation. They necessarily must have been those in which a complete removal of all diseased tissues was successfully accomplished. It is of the utmost importance to note that such a thing is possible under certain most favorable conditions, offered by an early and very thorough operation upon a not extensive tumor of comparatively slow growth. Clinicians know and admit differences of infectiousness in cancers, which depend upon a more or less rapid growth, and accordingly upon a greater or less proportion of succulency attributable to more or less embryonic, non-fixed, or movable tissue components or corpuscular elements. Their anatomical expression is a greater or lesser proportion of *cancer juice*, as produced by scraping of their cut surface with a scalpel.

To go back to a former comparison, we may say that, as the corpuscular or liquid elements of a recent succulent inflammatory infiltration are more easily dispersed by massage, so will the elements of a succulent cancer be more prone to be dispersed by mechanical factors, and we may add that their rapidity of reproduction also stands in direct proportion to the ease with which they are dispersed. This relationship suggests resemblance to a geometrical progression, and may serve to explain the enormous differences of

* "Deutsche Chirurgie; Krankheiten der Brustdrüsen," p. 112.

malignity observed in cases standing at the foot and at the head of the statistical scale respectively. Gross mentions a case that terminated fatally without operation at the expiration of five months. Billroth gives the history of one in which the patient lived for twenty years.

To return to the cases cured permanently, we may say that a few of them may have been very malignant ones, operated upon very early and very radically, but that most of them were not very malignant and were subjected to a very radical operation; finally, that in all of them up to the patient's death from other diseases no formation of cancer *de novo* had taken place. (It is still a mooted question whether even a regional recurrence of cancer three or more years after operation is a continuation of the old process, or a new disease *per se*.)

The large majority of the three hundred and sixty-eight cases operated upon, that is, nearly eighty-one per cent., showed recurrence. In eleven and a half per cent. of the three hundred and sixty-eight cases recurrence took place after twelve months; but it does not appear in what manner or where. It would be important to find whether the general character of these recurrent tumors was mild or severe, local or general, and what was their microscopical nature (succulent or firm and dry).

Presumably these were mostly tumors of not great malignancy or of a slow growth, incompletely removed, yet so that very few cancerous elements were left behind to multiply.

It may be pertinent here to mention the curious fact, though no explanation of it is ventured, that seemingly infected glands have been seen to disappear after the removal of the primary tumor in such cases even where the knotty, hard nature of the glandular swelling fully justified the assumption of its cancerous character.

Within three months sixty-three per cent. of the cases relapsed, forty-three per cent. within *four weeks*, and nineteen per cent. even before the lapse of a *fortnight*.

In about eighty-two per cent. of one hundred and ninety-four cases of recurrent cancer where this point was noted, the locality of the relapse was in the cicatrix, in the remains of the mamma or in its vicinity, and in the glands.

These figures are appalling; they show that in almost two thirds of all cases operated upon relapses are established within three months after the operation. Undoubtedly the great majority of these cases represent very incomplete operations, where already disseminated portions of the neoplasm were left behind, either in the vicinity of the primary growth or in or about infected lymphatic vessels and glands. The cases relapsing within four weeks (43 per cent.), and still more so those recurring within a fortnight (19 per cent.), must be those in which either grossly incomplete operations were performed, or artificial operative dissemination took place, or finally where both of these occurrences combined to cause a rapid involvement of hitherto seemingly healthy tissues. We have to add, finally, while treating of this group, a class of cases characterized by Billroth in the following words: "Cases operated on under seemingly very favorable circumstances—in which, however, the patients are already victims of internal carcinosis, this becoming evident on post-mortem examination made soon after the operation—are, unfortunately, *not very rare*."*

Of course the occurrence of such cases can not be gainsaid, but, considering the gradual extension of cancer observed as a rule, such an infection by a jump, as it were, must nearly always be caused by mechanical factors. By these are meant either a build and arrangement of the lymphatics unusually favorable for the easy transmission of corpuscular elements, or a very energetic and effective external agency, such as a traumatism, or massage, or long-continued compression, or all of these combined.

But, to return to our subject, we will say that von Winiwarter does not state whether a change in the character of the malignancy of these neoplasms was observed or not on their recurrence after operation. And herein all observations are strangely defective, and unfortunately so, as this seems to constitute the nodal point of our inquiry. If it were shown that in a certain number of tumors of previously slow growth a fast and extensive *local* recurrence took place immediately after a comprehensive and thoroughgoing operation, performed by a competent and experienced surgeon, it would be necessary to assume the concurrence of a factor hitherto unknown, even unthought of. And if the marginal portions of the removed tissues were found, on careful and exhaustive examination, to be entirely free from such miliary foci of cancer as can be detected by the microscope, the presumption of a direct influence upon the nature and course of the disease by the operation would be almost imperative.

Older surgical writers directly admit the possibility of such an influence; modern authors, as, for instance, Billroth and Volkmann, only by inference; and their reticence in this respect is easily explained by the lack of a sufficiently large sum of observations collected with a view to the ascertainment of this very point, and by the necessity of questioning the correctness of the generally accepted assumption that the operated cases show a much longer average duration of life than those let alone.

Let us now examine what this peculiar "influence" of operative or other mechanical irritation upon a cancerous growth may consist in. Excluding chemical irritation, and considering only forms of irritation looked upon as more strictly mechanical and akin to massage, we find that this influence may be twofold. On the one hand, it may induce active hyperæmia, a better nutrition of the tumor, and hence a more rapid multiplication of existing elements *in situ*. On the other hand, and following from the first, it will increase the activity of the lymphatics, and fitly prepare them for the reception and transmission of mobile cancerous elements. Finally, the changing degrees of pressure from different sides, and its intermittent character, will not fail in suitable cases to propel such cancerous elements to a shorter or longer distance; and, if the form of mechanical irritation is constant or frequent, a large area of the surrounding tissues may become injected with cancerous elements in a comparatively short time. Supposing that all

* *Loc. cit.*, p. 117.

this takes place during an operation, followed by unavoidable stimulation of the tissues thus infected incumbent upon the processes of repair, what wonder if we see a large number of small nodes appear in and about the cicatrix left after the removal of a solitary tumor, and within a few weeks after the operation?

Instead of assuming a mysterious, indefinable change in the character of the new growth, it is more rational to explain a natural process by natural and well-known biological laws. It may be objected that all operations followed by a rapid and wide-spread reappearance of the disease about the sites operated on must be those in which pre-existing foci of cancer were unwittingly left behind by the operator. Admitting, as we have done before, that a large number of cases are covered by this explanation, yet we may reply to this with the following question: What is the reason, then, of the simultaneous appearance and rapid growth of a large number of cutaneous foci shortly after the operation on a formerly slowly growing tumor? Why do these foci remain dormant, or grow imperceptibly until the time of the operation, and suddenly come forward in an unmistakable manner after the traumatism of an operation? And there is not only a spread, there is frequently also an increased rapidity of the multiplication of the elements, an increased malignity denoted as a *change of character*. And why this? Our explanation seems to cover these questions.

Besides, it is not impossible that young cancerous cells, sown, as it were, in new soil, well prepared by an increased blood-supply due to the healing process, will thrive much better in this unexhausted, well-irrigated ground than elsewhere.

Of course all this does not prejudice the acceptance of the fact that positively benign tumors do change occasionally into malignant ones, but it seems that this important mechanical factor in the growth and dissemination of cancer ought to receive some recognition.

The author has begun a series of experiments tending to prove the possibility of mechanical or surgical dissemination. But the results of the investigation of the subject have not matured yet for publication. Before completing this paper it may be appropriate to point out in a few words its practical bearings.

It is not intended to question the general correctness of the advisability of operating even in far-gone cases of cancer. On the contrary, it is hoped that by pointing out one more danger we may be taught to avoid this also, and thereby the results of operative measures in this field may become better. Antiseptic treatment has here, too, undoubtedly stimulated active surgical interference, and, though the author's material includes only thirty-four cases of malignant tumors of the breast operated upon radically—first in, in which the breast and the axillary contents were removed, and in partial operations, with no deaths resulting from the operation—the may justify the conclusion that antiseptic measures must have generally depressed the death-rate of 16.5 per cent., as given by Winiwarter.

Nothing need be said about the necessity of early operations, and the very radical, extensive removal of a wide zone of seemingly healthy tissues surrounding a cancerous tumor. If the neoplasm is on an extremity and is extensive, the preference should be given to an amputation done far away from the disease. Wölfler has conclusively shown on animals that, during the time that Esmarch's constriction is applied to a limb, the veins and lymphatics beyond the constricting band are inactive, and do not absorb even soluble substances, and that these do not enter the ostia of the vessels opened by the surgeon's knife as long as the constriction lasts.* It seems to be rational, then, to always employ Esmarch's constriction while excising malignant tumors situated on a limb, since it is improbable that corpuscular elements would be propelled where there is no medium, such as blood or lymph, to carry them along. In examining any kind of tumor, the utmost gentleness should be observed, and obscure points in the diagnosis not bearing upon the therapy should rather be left undecided till after the operation. Unnecessary handling of a suspicious tumor should be discouraged, and the patients especially warned against so-called abortive methods of treatment, as these are, painting with irritating chemicals, and especially the several forms of compression, constant or interrupted.

As a preparatory measure, the hyperæmia and cell-activity of a rapidly growing tumor should be reduced as much as possible by the constant application of ice, or the water coil, for several days preceding the operation, as it is notorious that the growth of some tumors has been noticeably retarded by the influence of low temperatures.

During the exsection of deeply imbedded tumors all rough handling, pulling to and fro, should be avoided as much as possible. This may be very difficult in cases of large, heavy tumors, or where it is necessary to work in a deep, non-dilatable wound, wherefore the proposal of an English surgeon to fasten into each tumor, after its exposure, a sharp hook attached by rope and pulley to the ceiling of the operating-room, seems to be very appropriate. One assistant can easily raise or lower even a very large tumor by traction applied to the rope running through the pulley, while the surgeon himself, holding the shank of the hook, can carry out without fatigue such lateral movements as become necessary in the course of the operation. This would deserve a trial, especially in amputations of the female breast. For self-evident reasons the axillary fat should be invariably removed, and in one mass, this being much easier and safer than the digging out of single glands The operation should be begun, if possible, with the evacuation of the axillary space, and its contents, together with the breast and the intervening tissues, should be removed in one piece.

Primary union of the entire operation wound should be always aimed at where possible, since suppurative processes and the increased reproductive activity of the tissues depending thereon tend to cause an early development of such cancerous elements as may have been left behind.

The view that non-destructive suppuration may eliminate such cancerous elements has no support in pathology. The surgeon should rather use his knife freely than invoke the aid of such a treacherous ally as suppuration.

* "Archiv. für klin. Chirurgie," 27 Band, p. 113.

THE PROTECTIVE TREATMENT OF OPEN WOUNDS.*

By THEODORE R. VARICK, M. D.,

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In compliance with an invitation from your Executive Committee, received through your honored president, that I "favor the association with a paper on some surgical subject," I appear before you this evening.

It is not with the expectation that I shall be able to instruct so learned an assemblage, but with the hope that possibly what I have to offer may prove sufficiently interesting to merit your attention.

If the ideas thrown out should appear sacrilegious in questioning the divinity of certain Lares and Penates which have received the blind and unqualified adulation of many within the domain of surgery, I would simply say that they are not the inspirations of a moment, but the culmination of convictions forced upon me by long and extensive observation.

The subject I have chosen for discussion is the "Protective Treatment of Open Wounds."

The risk to human life from severe operations and injuries are: 1, From shock and hæmorrhage; and, 2, from sepsis or grave constitutional effects dependent upon the introduction into the body of poisons which, by their overpowering action, may prove destructive to the individual.

From time immemorial it has been the aim of surgeons to minimize the dangers of the first, and obviate the possibilities of the second.

At the present day the doctrine held by a large majority of observers favors the idea of the potency and influence of atmospheric germs in the production of sepsis.

Resulting from this belief, the aim has been, and is, to protect the open surface of wounds from the contact of floating particles, which, finding ingress through the open stomata of capillaries, lymphatics, etc., fructify and increase until the system succumbs to their influence.

From a surgical standpoint, in a person otherwise healthy, for the admission of atmospheric germs it is necessary that there should be a solution of continuity, in order that the means of ingress mentioned above may be exposed.

It may be assumed that any method of treatment which hermetically seals and covers up these stomata, and which is free from the objection of any poisonous influence on the part of the agent employed, is the best.

As before suggested, the open stomata of the vessels would seem to offer special opportunities for the introduction of atmospheric germs, and the imbibition of any extraneous poison, gaseous or fluid.

Such would be the case were it not that the flow outward—which occurs at the time of the infliction of the wound and continues for a greater or less period thereafter—of the fluids washes away any foreign substance which may lodge on the abraded surface.

From arteries and arterioles there is an accelerated current, from the veins and venules a reversed current, and from the lymph-spaces also an outward flow—all exerting a conservative influence and a temporary protective power.

So long as these exudations occur, the patient is safe from contamination from without.

The appearance of an open wound is thus described by Paget in Holmes's "Surgery," vol. i, p. 629: "And if the wound be left open after pure blood has ceased to flow, there is an oozing of blood-tinged, serous-looking fluid, some of which collects like a whitish film or glazing on the surface of the wound."

This is really blood serum, gradually becoming transparent, as the arterioles contract to a degree preventing the passage of blood corpuscles, but allowing the exudation of serum.

Flint, in his work on the blood, p. 143, says: "The serum contains all the elements of the blood except the red corpuscles and fibrin, which together form the clot." Again, at p. 146: "It contains all the principles found in the plasma or liquor sanguinis, with the exception of the fibrin."

This exudation is largely albuminous in its character, and it is this element which we have to consider.

According to the same author, "albumin retains its fluidity out of the body until heat or some coagulating agent is applied." (*Ibid.*, p. 157.)

In addition to heat, it is coagulated by the mineral acids and metallic salts.

The coagulating property possessed by albumin under the circumstances indicated forms the basis of treatment proposed.

In a coagulated state it covers the face of the stump or surface of the wound, forming a perfectly fitting, impenetrable shield, plugging up every capillary stoma; when heat is the agent employed, constringes every arteriole and venule; and, if applied before the outward flow from the divided vessels has ceased, makes the patient absolutely safe from any septic infection from without whatever.

This may seem a sweeping assertion, but it is one based on a large and varied experience in hospital as well as in private practice.

Although it is hard to prove a negative, yet, after an observation of its effects for a period of nearly six years, I have to meet with the first case of septicæmia in my practice.

It seems to me that the vaunted claims of corrosive sublimate and carbolic acid as antiseptics are due to the power possessed by both of these agents of coagulating albumin.

I shall not occupy your time with an enumeration or discussion of the various so-called antiseptics in use, but simply allude to the positive objections to the employment of those mentioned.

Although a great measure of success has attended the use of the former, the possibility of constitutional effects, indicated by the supervention of irritation of the gastro-intestinal mucous membrane, should not be lost sight of.

Several cases have come under my observation in which severe tenesmus followed its use as a dressing.

Again, Sir Joseph Lister, in an address on corrosive sublimate as a surgical dressing, delivered at the opening

* Read, by invitation, before the New York County Medical Association, February 16, 1885.

meeting of the Medical Society of London, October 20, 1884, after citing a case of amputation of the mamma in which he used a 1-to-500 solution of corrosive sublimate, remarks: "On the following day, when we changed the dressing, I found that under the oiled silk, exactly corresponding to its extent, the skin was highly irritated and was covered with small vesicles. I also found that the inner side of the arm, where there was no wound, was in the same state of intense irritation." He further remarks: "While this case showed that in the sublimate we had an agent that might give very beautiful results, it also indicated that we were dealing with an edged tool, which, while it might do admirable work, was very apt also to cut our fingers."

According to Bartholow ("Materia Medica and Therapeutics," p. 511), "applied to the integument, carbolic acid is absorbed and systemic effects follow; the urine becomes smoky."

A case in point is reported by Dr. H. B. Sands, occurring during his term of service at the New York Hospital: "This patient had been subjected to the operation of amputation of the thigh for ununited fracture of the femur. For five days after the operation the urine was green in color, an effect due to the absorption by the wound of carbolic acid, used in accordance with the antiseptic method of operating." ("Med. Record," vol. xx, p. 151.)

In the discussion on a case reported by Mr. A. Pearce Gould at a meeting of the Clinical Society of London, held March 28, 1879, of amputation of the hip joint, in which death was the result, the thrombosis, which was the cause of death, was attributed to carbolic-acid poisoning. (London "Lancet," Am. ed., 1879, p. 563.)

From the "Index-Catalogue of the Library of the Surgeon-General's Office, U. S. Army," and also from the "Index Medicus," I glean the records of the following cases:

"Injurious Effects of Carbolic Acid from Injudicious Local Applications," by J. S. Hughson. "Med. and Surg. Reporter," Philadelphia, 1879, xxvii, 492.

"Gangrene following the External Use of Carbolic Acid," by J. D. Kelloch. "Canada Lancet," Toronto, 1877, ix, 195–197.

"Gangrene produced by the dressing of Wounds with Carbolic Acid," by Tillaux. "Bull. gén. de thérap.," etc., Paris, 1871, lxxxi, 275.

"Acute Carbolismus by Peritoneal Absorption," by Rheinstadler. "Deutsche med. Wochenschr.," Berlin, 1878, iv, 191.

"Fatal Poisoning by Carbolic Acid used as a Remedy for the Itch," by R. Kohler. "Med. Cor.-Bl. d. Würtemb. ärztl. Ver.," Stuttgart, 1872, xlii, 41–49.

"Fatal Cases of Poisoning by the Absorption of Carbolic Acid," by E. S. Machin. "Brit. Med. Jour.," London, 1870, i, 331.

"Two Cases of Poisoning by the External Application of Carbolic Acid," by P. Moloney. "Austral. M. J.," Melbourne, 1872, xvii, 73–77.

"Death from the External Application of Carbolic Acid," by E. Sandwell. "Brit. Med. Jour.," London, 1870, ii, 382.

"Death from the External Application of Carbolic Acid," by R. Willis. "Brit. Med. Jour.," London, 1868, i, 314.

"Poisoning by Carbolic Acid injected into an Abscess," by Alfred C. Post. "Med. Rec.," 1879, xv, 378.

"Death from Carbolic-acid Poisoning following Hyperdistension of an Abscess with a Carbolic Solution," by E. H. Bradford. "Boston M. and S. Jour.," 1881, civ, 324.

"A Case of Antiseptic Osteotomy of the Tibia in which rapidly Fatal Carbolic Intoxication occurred," by A. Pearce Gould. "Tr. Clin. Soc., London," 1881, xiv, 201–210.

"Poisoning by Carbolic Acid in an Enema," by O. Meclin. "Hygeia," Stockholm, 1883, 125–130.

"Paralysis of the Bladder following the use of Phenic Acid as a Dressing for Wounds," by A. Cartoiz. "Gaz. méd. de Paris," 1884, t. s., i, 496.

The experiments of Dr. H. G. Beyer, U. S. N., on the hearts of the terrapin and frog, show that "carbolic acid, in small as well as large doses, acts as a depressant on the heart from first to last, reducing its rate, its work done, and the blood-pressure." ("Proceedings of the Naval Medical Society," also the "Journal of the American Medical Association," vol. iii, p. 438.)

These possible effects, stated by so able and distinguished authors and clinicians, are not to be lightly estimated, especially as many patients after undergoing a capital operation have but a small margin of vitality remaining.

It is bad surgery to subject a person to present risk for the purpose of avoiding a possible remote contingency.

I think, from the authorities and cases cited, that there is sufficient evidence shown that both of the agents considered are liable to exert their toxic effects on the system, and are therefore unsafe.

The question naturally arises as to what means we have at command which, while forming an absolute protection against the ingress of septic influences into an open wound, is free from the objections mentioned.

My practice is, and has been for nearly six years, immediately the larger vessels have been tied, to apply water (slightly below the boiling point) freely and continuously to the abraded surface until all oozing is stopped, the parts are thoroughly glazed, and the red line of the tissues is slightly deadened.

The effect is not only to form the protective shield before mentioned from autogenous material, which is always available, but it mitigates shock, it promotes reaction, and accelerates healing in a marked degree.

In a paper "On the Causes of Death after Operations and Grave Injuries," which I had the honor to read at the first annual meeting of the New Jersey Academy of Medicine, June 16, 1875, I used the following language:

"The condition of shock may continue for a greater or less period, during which the patient may sink, or, rallying therefrom, pass into a gradual and progressive recovery; or, again, after having apparently recovered from the first impression, the pulse becoming more rapid and feeble, with slight increase of temperature, and in some cases no perceptible alteration in this respect, with occasional moderate delirium, and a sense of præcordial oppression, may die, apparently without any assignable cause.

"This condition has been variously characterized as see-

ondary or consecutive shock, and is one which should excite our gravest solicitude."

It is under these circumstances that the stimulating effect of heat transmitted to the heart is most marked, and the action of any depressing agent exhibits its baneful influence on an already weakened circulation.

Before I adopted the method of treatment under consideration many patients died, after apparent reaction from primary shock, in the manner described above. Since its adoption, no death from either primary or secondary shock has occurred in my practice.

My connection with St. Francis's and the Jersey City Charity Hospitals, in which a large majority of the major operations are for the relief of injuries inflicted by railroad accidents, has afforded special opportunities for observing the immunity which patients enjoy from hospitalism on the one hand, and the rapidity and permanency of reaction on the other, when treated by this method.

The merits I claim for the method of treatment just considered are:

1. Simplicity.
2. Availability.
3. Safety.
4. Invulnerability.

At my request, for the purpose of testing the protective power of albumin in a coagulated state, the following experiments were made by my friend, Mr. George W. C. Phillips, an accomplished chemist of Jersey City:

"October 13, 1884, I took twelve test-tubes which were carefully cleaned, heated to a red heat, and inverted to prevent the lodgment of any foreign matter. When cool, six were filled about two thirds full with freshly prepared beef-tea. They were then placed in a bath of boiling water. Five were covered with linen, previously prepared by coating with blood serum subjected to heat in a hot-air bath for the purpose of coagulating the albumin.

"The tubes were then removed from the bath, together with one which was left open as a check.

"They were all placed on a shelf in a drug store, subjected to the ordinary atmospheric impurities met with under such circumstances.

"Of the other six tubes, five of them were covered with the same linen as the others, but not coated with the serum. One was left open, as in the preceding series.

"Within twenty-four hours the beef-tea contained in three of the tubes covered with the uncoated linen became milky and turbid, and within forty-eight hours the contents of the remaining tubes were manifestly decomposed. The contents of the open tubes showed much earlier signs of putrefaction.

"The beef-tea contained in the tubes with the coated covering is at this date, a period of over four months, perfectly clear and limpid. After the linen had been coated with serum in the hot-air bath, it was dipped into hot water and immediately applied to the tubes.

"January 21, 1885, seven test-tubes were prepared as in the former experiments, all of which were filled with beef tea. Six were covered with linen prepared as in the first series. As before, one was left open as a check.

"Within twenty-four hours the contents of the open tube were loaded with bacteria, and had assumed the milky appearance indicating decomposition.

"The contents of the remaining tubes at this date remain perfectly clear, showing that the ingress of foreign particles has been absolutely prevented."

In conclusion, I wish it to be understood that this paper has been written as supplementary to one on railroad injuries, etc., read by me before the Surgical Section of the American Medical Association, at its meeting in Washington, D. C., May, 1884, for the purpose of considering more fully what was then in a cursory manner mentioned—viz., the application of hot water as an important factor in the successful treatment of open wounds.

REPORT OF A CASE OF LIGATURE OF THE RIGHT PRIMITIVE ILIAC ARTERY FOR DIFFUSE ANEURYSM OF THE EXTERNAL ILIAC; DEATH FROM PYÆMIA ON THE TWENTY-FIRST DAY.*

By JOHN W. S. GOULEY, M.D.

M. McM., twenty-two years of age, a laborer, was admitted to Bellevue Hospital on the 8th of October, 1871, suffering from a painful, hard, but elastic pulsating tumor of the right inguinal and iliac regions, extending six inches above and two inches and a half below Poupart's ligament, and two inches and a half to the left of the median line, clearly marked in outline and evidently intra-abdominal.

The history of his case, given by the patient, was as follows: About two years before his admission to the hospital a barrel of lime had rolled against him, inflicting a contusion in the neighborhood of the right inguinal region. Soon after this injury he contracted urethritis, and also a chancre, followed by an enlarged inguinal gland which soon subsided without suppuration. No constitutional symptoms ensued so far as he knew, and none were apparent when he applied for treatment on the 8th of October, 1871. Nine months before his entry into the hospital he noticed a tumor in the right inguinal region above Poupart's ligament. In three months after it was first noticed the tumor had attained the size of a hen's egg, and he then observed for the first time that it pulsated. In another period of three months it had very greatly increased in size, and, two months before his admission to the hospital, it had nearly attained its dimension noted on the 8th of October, 1871. The man continued his work of handling and sometimes even lifting barrels of lime, until the tumor had become very painful; not till then did he apply for treatment at the hospital. The pain was seated partly in the region of the tumor—and there it was of a burning character—but mostly in the course of the anterior crural nerve, as far down as the knee, from compression by the tumor.

In the physical examination of the case various tests were employed, among them that of placing at the summit of the tumor a square bit of white paper with one of its corners turned up. By this simple and well-known expedient the pulsations were rendered very distinct from a considerable distance on excellent device for demonstration in a large amphitheatre. By palpation and compression the heaving of the whole tumor and

* Read before the New York State Medical Association, November 20, 1884.

its pulsation were made still more certain, while auscultation revealed the existence of a well-marked bellows murmur. The integument overlying the tumor was dark-colored and œdematous. The discoloration was believed to be due to rupture of the aneurysmal sac, the foregoing facts having led me to the diagnosis of traumatic aneurysm, and now of diffuse traumatic aneurysm, of the external iliac artery. There was slight pulsation of the anterior tibial, but none of the posterior tibial or femoral arteries. The patient was somewhat emaciated, but had no apparent lesion of the thoracic or abdominal viscera. On the 12th of October it was noticed, even by the patient, that the tumor had markedly increased since the 8th of October, and he said also that his pain was much worse, although he had taken a free dose of morphine. Besides, the local heat was greater than it had been for the three days past, and the rapid downward progress of the patient compelled immediate surgical interference. At a consultation with my colleagues, I proposed, as the only chance for the patient's life, ligature of the primitive iliac artery (and, if necessary, of the common femoral), to be immediately followed by free incision of the aneurysmal sac, in order that the blood clots might be removed and the whole cavity of the aneurysm cleansed. The gentlemen all agreed with me as to the necessity of ligature of the primitive iliac, but would not consent to any form of disturbance of the aneurysmal sac, and I yielded to their objection without, however, changing my opinion in relation to the propriety of incision of the sac, so warmly advocated by one of the best and wisest authorities of the early part of this century, and so successfully executed by Professor Syme in our own time.

Operation.—On the same day, October 12, 1871, ether was administered to the patient in the usual way. The size and configuration of the tumor rendered the operation more than ordinarily difficult, and, for greater safety, it was thought necessary to adapt the course of the incision to the requirements of both. Before, however, I proceeded to cut, a trusty assistant was notified to be in readiness to compress the abdominal aorta manually in case the sac should suddenly burst when exposed. This provision made, I began my incision at the lower border of the tenth rib, in a line drawn from the center of the axilla to a point on the level of the anterior-superior spinous process of the ilium, and one inch nearer to the median line of the body than this bony process. This was the general course of the slightly curvilinear incision, which was nine inches in length, except the lower two inches, which formed an arc of a much smaller circle and took an upward and inward direction in the discolored portion of the integument. The object of this deviation in the line of incision was to permit greater retraction of the skin and underlying tissues, and thus afford more space to expose and reach the main artery. A few superficial bleeding vessels were secured, then the incision was extended through the oblique and transversalis muscles, and also through the fascia transversalis, bringing into view the subperitoneal connective tissue. After separating, with the fingers, the peritonæum from the transversalis fascia, retraction of the wound and protection of the tumor and peritoneal contents were effected, partly by one hand of an assistant, partly by means of a steel spatula about three inches broad (like those spatulæ that had been used for a similar purpose by the late Dr. Valentine Mott, and skillfully employed on this occasion by his son Dr. A. B. Mott). By this large wound and very efficient retraction the artery was brought into view for one inch of its length. Nevertheless, it was somewhat difficult to pass a ligature beneath it, from within outward, the Mott artery needle, which was armed with a stout silk ligature, but the step was successful. Before knotting the silk, I made a careful examination to be sure that the ureter or the iliac vein was not included in the embrace of the ligature, which was then securely tied. From that moment the pulsation of the tumor ceased. The wound was then cleansed, its edges were stitched, and the dressing was completed by the application of strips of adhesive plaster, layers of cotton, and a retentive bandage. The whole limb was swathed in cotton, and bottles of hot water were placed on either side. The operation was concluded in the space of thirty-two minutes. A hypodermic injection of ten minims of morphine solution was administered before the patient had recovered from his state of anæsthesia, and, when he did recover his senses, stimulants were given him in small and often-repeated doses.

On the 13th of October, in the morning, the pulse was 128 and full. A dose of aconite was given. In the afternoon the tumor had already softened and the crural neuralgia had vanished. The temperature of the affected limb was greater than that of the sound side.

On the 14th the pulse was 130 and full. There was little, if any, pain. He slept well, but had no inclination to eat. The tumor was softer and decreasing in size. The discoloration of the skin at the seat of operation had lessened. From the first day evacuating catheterism of the urinary bladder had been necessary, but on the third day he urinated spontaneously.

He had, during the night of October 14th, a sudden attack of diarrhœa, which was, however, quickly checked by a dose of morphine.

Early on the morning of the 15th his pulse was 130, and he was sweating profusely. Eight hours later he was much better; pulse 108, body temperature 102°. In the course of another hour the pulse rose to 120, and the bowels became tympanitic, though he was generally better and in good spirits, eating well and with relish. There was some discharge of pus from the lower end of the wound, but none from the upper half, which appeared to be healing. The parts were washed and covered with sheet-lint soaked in carbolized glycerin and water.

On the 16th of October the pulse was 112 and the temperature 102·75°. He had slept well all night, had no pain, and urinated normally. The adhesive strips were for the first time changed and some of the sutures removed, the upper half of the wound having healed. The lower half of the wound was unhealed, and there issued from it some sanious pus. The superficial dressing previously used was renewed. In the evening it again became necessary to use the catheter. The pulse was 112 and the temperature 101·25°. On the day following the pulse was 100 and the temperature 101°. The aneurysmal tumor began to show signs of rupture; its wall, at the lower portion and external border, had become extremely thin and black, and the overlying integument, for a space of two inches by four, was black and gangrenous. During the evening there was some febrile reaction. On the 18th of October the pulse was 102 and the temperature 101°. The lower three inches of the wound gaped widely, but the aneurysmal sac had not yet burst. The catheter was used until the 21st of October, when the patient again urinated spontaneously. On the 22d dark tarry blood first began to ooze from the sac through a small opening, and the sac was floating, as it were, in a pool of pus. The gangrenous integument, being loose, was removed by slight traction. The patient began to complain of his chest, or rather of his lungs; but nothing is stated in the notes of the case as to the precise nature of the pulmonary complaint. This respiratory uneasiness may have been due to the existence of purulent foci in the lungs, since other signs of pyæmia had already manifested themselves.

Although the patient slept well and spoke of feeling well, he appeared to be daily losing ground, and his pulse and temperature obstinately remained abnormal.

On the 24th of October the pulse was 100 and the tempera-

ture 99·5°. The area of ulceration over the tumor measured five by six inches, extending two inches below the lower extremity of the incision, and the sac began to protrude. On the 26th the pulse was 120 and the temperature 102°. He had been sleeping well, but had no appetite. I cut short the slow spontaneous enucleating process of the aneurysmal sac by introducing a finger and sweeping it around that part of the sac which was out of sight, and at the same time removed portions of sloughy muscular tissue. No hæmorrhage followed this procedure. After the sac had come away, I could, with the finger still in the cavity, distinctly feel the bladder. The tumor consisted of two sacs—the real aneurysm, which was of the size of a hen's egg, and an outer and larger sac, separated from the inner by a layer of firmly coagulated blood two inches in thickness. The cavity thus exposed was then thoroughly cleansed, and filled with picked lint saturated with carbolized oil. The removal of this foreign body seemed to give him great ease. In the evening, however, there was febrile reaction.

The diet of late had been one quart of milk and three eggs daily, and eight ounces of whisky. The internal medication consisted of quinine and aconite.

On the 27th of October he had a chill, which lasted fifteen minutes. He was placed upon a water-bed on account of the appearance of a bed-sore. The pulse was 140 and weak, and the temperature 103°. The daily allowance of quinine was then increased to thirty grains. At two o'clock in the afternoon the pulse was 120 and the temperature 102°, and at six o'clock he had a second, but severer, chill. On the 28th he had two chills, and his pulse was 128.

On the 29th of October the pulse was 124. At 10 A.M. he had a chill, and began to sink. In the evening he complained for two hours of intense pain in the heel and foot of the affected side, though ordinary sensation was abolished, and the surface was cold. Warm applications to the feet were ordered, and a dose of morphine was given. On the 30th the pulse was 124. The pain in the foot was more severe, but was afterward relieved by opium. Chill at 9 A.M. The face was cadaverous; he was fast sinking.

On the 31st of October the right ankle was ecchymosed, but not swollen. The pain in the ankle had extended to the leg, and was intense. On that day he had several slight chills.

On November 1st the ecchymosis had greatly increased. The patient died on November 2d, at 2 P.M., at the expiration of the twenty-first day after the operation.

Autopsy.—The ligature lay loose in the wound and was removed. The primitive iliac artery was completely obliterated. Nearly the whole of the external iliac had sloughed away with the sac, leaving less than an inch of its lower extremity, which was entirely closed. There was a pelvic abscess which involved the psoas muscle. The femoral and iliac veins were pervious and free from thrombi. The wound had healed to the surface except in the track of the ligature.

The relatives of the deceased having objected to a complete autopsy, the examination was consequently confined to the pelvic region.

REMARKS.—The evil result of this case served to strengthen the opinion I had expressed as to the management of the sac after ligature of the artery, and reminded me of the more fortunate case of a soldier who, in 1861, received a sword-thrust in the upper part of the left arm and was brought to me a few hours after with a tumor, at the seat of injury, of the size of a hen's egg. I immediately expressed the belief that the brachial artery was wounded, and that the tumor, consisting of clotted blood, was the beginning of an aneurysm which, if left undisturbed, would eventually become diffuse. The injury being a little below the insertion of the pectoralis major muscle, pressure was applied to the subclavian artery, and I made a longitudinal incision directly through the tumor, turned out the clots, exposed the wounded artery, which I tied above and below the wound, then cut away the vessel between the two ligatures, and thus excised an embryonic aneurysm. It is fair to say that a wound of an artery is an aneurysm in embryo. The patient made a complete and rapid recovery. I believe that excision of a portion of a wounded artery is not a modern practice, but a revival, with but slight modifications, of what was long ago recommended and executed.

The particular point in the report of the case of diffuse aneurysm to which I have the honor of asking your special consideration relates to the management of the sac. It seems to me that, in the case in question, if I had carried out my intention of freely opening the sac, the chances of recovery would have been greatly increased, and that this procedure, for which we have such strong warrant, and which is in itself so simple, so philosophical, and therefore so eminently surgical, should be more insisted upon than it has been of late years. The patient was in an excellent condition at the beginning to bear the proposed operation of incision of the sac. He succumbed from pyæmia solely because a great bag of dead and decomposing blood was retained in his flank. The necrotic process was so slow that it became necessary to resort to artificial enucleation of the sac, but the foreign body had already caused damage that could not be repaired. If after ligature of the main artery the sac had been freely opened and the clots extracted, and the cavity filled with lint, I am sure that the risk of this expedient would have been infinitely small as compared with the expectant plan which was so unfortunately adopted.

If I am wrong in this view of the case, I trust that those who think so will candidly tell me why. I therefore urge that the following question be fully discussed—i. e., Whether free incision of the sac of a diffuse traumatic aneurysm after ligature of the artery or arteries by which it is supplied is, as a general rule, a proper or an improper practice?

CITY AIR AND CITY LIFE INJURIOUS TO CONSUMPTIVES.*

By FRANK DONALDSON, M.D.,
BALTIMORE.

AFTER considering, gentlemen, what climates are most beneficial to the restoration of the health of consumptives, and listening to the views of those who, by observation in various localities, can give us the most accurate information on climatic influences at high altitudes and at the sea-side, let us for a few moments view the climatic and other influences of cities, where the larger proportion of persons with consumption reside.

By consumptives we mean those who inherit a proclivity to phthisis, as well as those in whom the disease has been developed.

* Read before the American Climatological Association, May 5, 1884.

The hygienic and climatic treatment of consumption when manifested is generally acknowledged to be the best means of arresting its progress. To detect the influences that promote its development, so as to be enabled to prevent deposits, to eradicate tendencies, and to ward off the influence of heredity, are infinitely more worthy of our attention and of our exertions. Let us first examine what facts vital statistics will give us as to the general influence of large cities upon health.

The popular belief of the comparatively greater healthfulness of the rural districts over that of the cities is amply confirmed by vital statistics. By referring to them, we find that in Amsterdam there are 171 deaths to every 100 births; in Berlin, 131 deaths to every 100 births; in London the proportion is 124·92 deaths to every 100 births. In London, annually, the deaths exceed the births by 10,000. "This difference," says Dr. Hough, "would be much greater were it not for the hundreds of thousands of strangers who annually take up their residence in the great metropolis. If this supply of sturdy strangers was cut off, London would rapidly decline in population; indeed, this might be said, with equal truth, of any large city. None of them could keep up their population without recruits from the outside. The human race would become extinct in one or two centuries if we all lived in large cities." The mortality of great cities is found to be two and a half times larger than that of the rural districts.

Pulmonary consumption claims a large percentage of this mortality; it is in England certainly 25 per cent. greater in cities than in the country. Our very luxuries and comforts in cities seem to contribute, in no small degree, to the development of phthisis.

It is estimated, says Dr. Benjamin W. Richardson, that in the temperate zone, within which nearly all the civilized inhabitants of the globe are located, one tenth, at least, of the population die of consumption.

In New York the percentage of deaths from consumption is 14·09 of the whole mortality; in Boston, 15·17; in Philadelphia, 14·28; in Baltimore, 14·55; in the whole State of Massachusetts it is 20 per cent. Dr. Holmes said a few years ago, in an address at Harvard, that every other adult met in the streets of Boston had, or would have, some form of tubercular disease.

The large cities in this country and in Europe are generally located upon the sea-coast or the lakes and navigable rivers, many of them on marshy flats, some of them between two rivers.

Consumption is most prevalent at low levels, and seems to decrease with increase of elevation, according to Fuch, von Tschudi, and Mackey. At Marseilles, on the seaboard, the mortality from that cause was 25 per cent.; at Hamburg, 48 feet above the sea, it is 23 per cent. New York and Philadelphia are only 55 feet above the level of the sea, Boston 40 feet, Baltimore 60 feet. We need not refer here to the small mortality from consumption among the inhabitants of elevated regions, and to the almost immunity from phthisis in very high localities, such as on the Andes of Peru, the table-land of the Rocky Mountains, in the towns of Santa Fe de Bogota, at an elevation of 8,100 feet.

We thus see that the situation of large cities is such as to influence, unfavorably, the health of their inhabitants in developing pulmonary consumption. The discoveries of Dr. Bowditch, of Boston, and Dr. Buchanan, of England, give us one explanation of this fact—the relation between dampness of soil and phthisis, as one of cause and effect. The correctness of these opinions has been sustained by proof in several towns in England, where the subsoil had been dried, either by construction of drain sewers or by special drains and deep stone culverts, and the mortality from consumption had been reduced nearly 50 per cent. In Salisbury, for example, the death-rates from phthisis fell 49 per cent; in Ely, 47 per cent; in Rugby, 43 per cent. In other English towns, where no drying of the subsoil had been effected, there was no reduction in the phthisis death-rate, although great care had been taken to improve their general sanitary condition. Let any one examine the subsoil in many of our large cities, situated on low levels and near water-courses, and it will be found that for months it is saturated with moisture.

The deep cellars of dwellings where the sun never reaches throw the earth's moisture throughout the houses. In many instances the damp air of cellars feeds the furnaces.

Great variations of temperature and humidity in a climate generally cool and damp afford conditions extremely favorable to the development of consumption.

Where is it that we have greater variableness of climate than we meet at positions near the level of the sea and water-courses?

Pathology of Phthisis.—We leave to others to discuss the modern views in regard to the ætiology and pathology of phthisis. They may commence with Laennec and continue through the views of Boyle, Virchow, Lebert, Ruehle, Rindfleisch, and Niemeyer, down to Koch.

Without taking up the time of this association to trace the progress of the change of views caused by microscopical and chemical investigations (which would be superfluous after Dr. Westbrook's elaborate and exhaustive paper), it is only necessary for our purposes to state that what is popularly designated as pulmonary consumption, even admitting Koch's views in regard to the *Bacillus tuberculosis*, is not one specific disease, but several different morbid conditions. One prominent fact must be dwelt upon, and that is that a very large proportion of the cases met with are inflammatory in their origin, and are caused by catarrhal and chronic pneumonias, and also croupal pneumonias in alcoholic subjects—the lymphoid deposit resulting from these diseases, with the alveoli, breaking down into caseous material. The disputed points between Ruehle and Rindfleisch, contending that some of them are interstitial, are to us of small moment. The products of any inflammatory disease in the lungs may by degeneration become consumption. How readily this explains the cases resulting from trades and occupations giving rise to a dusty or gritty atmosphere—small particles of coal, cotton, flint, flax, steel, or hair in factories taken into lungs by inhalation, and frequently detected in them chemically and microscopically after death, actually, by their mechanical presence, causing phthisis! Dr. Greenhow calculated that 45,000 deaths occurred from

this cause in England, and that the whole of this mortality might be prevented by the introduction of better methods of working and of ventilation. Since Greenhow's reports were made, acts of Parliament have been passed which, if carried out, would totally abolish this cause of phthisis. Moreover, Niemeyer's views in regard to clots in cases of bronchorrhagia collecting in the air-sac, causing phthisis, are, in all probability, correct. These act as foreign substances and produce irritation, and subsequently inflammatory disturbances of nutrition, throwing out a product rich in indifferent cells. Caseous metamorphosis almost necessarily follows. Is it not also likely that masses of mucus, becoming lodged in the minute bronchi, can produce the same results?

No matter what may be the exact rôle of the *Bacillus tuberculosis*, we maintain that Lebert, Cohnheim, Waldenburg, Klein, Burdon-Sanderson, and Wilson Fox have demonstrated that the injection not only of tubercular matter, but of caseous matter, pus, blood, and vegetable products, when artificially introduced into the circulation, produces tubercular diseases.

We must bear in mind that phthisis, whether we designate it as tubercular, catarrhal, or fibroid, is a disease frequently inflammatory in its origin; and that it is developed and promoted by mal-nutritive influences. Whatever lowers the nutrition of the body is calculated to cause phthisis, and to develop it in those predisposed to it.

That a large number of persons are born with an hereditary proclivity to pulmonary phthisis can not be questioned. Of the 210 physicians interrogated by the State Board of Health of Massachusetts, only one denied that consumption was caused or promoted by hereditary influences. Of 1,010 patients treated in the Brompton Hospital, 24·4 per cent. inherited the disease from their parents. Of Dr. Fuller's 385 patients, 59 per cent. had had either parents or grandparents who had died of it. Dr. Catlen's 1,000 cases showed 30 per cent. of hereditary influence. Dr. Theodore Williams states that, when, in addition to the predisposition of parents, he examined into that coming from grandparents, uncles, and aunts, he found the percentage as high as 48.

The hereditary influence of the mother is far greater than that of the father, because his taint is exercised at conception only, whereas that of the mother influences the offspring at that period and all through uterine gestation and lactation. Family predisposition is much more commonly met with among women than among men, the proportion being fifty-seven per cent. of women to forty-three per cent. of men. In hereditary predisposition the proportion is greater still in favor of men—nearly two to one. Dr. Williams's tables show that in hereditary males the development of phthisis is earlier—average age, 24·64 years—whereas in those free from taint the average age of the attack is thirty-two years.

As children resemble their parents in their color, in their features, in their dispositions, and even in their manners, so do they derive from them that predisposition which renders them liable to the development of phthisis. The primary weakness is in the formative forces which can be strengthened or lessened by the conditions and circumstances in which the parties are placed. This hereditary tendency can be materially lessened, and even entirely corrected, by supplying the necessary elements of nutrition and placing the individuals in good hygienic surroundings. Consumptive ancestry is an influence which ought to be recognized, in order that it may be combated by the strict observance of what Dr. Black appropriately designates the ten laws of health. Pure air, good food, out-door exercise, warm clothing, sunlight, regular habits, will strengthen the organism and eradicate the hereditary taint.

It is the poor, who can not obtain these, that suffer most from phthisis. According to D'Espié, there are sixty-eight deaths in a thousand of the whole mortality among the rich, to two hundred and twenty-three in a thousand among the poor.

We must bear in mind, however, that parents who have not themselves consumption can have consumptive children. The children of syphilitic or gouty parents, of aged parents, and of those whose constitutions have been weakened by excesses of various kinds or other debilitating causes, are prone to phthisis.

That which is inherited is not the disease itself, but the weakness or vulnerability of constitution, which had laid the foundation for the pulmonary disease in the parents, or had been developed in them as a result of other diseases. As we can take a plant out of the light and heat and subject it to darkness and cold, and thus prevent growth and fructification, so can we foster a vulnerability, or we can remove it by the means nature has given us. We know that an individual by his life and habits can acquire a predisposition; by weakening his power of resistance to the exciting causes of phthisis, he can fall a victim to it.

We can, in many cases, cure a predisposition to phthisis, and we can originate it by violations of the laws of health.

There is, in fact, a predisposition which is acquired, where the individual, by his life and habits, weakens his power of resistance to the exciting causes of phthisis. Cities tempt to excesses of all kinds, immoral, alcoholic; to exposure, late hours, and other depressing causes; loss of rest, anxieties of speculative business. These frequently are as strong in giving a predisposition as that derived from parents. *The mal-hygienic conditions which promote the development of consumption exist to a fearful extent in large crowded cities.*

Impure Air.—Of all influences in developing consumption in cities, impurities of the air are acknowledged as the most prominent. It is because the oxygen of the air and the food are the factors of the chemical changes of the organism. It is through these changes that we find the manifestations of life, such as heat-production, muscular contraction, nutritive, formative, and assimilative action. Life implies change, and its activity is in proportion to change, and for this oxidation is essential for the development of force. The normal proportions of oxygen in the atmosphere are necessary for these purposes. The true process of respiration has only been well understood for the past fifty years. That which takes place within the chest is only the commencement of the interchange of gases which is the essence of respiration. It extends to the minute histological elements of the body, and air that is deprived of

its normal proportion (20·99) of oxygen, or is loaded with extraneous substances, affects profoundly nutrition, and impairs the strength and intrinsic vigor of the organism.

Professor Wilson states that the quantity of oxygen is always sensibly diminished in the air of large cities, even in the open streets. The lungs are the most sensitive parts of the organism to the impurities in the atmosphere, whether they be gaseous or suspended matters. They come into immediate contact with the delicate structure of the lungs and materially affect their functions and injure their nutrition. The demonstrations of Professor Tyndall with the electric light astonished the scientific world, and showed the almost universal diffusion of suspended materials in the atmosphere. Every chemical constituent of the soil is lifted and carried by the winds broadcast. The vegetable world contributes seed and the *débris* of vegetation, as well as volatile matter, spores, and germs. The animals throw off decayed and decaying organic matter, epithelium, pus, besides germs of vibrios, monads, bacteria, and bacilli.

I do not propose to occupy the time of this association in discussing the general necessity of ventilation, but the subject-matter demands that I should insist upon it as a means of averting pulmonary consumption. I can not, however, do more than allude to those vitiations of the air which are especially deleterious to health, and which have been proved to be so, in developing pulmonary consumption. The overcrowding in cities causes human beings, as we know, to breathe an atmosphere loaded with organic matter thrown out in respiration and deprived of its normal proportion of oxygen.

With the poor, they not only breathe their breaths over and over again, but the oxygen of their quarters is rapidly destroyed by their sheet-iron stoves. The organic matter and smoke from the cooking and burning of coal-gas are fearfully destructive of air. A one-foot burner destroys the oxygen of eight cubic feet of air in combustion, and produces two cubic feet of carbonic acid, besides other impurities, in one hour. The air of a room of 420 cubic feet ought to be renewed eight times an hour, in order to keep the air fit for respiration; but this is, unless by powerful artificial means, an impossibility. It is notorious, even among the rich, who can have large houses and capacious rooms, that the air is not kept sufficiently pure. They fear draughts so much that they keep themselves and their children breathing air which undermines their physical frame slowly, though none the less surely, all the time. Even if they allow the standard space of 1,000 cubic feet to the head, they do not permit the air to be changed, especially by cross-ventilation—the surest way.

Go where we will, as practitioners visiting from house to house, we find impure air. Our very places of worship are often oppressive from want of ventilation, and our theatres and concert halls habitually so. Windows which ought always to be kept open in unoccupied rooms are habitually closed!

Persons predisposed to consumption, or who have a delicacy about the organs of respiration, should not, if possible, be allowed to live in large cities where the air is so impure, but should be given out-door occupation in the country, where, even in-doors, the open fireplaces and the penetrating winds force the impure air out and the pure air into the house.

Many years ago Marshall Hall declared that if he had any symptoms of consumption he would move to the country, eschew drugs, and live out-doors in a tent.

We maintain that musty houses are not only unhealthy, but positively poisonous. The organic matter collects in quantities in them and saturates the air; the venous blood is only partially arterialized, and, consequently, the nutritive functions are so lowered that inflammatory processes and tubercles occur readily in the lungs. It is thus not difficult to explain why neglect of ventilation is such a fruitful source of consumption. Rebreathed air contains carbonic acid and organic matters in excess, with a deficiency of oxygen. The blood can not take up the oxygen easily, nor get rid of the carbonic acid readily, because the conditions of the exchange of gases are absent. It does not at once suffocate, but it lowers all the organic processes of the body. Persons living in such an atmosphere think they are not being poisoned because it is slow in acting. The depression of the forces of life interferes with the strength of the formed tissues, and consumption is the result. *If we could only convince the community of the fact that vitiated air is so frequently a cause of consumption, it might supply a motive which would induce them to attend to the all-important requirements of ventilation.* We have to remind them over and over again that the human organism will not, with impunity, allow any alteration of the quantity or quality of the atmospheric air.

We find in the report of the English army sanitary commissions, published in 1858, a striking illustration of the effects of insufficient ventilation and contracted quarters producing excessive mortality from consumption among soldiers.

The air in the barracks of the Foot Guards only amounted to 331 cubic feet for each soldier, and the mortality from phthisis was as high as 13·8 in a 1,000. In those of the Horse Guards, on the other hand, with 572 cubic feet to a man, the mortality from phthisis did not exceed 7·3 per 1,000. After the report was made, the number of cubic feet was increased and the ventilation improved; then the number of phthisical cases occurring was materially diminished (Wilson).

(*To be concluded.*)

ON THE IMPORTANCE OF THE DIAGNOSIS OF CYSTIC DISEASE OF THE OVARY.*

By BACHE McE. EMMET, M.D.

The small specimen which I have here may serve as a nucleus for a few remarks rather than as an object of any great interest in itself. The history of the patient from whom it was obtained is briefly this:

A girl of twenty was regular in menstruation, and the flow was normal, except that it was attended by some pain indicative

* Remarks made before the New York Obstetrical Society, November 18, 1884.

of anteflexion. At one time there was some leucorrhœa, but it ceased with improvement in her general health. She was always accustomed to riding, whether menstruating or not, and on one occasion, six years ago, she had a severe fall from a chair when about to mount.

All her present illness dates from that time, although the fall did not produce any injury sufficient to put the patient to bed. Every exertion exhausts her and is followed by faintness, but no real pain. There constantly comes over her a feeling of langnor and great sleepiness. She is disposed to sleep constantly, and feels lethargic, suggesting an approach to hysterical coma. This has compelled her to forego any out-door sports for the past two years. This feeling of faintness is relieved by sleeping for a short time, but latterly this symptom has been coming on very often—several times in one day. Locomotion causes no pain, nor does defecation.

The patient was in the Woman's Hospital at the time this history was taken, and I saw her there and made the diagnosis of anteflexion and cellulitis on the left side, which was confirmed by others. At that time there seemed no doubt whatever that such was the patient's condition, the thickening and fullness, tenderness, and partial fixation of the uterus being as plainly indicative of parametritis as in any case to be found. She was put through the regular course of antiphlogistic and alterative treatment, to promote absorption of effused material, and in the course of two months felt somewhat better and left the hospital, considered to be improved, but still with a great mass on the left, which seemed to occupy the broad ligament.

I saw the patient within one week of her leaving the hospital. I find in my notes at that time: "Pelvic cellulitis was very marked while in hospital, but I find her condition vastly improved from what it was at that time; cellulitis rapidly clearing up; some thickening still on left side; fullness of broad ligament." Two months later a note in my book says: "On left side evident cyst, size of large walnut. It burst under my finger almost without pressure."

I thought at first that it had simply slipped over some other body, but I am confident of its rupture. The ovary could still be felt enlarged, but minus the cyst. It was down between the uterus and lateral wall of the pelvis, and could readily be pressed up against the latter; this practice, however, produced the peculiar feeling of nausea usually evoked.

The patient remained under my observation for three months longer, and during that time I have on several occasions, during an examination of the ovary, ruptured a cyst by slight pressure. The impression conveyed was that of feeling the cyst plainly; then, as if with a little start at the finger-end, the cyst would be gone.

By this time the question of removal of the ovary had been broached, but, though having mentioned the possibility of such a thing, I still dissuaded the patient from having recourse to it, having in mind both the general dangers to which abdominal section exposes a woman, and, in her case, at that time fearing lest what had been considered a pelvic cellulitis had also been accompanied by some degree of pelvic peritonitis, which had bound the ovary down, proving one more feature against a favorable issue.

As time wore on, however, the general symptoms did not improve; on the contrary, there has been much more nervousness than formerly, sleep has been much disturbed, there have been more ill-defined, disagreeable local sensations; and the young girl has given up all her more serious occupations, and has merely sought diversion, visiting from one friend's house to another to get away from herself and be freed from some impending evil.

Her condition of nervous exaltation had finally become such that she said death was preferable to this continued mental strain, and, receiving from her friends also assurance that she was entirely unfitted for any enjoyment of life, I consented to remove the ovary. This I did by abdominal section last Sunday week (November 9th), at the same time removing a portion of the corresponding tube, and the patient is now well. Stitches are out, and temperature and pulse normal.

Her expression is that she now feels as she did at thirteen, that a great weight has been lifted from her mind, and that she is taking pleasure in planning for her old pursuits, which had become distasteful to her, and which had been abandoned. There is a new interest in life for her, and she feels herself well fitted to enjoy it.

My apprehension of finding old pelvic inflammation, peritoneal as well as cellular, and the likelihood of experiencing considerable, perhaps insurmountable, difficulty in removing the ovary was not substantiated. There was not anywhere about the uterus a trace of it to be felt, and great was my surprise to find the ovary, though exactly where I had always felt it, down against the uterus and posterior to the broad ligament, yet absolutely free, and without any evidence of effused material about it, so far as the finger could tell, and I experienced not the slightest difficulty in seizing it and bringing it to the level of the abdominal opening.

This fact, in conjunction with my observation of the case *one week* after she left the hospital, when we were still persuaded there existed abundant cellulitis, has established in my mind the conviction that there was an error in diagnosis all that time, and that the condition present was that of ovarian cyst, reaching to the parts about to the extent of being immovable, and in other ways conveying the impression of a fullness of the broad ligament due to cellulitis. Were it otherwise, I could not have failed to recognize somewhat the same condition, for there could have been no such speedy absorption of exudation as that would imply.

I now question whether we do not many times overlook a small cystic ovary, or a dilated tube, which at the same time is prolapsed, and, pushing the broad ligament before it, occupies practically the position of lateral parametritis, and, by this same pressure forward of the broad ligament, shortens it and fixes the uterus toward that side.

Three other cases now come to mind—one in my own practice, and two in that of others—in which, after they had been treated for a considerable time for pelvic cellulitis, and not much improvement resulted, by either more careful examination in looking further for a cause of the continuance of the symptoms, or through some chance, a prolapsed and cystic ovary has been discovered.

In the one of my own practice I last spring removed the ovary and tube, the same as in this present case, and the patient has been perfectly well ever since.

In one of the two other cases the same operation has also been successfully performed.

One other question which this case suggests to me: Are we not called upon, and is it not our duty, to operate in such cases, and even, I would say, in cases of prolapsed ovaries which are producing distressing symptoms, and which treatment fails to restore to their position, at a much earlier period than is usual—as early as they can be recognized beyond a doubt—rather than allow our patients to have their nervous system much impaired, to have them subject to the risks of inflammatory complications such as we at

times see, notably a recent case at the Woman's Hospital, in which the patient died on the table from exhaustion, rendering it difficult, if not impossible, of removal?

Is it not desirable to oftentimes attach greater weight to patients' statements of their own sensations, rather than be guided as much as we are by our own estimation of the patients' symptoms, not of necessity waiting for an emaciated invalid to recognize the possibility of her having an ovary so diseased as to call for removal, and not suffering her to go year after year leading a dragged-out existence rather than offer her this means of relief, which, if employed with all desirable care and precaution, must, I believe, soon rank among the simpler operations of gynæcology?

True, it may be argued, some cases will remain at a stand-still, and many ovaries contain follicles filled with mucus which are harmless, and may never proceed to increase and give rise to trouble. Yet, is not the argument stronger on the opposite side; is there not more harm to come from allowing them all to grow than from removing an occasional one which might, if left alone, have come to nothing?

The satisfaction of operating in an uncomplicated case, and, if due care is exercised, the almost certainty of seeing the patient recover, is, in my mind, a strong plea for early operation.

Outside of the main considerations of this note, but as a feature of interest to record, I would mention the appearance of the right ovary, which was left intact. I held it for a moment between my two fingers, questioning whether to remove it or not, inasmuch as it has been advised, if an ovary is at all diseased, it is best to remove it. I did not do so, for the reason that it bore no mark of disease, and I could not see the logic of doing away with a perfectly sound organ in a young girl, notwithstanding the existence of anteflexion and slight dysmenorrhœa.

It had upon one extremity a ripening follicle, and so ripe that it was turgid and appeared ready to burst. It was tensely full and livid. The ovary was held between my fingers quite apart from the tube, which latter was seen to be quite quiescent, not in the least congested, not, as one might expect, already grasping the ovary; and yet, in spite of all these manipulations, the patient menstruated very comfortably, and the same as usual, on the second day after the operation.

OLEATE OF COCAINE IN OPHTHALMIC PRACTICE.*

By CHARLES J. LUNDY, A. M., M. D., Detroit,
Professor of Diseases of the Eye, Ear, and Throat in the Michigan College of Medicine.

Although much has already been written regarding the use of cocaine as a local anæsthetic, yet little has been said about its therapeutic uses. So far as I am aware, what has been published regarding this valuable drug relates entirely to the 4 per cent. solution, but I have seen no mention of other preparations. The object of this paper is to call attention to the oleate of cocaine, which, in my opinion, possesses many advantages over the hydrochlorate.

* Read before the Detroit Medical and Library Association.

Through the kindness of Mr. Clarence G. Stone, I obtained some specimens of McKesson & Robbins's oleate of cocaine, with which I have conducted numerous experiments upon the healthy eye, and have also tested the therapeutic value of the oleate in a considerable number of cases of eye disease. Among the advantages which the oleate of cocaine possesses over the hydrochlorate, the important one of economy may be mentioned. As will be seen, a much smaller quantity will produce the desired result than when the aqueous solution of the hydrochlorate is employed. This may, in part, be accounted for by the fact that it is not diluted with and washed out by the tears. Neither does it so readily flow down the lachrymal passage. The great expense of cocaine will prove a barrier to its more general employment; therefore any preparation of the drug which will lessen the expense, and at the same time afford all or nearly all of its advantages, must be a *desideratum*.

From experiments made upon healthy eyes, with a five-per-cent. preparation of the oleate, I find its anæsthetic effects are much greater and its action is more rapid than those obtained by using a like quantity of the hydrochlorate. Within two minutes after one drop of a five-per-cent. preparation of the oleate was placed in the conjunctival sac, sensibility of the cornea and conjunctiva was nearly lost. In three minutes the cornea and conjunctiva were completely anæsthetized. The conjunctiva could be seized with a sharp fixation forceps, and the eye rotated forcibly from side to side, without producing any pain or discomfort whatsoever. The patients felt the stretching of the muscles when the eye was rotated far to the opposite side—nothing more. A sharp instrument pressed against the cornea could not be felt in the slightest. Where only a single drop of the five-per-cent. preparation was employed, the complete anæsthesia was of but short duration. After the lapse of seven minutes the conjunctiva and cornea showed evidence of returning sensibility, and in fifteen minutes sensation in these parts was nearly or quite normal. In eight minutes after one drop was used the pupil was perceptibly enlarged, and in twelve minutes it was widely dilated, but not wholly irresponsive to light. In ten minutes there was slight failure of accommodation. In fifteen minutes the failure of the accommodative power was more noticeable, but it was by no means very marked. The effects on the pupil lasted several hours.

From these observations it will be seen that it is an important mydriatic. In many cases it will be desirable to dilate the pupil in order that a thorough ophthalmoscopic examination may be made. To-day cocaine is the mydriatic which gives the most satisfaction where dilatation of the pupil for this purpose is desired, for, while it dilates the pupil quickly and fully, it does not seriously interfere with the patient's ability to focus his eye for near objects. Cocaine possesses another advantage over other mydriatics in this connection, and that is, it renders the eye less sensitive to light, which is an important point where hyperæsthesia of the retina exists.

In experiments where one drop was placed in the conjunctival sac every three minutes till four or five drops were used, I observed that it exerted a considerable influence

over the ciliary muscle. Patients who could read Jäger No. 1 at five inches before the use of the oleate could not see either No. 1 or No. 2 of Jäger's type after the lapse of fifteen or twenty minutes. So marked an effect upon the muscle of accommodation I have not witnessed from the very free use of the hydrochlorate, although my experiments with the latter were not made with a solution stronger than four per cent. The contractile power of the ciliary muscle returned completely after a lapse of two or three hours, when several drops of the oleate had been employed at intervals of three minutes. When it was used in this manner the pupil did not regain its normal size for twelve to fifteen hours. As one might naturally expect, slight differences were observed regarding its effect in different subjects, but the foregoing results are an average obtained from several experiments.

As a therapeutic agent, I think the oleate of cocaine will find favor with the profession, and especially among ophthalmic surgeons. Ointments are used for various affections of the eyes, and the oleate can be used in combination with these or by itself. In a large number of cases occurring in ophthalmic practice it can be used as an adjuvant to other remedies. I have thus employed it in several cases, and I have no hesitation in saying that these cases have done better than similar cases have done where the oleate was not employed. I have used it in five cases of granular ophthalmia with ulceration of the cornea. In three of these cases there was a considerable degree of blepharospasm and photophobia. The results were highly gratifying. In all cases of granular ophthalmia where ulceration of the cornea exists, and more especially where there is much spasm of the lid, the roughened, granular conjunctiva rubs and irritates the cornea and aggravates the trouble, and delays or altogether prevents the process of repair in the corneal ulcer. Ophthalmic surgeons are so fully aware of the mischief arising from this source that many of them resort to the little operation of cutting the outer canthus, thus weakening the power of the orbicularis and limiting the injurious effects of its spasmodic contraction. Now, cocaine relieves the blepharospasm as no other remedy will, and the rasping action of the lid is reduced to a minimum by its employment. Then, again, the use of cocaine, either before or immediately after the application of an astringent to the conjunctiva, prevents all pain, and limits the reaction which always follows such applications. And this, let it be remembered, is an important point in the treatment of granular lids where corneal ulcers exist as a complication.

The relief of pain in ulceration of the cornea, whether the ulcer is a complication of some other eye affection or not, must always be an important point in its management. As a general rule, rest is one of the principal factors in the treatment of diseased parts, and to this general rule the eye forms no exception. Now, if the eye is the seat of severe pain, it can not be kept completely at rest, and without proper means to control this pain and secure rest we labor under a disadvantage. Heretofore we have relied upon such remedies as atropine, duboisine, etc., and, while in many cases they afforded much relief, in other cases their influence was almost *nil*. But in cocaine we have a remedy which, either alone or in combination with others, such as atropine, will prove a boon to patients suffering from painful affections of the eye, and especially when the disease is located in the anterior portion of the ball.

I have employed oleate of cocaine in three cases of phlyctenular ulcer of the cornea. In one of the patients, a weak, delicate child of seven years, the blepharospasm was so great that no satisfactory view of the cornea could be obtained. In such cases chloroform is usually administered in order that a thorough inspection of the cornea may be made. In this instance one drop of the oleate of cocaine was placed in the conjunctival sac, and another in three minutes. In two minutes after the second application, the blepharospasm was so much relieved that the eye could be readily opened, and a complete view of the cornea was obtained. The cocaine was regularly used afterward, the spasm of the lid almost entirely disappeared, and the little patient made a more rapid recovery than she would have done without the cocaine. In many children affected with phlyctenular keratitis, the degree of lid spasm, photophobia, and lachrymation is out of all proportion to the corneal lesion. Without now taking time to discuss this subject, I will say that in such cases cocaine will be found a valuable adjuvant in the treatment, because, as already explained, it will control the spasm of the lid and give the cornea rest. And in just such instances will the oleate be the more valuable preparation, for in such cases the great flood of tears will wash out the aqueous preparation and limit its effect.

I have employed oleate of cocaine in one case of keratoiritis as an adjuvant to atropine, and found it of great value. Atropine had little influence in dilating the pupil and relieving pain until the cocaine was employed. After the use of cocaine, the pupil responded to atropine, and the adhesions (posterior synechia) which had formed yielded to the influence of the two powerful mydriatics.

In one case of severe iritis, with great tenderness over the ciliary region, where atropine and the free use of the artificial leech to the temple had no effect in controlling pain, cocaine acted like a charm. The cocaine was used every third hour, and ordered at night also if pain prevented sleep. In this way the patient was kept perfectly comfortable, and no trouble was experienced in dilating the pupil and in keeping it dilated after the use of the cocaine. In one case of traumatic keratitis I employed cocaine three times a day, and, although no other remedy was used, the patient made a rapid recovery, and suffered scarcely any inconvenience after the first use of the cocaine.

We have seen that cocaine exerts a very beneficial influence in corneal diseases, and that its value in these cases is due, in part at least, to its power to relieve pain and irritation and control spasm of the lid, thus affording rest to the diseased cornea. We have also seen that it is an important adjuvant in the treatment of iritis, and its *modus operandi* is worth a moment's consideration. It is well known to every ophthalmic surgeon that pain and irritation in the ciliary region cause marked contraction of the pupil, and that this contraction of the pupil continues until the cause

is removed, or until the pain and irritation are controlled by the use of some powerful mydriatic. Indeed, mydriatics are often powerless to dilate the pupil where the pain and irritation are very great. Now, in the more common forms of iritis, we have several factors, among which pain and ciliary irritation occupy an important place. If we can relieve and control the pain and irritation, we can the more readily dilate the pupil, provided no firm synechiæ have formed. And every physician knows that the iritis soon subsides if the pupil is once fully dilated; because the blood, so to speak, is squeezed out of the vessels of the iris, and the blood supply is greatly lessened, when the iris tissue is compressed into a small space, as it is in extreme dilatation of the pupil. Thus we see that the relief of ciliary pain and irritation will be an important indication in the treatment of iritis. This is no idle speculation, and every ophthalmic surgeon has frequent opportunities of observing this fact. As an illustration of this, I will mention the case of a Mr. Price, of this city, who came under my care some time since while suffering from a so-called "rheumatic iritis." Atropine was utterly powerless to relieve his pain or dilate his pupil. At first twenty-grain doses of salicylate of sodium were ordered, and the dose was finally increased to forty-five grains. After the second dose of forty-five grains the physiological effects of the drug showed themselves; immediately the pain in his eye and in his swollen joints ceased, and the pupil dilated *ad maximum* under the use of atropine. Now, in cocaine we have a remedy which not only controls pain and irritation of the ciliary region, but also has great power as a mydriatic, and is therefore doubly useful in the treatment of iritis. But, when we combine cocaine with atropine in the treatment of this affection, we have at our command means that will yield valuable results unless the disease has already advanced too far.

That cocaine exerts a beneficial influence in inflammatory affections of the anterior portion of the eyeball, aside from its power to relieve pain, I think there can be no doubt. Whether this is due to its action on the vaso-motor nerves I am not prepared to say.

In my earlier experiments with cocaine I was inclined to believe that it produced a partial paralysis of the vaso-motor nerves. But that it does not produce vaso-motor paralysis when used in small quantities I am now fully convinced. In the November number of the "Physician and Surgeon" I reported a case in which a decided paleness of the conjunctiva followed its use, and I have since observed similar effects in other cases. If it can be demonstrated beyond doubt that cocaine does really cause contraction of the blood-vessels when used in small quantities, and I think it can, it will prove to be the most valuable agent yet discovered for the treatment of inflammatory affections of the eye.

52 Lafayette Avenue, Detroit, *January 19, 1885.*

The Sanitary Council of the Mississippi Valley will hold its seventh annual meeting in New Orleans on Tuesday, March 10th. It is expected that the attention of the meeting will be largely given to the subject of cholera.

ON THE SUBSTITUTION OF THE PREPARATIONS OF COCA FOR COCAINE.*

By LOUIS JURIST, M. D., Philadelphia,
Instructor in Laryngology and Rhinology, Post-Graduate Course, Jefferson Medical College, Laryngoscopic Department of Jefferson Medical College Hospital.

Immediately after the demonstration of the great utility of cocaine in laryngological practice I began the use of coca in the form of infusion, fluid extract, and lozenges. Although aware of the utility of coca in diminishing irritability of the larynx, I was surprised by its complete success in relieving dysphagia in tuberculosis and syphilis. In the first case of tubercular laryngitis, Dr. Rex being present, the patient, who declared his aphagia complete for four days previous, swallowed an entire glassful of milk, without any hesitation or regurgitation, after two applications of the fluid extract. Since then this observation has been repeatedly verified. A female patient, under the care of Dr. J. F. Bower, suffering from advanced tuberculosis, declared the relief afforded equal to that from cocaine. In two cases of syphilitic ulceration the statements were equally positive.

In subacute and chronic inflammation of the nose, pharynx, and larynx, the preparations of coca were extensively used. The alcoholic fluid extract being found too irritating for the nasal passages, a concentrated infusion (one minim representing a grain of the leaves) was substituted, although even this excites some burning. In acute coryza its local use was supplemented in a few cases, with apparent good effect, by the internal administration of the fluid extract.

In the form of gelatin lozenges, we have used coca, both in combination with aconite and with belladonna, and alone. Alone it has been of very great service in all forms of sore throat, and has been freely and successfully used among our dysphagic patients during the interval of their visits. The combination with belladonna and aconite was found extremely useful in acute inflammations.

In chronic pharyngitis and laryngitis, although many patients declared themselves improved, it did not appear that any were permanently benefited, the relief consisting principally in the amelioration of the tired, uneasy sensation in the throat. One patient complained of a sense of cold following every application. The gelatin lozenges used in the foregoing experiments were kindly furnished me, for hospital use, by Messrs. C. L. Mitchell, M. D., & Co., manufacturers of gelatin preparations, Ninth and Race Streets, Philadelphia, and were prepared according to the following formulæ:

℞ Ext. cocæ fl., gr. v:

The amount in each lozenge.

℞ Ext. cocæ fl., gr. v;
Tinct. rad. aconiti, gr. ss.;
Tinct. belladonnæ, gr. j.

Make one lozenge.

The gelatin vehicle or basis used in these lozenges renders them exceedingly well adapted for the treatment of

* Read before the Philadelphia Laryngological Society, January 23, 1885.

inflammatory conditions of the throat, as its bland and demulcent character assists the peculiar action of the coca, while their slow and gradual solution in the mouth allows of the prolonged effect and influence of the coca upon the mucous surfaces. The coca lozenges are also exceedingly useful in laryngoscopy where the throat of the patient is extremely irritable; for, if several lozenges are directed to be taken at intervals a short time before the examination, the undue sensitiveness will measurably disappear.

It seems reasonable to conclude that coca and its preparations deserve considerable use by the laryngologist. The addition of a fluid extract or infusion to gargles, sprays, mouth-washes, and douches will aid in relieving pain and controlling irritability.

My experience in operative procedures has been limited to applications *after* removal of hypertrophic mucous membrane, tonsils, etc. On these cut surfaces its anæsthetic effects were repeatedly noticed. When the use of caustic or painful applications is preceded by coca infusion or fluid extract freely brushed over the part (syphilitic ulcerations, etc.), the pain is scarcely appreciable.

Application to unbroken surfaces produced very slight anæsthesia, although undue sensitiveness to examination was always overcome—a fact observed some years ago.

The difficulty in procuring reliable preparations is considerable, as the leaf now in the market is mostly of inferior quality. My thanks are due to my friend, Mr. F. W. E. Stedem, a pharmacist of this city, for his endeavor to make my work reliable. His assistance has been of great value.

1210 Wallace Street, Philadelphia.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A Handbook of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. Mitchell Prudden, M. D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York, etc. New York: William Wood & Co., 1885. Pp. xvi–575.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1884. Washington: Government Printing Office, 1884. Pp. 303.

Cocaine, and its Use in Ophthalmic and General Surgery. By H. Knapp, M. D., Professor of Ophthalmology in the Medical Department of the University of the City of New York. [Reprint from the "Archives of Ophthalmology," with Supplementary Contributions by Dr. F. H. Bosworth, Dr. R. J. Hall, Dr. E. L. Keyes, Dr. H. Knapp, and Dr. W. M. Polk.] New York: G. P. Putnam's Sons, 1885. Pp. 87. [Price, 75c.]

The Analectic. A Monthly Periscopic Summary of the Progress of Medical Science. Edited by Walter S. Wells, M. D. Vol. I. New York: G. P. Putnam's Sons, 1884. [Price, $3.25.]

Dental Surgery for Practitioners and Students. By Ashley W. Barrett, M. B. (Lond.), M. R. C. S., L. D. S., Dental Surgeon to the London Hospital. Philadelphia: Presley Blakiston, Son & Co., 1885. Pp. xii–83. [Price, $1.]

The Care of Infants. A Manual for Mothers and Nurses. By Sophia Jex-Blake, M. D., Member of the Irish College of Physicians, etc. London: Macmillan & Co., 1884. Pp. xiii–109.

Practical Anatomy; a Manual of Dissections. By Christopher Heath, F. R. C. S., Holme Professor of Clinical Surgery in University College, London, etc. Sixth Edition, revised by Rickman J. Godlee, M. S. Lond., F. R. C. S., Demonstrator of Anatomy in University College, London, etc. With 24 Colored Plates and 274 Engravings on Wood. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–567. [Price, $5.]

Bodily Deformities and their Treatment; a Handbook of Practical Orthopædics. By Henry Albert Reeves, F. R. C. S. E., Surgeon to the Royal Orthopædic Hospital, etc. With 228 Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xii–460. [Price, $2.25.]

A Case of Unilateral Chromidrosis (?). By James C. White, M. D., etc. [Reprint from the "Journal of Cutaneous and Venereal Diseases."]

Correspondence.

LETTER FROM WASHINGTON.

Sanitary Resolutions before Congress.—The Appropriation for the Army Medical Museum.

Washington, *February 18, 1885.*

The following resolutions were introduced into the House on the 17th inst. from the Public Health Committee:

Whereas the late prevalence of Asiatic cholera in portions of Europe has induced a widespread and, judging from our past experience, probably a well-founded apprehension that said disease may be introduced into this country during the present year, the prevention of which is very desirable; and

Whereas it is also very desirable that the introduction of all contagious, infectious, and epidemic diseases into this country be prevented, if possible, and that they be suppressed if introduced; therefore,

Be it Resolved, That, in the judgment of the Committee of Public Health, there should be provided in the proper annual bill an appropriation of $500,000, to be expended in the discretion of the President of the United States, through such governmental agencies as he may designate, for the purposes indicated in the foregoing preamble.

Resolved further, That, in the judgment of said Committee, there should also be provided in the proper annual bill an appropriation of $25,000, to pay the per diem and necessary expenses of the National Board of Health for the ensuing fiscal year.

This is practically the same as the resolution introduced by the committee last year, except that the discretionary fund is increased from $250,000 to $500,000. There is no probability that the Appropriations Committee will take any action upon the resolutions, as it is understood that the matter has already been passed upon.

The action of the House in passing the appropriation providing for the Army Medical Museum and Library building is very gratifying to all interested. The plans are understood to be well advanced, and it is said that the building will be located somewhere near the Smithsonian Institution.

Dr. Tyler, of this city, has been appointed demonstrator at the Georgetown Medical College, *vice* Louis Kolopinski, M. D., resigned.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 28, 1885.

LECTURES TO NURSES.

A recent number of "Health" contains one of a series of lectures delivered by Mr. W. H. Allchin before the Westminster Training School, a perusal of which furnishes food for reflection. The lecture in itself is a scholarly and scientific exposition of the subject of vital forces, and it is no mean compliment to the intelligence of English nurses that they should be considered capable of understanding and profiting by such a discourse, but we question whether the lecturer's auditors were able to follow him in all of his statements. This suggests the query, What is the general tenor of theoretical training-school instruction, at least in New York? The idea of furnishing nurses with a certain amount of medical knowledge is undoubtedly a good one, since this knowledge not only raises them above the level of mere machines, but is calculated to inspire them with a personal sense of the breadth and dignity of their profession—for nursing should be a profession, and not a trade. But we have long entertained serious doubts as to the wisdom of instilling into the mind of a bright, ambitious young woman just enough medical lore to place her in a position where she feels herself not only the equal, but even the critic, of the doctor. This is not a speculative objection, since we have heard it frequently urged by practitioners of large experience.

Any system of instruction which tends to make the nurse forget that she is the assistant, and not the adviser, of the physician, is an erroneous one, and cripples the usefulness of both individuals, whose sole purpose should be a harmonious co-operation in the best interests of the patient.

We have even heard men say that they had no patience with "these high-toned training-school nurses," but preferred one of the good old stamp, who knew nothing about temperature-charts and the examination of urine, but could hold her tongue and obey orders to the letter. This is going to the other extreme, for it is only just to the patient that an attendant should be provided who by her intelligence and breeding will inspire confidence and respect; but we can readily understand how such a feeling as we have mentioned might be fostered in the minds of physicians whose only experience with trained nurses has been derived from their association with those who have been ignorant in the training. We distinctly disclaim any intention of casting reflections upon the graduates of New York hospitals, for strong characters and practical usefulness we entertain a high respect. We simply desire to lay stress upon the fact that many of the courses of lectures delivered before the pupils in our training schools are entirely "over the heads" of the unfortunates for whose benefit they are intended, and that, even if it were desirable that the nurse imparted to them as much as the nurse will never use when she enters upon the actual task of earning her bread and butter. For the position of the nurse is precisely that of the hospital interne—in actual practice many of the rules and traditions of the wards must be laid aside, and this applies particularly to the relative positions of the nurse and the house surgeon.

Familiarity that would be overlooked in the hospital would be out of place in the sick-room. Let the nurse be instructed in the practical part of her duties, in everything that requires the training of her senses; but why should her mind be overburdened with symptomatology, the details of surgical operations, and questions in pathology? What possible good can result from teaching her to recognize a hyaline cast under the microscope, or from puzzling her with speculations upon the exact location of the tissue-changes? Are we educating our nurses as nurses, or as physicians? The line is certainly not drawn very sharply. Here, as everywhere, the wise saying of Pope may be applied, "A little knowledge is a dangerous thing."

TREADMILL WORK IN GENERAL PRACTICE.

Considering the universal complaint that there are too many medical graduates and too many practitioners, it would seem that sharp competition ought to make it impossible for careless and indifferent aspirants to obtain a living foothold in the profession. But it can not be denied that hundreds of very fair men, perhaps originally above the average in professional attainments, have gradually lapsed into a routine practice which is creditable neither to themselves, to the communities in which they move, nor to the age in which they live.

A correspondent thinks that this is especially true of the extreme east—New England and New York. Hundreds of physicians living within two hours of Boston, New Haven, or New York, who have perhaps earned a fair competence and find themselves in moderately easy circumstances, have cloyed of society and library privileges for which their more distant brethren hunger and thirst in vain every year, and now go on performing their daily round of duties as an irksome task rather than as a humane and gratefully recompensed vocation, as well as an increasingly interesting study.

Various causes are at the bottom of this: the apathy of communities with regard to advanced medical ideas; the rustiness and apathy of local medical societies; the rage of the average community for advertising quacks and their delusive nostrums; to which may be added a kind of mental dyspepsia which circumstances have gradually induced and continue to foster.

We have no doubt that hundreds of practitioners located within the limits indicated, who stand well in the profession, and have made a tolerable success in a business way, will recognize the foregoing as a not seriously exaggerated picture of their own condition. What they need is intellectual ventilation, and to be jogged out of the present rut. Perhaps this would be favored by a change of scene, a removal to more salubrious and less malarious regions—to the mountains, or the far West.

Many a man who is now doing little for himself and less for his community might, by a shifting of the scene, take a front rank among his professional brethren, awake to a realization of the usefulness, dignity, and honor of his calling, and from his present apathy and intellectual *ennui* turn to a state of professional enthusiasm through which he would be enabled to better satisfy his patrons and himself, the latter being by far the more important consummation.

Our correspondent suggests that there be established at some great center a physicians' exchange, where wants may be registered and exchanges of locations easily effected. This would facilitate a healthy movement in the right direction, and would doubtless result in good to all parties concerned; to the jaded practitioner who has come to feel his work a treadmill routine and who needs a change of surroundings, fresh incentives to action, and new faces to study; to the unthinking patrons who have come to look upon the unstinted strain of their family physician in their behalf as a matter of course, and who have little appreciation of the self-sacrifice and deprivation endured silently that their needs may be constantly met and adjusted; and to the hundreds of robust country practitioners who would like to spend a few years nearer the sea-coast and the literary and commercial centers.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 24, 1885:

DISEASES.	Week ending Feb. 17.		Week ending Feb. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	11	3	10	4
Scarlet Fever	67	11	93	20
Cerebro-spinal meningitis	5	5	4	3
Measles	135	24	112	26
Diphtheria	75	36	55	25

The Mary Fletcher Hospital, Burlington, Vt., it is understood, is to receive a further endowment of about $200,000 by the will of Miss Mary A. Fletcher, who died in that city on Tuesday, the 24th inst.

The Death of Dr. Henry Curtis Hough, of Providence, R. I., a physician long and favorably known throughout Rhode Island, took place in Olneyville, a suburb of Providence, on the 17th inst. Dr. Hough had practiced medicine for nearly half a century, having established himself on Cape Cod before going to Providence. He was highly respected, both as a physician and as a citizen.

A French Scientific Mission.—The "Progrès médical" states that Dr. Gibier has been commissioned to visit Germany, to study the organization of micro-biological laboratories.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 15, 1885, to February 20, 1885:*

PATTKI, JULIUS H., Captain and Assistant Surgeon. Leave of absence further extended seven months on surgeon's certificate of disability. S. O. 40, A. G. O., February 17, 1885.

PERLEY, H. O., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 5, 1885. S. O. 16, Department of Dakota, February 10, 1885.

ROBINSON, S. Q., Captain and Assistant Surgeon. Relieved from duty at Fort Spokane, Washington Territory, and ordered for duty as Post Surgeon, Fort Klamath, Oregon. S. O. 23, Department of the Columbia, February 9, 1885.

KEAN, J. R., First Lieutenant and Assistant Surgeon (recently appointed). Assigned to duty at Fort Sill, Indian Territory. S. O. 23, Department of the Missouri, February 11, 1885.

Society Meetings for the Coming Week:

MONDAY, *March 2d:* New York Academy of Sciences (Section in Biology); Brooklyn Anatomical and Surgical Society (private); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn., Medical Association; St. Alban's, Vt., Medical Association.

TUESDAY, *March 3d:* New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Elmira, N. Y., Academy of Medicine; Medical Society of the County of Hudson, N. J. (Jersey City); Essex South District, Mass., Medical Society (annual—Salem); Androscoggin County, Me., Medical Association (Lewiston).

WEDNESDAY, *March 4th:* Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot County, Me., Medical Society (Bangor).

THURSDAY, *March 5th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association.

FRIDAY, *March 6th:* Practitioners' Society, New York (private).

SATURDAY, *March 7th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Louis Elsberg, M. D.—The death of Dr. Elsberg, which, as was briefly announced in our last issue, occurred at his home, in this city, on Thursday, February 19th, is a marked event in the history of laryngology in this country, and of even greater significance as coming so quickly after that of his distinguished fellow-laborers, von Bruns, Krishaber, Fauvel, and Thomas.

To Dr. Elsberg more than to any other New York physician it was given to see the rise, the advancement, and, finally, the complete success of the special department of research in which he labored, himself meanwhile keeping well abreast of the current of fresh discovery and practical improvement by which so many of his predecessors and contemporaries have, one after another, been overborne, and so many of the old scientific landmarks carried away.

Dr. Elsberg was born at Iserlohn, Westphalen, forty-eight years ago, and came to America with his parents when he was thirteen years old. The family settled in Philadelphia, where they started a small shop, and the boy became a pupil in a public school. Afterward he went to the High School, from which he graduated, with the valedictory honor, in 1852. A position was obtained for him in an academical institution in Winchester, Va., where he remained two years, after which he returned to Philadelphia, and, entering the Jefferson Medical College,

took his medical degree in 1857. Immediately after graduating he came to New York, and for six months was resident physician at Mt. Sinai Hospital. He then went abroad for a year. He returned in 1859, and at once began the active practice of medicine in this city, but shortly turned his attention exclusively to laryngology. In this he soon met with signal success, both as a practitioner and as a well-grounded authority in the literature of the subject, until, in later years, few could be found whose knowledge was more thorough or whose opinions carried greater weight.

As he was possessed of great energy of character and untiring industry, his aid was sought for and appreciated in many important directions, prominently by the American Laryngological Association. Of this society he was one of the founders and, from its inception, one of its most active workers, occupying the position of president during the first two years of its existence, and contributing not a little to its prestige and success. Soon after the establishment of the Association, Dr. Elsberg, in company with Dr. Cohen, Dr. Knight, and Dr. Lefferts, started a special quarterly magazine, the "Archives of Laryngology," upon such a high plane of literary and scientific excellence that it easily and at once took the lead among journals devoted to the same branch. Dr. Elsberg's labors in these two fields were widely recognized and well repaid, for they assisted materially in extending his already brilliant reputation. For several years he held the lectureship of laryngology in the Medical Department of the University of the City of New York, delivering at the same time an excellent course of clinical lectures at Charity Hospital. He assumed a similar professorship at Dartmouth College, while, in the same position in the New York Polyclinic, his devotion and reputation contributed materially to the gratifying success which that institution has met with. Dr. Elsberg was connected with many of the leading medical societies both at home and abroad. His writings, which were extensive, were characterized by great clearness of thought and expression, and his style, eminently philosophical, was at the same time convincing and attractive. He restricted himself mainly to the consideration of limited subjects, furnishing monographs which were, in many instances, of exceptional value and importance.

About two years ago he was attacked with a disease of the kidneys, which impaired his health and seriously threatened his life. From this he recovered, however, to all appearance so thoroughly that he was enabled to take up his usual duties—with what vigor those who were familiar with him well knew. For a long time after the attack he seemed solicitous about himself, referring guardedly to the future; indeed, in his last paper, read before the American Laryngological Association in May, 1884, on the subject of Laryngeal Spasm (see the last volume of this journal, page 685), he explains in his introduction the objects of the thesis, and adds, prophetically, "and I promise you that, *if I live*, I will prepare a more elaborate essay on the subject before our next annual meeting." About a month ago, however, he stated to the writer that he had never felt in better health and spirits in his life, and this assertion his appearance seemed fully to bear out. Ten days before his death, Dr. Elsberg took a severe cold, but persisted in attending to his regular duties. Pneumonia soon set in, and, before it was generally known that he was sick, his death took place. His funeral, held at his late residence on Monday last, was attended by a large gathering of his professional and social friends, many of whom came from great distances.

Personally, Dr. Elsberg was possessed of social qualities of a high order, and they were nowhere so well displayed as in his own home. In conversation he was learned and brilliant, as an entertainer he was most hospitable, while to his faithfulness as a physician the enthusiasm and affection of his patients, commanded by him to an extraordinary degree, are his highest tribute. His place will not soon be filled. D. B. D.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of February 16, 1885.

The President, Dr. D. A. K. Steele, in the Chair; Dr. Liston H. Montgomery, Secretary.

Malignant Disease of the Thyroid Gland.—Dr. C. E. Webster reported the case of a woman, sixty years old, whose general health was quite good, but who had first noticed an enlargement of her neck about a year before she first consulted him. It began in one lobe of the thyroid, and extended rapidly to the adjacent glands and tissues of the neck. When she was first seen, swallowing was difficult and her voice was husky, although her breathing was not impeded. The thyroid gland, the larynx, the trachea, and the neighboring cervical glands formed an irregular doughy mass. The diagnosis lay between tertiary syphilis and cancer of the thyroid, but it was made easy by the history of the progress of the growth from an enlargement of the thyroid, and by the fact that such growths after middle life were almost invariably malignant. The steady progress of the disease under a short course of anti-syphilitic treatment confirmed the diagnosis, and the patient had recently died of exhaustion. The microscopical appearances of such growths were sometimes peculiar, hardly differing from those of benign tumors of the same organ, so that it was often difficult to decide upon the nature of the neoplasm from those appearances alone. A case in point was cited from the service of the Massachusetts General Hospital, in which the alveoli were lined with cuboid cells and filled with a homogeneous substance.

Dr. F. Carey asked where the cells were in the latter case, if the alveoli were filled with a homogeneous substance.

Dr. L. H. Montgomery asked about the dimensions of the tumor, whether it extended uniformly in all directions, and if the speaker had any theory as to the functions of the thyroid. Might not the organ be situated over the trachea for purposes of protection, or did it act as a sort of reservoir, like the spleen?

Dr. E. J. Doering asked if removal of the mass would have been justifiable.

Dr. Webster stated that, in the hospital case referred to, the lumen of each alveolus was filled with a homogeneous substance, and the cells were arranged peripherally. When he first saw his own patient the disease had progressed to such a stage that, had an operation been undertaken, it would have been impossible to complete it, as the deep tissues of the neck, including the œsophagus, were involved in the growth. The tumor of the thyroid was as large as half a hen's egg, and a doughy mass extended in all directions. He had no theory to offer as to the function of the thyroid gland.

Tape-Worm in a Child.—Dr. C. G. Davis read a report of a case of *Taenia solium* in a child two years old, and showed about four inches of the worm, including the head. On the 10th of December, when he first saw the child, it had not quite recovered from an attack of entero-colitis that had lasted through the summer and autumn; it still occasionally had the usual symptoms of "summer complaint." A number of simple remedies were given, together with raw beef, and this treatment seemed to be effectual, but portions of tænia soon began to ap-

pear in the discharges, and half a teaspoonful of a French preparation of pelletierine was given, followed in an hour by twenty drops of tincture of jalap and a tablespoonful of castor-oil. This was followed by the expulsion of three or four yards of the worm, but the head was missing. The child was then carefully nursed, and its general health looked after, when segments of the worm again appeared in the evacuations. A double dose of the pelletierine, jalap, and castor-oil was then given, and several feet more of the worm were discharged, including the head, which was now exhibited.

Dr. Doering alluded to three cases of tænia that he had treated in children, the youngest of whom was only six months old and had been fed on raw beef while sick with entero-colitis. He was surprised at the results that had followed the treatment in Dr. Davis's case, for he himself had used much larger doses of pelletierine, with only partial success.

Hygroma of the Tongue.—Dr. Josef Zeisler related the case of a girl, nine years old, the right side of whose face was much more developed in its osseous and muscular formation than the left side. The surface of the tongue was covered with cysts, varying in size from that of a pin-head to that of a pea, and there was a collection of like vesicles on the mucous membrane of the right cheek, near the angle of the mouth. There was also a crested formation running along the middle line of the dorsum of the tongue, of a caruncular appearance. The movements of the tongue and the faculty of speech were not impeded. The speaker regarded the case as one of colloid degeneration of the mucous membrane, but he could not classify it precisely, having never seen another like it. The only treatment suggested was galvano-puncture of the cysts. A microscopical examination was not allowed. Dr. E. Andrews, Dr. C. T. Parkes, Dr. J. N. Hyde, and several other well-known physicians had seen the patient, but none of them had ever seen a case of the sort, and they could make no further suggestion in regard to treatment. Two like cases were to be found in literature.

The Comma Bacillus.—Dr. L. L. McArthur showed specimens of Koch's cholera bacillus. He considered that, thus far, Koch had successfully met all opposition to his theory of the causal relation of the bacillus to Asiatic cholera. The specimens shown were from Koch's laboratory, having been sent by Dr. Betz, of Tübingen, to Dr. Doering.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Meeting of January 23, 1885.

The President, Dr. Charles E. Sajous, in the Chair.

On the Substitution of the Preparations of Coca for Cocaine.—Dr. Louis Jurist read a paper with this title. [See page 248.]

Dr. S. Solis-Cohen said that Dr. J. Solis-Cohen and he had used fluid extract of coca for three years for irritative conditions of the throat, but had abandoned it two years ago for aconitine oleate, which they had found more efficient. Coca, both locally and internally (in the form of wine), was still used, by those complaining of fatigue, "tired throats," with apparent benefit. Recently he had used an instillation of the fluid extract on himself during an attack of acute coryza. Intense burning followed of a few minutes' duration, the relief then obtained being equal to that afforded by cocaine. He had supposed the irritation due to the alcohol in the fluid extract, but an infusion produced the same temporary irritation. Coca with chocolate, in the form of lozenges, had proved somewhat useful in facilitating the examination of sensitive and irritable throats, but not nearly so satisfactory as cocaine. In acute amygdalitis coca had relieved the pain, but guaiac seemed equally good. Dysphagia, in a case in which only inflammation of a few glands low down on the lateral wall of the pharynx could be detected, yielded at once to the infusion of coca. That day he had applied the infusion to the vault of the pharynx after the removal of adenoid vegetations, with prompt relief of the pain. In a hay-fever subject, having bilateral posterior hypertrophy of the middle turbinated tissues, while probing the unanæsthetized nasal passages produced, when the probe touched certain spots, paroxysms resembling that of the disease, after the application of a ten-per-cent. solution of cocaine hydrochlorate, such manifestations were not noted. The sensation of contact in the patient, however, was but slightly diminished. The same lady complained on two occasions, once after the use of cocaine as above, the other time after the use of infusion of coca, that for two or three days following the application she suffered with a mild coryza.

Dr. Sajous had found the infusion very efficient in overcoming hyperæsthesia and facilitating examination, but had not found that it influenced reflex spasm. He had also relieved the pain of acute amygdalitis by using the infusion four times, at intervals of five minutes, the relief lasting four or five hours. He had also used bougies containing cocaine with good results in hypertrophic rhinitis. They were introduced three times daily, and left *in situ* five minutes at each sitting.

Dr. A. W. MacCoy had used fluid extract of coca as a gargle in acute inflammations, and found the effect heightened by the addition of bromide of potassium. He recommended the lozenges as being convenient and palatable, and considered their use frequently indicated. Cocaine, particularly in galvano-caustic operations in the pharynx and pharyngeal vault, he could heartily recommend without any qualifications. He had found that cocaine prevented the turgescence which so frequently occurred after the use of the hot knife in the nose, particularly if an application was made both before and after the operation. Cocaine controlled both shock and inflammation. The most economical method of application was on small pledgets of cotton.

Dr. Sajous had also observed that galvano-cautery applications, made when the membrane was under the influence of cocaine, were not succeeded by the inflammatory symptoms which usually followed. This was especially exemplified in a case in which the cautery had produced severe coryza three successive times; a fourth application, made after using the cocaine, did not give rise to the least inflammatory symptoms.

Dr. Jurist, in closing the discussion, said that, from the remarks of those present, as well as from his own personal experience, it could safely be maintained that the local use of coca would be much extended. Although by no means so markedly anæsthetic as its active principle, and not at all likely to replace it in operative procedures, its cheapness would make it available in many cases, and ointment of coca could probably be made useful.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of February 16, 1885.

The President, Dr. Charles A. Leale, in the Chair.

The Protective Treatment of Open Wounds was the subject of a paper by Dr. Theodore R. Varick, Surgeon-General of the State of New Jersey. See p. 236.

Dr. Detmold had advocated the same practice during his whole professional career, with one exception, namely, that he had applied cold water, or water at the ordinary temperature. There was one question concerning the protective power of the coagulated albumin of blood, and that was, whether the same

result would not be accomplished if the coagulation was brought about by some other means than hot water—whether protection to the open wound would not be secured if cold water was applied. Perhaps, if some of the beef-tea had been placed in test-tubes and covered with linen coated with blood-serum not exposed to heat, it would have been equally well preserved. He agreed with the author in condemning carbolic acid and other so-called disinfectant applications, and had never used them himself. He had never seen any sepsis in private practice, except in localities where air and its so-called contained nuisances, whether animal or vegetable, had least access; that was in wounds about the genital organs, where there was loose cellular tissue and, consequently, less opportunity for sealing of the mouths of open vessels. Internal urethrotomy, for instance, was much more liable to be followed by sepsis than external urethrotomy, and yet, in the former operation, the exposure to the air and its supposed germs was much less. He further believed that the blood-poisoning said to be due to germs which pus carried into the general circulation was not due to germs at all, but rather to the pus itself. He was not yet a convert to the germ theory. He was so far from indorsing antiseptics that he even dispensed with the drainage-tube, on the principle that a wound should be free of all foreign substances. Even the application of pure water to the wound might be carried to excess; it should never be used in sufficient quantity to produce maceration of the tissues.

Dr. Varick, in reply to the question proposed by Dr. Detmold, said the physiologists told us that albumin outside of the body remained fluid until coagulated by heat or some coagulating substance, and when no coagulating agent was applied the change was more one of desiccation than of coagulation. He was not prepared to say whether the change which it underwent by the influence of cold would not afford a protective equally efficient as if heat had been applied; but, if there was anything in the theory that germs caused septicæmia, pyæmia, etc., the sooner the albumin could be coagulated upon the surface of the wound, stopping up the entrance to the capillaries, the better; if possible, it should be done before the outward flow of the fluids ceased. There was no quicker way of inducing coagulation than by the application of hot water.

Dr. Gouley thought it had been generally agreed by surgeons that it was desirable to bring about coagulation of serum upon the surface of open wounds, whether the object was to prevent contamination of the wound or to promote more rapid union. Some years ago he applied to the surface of open wounds a solution of chloride of zinc, after the formula of Dr. Pancoast, of Philadelphia, the object being to effect the same result which Dr. Varick obtained by a much simpler means, namely, the application of hot water. Dr. Gouley had fancied that this treatment gave very good results, but it had been a long time since he had employed it. It was true, there occurred a certain number of cases of septicæmia, pyæmia, or septicæmia, but he regarded such a blood-poisoning as being due more to post-hæmorrhage than to the introduction of foreign substances, such as germs, into the circulation. He had not yet become a convert to the germ theory. While he believed that post-hæmorrhage was the most frequent cause of septicæmia, still there were cases of large destruction of tissue which led to rapid changes and decomposition throughout the whole animal economy, even before sufficient time could have elapsed for the development of germs in the case. He could not take his seat without expressing his delight at the fact that Dr. Varick had so freely employed the carbolic acid and corrosive sublimate [illegible]. He believed that many lives had been destroyed by the use of carbolic acid that could possibly have been saved by it. He mentioned a case in which the surgeon himself had been poisoned while using it in the form of the spray during an operation. Hæmaturia frequently occurred in the wards of the hospitals as a result of the use or abuse of carbolic acid in the dressing of wounds. While all of them, Dr. Varick and the rest, were antiseptists, they were not Listerists.

Dr. C. S. Wood said that during the civil war Listerism was either not known, or was not practiced, and yet the circumstances which were alleged to demand it at present also existed then. If septicæmia and gangrene occurred, they could be traced to something else than agents which Listerism was intended to give protection against. To profuse hæmorrhage he would add depressing mental influences. This was illustrated at the battle of Gettysburg, where Union soldiers, under the influence of victory, recovered from their wounds with fewer accidents than the Confederates, who were depressed by defeat.

The President thought the microscope would aid in enabling us to understand the wonderful success which Dr. Varick had obtained. After the application of hot water to the wounded surface the fibrin was immediately coagulated, becoming a coating which effectually occluded the vessels, and thus kept out the germs (which so many believed in as the cause of septicæmia) in the readily decomposing blood corpuscles. Water at the ordinary temperature would not answer. The author's success, he thought, would have to be accepted as evidence of the truth of his explanation of the non-occurrence of blood-poisoning in his large surgical experience.

Dr. Varick referred to a paper which he read before the Surgical Section of the American Medical Association last May, and said that major amputations were taken as better illustrative of the principle of treatment which he adopted than any other form of wounds. He then briefly enumerated the major amputations recorded in that paper, and added thereto those performed since, making in all, since 1879, thirty-seven, with only two deaths. In one of the two fatal cases death was due to secondary hæmorrhage, the patient having bled to death in his bed at night, and in the other death occurred on the third or fourth day after the operation, from valvular disease of the heart. He thought this result spoke well for the protection afforded against sepsis by the application of hot water. Again, they had in the female wards of the Jersey City Charity Hospital several cases of puerperal fever, and in the male wards eight or ten cases of erysipelas and several cases of chronic abscess; notwithstanding this, he had to do two amputations for railroad injuries, and both patients recovered without an accident. It had been maintained for Listerism that it was a system of cleanliness. This he denied. It was true that the disciples of Listerism would lather and shave the limb of a child four years of age, and use the carbolic-acid spray during the operation, but he had seen, after they removed their protective dressing, as much as a tumblerful of pus which had been allowed to bathe the stump. If that was cleanliness, he did not want any cleanliness.

NEW YORK SURGICAL SOCIETY.

Meeting of February 8, 1885.

Alfred C. Post, M. D., LL. D., President *pro tem.*

Refracture of the Femur.—The Chairman presented a patient, a man twenty-two years of age, who came under his care between two and three months ago. At that time it was five months since he received a fracture of the right thigh at the junction of the second with the upper fourth, having been struck by the paddle wheel of a steamer, and for which he was under treatment in a Staten Island hospital for several weeks. Dr. Post found great bowing of the thigh, with the convexity outward, and with a shortening of two inches and a quarter.

He sent the patient to the Presbyterian Hospital, where he refractured the bone by means of Rizzoli's osteoclast, loaned to him by Dr. Sands. It was only with a great deal of force that he succeeded in refracturing the femur. He then treated the case with extension by a weight and pulley, the weight being twenty-five pounds. It was continued with side-splints during a period of six or seven weeks. The patient remained in bed two or three weeks longer, when he was allowed to get up, and there was now shortening not to exceed half an inch. There was a little fullness in the region of the callus, but there was no apparent deformity except slight anterior convexity. In refracturing, the bone gave way very gradually, the arch of the limb yielding slowly for some time before mobility was perceived. The patient now stood and walked firmly, and there was nothing in his appearance or movements to indicate that any shortening existed.

In response to a question by Dr. Markoe, Dr. Post said the inflammatory reaction following the operation was no more than after the occurrence of ordinary fracture.

Adeno-carcinoma of the Rectum.—Dr. GERSTER presented a patient, a man twenty-seven years of age, who, since he was eight years old, had suffered from prolapse of the anal mucous membrane at each stool. For the relief of this he had used injections of cold water for a very long time, the introduction of the nozzle of the syringe being done with his right hand. During the last year and a half he had noticed frequently more or less profuse hæmorrhage with each passage from the bowel. In November last the patient came under Dr. Gerster's care at Mount Sinai Hospital, where he diagnosticated a tumor on the left side in the posterior portion of the rectum, overlapping somewhat the mucous membrane, but still sessile and ulcerated in the center. It bled on the slightest touch, occupied about two fifths of the circumference of the gut, and extended upward so far that it was just possible to touch healthy mucous membrane with the tip of the index-finger. It was freely movable. It was evidently a malignant growth, and an operation was performed for its removal by, first, making an incision from the anal margin to the coccyx and excising the tip of the coccyx. The sphincter being perfectly healthy, the mucous membrane covering it was dissected up, and then the lower margin of the dissected mucous membrane was included in a purse-string ligature, and the rectum thus occluded. Having in this manner provided against the accidental escape of the rectal contents during the operation, he used the ligature strings as a handle to pull down the gut with, and exsection of the gut proper was begun and continued with careful precautions as regarded the loss of blood, each mass of tissue being secured with a double ligature and division made between, so that there was not more than two ounces of blood lost. Five inches and a half of the gut were removed, including the diseased portion, and fully one inch of the healthy mucous membrane beyond. The gut was then cut through, and sewed to the edge of the incision in the integument with four stitches. Throughout the operation the wound was irrigated frequently and thoroughly with a bichloride solution, 1 to 2,500. Two drainage-tubes were introduced into the bottom of the wound, and the wound was then loosely filled with iodoform gauze. The whole was covered with sublimate gauze, and the outer dressing was removed as often as was necessary to secure cleanliness. The iodoform gauze was allowed to remain until it could be easily removed. There was no shock attending the operation. The temperature remained normal until the fifth day, when there was some intestinal disturbance due to constipation, showing that careful preparatory treatment had not sufficed to clear out the bowels thoroughly. As soon as this was relieved by castor-oil the temperature fell to normal, the wound healed without interruption, and union was complete in about four weeks. Dr. Gerster said he proposed to perform a further operation, with a view to changing the location of the anus, after which the patient would again be presented to the society.

The CHAIRMAN asked if any of the members had seen malignant disease of the rectum in so young a patient.

Dr. KEYES had had a case in a young woman upon whom he operated, whose mother at the time of the operation was suffering from the same affection. The daughter was twenty-two years of age when she was operated upon.

The CHAIRMAN remarked that he had a brother who died of cancer of the rectum at the age of twenty-nine years.

The Surgical Dissemination of Cancer.—A paper with this title was then read by Dr. GERSTER. [See page 233.]

The CHAIRMAN asked if, in the application of the Esmarch bandage upon the distal side of a malignant growth in an extremity, the pressure would not have a tendency to propel the cancerous corpuscles toward the trunk.

Dr. GERSTER replied, undoubtedly, and said that he spoke only of constriction of the limbs.

Dr. SANDS would like to ask Dr. Gerster whether, in the experiments he had made of injecting tumors prior to their removal with some coloring substance which was capable of being transmitted along the lymphatic vessels, he had obtained any results confirmatory of the theory he had advanced in his paper.

Dr. GERSTER replied that he had obtained some results which on superficial examination might be declared to confirm his assumption, but, from further and more careful study of the results of other experiments, the value of the former results was placed very much in doubt. In the first case he used an emulsion of India ink, glycerin, and corrosive sublimate, 1 to 1,000, which he injected into the tumor immediately before the operation. On examining the specimen it became doubtful whether the injection had propelled the India ink into the lymphatics, or whether this was done by manipulations incident to the operation. Another thing which raised doubt with reference to the value of the first experiment was the fact that corrosive sublimate arrested protoplasmic action. Dr. Gerster's object was to introduce this colored material so that the embryonic cancer cells, which had an amœboid movement, might absorb, or take into them particles of India ink, and then be carried onward into the tissues. If he had found such a cell far away from the place of injection, it would have been almost conclusive proof. Nothing of this kind, however, was found, because the corrosive sublimate paralyzed the action of the cells. Therefore, in the last two cases he had used a warm solution of salt, 6 to 1,000, and, as the specimens were still hardening, he was unable to report concerning the results.

The object of the paper was to direct attention to the clinical features of the subject, namely, that after operations where insufficient tissue was removed relapses would be established and the disease reappear within four weeks after the operation. It would be most interesting to hear the clinical experience of the surgeons present concerning the disproportionately rapid reappearance of malignant disease, as it had been mentioned especially by the older writers. It was known that formerly operation was discouraged, because it was believed to induce recurrence and extension of the disease.

Dr. BRIDDON had in mind three or four cases of benign tumors, one in particular, situated in the neck and operated upon by the late Dr. Buck, in which the operation was followed by a disseminated carcinoma of very rapid development. Another case occurred to himself, in which a granular ulceration, probably epithelioma, of the index-finger was operated upon by amputation, and general carcinosis occurred within six weeks, involving the glandular system, and also the abdominal viscera.

His experience with regard to cancer had been that in those cases in which there was infiltration of the tissue immediately surrounding the tumor, or there were nodules of cancer in the vicinity of the tumor, rapid recurrence of the disease had followed the operation. He recalled the fact that several years ago Mr. Arnott, of London, introduced the treatment of malignant growths by compression, and his recollection was that some good was accomplished by the method. At all events, he scarcely thought it increased the rapidity of the growth.

The Chairman referred to the fact that Dr. Batchelder, of this city, introduced the method of treatment by the use of compressed sponges, and in some cases, at least, with apparent good results.

Dr. Sands said that it had been his belief for a long time that in cases of malignant disease, especially of the breast, harm was often done by stimulating applications employed with the object of dispersing the tumor. He had always feared that such applications might prove injurious by exciting hyperæmia of the affected parts and thereby causing a more rapid increase of the swelling. It had not been his experience that operations performed for the relief of cancer had been followed by rapid recurrence unless there was reason to suppose that the morbid growth had not been thoroughly removed. It seemed to him rather that the chance of exemption from recurrence was in a direct ratio to the completeness with which the work of extirpation could be accomplished. That seemed to be the only explanation of some cases in which what was termed permanent cure had been the result of the operation. He had listened with great interest to the remarks made by Dr. Gerster, who had raised an important question, which, perhaps, could be solved more easily by experiment than by clinical observations. As to the actual risk incurred at the time of the operation, it would be hard to decide.

He did not wish to disparage a theory which was both rational and plausible, but he thought it might be doubted whether, during an operation performed for the removal of a malignant tumor, the compression exerted would always exceed that to which it might have been subjected at various times prior to the operation. He could also recall instances in which the removal of the tumor had been effected only with very great difficulty, and with the exercise of considerable force, yet in which the patients had afterward remained exempt from recurrence for a long period. He had presented to the society within the past year a man, about thirty years of age, upon whom he had operated fourteen years previously for fibro-sarcoma of the parotid, necessitating the removal of the entire gland, which was accomplished with great difficulty. Nevertheless, the patient remained free from recurrence for more than thirteen years, when the disease reappeared in the cervical lymphatic glands.

The Chairman thought that incomplete removal of cancerous growths favored recurrence of the disease. Recently he had read an account of removal of a naso-pharyngeal polypus piecemeal; that is, portions at different sittings, until finally the entire growth was removed, and the writer had stated that during all this time there was progressive improvement in the symptoms—a statement which struck Dr. Post as being contrary to the general experience of surgeons in dealing with malignant disease.

Dr. Sands remarked that the settlement of the point in question by clinical observation would be rendered difficult by the acknowledged diversity shown by different malignant growths regarding their tendency to dissemination.

Dr. Gerster said he fully admitted the fact that incomplete operations favored relapses. At the same time there were cases on record in which incomplete operations were said to have been followed by cure, although he had doubted such cases very much. He would like to ask why it was that this recurrent new growth changed its type? Why did the recurrent tumor behave entirely differently from the tumor first removed? It was a common occurrence, even in his short surgical experience. He had noticed that a tumor which had been growing slowly, after it had been operated upon incompletely grew very much more rapidly than it had ever done. Of course, what he had said was only a suggestion of the necessity of continued investigation caused by the desire of drawing attention to a fact hitherto little considered in our efforts to combat such an intractable disease as cancer.

Dr. Sands referred to one well-known circumstance which strongly favored the view taken by the writer of the paper, namely, the usually rapid extension of cancer of the tongue, which had been explained by the great mobility of the organ and its constant movements.

Dr. Markoe said that on the other hand it was to be observed that one of the most rapidly recurrent forms of malignant disease was that which occurred in the testicle, recurring generally within a very short period of time, and yet there was no operation for extirpation in which the tumor was less manipulated, and in which there would be less displacement of cancer-cells or juices than in extirpation of this organ.

Dr. Sands remarked that in such a case it would be difficult to decide whether the dissemination had not already taken place at the time of the extirpation, because the parts in which secondary deposits occurred were so deeply situated along the posterior abdominal wall that, until they had attained a considerable size, they would not be recognizable. He had supposed that this was the reason why the removal of the testicle for malignant disease was so rarely followed by a permanent cure. Occasionally, however, sarcoma of the testicle was followed by exemption from recurrence. He had had one such case, in which the disease had not returned thirteen years after operation.

The Chairman said there was one practice not uncommon, that of puncturing a tumor in cases of doubtful diagnosis as a means of ascertaining its character. It appeared to him that puncturing, if the disease was malignant, had a tendency to increase the malignant growth. He referred to a case in point during one of his terms of attendance at the New York Hospital, that of a tumor in the region of the scapula which had developed quite rapidly, and there was some question as to whether it was malignant or inflammatory. Dr. Post had reached the conclusion that it was malignant. Dr. Mott thought it was inflammatory, and suggested that it be punctured for the purpose of ascertaining whether or not it contained pus. The puncture was made, the operation was followed by great aggravation of the symptoms, and the patient died from the disease. From the time the puncture was made the disease progressed more rapidly than it had done at any time previously. He thought, therefore, if puncture was made it should be in cases in which extirpation could be immediately resorted to, if the diagnosis of malignant disease was confirmed.

Dr. Keyes had had a case quite recently in which the patient had also been seen by Dr. Sands and by Dr. Markoe. It was that of a young man who was born with a mole on his back between the shoulders, which gave him no trouble whatever until he had reached the age of twenty-three or twenty-four years, when another little brown spot appeared within an inch of the original mole, and shortly after became excoriated, began to ooze a peculiar fluid, and looked angry. When Dr. Sands saw the patient he advised removal of both dark spots, one of which had never ulcerated. The father of the patient had a mole in the same location, but it had never given him any trouble. There was no thickening about the brown spot,

so that there was no considerable tumor. These tumors were removed in a neighboring city by the patient's surgeon; and within a reasonable number of months afterward there appeared upon the back over the scapula upon the same side a lump, as large as a pigeon's egg, which grew rapidly, together with a tumor in the axilla of the size of a goose-egg. These lumps were manipulated a good deal in the patient's native town, after which he came to New York, where they were again subjected to a great deal of manipulation for purposes of diagnosis. Dr. Keyes supposed the tumors to be a recurrence of the original disease, and advised immediate removal. Dr. Janeway also saw the patient, and so did Dr. Markoe; both confirmed the diagnosis. The tumors were thoroughly removed at the patient's home. Dr. Janeway made the microscopical examination, and pronounced both lumps to be melano-sarcoma. There were no other tumors about the patient's body, he recovered from the operation rapidly, and when he visited Dr. Keyes in November last he was apparently perfectly well. He promised that on the least appearance of any tumor at any part of the body he would report himself, and, inasmuch as he had not returned, nor reported, Dr. Keyes took it for granted that the disease had not recurred.

As to sarcomas of the testicle, Dr. Keyes had removed a number of them, mostly in hospital, and his experience had been that recurrence had taken place generally in the retro-peritoneal glands. In one case, however, that of a sea-captain, there had not been seen any recurrence after a number of years.

Dr. Keyes further referred to another case in which he performed a double operation. The disease was situated in the parotid gland. A small nodule which had been under observation for two or three years was removed from the substance of the parotid. A salivary fistula followed, and a great deal of local disturbance ensued, but from all this the patient recovered. On examination microscopically, the growth was found to contain mucoid tissue, round-celled sarcomatous tissue, and certain alveoli packed with cells, which led to the opinion that the growth was undergoing cancerous degeneration, being what was called a composite tumor of the parotid. The tumor was apparently inclosed in an outside shell, with budding portions which were softer than the rest of the mass. There was no recurrence after removal for seven years, and then in the line of the old trouble a new nodule developed, which within one year or eighteen months was larger than the original growth, perhaps as large as the first phalanx of the thumb. Dr. Keyes removed the second nodule in the spring of 1883. It was an exceedingly disagreeable operation, because the patient became partially asphyxiated by mucus in the larynx, it was necessary to perform tracheotomy in great haste to save life, and there was considerable hæmorrhage, etc. He removed the tumor completely, and with it a small portion of the seventh nerve. The patient recovered promptly and completely; and had no recurrence of the growth until about one month ago, when a small nodule developed under the angle of the jaw, about half an inch from the old cicatrix, rather painful and hard, not connected with the immediate site of the old operation. The second tumor was examined by Dr. Welch, who decided that it contained mucoid tissue, and sarcomatous tissue with alveoli packed with cells and branching into the mucoid tissue. Probably the tumor now growing would prove to be a growth analogous to the others which had been removed from the same region.

Dr. Lange recalled one case in which he thought rapid spread of malignant disease was dependent upon surgical interference. The case occurred in the person of a young woman who was operated upon by Professor Esmarch while Dr. Lange was his assistant, for removal of sarcoma of one of the ovaries. The tumor was so large that it was difficult to bring it outside of the abdomen, and it was necessary to crush it in order to remove it. In this attempt a certain amount of its contents got into the peritoneal cavity. Otherwise the operation was readily performed. The tumor was pedunculated, and removed within entirely healthy parts, and there was also no other part of the sexual organs involved. The patient did well for the first two weeks, when nodules could be felt in different parts of the abdominal wall, and, as he recollected, it was not more than two months after the operation when she died from diffuse sarcoma of the peritonæum and sarcomatous degeneration of the entire diaphragm, and also of the diaphragmatic pleura. Dr. Lange had reported the case in 1877 as one which illustrated the spread of malignant disease from the original point, involving the peritonæum and other tissues.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of January 26, 1885.

The President, Dr. Daniel Lewis, in the Chair.

Affections of the Ear influenced by, or dependent on, Malaria and Defective Drainage.—Dr. O. D. Pomeroy read a paper on this subject. The question was one which was beset with difficulties, the chief one being to determine whether symptoms apparently due to malaria might not have been caused by quinine, which was so commonly administered in such cases. He then quoted at considerable length the cases and opinions recorded by various authors, showing that there were cases in which quinine in large doses alone gave relief, and the earlier it was prescribed the more thorough and rapid its action. In some cases relief was obtained by a change of residence. The symptoms were of an intermittent type, usually consisting of chills and fever, tinnitus aurium, more or less naso-pharyngeal catarrh, etc. In several of the cases dampness must have played a part in the production of the inflammation of the ear. Dr. Pomeroy then read letters received from twenty-eight aural surgeons in various parts of the United States and Canada, in reply to questions concerning their experience with ear affections due to malaria. Among those who had responded to his inquiries were Dr. Seely, of Cincinnati, Dr. Blake, of Boston, Dr. Holmes, of Chicago, Dr. Buck, of New York, Dr. Burnett, of Philadelphia, Dr. Anderson, of New York, Dr. Theobald, of Baltimore, and Dr. Jones, of Chicago. The large majority of these gentlemen were disinclined to accept the view that there were cases of disease of the ear due solely to malaria. Some of them had seen cases of aural affections aggravated by malarial surroundings, and had known quinine to be of benefit. Dr. Pomeroy's conclusion was, that malaria and bad house-drainage might have a modifying influence on ear affections, but he could not accept the opinions entertained by the authors he had cited.

Dr. Hackley said that he had been in the habit of giving quinine in cases of ear trouble with malaria. The occurrence of aural troubles from malarial poisoning would probably depend indirectly upon several factors: First, upon pharyngeal trouble extending to the Eustachian tubes; second, upon so-called vaso-motor disturbances; and he supposed there was also an affection of the central organ of hearing from vaso-motor disturbances. But he must confess that in the cases which he had seen he had been unable to say which played the more important *rôle* in the causation of the ear affection, quinine or malaria.

Dr. S. Baruch would enter a protest against the increasing tendency to attribute all simple, as well as complicated, pathological conditions to malaria as the chief aetiological factor.

That there were any cases of malarial ear disease be regarded as extremely problematical. The statistics of the Board of Health of New York showed that many more deaths from malarial disease were reported than would be recognized by any authority; there must, therefore, have been a large number of errors in diagnosis. Because benefit had been derived from quinine in certain cases of ear trouble, it did not prove that they were due to malaria.

Dr. John C. Peters remarked that Dr. Baruch had said that cases of malarial disease were reported in New York in midwinter, and had cast doubt upon the diagnosis because the best authorities had stated that it could not exist when the temperature fell below a certain point. Dr. Peters would call attention to the fact that water and bad drainage existed under many of the houses and streets in New York during the entire year, and consequently, if the house were kept warm, malaria would be liable to develop. He thought that, when Dr. Baruch had lived in New York as long as some of the older residents, he would be less skeptical with regard to the large number of cases of malarial disease in this city.

Dr. Cranmer mentioned the case of a soldier in Italy who suddenly became completely deaf, and was entirely relieved of the ear trouble within twenty-four hours after the administration of quinine.

Dr. Pomeroy said that he had been very careful not to bring theory into the consideration of this question, but had purposely confined himself to the narration of facts which seemed to have a bearing upon the supposed malarial origin of certain ear affections. He thought he had done well in using the words malaria and bad house-drainage, instead of the word malaria alone, in the title of his paper. The condition of dampness had played an important part in the histories of some of the cases, and where this existed there was liability to catarrhs and general reduction in health, placing the person in a suitable state for the development of ear disease, to say nothing of the influence which malaria might have. We might certainly say that painful affections of the ear were often aggravated, sometimes perhaps almost excited, by malarial and sewer-gas influence.

The Manure Nuisance.—Dr. A. Hadden, of the Committee on Hygiene, read a report on the subject of the manure dumps along the East River. As to any specific form of disease which they might give rise to, the committee hesitated to express an opinion, but as to their general insalubrity there was no doubt. The committee believed that the manure was now being taken away as fast as the present methods of removal would admit of. Several plans had been suggested for lessening the manure nuisance throughout the city, one of which was to wash the material, and use the straw for making paper; another, to destroy it by rapid combustion; and still another, to compress it in barrels at the stables, in which condition it could be preserved for a considerable period of time without being offensive or unwholesome. The latter method was regarded by the committee as the most practicable, and it was recommended to the society to insist upon the health officers adopting this or some other feasible method for lessening, or entirely doing away with, the manure nuisance. The report was accepted.

The Promotion of the Welfare of the Insane.—A communication was read from the secretary of the Society for the Promotion of the Welfare of the Insane, including resolutions which it was desired that this society should adopt, having for their object the obtaining of information regarding the sanitary condition of the insane in the different counties of the State. On motion, the communication was received and placed on file.

The Ability of Members to resign from the County Medical Societies.—Certain members who had not paid their annual dues having offered their resignation, Dr. Piffard made a motion requesting the Comitia Minora to report whether the new law of 1880 repealed the old law of 1828, under which members who expected to continue to practice medicine could not resign from the county societies. Carried.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of January 14, 1885.

The President, Dr. George F. Shrady, in the Chair.

Fourteen Cases of Tait's Operation.—Dr. W. Gill Wylie presented specimens, removed by Tait's operation, from fourteen different women, two of whom died of septicæmia; the others lived, and the majority of them were relieved. Five of the cases occurred in private practice, the remainder in Bellevue Hospital. The ages varied from twenty-three to thirty-three years. There was a history of gonorrhœa in three or four cases, and the disease was suspected in some of the others. Symptoms of hystero-epilepsy and hysteria were apt to be present in cases of catarrhal salpingitis and cystic degeneration of the ovaries, and severe local pain in pyosalpinx.

In reply to a question, Dr. Wylie said that in one case, in which but one ovary was removed, the patient menstruated regularly afterward, and the symptoms were relieved. In one other case, in which both ovaries and tubes were removed, the patient had menstruated regularly, although the operation was done more than eighteen months ago.

Dr. H. C. Coe called attention to the large number of cases in which old peritonitis with adhesions existed, and thought that this in itself would account for the pain. With regard to cystic degeneration of the ovaries, a peripheral cyst might not give rise to symptoms of any importance; it was central degeneration that gave rise to marked disturbance.

Dr. E. C. Wendt had made microscopical examinations in three or four cases of removal of the ovaries for hysteria of supposed malarial origin, and in each instance cystic degeneration was found, but in none were the hysterical symptoms relieved. Small cysts of the ovaries were not of much pathological significance; they were quite common in subjects examined at the dead house, although no symptoms of ovarian trouble had been present during life; they were present in the large majority of the lower animals.

Removal of the Lower Jaw.—Dr. John A. Wyeth presented a boy from whom he had exsected the larger portion of the lower jaw on the left side seven or eight weeks ago, as he had described at a previous meeting. He also mentioned a case of cleft palate, in which the patient was cocainized and experienced no pain during the operation.

Meeting of January 28, 1885.

The President, Dr. John A. Wyeth, in the Chair.

The Temperature in Cases of Cerebral Hæmorrhage.—Several specimens for candidates were presented by Dr. Janeway and Dr. Carpenter. In some remarks following the presentation of the specimens Dr. Seguin asked Dr. Janeway whether he had found the rule laid down by Charcot, that in cerebral hæmorrhage there was at first lowering of the temperature, with subsequent elevation, to be true in practice.

Dr. Janeway replied that in the cases in which he had tested this point the patients had recovered, and he was consequently unable to decide positively what was the exact nature of the lesion within the brain. He thought, though, that rules which were based on theory would always find, sooner or later, facts which would falsify them.

Dr. Seguin had accepted the rule until recently, when he

met with a case which threw doubt upon it. A man had a hemiplegic attack with loss of speech, and there was a depression of the temperature followed by a rise. On this basis a diagnosis of cerebral hæmorrhage was made. The patient got better, but subsequently had another attack which caused death. At the autopsy the cerebral trouble was found to be due not to hæmorrhage, but to thrombosis of the middle cerebral artery at the seat of a syphilitic endarteritis.

Myxo-Sarcoma of the Thumb following the Sting of a Wasp.—Dr. PRUDDEN presented the thumb of a man sixty-five years of age, which had been removed for myxo-sarcoma developing after the member had been stung by a wasp. The disease did not involve the bone.

A Salivary Calculus was shown by Dr. SEGUIN, the large size of which made its spontaneous extrusion somewhat remarkable.

Kidney Disease and Pleurisy with Obscure Signs.—Dr. BEVERLEY ROBINSON presented specimens and related the history of a patient who was forty-four years of age, and entered St. Luke's Hospital November 26, 1884, having, three days after exposure to wet, been taken with a chill, followed by fever and severe pain upon the right side of the chest. The expectoration became tenacious, at times stained with blood. The urine was of a specific gravity of 1·013, but was in other respects nearly or quite normal. Over the right lung posteriorly, as high up as the spine of the scapula, there was bronchial respiration; over the upper portion of the lung there were bronchial *râles;* inspiration was imperfect. The base was resonant, but just above it there was absolute flatness. The respiratory murmur was exaggerated over the left lung. The patient died on the 28th. At the post-mortem, old pleuritic adhesions were found over the right lung. Near the right base was about a pint of purulent fluid. There was chronic diffuse nephritis. One point of interest was the apparently normal condition of the urine, with the exception of low specific gravity, while marked kidney lesions existed. In his experience this was not of infrequent occurrence. He regarded a continued low specific gravity of the urine as pointing to chronic renal trouble, although the microscopic and chemical tests might be negative. Another point of interest was the difficulty of differentiating between pneumonia and pleurisy. The text-books were in error when they laid down as a very general law that in considerable pleuritic effusion there was diminution or loss of thoracic resonance, or of vocal fremitus. It had been shown that the sound-conducting power of fluids depended to some degree upon their nature.

Dr. JANEWAY remarked that about ten years ago he wrote an article, giving some exceptions to the rules generally laid down. He had seen cases in which the vocal fremitus was preserved notwithstanding an increasing amount of fluid in the pleural cavity. Again, he had sometimes observed an error in not noting the exact point at which the vocal fremitus became changed. He saw no reason why it should be preserved over fluid unless the chest-walls were more resonant than usual. As to the difficulty of diagnosticating kidney lesions by examination of the urine, it was important to exercise care in searching for casts. It was also an error to suppose that because a patient had the signs of the small kidney he was positively in a dangerous way. He knew of some patients who had carried the evidences of atrophied kidneys for many years—in one case there had been albumin and casts in the urine for fifteen years. There were some instances of small kidney which troubled one to make the diagnosis because of absence of low specific gravity and increased quantity of the urine. In one which he recalled, the patient had gouty symptoms and obscure brain trouble. Small granular kidneys were found, which had not been suspected; the urine had been examined from time to time, and was never known to be of low specific gravity.

Fusion of the Radius and Ulna.—The PRESIDENT showed a little girl who was unable to supinate and pronate the forearms, the other movements being normal. The hands always faced downward. The deformity was apparently due to a fusion of the shafts of the ulna and radius having taken place *in utero.*

New Inventions, etc.

A NEW AURAL FORCEPS.

By READ J. MCKAY, M. D., Wilmington, Delaware,
MEMBER OF THE AMERICAN OTOLOGICAL SOCIETY.

FOR years past, while engaged in daily office practice, I have often felt the need of an improvement in the aural forceps which none to be found at the instrument-makers' seemed to supply.

I have often wished to remove layers of epithelium and other accumulations to be found attached to the walls of the external auditory canal, and none of the aural forceps seemed to be especially adapted to such work.

A year or two ago I met Mr. Stohlmann, of George Tiemann & Co., of New York, and gave him verbally my ideas about an improvement in the aural forceps. After several trials, he has most satisfactorily accomplished my wishes in making a new and improved forceps, which is here shown.



I requested the new forceps to be made small and strong, with the finest smoothness of finish, and to have a double row of fine teeth (with a linear groove between them) extending along both of the jaws, beside the larger teeth at the ends of the jaws. This was for the purpose of taking a firm hold with the sides of the jaws of the slightly detached edge of clinging epithelium or other substances attached to the walls of the external auditory canal, and loosening it by pulling toward the opposite side of the canal from any direction, and thus to remove it.

Believing this new and improved aural forceps possesses, in the highest degree yet attained, the various requirements of *smallness of blades,* so as to be readily used through the aural speculum, and *great strength of blades, with sufficient teeth* to hold firmly whatever is grasped, I herewith present it to the profession, hoping it may be found more or less useful.

Miscellany.

The State Board of Health of West Virginia.—We regret to learn that the board is to lose the services of so excellent an officer as its secretary, Dr. James E. Reeves, of Wheeling, who has resigned on account of the state of his health. It is gratifying, however, to be able to record such appreciation of Dr. Reeves's labors as is shown in the following extract from Governor Jackson's letter accepting the resignation: "I greatly regret that the condition of your health compels you to take this step. You have been identified with the board from its organization until the present time. Its objects have been not only, by investigation and proper action based thereon, to promote the public health, but also to elevate the standard of the medical profession in the State. To these objects, I am aware, you have devoted a large share of your valuable time, aided by a ripe experience in medical and sanitary

science. Your labors in conjunction with the other members of the board have raised the standard of the profession to a higher plane than before attained by it, and, through the operation of our health laws, placed our State on advanced ground in the development of sanitary science. I had hoped that your valuable services would have been continued at least until the end of your term, and until this department of our State service had become so firmly established as not to be endangered by the loss of so efficient an officer. In accepting your resignation, it is with the hope that your health may be speedily restored, and that you may, from time to time, by your counsel, aid the board in carrying forward the great work for which it was created, so that the objects which you have had so much at heart may be fully realized and result in lasting good to the people of West Virginia."

The late Dr. Louis Elsberg.—At a meeting of the members of the medical profession in attendance at the New York Polyclinic, the following resolutions were this day (February 21st) unanimously adopted:

Whereas, In the inscrutable providence of God, Professor Louis Elsberg has been removed from this life,

Resolved, That in his death science has lost an earnest and indefatigable student, the medical profession an honorable member and widely-known teacher, and society one with broad and humanitarian sympathies.

Resolved, That we offer to his family assurances of sympathy, and, as a testimony of our regard for his character and attainments, and a sense of our personal loss in his death, that we, the members of the class of the New York Polyclinic, attend the funeral in a body.

Resolved, That copies of these resolutions be sent to his family, to the faculty of the New York Polyclinic, and to the medical press of this city.

[Signed] Eugene L. Fridenberg, M. D.,
J. T. Herrick, M. D.,
W. T. Gott, M. D.,
J. C. Berry, M. D.,
Committee on Resolutions.

M. T. Moore, M. D., *Chairman*,
Moses T. Runnels, M. D., *Secretary*.

THERAPEUTICAL NOTES.

Nepaul Aconite in the Treatment of Chilblain.—Cullimore ("Lancet") speaks highly of a tincture of *Aconitum ferox* (one part of the root to ten of proof spirit) as a local application in cases of chilblain. He directs that the tincture be painted over the inflamed spot "for a quarter of an hour on four different occasions in the course of an evening." He has also used hydrochlorate of cocaine for the same purpose, but regards it as inferior to the aconite.

Piscidia Erythrina.—Legoy, to whose elaborate paper ("Bull. gén. de thérap.") we have before alluded, concludes that piscidia exerts a direct stimulant action upon the central nervous system, exciting principally the medullary centers. The increase in the number of the heart-beats is probably due to this action upon the gray matter, and the rapid respiration may be explained in the same manner. He recommends the drug as a valuable remedy in neuralgia, in doses of from forty-five to sixty grains. The following are suggested as convenient formulæ:

Fluid extract of piscidia..... 5 drachms.
Syrup, } each ..... 12 "
Water, }

Dose, one or two tablespoonfuls daily.

Tincture of piscidia, }
Tincture of *Viburnum prunifolium*, } each .. 50 drops.

For a single dose.

Igni-puncture applied to the Cervix Uteri.—Gonzales (Thèse de Paris; "Bull. gén. de thérap.") has made a number of observations with regard to the effects of this mode of treatment, and his deductions are as follow: Igni-puncture is recommended in subacute and chronic endometritis, subinvolution, and hypertrophy of the cervix; it is contra-indicated in acute endometritis, cellulitis, and diseases of the ovaries and tubes. It is supposed to have an alterative effect—"it modifies the vitality of the uterine tissue." Paquelin's cautery is the instrument recommended. The punctures vary from six to eighteen or even twenty-five (?) in number, and should extend only to the depth of a few millimetres. Immediately after cauterization a vaginal injection should be given of a weak solution of picric acid (1 to 10,000), and a cotton pad soaked in picric acid and glycerin (1 to 100) should be applied.

Diethylacetal.—Fürbringer ("Centralbl. f. klin. Med.") speaks of this new remedy, which has frequently been given for insomnia, in doses varying from seventy-five grains to four drachms, as, on the whole, unsatisfactory,

Pixene in the Treatment of Pruritus Vulvæ.—Locke, in a letter to the "Lancet," recommends the following lotion for pruritus of the vulva:

Pixene..... 2 drachms;
Glycerin..... 4 "
Water..... 6 ounces.

Neale, writing in the same journal, recommends a saturated solution of boric acid.

Carbolic Acid in the Treatment of Diphtheritic Paralyses.—Bernier ("Gaz. des hôp."; "Arch. f. Kinderheilkunde") states that, since diphtheritic paralysis is due to the absorption of a poison into the system, the use of an appropriate antidote may prevent its action. He thinks that the paralysis begins in the stomach, and therefore recommends the internal administration of crystallized carbolic acid, in doses proportioned to the patient's age. The acid is regarded as possessing properties as a nerve-stimulant as well as being a germicide.

Bi-hydrobromate of Quinine.—Maximowitsch ("St. Petersb. med. Wochenschr.") has used this compound in a number of acute diseases, and speaks enthusiastically of its sedative and antipyretic properties. He states that in serious cases of pneumonia, typhoid fever, small-pox, etc., after the administration of from ten to twenty grains the temperature fell as much as a degree, and the pulse from ten to thirty beats, and that these effects continued for several hours. The action of the hydrobromate on the nervous system was still more striking, since the patients, within an hour after taking the dose before mentioned, passed from a state of active delirium into a profound slumber that continued for several hours. No unpleasant after-effects, such as deafness, were noticed. The writer states that this preparation of quinine may be given just as well subcutaneously, in doses of from three to five grains, the only disadvantage being slight pain and redness over the site of the injection.

The Cocaine Fungus.—Fenwick ("Lancet") calls attention to the fact that a mold may form in a four-per-cent. solution of cocaine which is liable to cause inflammation in mucous membranes. He recommends strict attention to antisepsis whenever the drug is used. It is stated that this mold does not appear in stronger solutions, such as those of twenty per cent.

A Diuretic Mixture.—Dr. Joseph Mullone, of Lyons, Ind., writes to us that he has treated a number of severe cases of anasarca, most of them of distinctly malarial origin, and has been much pleased with the action of the following formula:

Compound spirit of juniper..... 1 pint;
Sulphate of iron..... 2 drachms;
Acetate of potassium..... ½ ounce;
Fluid extract of digitalis..... 2 fluidrachms;
Syrup of squill..... ½ fluidounce.

Dose, a tablespoonful three times a day. In severe cases the patient is to drink also a cold infusion of elder root.

Platt's Chlorides.—In a recent conversation, Professor Alfred L. Loomis remarked that chloride of zinc had maintained its long-established reputation as a disinfectant, as was shown in Miquel's classification. Sulphurous acid and chlorine were powerful germicides, beyond question, but their every-day use was impracticable, and the bichloride of mercury, although it might be the most potent of all the agents that were chiefly talked about, was hardly to be considered safe for domestic use. But the preparation known as "Platt's Chlorides" (a solution of the chlorides of zinc, lead, calcium, and aluminium), which he had made use of freely for the past five years, both in his own house and among his patients, he considered as by far the best for all the sanitary requirements of the household.

Original Communications.

PISTOL-SHOT WOUND OF THE STOMACH.*

BY JOHN H. HINTON, M. D.,
CONSULTING SURGEON TO THE PRESBYTERIAN HOSPITAL.

THE case of pistol-shot wound of the stomach which I am about to narrate came under my care at the Presbyterian Hospital on February 12, 1884, and, from the fact that there are but few reported cases of recovery from wounds of the stomach, and possibly no other on record in which the stomach was actually shot through, I venture to give the case somewhat at length, with a consideration of the literature of the subject. That the case was considered as very grave may be inferred from the fact that two of my associates suggested laparotomy, and that all gave an unfavorable prognosis.

The subject of the injury was a young man about twenty-one years old, blonde, five feet eight inches high, and weighing about 155 pounds, who was shot in the back at an elevated railroad station a few minutes after his breakfast, at about 8.30 A. M. He immediately fell upon the floor, and was thence carried to a station-house one square distant, and from there was taken carefully to the hospital in an ambulance. On admission, his condition was fairly good, without much shock. An inspection of his coat showed it to be blackened or burned by the powder, from the nearness of the muzzle of the pistol to his back. An examination of the body showed a wound over the tenth rib, about five inches to the left of the spine. In front, under the skin, the ball could be felt, about two inches from the median line, and about three inches from the umbilicus. The wound behind was closed with adhesive plaster. Urine was drawn off, but showed no signs of blood. About thirty minutes after admission he began to vomit dark clotted and fluid blood mixed with food. Cracked ice by the mouth was given, and a hypodermic of Magendie's solution, ♏ v, and ergotin, gr. v, in water. He showed no signs of collapse, and expressed himself as feeling well.

In about three hours after the shooting I removed the ball from under the skin, and determined, by the point of the little finger, that the ball, a conical ·32 caliber, had passed through the cartilage underneath, showing conclusively, together with the food and blood vomited, that the ball had passed through his body, and in its course had passed through the stomach. Flaxseed poultices were applied over the anterior and posterior wounds, and he was ordered to have no food by the mouth, but only enemata of milk every four hours. During the day he vomited blood four or five times, but showed no symptoms of collapse. In the evening had a hypodermic of Magendie's solution, ♏ x. Was restless during the night, but had no pain. Temperature 101° F., pulse full and strong and 120.

February 13th, 6 A. M.—No pain, but restless. Magendie's solution, ♏ x, hypodermically. 9 A. M., pulse 120, respiration 23, temperature 101°. Had an enema of warm milk. At 1 P. M., the same. 2.30 P. M., vomited about ʒ iv of dark fluid blood. Pulse 120 and strong. Ordered tinct. aconit. rad., ♏ ij, every two hours.

14th.—Slept most of the night after a hypodermic of morph., ♏ xv. At 3 A. M., vomited about a half pint of blood. About noon had a large movement from the bowels, consisting of fæcal matter with blood, looking like tar. Aconite continued. Evening, temperature 101°, pulse 107, respiration 20. Has had milk enemata through the day.

15th, 9 A. M.—Slept about five hours last night after a hypodermic of morph., ♏ xv. Pulse 108, respiration 17, temperature 100°. Has slight pain in the anterior wound and tenderness in iliac fossa, probably from flatus. To-day some beef-juice and eggs were added to his milk enemata. Had a loose fæcal movement without blood. Tongue dry and covered with a brownish fur, but general condition very good. When the patient was first received he was placed in a room on the north side of the hospital; to-day he was removed to a room with a southern exposure. 7 P. M., feels sore generally; thinks it due to the moving. Pulse slightly dicrotic and 108. 10 P. M., pulse 110, respiration 17, temperature 102°. Complains of general abdominal soreness. Hypodermic of Magendie's solution, ♏ xv.

16th, 2 A. M.—Awake and restless. Has no pain whatever. Magendie's solution, ♏ xv. 9 A. M., pulse 108, respiration 17, temperature 101·5°. No pain or abdominal tenderness. Both wounds discharging pus. Was allowed to-day milk, ʒ j, and Apollinaris water, ʒ j, every hour. Loose movement from the bowels; no blood. 7 P. M., pulse 100, dichrotic; respiration 20, temperature 101·8°. 10 P. M., morph. hyp., ♏ xv.

17th, 3 A. M.—Restless; can not sleep. Was given a hypodermic of morph., ♏ xv. 9 A. M., has had some sleep. Pulse 107, respiration 17, temperature 101·2°. Feels rather weak, and complains of hunger. Was ordered strained *bouillon* in addition to milk, ʒ j every hour. General condition good. From this date on, the daily record gives a temperature not above 103° to February 25th, when it is marked at 99°, with respiration 16, and pulse 86. He has had hypodermics varying from xv to xx ♏, to induce sleep. Absorbent dressing was applied on the 20th inst. His bowels have been relieved spontaneously almost daily. The food taken by the mouth has been well borne. The nutrient enemata were stopped on the 18th inst.

March 2d.—Sat up to-day for the first time. Has been doing well. Has had a hypodermic, ♏ x, each night to induce sleep.

5th.—Doing well. Wounds not quite healed. Has slept the last two nights without morphine.

15th.—Since last note patient has steadily gained strength. Has been up and about the building every day. Temperature, respiration, and pulse normal. Wounds not yet covered with epidermis. To-day allowed to go out on the street to walk. Weight shows a loss of twenty pounds; present weight 133½ pounds.

25th.—Continues to do well. Appetite and digestion very good. Has gained ten pounds in the last ten days, by actual weighing. Makes no complaint whatever. Drives and walks daily. Wounds have completely healed, with the integument slightly attached to the tissues beneath, but not enough to impede movements of the body or to produce any discomfort. Left the hospital to-day apparently well, and has remained well up to the present time.

The points which I wish to emphasize in the report of this case are, that there was no meddlesome surgery indulged in, or anticipatory drugging employed; and that the patient was not deluged with opium to prevent peritonitis. The stomach had entire rest for about four days, feeding being done through nutrient enemata. Morphine was used only to induce sleep at night; beyond this he had but a few doses of aconite tincture, and toward the end two or three saline draughts. His food was carefully chosen, with

* Read by title before the New York State Medical Association, November 20, 1884.

which a little light wine was taken. He was placed in a room with a southern exposure—a matter of great importance in the management of a grave case in the winter season.

There is not the slightest reason to believe that the ball did not pass through both walls of the stomach; but, the wounds being small and closing quickly, no food or blood passed into the peritoneal cavity. That we might in some wise simulate such an injury, I directed my house surgeon to fill the stomach of a cadaver with water to about the bulk of an ordinary breakfast, and then to shoot it from behind. The ball entered the body at about the same place as in the case related above, and, upon the dissection that followed, it was shown that it passed through both walls of the stomach and lodged in the anterior abdominal muscles. The posterior wound of the stomach was guarded by a valvular flap of mucous membrane, preventing the escape of fluids. The anterior wound had no flap, as might have been supposed, the mucous membrane being driven in; yet the wound was almost closed, which, in all probability, would be the case in living tissue.

Professor F. H. Hamilton, writing of these cases, says: "The recorded examples of recovery after this accident are very few. The case of Alexis St. Martin, on whose person Dr. Beaumont, of the United States Army, made his famous experiments upon the gastric juice, is well known to the medical profession.*

"Dr. De Witt C. Peters, U. S. A., has also reported the case of a soldier wounded, September 13, 1862, by a pistol-ball. For two months the stomach discharged its contents through the wound, but finally closed without surgical interference, and his recovery was complete."† This case is also reported in the "Medical and Surgical History of the War of the Rebellion." I shall refer to it hereafter.

Professor Hamilton also writes: "The fatality of these accidents is even much greater than that of similar wounds of the intestines. Probably not one in fifty recovers, perhaps not one in a hundred" ("Military Surgery," p. 358).

In the "Medical and Surgical History of the War of the Rebellion," second part, surgical vol., chap. vi, p. 44, is recorded as follows: "Gunshot Wounds.—Not less than nineteen cases of recovery from alleged shot-wounds of the stomach were reported. The evidence in each instance has been examined, and the inferences are that in some cases the diagnosis had no foundation, and the erroneous returns were due to culpable carelessness or ignorance, the term stomach being sometimes employed by simpletons apparently as a euphemism for belly; that, in other cases, hospital surgeons or pension examiners have related and indorsed the narratives of patients, and described as facts events which, if they ever occurred, transpired long before the patient came under their observation, and are destitute of corroborative evidence; that, in a few instances, recovery followed injuries which careful and competent observers pronounced to be shot wounds of the stomach; finally, that, even in the latter small category, not more than *one* incontestable example of recovery was recorded. Careful investigation of the recorded symptoms and progress of the six following cases has failed to elicit any evidence in corroboration of the diagnosis of 'severe gunshot wounds of the stomach,' with which they were reported. None of the names appear on the Pension List." Of Dr. Peters's case, referred to before, it says: "The following case, reported by Assistant Surgeon D. C. Peters, U. S. A., has been adduced as an irrefragable instance of recovery from a shot perforation of the stomach. It will be observed that there is no other evidence of the gastric extravasation and of the hæmatemesis than the patient's statement. It is noticeable that Assistant Surgeons Du Bois and MacKenzie, who successively had the patient in charge, made no note of these remarkable features." Then follows Case 185, which is Dr. Peters's case. Case 187 is that of Private Patrick Sweeney, 7th N. Y. Cavalry, aged twenty-one years, who was shot in a quarrel in Washington about midnight, January 4, 1862. This case (187) is, however, preceded by the following note: "The next observation (case observed) is important because the symptoms immediately following the injury were observed and recorded. Unfortunately, the reporter suffered an interval of four years to elapse before placing the case on record. It may be ungracious to deny the exactness of his diagnosis, which, indeed, furnishes the most plausible explanation of the phenomena, yet none of the symptoms related are inconsistent with the hypothesis that the visceral lesions might have been limited to the left lobe of the liver or to the duodenum." It is either this case or Dr. Peters's case which is the "one incontestable example of recovery" referred to by Dr. Otis, the compiler, for all the seventeen other cases are discarded as questionable or entirely valueless as cases in point.

From these remarks upon the so-called nineteen recoveries from gunshot wounds of the stomach, the recorded cases of recovery are exceedingly rare—possibly one. The subject of this paper, at the time of writing, November 1, 1884, is reported as being in perfect health, which is a matter of considerable surgical importance, from the almost hopeless prognosis given of these cases by Professor Kocher, of Berne, who is reported in the "American Journal of the Medical Sciences" for October, 1884, p. 574, as saying that, "considering the *impossibility* of recovery in cases of gunshot wound of the stomach when active measures are *not* taken, it is the duty of the surgeon to perform laparotomy whenever an injury of that kind is *suspected*."

ELECTROLYSIS AS A CURE FOR UTERINE FIBROIDS.*

By J. N. FREEMAN, M. D., Brooklyn,
SURGEON TO ST. JOHN'S HOSPITAL.

Fibroid tumors of the uterus are so frequently met with and so seldom cured that a new method of treating them, that promises success in that large class of cases where the growth is interstitial or subperitoneal, deserves careful consideration.

* Read before the Medical Society of the County of Kings, January 20, 1885.

* Phila. Med. Recorder, January, 1825. Dunglison's 'Elements of Hygiene.' 'Treatise on Military Surgery,' by the author, p. 359."

† 'American Med. Times,' April 4, 1863. 'Treatise on Medical Surgery,' by the author, p. 359.

I present electrolysis as a new method, because the latest text-books on gynæcology and on electricity either ignore it or say no successful cases are known.

As I have succeeded in curing three cases, and have others now under treatment, I will give these three cases in detail.

The notes of the first case were presented to the society at its regular meeting, June 18, 1878.

Case I.—Miss O., aged thirty-five, came to St. John's Hospital in March, 1876, anæmic and suffering from extreme nervous debility. Menstruation had been profuse for fifteen years, and during that time had gradually been more and more painful. Examination revealed a fibroma in the right anterior wall of the uterus, more nearly approaching the peritoneal than the mucous surface. She was placed on the use of chalybeate tonics for a time, and then a persistent attempt was made to effect strangulation of the tumor by the administration of ergot, but with no benefit. Her condition became gradually worse till December, when, a consultation having decided that no surgical interference was admissible, I determined to attempt the destruction of the tumor by electrolysis.

The first operation was done December 23, 1876, in the presence of Dr. Joseph C. Hutchison, Dr. William Gilfillan, Dr. J. H. H. Burge, Dr. Frank W. Rockwell, Dr. J. R. Bird, Dr. G. G. Hopkins, Dr. A. W. Catlin, Dr. E. S. Bunker, and Dr. Charles Corey. The uterine cavity was found to be five inches and a half in depth. The tumor was plainly felt and mapped out through the abdominal walls, rising several inches above the pelvic brim, and apparently of the size of the head of an ordinary child at birth.

After Dr. Corey had placed her under the influence of ether, I took a large sail-needle, curved at the pointed end, and insulated to within an inch of the point, and, passing it through the cervical canal, thrust it into the tumor and connected it with the positive pole of a galvanic battery. A straight, round needle, similarly insulated, was then thrust through the abdominal wall and into the tumor, taking care to avoid the bladder, and so placed as to come within an inch of the other needle, and connected with the negative pole of the battery. The tumor was so dense and firm as to require very heavy forceps and much force to drive the needle into it. A current from sixteen cells was continued through the needles for fifteen minutes. No unpleasant effects were experienced, and the patient was out of bed the next day. I repeated the operation in the same manner January 2, 1877, continuing the current for twenty minutes, and again January 9th, this time increasing the number of cells used to twenty-four, and the time to twenty-two minutes. The next week her menstruation was less profuse and less painful than usual. I repeated the operation February 6th and 12th, increasing the time to half an hour, and using thirty-two cells.

March 6th, before the sixth operation, the uterus measured four inches and a half in depth. The tumor, or what remained of it, was soft to the touch, and the needle could be easily passed in any direction through it with the fingers. Her general health was much improved.

The seventh operation was done March 12th. April 3d the sound passed into the uterus only to the depth of three inches and a half. This, the eighth operation, was unfortunate, as the needle that was passed through the abdominal wall into the tumor was stripped of its insulating covering, and the track of the needle so much irritated as to cause an abscess that was three months in healing.

I left her in the hospital on the 26th of June for a long trip in the East, and did not return for eight months, during which time she had no medical treatment. On my return I made a careful examination, March 2, and again June 8, 1878, and found no trace of the tumor. The sound would pass but two inches and a half into the uterine cavity, and the uterus was freely movable in the pelvis.

I have examined the lady at least once a year since that time, and saw her only a few months ago, in good health and with no appearance of ever having had any trouble in the pelvic cavity.

Case II.—Mrs. W. S. O., aged forty-four, married to her second husband. Last confinement thirteen years ago. By her first husband she had six boys in nine years. Is of slight build and of nervous temperament, and has suffered some years from hæmorrhage from the lungs.

February, 1884.—Complains of severe pelvic pains, and has had frequent and severe uterine hæmorrhage for some months. The touch revealed what appeared to be a retroverted uterus. Passing a sound into the uterus, this was found in the normal position or slightly anteverted, and a finger in the rectum easily distinguished a double fibroma growing from the posterior portion of the body of the womb, each portion of nearly the size of a hen's egg. She was too ill to sit up, but was placed on a couch, in a carriage, and sent to St. John's Hospital.

April 14th.—She was placed under ether, a platinum probe introduced into the uterine cavity, and a straight steel needle, insulated to within half an inch of the point, passed through the *cul-de-sac* and into the tumor. This was connected with the negative pole of the battery, and the positive pole attached to the intra-uterine probe. A current from twenty-eight cells was kept in action thirty-two minutes, the negative needle being driven into the tumor in different directions during the time, great care being taken not to allow the naked part of the needle to come in contact with the peritonæum while the electric current was passing. She felt no serious results from the operation, and was sitting up within a week.

The second operation was done on the 22d of April, and did not differ from the first in any essential particular. The third operation, on May 31st, was the same as the others, except that I used an insulated steel needle for the positive pole, as I had done in my first case. A current from twenty-eight cells was used thirty minutes. No rise of temperature followed, but there was some pain, controlled by rectal suppositories.

She returned to her home about a week later, and during the summer gained twenty pounds in weight and complained of little or no pelvic trouble.

She came back to the hospital the middle of September, when so little of the tumor was found remaining that it was decided not to operate again.

Case III.—Miss F., aged forty-three, a graduate of the Brooklyn Training School for Nurses. Her health had failed so much that last winter she was obliged to abandon her work, suffering with severe dysmenorrhœa and constant pelvic neuralgia.

In April last she applied to Dr. Alexander S. Clarke, who sent her to me with a note saying he had found a subperitoneal fibroid tumor, as large as a goose's egg, attached by a broad base to the posterior portion of the body of the uterus.

I took this lady to Dr. Paul F. Mundé, and said: "I have brought this case for diagnosis and advice." He examined her and said: "The diagnosis is plain enough; she has a post-uterine fibroid as large as my fist. As for advice, there is not much to give. The uterus is bound down by old adhesions, and nothing can be done." I asked what he thought of electrolysis in this case. He answered: "I have never heard of a successful case."

May 5, 1884, she was given ether and I passed a platinum probe into the uterus for the positive pole, and then a steel insulated needle through Douglas's *cul-de-sac* and into the tumor

for the negative pole, using eighteen cells thirty-two minutes. No febrile reaction followed, and she was out of bed the next day.

May 17th the second operation was done, the same as the first, only using two needles through the *cul-de-sac* instead of one, and keeping the current from thirty cells passing for thirty minutes. This was followed by severe reaction, the temperature reaching 102° F. on the 18th, 101·5° on the 19th, and 101° on the 20th. The ether affected her badly every time she took it, leaving her unable to retain anything on the stomach for two or three days. After the 20th she rallied rapidly. June 21st, at the third operation, I used a platinum needle, made for me by Tiemann & Co., curved at the point and insulated to within an inch of the end. This was passed through the internal os and thrust into the base of the tumor, for the positive pole, and the negative pole attached to two steel needles and passed into the tumor as before. Thirty cells were used for forty minutes. The fever following this operation was about the same as after the second one. She was able to be about in a week, and then spent two months in the country.

September 20th.—Has gained in flesh and strength, has no pelvic pains, and thinks she is well. Examination reveals the tumor reduced more than one half in size, and comparatively soft to the touch. I repeated the operation as on June 21st. No serious reaction took place, and she was up and about the room in three days.

October 30th.—About one fourth of the tumor remains. I gave chloroform, hoping it would not affect her so unpleasantly as the ether, and used the needles as at the last two sittings. A current from thirty cells was continued for thirty-three minutes. Very little fever followed this, the last operation, the temperature not rising above 100·5°.

So little of the diseased structure remained, and that little was so soft and broken down, that it was now decided to discontinue any further treatment, believing that the rest would be all absorbed in a short time. This lady is spending the winter in Illinois, and reports herself free from all discomforts arising from the tumor.

In the treatment of this case I had the presence and assistance of Dr. A. S. Clarke, Dr. Skene, Dr. Hopkins, Dr. Catlin, Dr. Dudley, Dr. Merritt, and Dr. Richardson.

No. 80 Hanson Place, *January 20, 1885.*

CITY AIR AND CITY LIFE INJURIOUS TO CONSUMPTIVES.*

By FRANK DONALDSON, M. D.,
BALTIMORE.

(*Concluded from page 244.*)

Deficient Sunlight.—An influence of ill-health which is felt more especially in cities is the absence of sunlight. Many houses are situated due north and south, and the sun never reaches their front. The neighbors' residences or their own out-buildings keep off the rays form the other sides. Where the sunlight does attempt to intrude through the windows, it meets with a persistent effort on the part of the mistress of the establishment to exclude it by means of inside curtains or outside shutters. The careful housewife wishes to protect the bright figures so beautifully woven in her carpets. It is no exaggeration to state that many of the streets—not only of the older cities, such as Rome and Paris, but of our own towns—are so narrow and the houses so high that the sun never reaches either the sleeping- or the sitting-rooms. Again, a number of the modern houses of the rich are built three rooms deep, in order to have the parlors and dining-room on one floor, and on each story above three sleeping-rooms. A very convenient arrangement this for ease, but not for health. The middle room is necessarily a dark one. The parents consider this a nice arrangement for their children to be near them in case of sickness, but it never occurs to them that a room so far removed from the sun's rays is an unwholesome place in which to put their children. They certainly would not put their flowers there unless they wanted to bleach them. It is not only from the residences that we have the beneficent orb's influence so sedulously excluded, but the school-houses are so situated that the children can scarcely even see the sun's rays, unless it is to teach them some fact of science in connection with it. In our places of business and warehouses we find the same disregard of the simplest hygienic knowledge of the value of sunlight. Many mercantile firms transact their business in narrow streets in the older parts of our cities, where the sunlight is never seen, unless probably for a short time at noon, and then only in the middle of the street. It can not get into the lower floors, or indeed anywhere where active business transactions are conducted. Even if the streets are wide, the business-floors are so many feet long that the sun can only enter a few feet. Ground-space is so valuable in the thronged streets that every spot, where it is possible to put a building, is built upon, and every part of this made to yield a revenue. We have in the business portions of our cities underground rooms five, ten, and sometimes twenty feet below the surface, in which frequently not only goods are stored, but clerks are at work at their desks. In these, as far as the light of heaven is concerned, it is perpetual darkness.

There is light there, but not the light that nature intended they should have. The gas-light enables the clerks to write and keep their accounts, but at a fearful expense, not to the proprietors, but to the clerks themselves. The health of their bodies suffers more than if they were in darkness, for, in addition to the absence of the sun's healthful influence, they are compelled to breathe an atmosphere which is almost stagnant, rendered impure by their own breaths, and, what is worse still, by the very means used for illumination. How long can the air remain pure when there are several persons, each consuming sixty gallons an hour, and a number of gas-jets, each of which destroys as much air as eleven men—660 gallons an hour? But this is not all: in winter, when the windows must be closed to keep out the dampness of the surrounding ground, stoves are frequently used to keep the underground quarters comfortable. It is estimated that an ordinary stove will consume 15,000 gallons of air an hour! These basement-rooms are considered very desirable for business purposes, and bring high rents. They are much sought after for banking establishments, and, singularly enough, for life insurance companies, who do not hesitate, in insuring the lives of outsiders, to take the lives of their clerks and employees. Thus it is that not only in the principal cities of Europe hundreds of thousands of persons carry on their trades in almost utter darkness, but also in the cities of this progressive

country of the New World. The sunlight is considered an enemy by the fair sex, who appear to be continually on their guard lest it should reach their faces. They avail themselves of all sorts of material to put over their pretty features to protect them from the sunlight; they consider the ruddy color of health unbecoming, and they think that a woman is more ladylike when her skin is transparent and bloodless.

What is this sunlight which is intentionally or thoughtlessly kept out of our houses and off of our persons? It is nothing more nor less than the source of all force, and, consequently, of all life, animal and vegetable; was so made by the Creator when He said: "Let there be light, and there was light."

It is unnecessary to recite all the facts in nature that have established our belief that the various forms of force manifested in the actions of animal life trace their origin to that emitted by the sun, and that plants are the media for fixing the solar force for converting actual into latent or potential energy. Light influences the chemical changes made through food and air. Molecular rest is prevented in living beings by sunlight, and molecular activity constitutes life. Every one admits the necessity of a full exposure to the light of day to insure vigorous and healthy growth in almost all plants, the leaves and flowers of which follow the direction of the sun throughout its whole course from east to west. Sunlight is as necessary for the color of animals as plants, and for the preservation of health and the attainment of the full development of the animal frame. Without light, the mother coloring principle of the organism—the hæmoglobulin—is rendered pale, and the lessened intensity of the beautiful scarlet color is observable to all. The intensity of the red color of the red globules has been demonstrated to be owing to the quantity of oxygen they contain, and they have great avidity for oxygen, and absorb it readily, whenever they come in contact with it. The nutritive functions of the body depend upon this oxygen. Is it astonishing, then, that children and clerks shut out from the light, and workmen in tailor shops, millinery garrets, and mines, should be pallid and ghastly, their muscles soft and flabby, and their nervous system relaxed and irritable?

We must remember the effect of sunlight in dissipating dampness and preventing musty smells which are so promotive of disease. There is no surer way of developing a predisposition to consumption, or, if there should be no hereditary tendency, of actually creating this disease, than by excluding the sunlight. Constitutions thus trifled with have no power to resist the causes which bring about inflammation and mal-nutritive results. Our daily experience demonstrates the justice of this conclusion. In the country it is almost impossible to exclude the sunlight, and the occupations of those who live in the rural districts are not such as shut them out from the light. If we recognize the bacillus as a living germ, why can not sunlight have some effect in lessening its malignancy, as we believe it does those of vaccinia and scarlet fever and diphtheria? Dr. Richardson tells us that the sun's rays render inert even the curare poison. Are we not right in considering absence of sunlight as having a powerful influence in developing pulmonary consumption?

Sedentary Life.—Many of the city occupations involve necessarily a sedentary life. This is in violation of the laws of health, which require, of necessity, more or less of active muscular exercise. The physiological death of tissues is followed by physiological renewal, and the activity of the renewal is regulated by the rapidity of the waste. There can be no health without exercise in the open air. Sedentary life is generally connected with the breathing of air containing excrementitious gases and organic matter which have been thrown out of the lungs, and also the absence of the beneficial influence of sunlight. Inactivity, impure air, and absence of sunlight, when thus combined, produce a fearful mortality, and principally from pulmonary consumption. The deaths of farmers at the age of thirty-five to forty years is given as nine in one thousand, while that of tailors was fourteen, and of bakers fifteen in one thousand. Lombard, as given by Dr. Clendenin, of Cincinnati, exhibits trades in relation to the prevalence of consumption—in every one thousand deaths these proportions:

Occupations with vegetable or mineral emanations..	176 deaths.
With various dusts.....	145 "
With sedentary life.....	140 "
With workshop life.....	138 "
With dry and hot air.....	127 "
With stooping posture.....	122 "
With muscular exercise and active life.....	89 "
Living in the open air.....	73 "

In-door Life.—Dr. B. W. Richardson states that no exciting cause of consumption is so general as in-door occupation. Two out of every three patients with consumption, who presented themselves at his infirmary, were found on inquiry to be employed in some in-door business. Dr. Richardson's statistics are valuable because the cases from which they are derived were examined with great care by Dr. Powell, Dr. Davis, and himself. Of the 515 cases thus seen, 68·34 per cent., or rather more than two thirds, were of persons with in-door occupations. Of the 3,214 consumptives who became inmates of the Brompton Hospital in ten years, 1,812 (more than one half) had in-door employments. Among the in-door occupations which present the largest number of cases in this list, boot and shoemakers rank first; needlewomen second; watch and clock makers third; domestic servants fourth; painters and tailors, printers, writers, cigar makers, come next in order—most of them city occupations. These have not only impure air and frequently sitting postures, but they inhale foreign substances, such as sand and glass in the sand-paper factory; dust, and particles of cotton, flax, and others, in textile factories; particles of metal, fragments of hair, etc., in brush factories. These inhalations of the various dusts are a fruitful cause of consumption, because they inflict mechanical injury, which is followed by inflammatory products, and these degenerate into destructive diseases of the lungs.

Dampness of Soil.—We have already alluded to Dr. Bowditch's and Dr. Buchanan's papers on the subject of soil-dampness in producing pulmonary consumption. It is not exclusively a city influence, but there is no denying the fact that parts of our cities are built upon marshy ground,

where the cellars are not only damp, but where, after heavy rains, they contain water, frequently in considerable quantities. In many of our streets the water that passes between the stones remains there for a long time. The sun does not reach it. In many of the narrow streets the sunlight is never seen! The reports of the Irish census Commissioners show the mortality from consumption, in the spring months for ten years, to be twenty-two thousand more than at any other season. It is the transition season, when there is a quantity of winter dampness given off, and there are great variations of temperature. Dampness of houses exerts an influence injurious to health. The air that is overcharged with moisture hinders the passage of heat from the earth, and it affects the health by preventing the evaporation from the skin and lungs. The temperature of the air, or its evaporative power, modifies these effects.

Positions where the soil is of gravel allow the moisture to pass more readily down than where it is of clay, and many city houses are built on a clay subsoil. The walls are of soft, porous brick, and in the upper stories frequently not more than nine inches in thickness; through these the driving northeast winds force the rain, the inner plastering becomes saturated, and we frequently meet with moist wall-papers, with moldy paste and sizing. In addition to this faulty material, we have often wood used in the construction of the doors and floors which has not been perfectly seasoned, and, consequently, contains an unhealthy amount of moisture; the mortar used is often imperfectly prepared. This, assuredly, is not according to Dr. Richardson's high standard of sanitary excellence! This excessive amount of humidity is found principally in the houses of the poor.

The streets of our cities contain not only an amount of dust and dirt, but frequently organic *débris*. Boxes of garbage are allowed to remain for hours on the sidewalks, even in very hot weather, giving off offensive odors; the dung of animals, the sweepings of houses containing the germs of infectious diseases, are spread broadcast through the atmosphere. These mal-sanitary influences lay the foundation of exhausting maladies.

Other Diseases.—We further maintain that all diseases which affect profoundly the organism may, and frequently do, give rise to pulmonary consumption. They impair the forces of the body, and the lungs, the most sensitive part, suffer in their nutrition. As in health the lungs minister to the maintenance of the tissues, and any deficiency in the workings of the lungs affects them instantly, so in turn do the lungs feel any perversion of their functions. Inflammations everywhere produce too much bioplasm with loss of formative force. We daily meet with cases of consumption where the starting-point was an illness. The organic poisons of small-pox, measles, typhoid fever, are frequently followed by destructive diseases of the lungs. Bright's disease and diabetes mellitus are often complicated or followed by phthisis. Of the 599 diseases which the College of Physicians of London tell us afflict the human race, a large number of them leave a weakness of life force.

Applying Dr. Playfair's method, Dr. J. R. Black estimates that in New York and Philadelphia nearly three fourths of the entire population are sick in some way each year. Here we have a prominent cause for the development of pulmonary consumption. Ought we to be surprised at the fearful number of cases of this disease occurring in every large city?

Contagion.—We must not lose sight of the principles of contagion in tubercular consumption. In cities, if anywhere, we find conditions calculated to spread the contagious element of tubercle. The bacilli are ejected from diseased lungs in overcrowded houses and hospitals, and along the streets through which the poor victims walk. They everywhere alight upon soil well fitted to propagate them.

Other City Influences.—The time I have already consumed prevents my speaking of other city causes which are instrumental, in a greater or less degree, in developing pulmonary phthisis. Irregular habits of eating, late dinner hours, the deprivation of sleep (which nature intended should take one third of our hours to refresh us for the other two thirds work), the close confinement to business, the worry and anxiety of speculative business, the over mental work of students—all these, and whatever interferes with the integrity of the organic and vital functions, tend to the impairment of the vigor of the body, and thus predispose to inflammatory and tubercular diseases.

Lessened Mortality.—Dr. George Derby, of the State Board of Health of Massachusetts, in his article on the prevention of disease, in 1870, gives us the records of consumption in Massachusetts, as derived from the census of 1865. This report states the gratifying fact that private and public hygiene are really diminishing the mortality of this disease in that State. It shows that the number of deaths does not increase in proportion with the population, and that, comparing the first group of five years with the last group of five years, the annual gain in each 100,000 of the population is 54 lives; "this gives," says Dr. Derby, "as the actual saving of life in the last five years, 3,440 persons, or 688 in each year." Deaths from consumption in Massachusetts have diminished by that amount, and the improvement seems to be going on. Dr. Derby expresses his belief that this is owing "to the advance of medical science, which has given to physicians a better mode of treatment, derived from a careful observation of cases, from modern discoveries in chemistry and physiology, and a greatly improved acquaintance with the means by which consumption may be avoided by those predisposed to it by inheritance, derived from all these sources combined."

We believe that it is not only from a more intimate knowledge of the disease itself, and its appropriate treatment, that this mortality is lessened, but by the fact of the recognition by the profession of the principles of rational practice and of conservative medicine in the treatment of all diseases; for, as we have seen, whatever profoundly affects the organism and shocks the nutritive functions may be the means of developing consumption. The essential fevers, which are frequently followed by pulmonary phthisis, are now controlled and guided to a safe termination, instead of the sufferers being overdosed and deprived of those hygienic conditions necessary to the restoration of health. We have also the hygienic treatment of all diseases, which is the

medical fact of the times. It is more especially from the improved treatment of inflammatory diseases in general, and those of the lungs in particular.

The pneumonias are now treated on the restorative plan, in simple recognition of the fact that inflammatory action, no matter where met with, does not ordinarily need depletory remedies, such as venesection, starvation, antimony, and mercury—the great spoliatives—but that it is in its intimate nature an evidence of depressed and not exalted force, and that its products are pre-eminently so. The imaginary phlogiston of the past theories is no longer recognized as something to be subdued by antiphlogistic remedies. Now, by the acid of hydrotherapy, quinine, digitalis, and other antipyretic agents, we prevent the exalted temperature from producing paralysis of the heart and brain. We thus sustain and save life. With the quinine in large doses we do more still. We control in croupal pneumonia the amount of exudation by its wonderful power of arresting the migration and subsequent rapid increase of the white-blood corpuscles. We thus ward off pulmonary phthisis.

For this modern treatment has not only decreased the mortality in pneumonias, which has improved from 33⅓ per cent., or at least 16 per cent., to 2½ per cent., but it also materially lessens the danger of degeneration of the plastic material thrown out in pneumonias. This protoplasm of lowered vitality can be and is absorbed, instead of remaining to undergo in the organism, exhausted by the continuous high temperature of days, caseous degeneration, and, finally, phthisis from inflammatory origin. Thus a fertile soil is ready for the bacillus.

The organism, to recover from the products of inflammation, requires all the strength and vigor that can be imparted to it by alimentation and by tonics.

But perhaps the most encouraging prospect for the diminution of the mortality in pulmonary consumption rests on the greater appreciation of the true principles of the philosophy of food—alimentation in disease; the imperative necessity of food for the sick as well as for the healthy. Disease being only a perversion of health, a lowering of the physiological status, the body requires food to replace the waste that is uninterruptedly going on under all circumstances, and it must be supplied if it is possible to get the stomach to prepare it for assimilation.

It is recognized that there is no condition which does not require food, inorganic and organic, if it can be given and digested. Without due supply in acute diseases of the respiratory organs there is not only, if the patient recovers, protracted convalescence from the acute symptoms, but there is imminent danger of what Hippocrates appropriately called unresolved pneumonias, which, we have seen, are nothing more nor less than a form of pulmonary consumption.

Of the curability of consumption, even after it has manifested itself, we need only speak of the fact reported by M. Roger that at the autopsies at La Salpêtrière, in Paris, the hospital for the aged, 54 per cent. of the lungs examined contained evidences—such as cicatrices and calcareous nodules—of their having had during life tubercular or other destructive diseases. We confidently assert that there is no chronic disease which can be so controlled in its development by sanitary and hygienic laws as pulmonary consumption. In cities there is no denying the fact that the hereditarily predisposed have to go through trying ordeals which test their force of resistance to the utmost. City habits, city houses, city life, and city occupations, all conspire against them. In cities the young mature earlier, the adults live faster and they die earlier, and consumption maintains its supremacy in its large percentage of the deaths. Let us not despair of decreasing still more the mortality from this frightful scourge, even in our large cities.

Let us see that the sunlight enters the dwelling freely, that the outside air is drawn in and the inside air thrown out continually; let us insist upon the proper alimentation of our household, and upon our children being well protected by clothing from the changes of temperature and moisture of the atmosphere; let us avoid intemperance, which causes at least two per cent. of the deaths from phthisis, and take regular outdoor exercise, and when our children are young let us send them to the country for five months of the year, when we can do so. When parents choose fields of usefulness for their children, let them bear in mind the demonstrated injurious influence of in-door and sedentary occupations. In one word, let them observe the laws of health which nature has given them. This done, we believe hereditary tendencies to consumption will be overcome in a great measure, and acquired consumption much less frequently met with. Dr. Richardson does not overstate the decrease in mortality in his ideal "City of Hygeia" when he says that the victims of the deadly foe, consumption, would be reduced at least one third.

MALARIAL FEVER ON LONG ISLAND; ITS PREVALENCE.

BEING THE REPORT OF THE COMMITTEE ON HYGIENE OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.*

By J. E. BAKER, M. D., Brooklyn,
SURGEON TO THE LONG ISLAND COLLEGE HOSPITAL.

The Committee on Hygiene of the Medical Society of the County of Kings in the early part of last year, 1883, sent a series of questions on intermittent fever, with an explanatory circular, to every physician on Long Island outside of Brooklyn.

The two chief objects were to ascertain the presence or absence of malarial fever in the various towns on the island, thereby affording physicians a guide in recommending localities during the summer months, and, secondly, to accumulate all the scientific material possible relating to the ætiology of the disease.

The circular and questions were as follows:

"Dear Sir: Intermittent fever is an unmistakable evidence of malaria, and the localities in which this fever originates or prevails, if otherwise attractive to the inhabitants of large and wealthy cities by reason of accessibility and advantages of country life, suffer the material loss of the development and prosperity which would necessarily follow were their sanitary reputation good.

* Read before the Medical Society of the County of Kings, December 16, 1884.

"It is believed that a systematic and thorough inquiry and report as to the facts about malaria on Long Island, by directing attention to the subject, would be a means of promoting the employment of established remedial agencies and operations, and so prove a very great benefit to all concerned.

"The known readiness of the medical profession to advocate and lead in the cause and measures of preventive medicine has encouraged the Committee on Hygiene of the Medical Society of the County of Kings to undertake this work with the co-operation of the physicians resident and practicing on Long Island.

"The Committee propose the investigation of the history, geographical distribution, extent and causes of intermittent fever on Long Island. They solicit correspondence, and would be pleased to be favored with such a communication at large from you as you may conceive will advance the investigation; or, a brief response indicated by the inclosed postal card, for return to the Committee, will be much appreciated.

"In your communication please notice the following points:

"1. Have you personal knowledge of any printed records of intermittent fever in your town, or any part of Long Island?

"2. Description of intermittent fever localities.

"3. How long subject to intermittents?

"4. Causes, supposed or alleged, of intermittent fever in each locality.

"5. If of recent origin, what gave rise to intermittent fever in any locality?

"6. Has it disappeared in any locality within your knowledge, and the cause of such disappearance?

"7. Types of fever.

"8. References to authorities and historical records or contemporary sources of information.

"Avery Segur, M. D., *President*,
"Wm. Henry Thayer, M. D.,
"J. E. Baker, M. D., *Secretary*."

In order to accommodate those who did not find it convenient to answer in detail so full a set of queries, a postal-card containing these three questions was inclosed with each circular:

"1. Is any portion of your town liable to the occurrence or prevalence of intermittent fever?

"2. If so, what, if any, are the peculiarities of the locality?

"3. What, if any, means of relief have been undertaken, and with what effect?"

The responses to the circular and questions first sent were very few, consequently they were again forwarded at intervals of five or six weeks.

Outside of Brooklyn there are one hundred and nine physicians on Long Island, practicing in fifty-three towns, and thirty-six of these were heard from, being about three fourths of the towns containing resident physicians from whom reports in the form of answers to the queries of the Committee's circular have been received bearing upon the history of malarial fever and its ætiological relations, the latter of which will be considered in another part of this report.

It is proper to add that many other towns and villages are included in the reports by physicians living in their immediate vicinity.

It should be understood at the outset that this report is not the result of personal visits and investigations by any of the members of the Committee, but is based entirely upon the communications from the various localities by the resident physicians thereof, in whom the Committee have the utmost confidence.

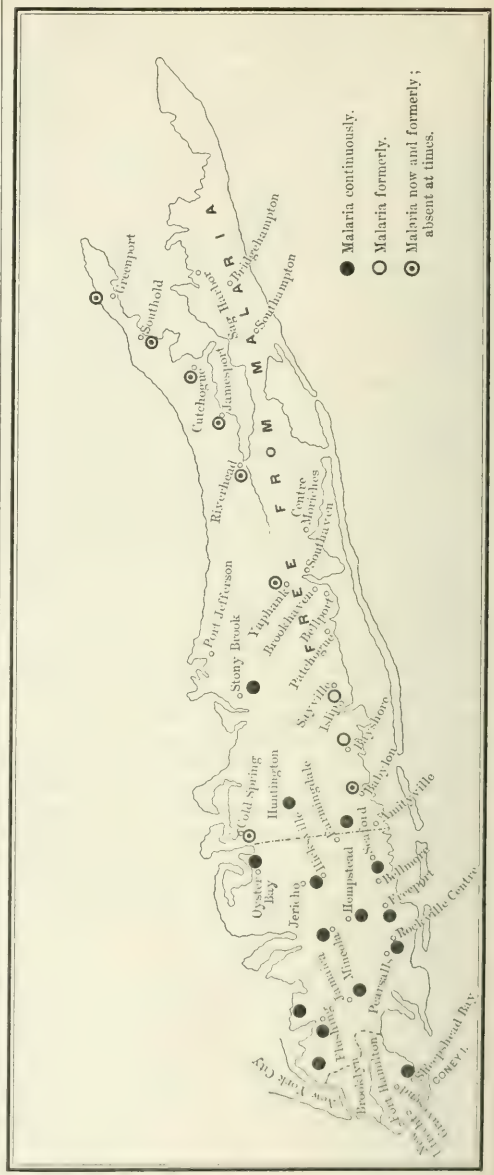


Fig. 1.

A map of Long Island has been prepared, designed to indicate the malarial localities as far as could be determined by the efforts of the Committee. These points where malarial fever prevails, or has prevailed, are shown by small dots and rings. The dots are intended to indicate the continuous prevalence of malaria in some of its forms, either mild

or severe. The rings point out sections where it formerly prevailed, while rings inclosing dots designate regions or parts of the island where the disease exists now, and where it existed formerly, with intervals of its entire absence.

It will readily be seen by the characters on the map representing the malarial sections that the disease has a much greater prevalence in Queens County than on any other part of the island, and that along the south side of Suffolk it is almost, if not entirely, absent.

A brief mention will now be given of the presence or absence of malaria in the various localities heard from, beginning, for convenience, with Greenport, on the northern prong at the eastern end of the island.

Dr. B. D. Skinner, of Greenport, furnishes the Committee with an exceedingly interesting statement of the history and causes of malaria in his town and vicinity. With reference to its history the doctor says: "There is evidence of a traditional character showing that something like sixty years ago intermittent fever was somewhat prevalent in this section, and that it was absent from 1828 (or earlier) until about seven or eight years ago. . . . It began to make its appearance in this locality about 1874, and there is but one new factor in connection with the swampy lands, and that is a lower average standing of the water of from ten to twenty inches, due to a lessened amount of rainfall, etc."; and since it reappeared he says that "there has been no disappearance in any locality within my knowledge." That it "is confined almost or quite entirely to the vicinity of swampy lands and ponds," except in a certain section of elevated ground where it seemed to be quite prevalent, but says that "the whole community went to one church which was less than three hundred feet from a large pond." In regard to "the type" in which malarial fever manifests itself, he says it "is nearly always tertian, next in frequency is the quotidian, and an occasional case of malarial epilepsy."

Dr. H. P. Terry, of Cutchogue, a town some distance west of Greenport, writes as follows: "There are some vague reports, traditional, that chills and fever did prevail here in a moderate degree from fifty to seventy-five years ago. I have conversed with a few men now eighty years of age, and they say fever and ague did occur when they were young men (twenty years of age) in a few cases. Intermittent fever now has prevailed for eight years." [This was written in September, 1883.] "I have been a practitioner of medicine in these two townships of Riverhead and Southold for seventeen years. I never saw a case that originated here until 1874 or 1875. I have observed it closely ever since. It has been declining now for three years, and this year, 1883, I have seen no new cases, and very few (three or four) of those who have been affected in previous years. . . . The townships of Riverhead and Southold constitute the eastern and northern branch of Long Island, bounded by Peconic Bay on the south and Long Island Sound on the north—a territory twenty-four to thirty miles in length and three to four miles in width. On the bay side, at intervals of one mile or less, a creek puts up into the main-land for half a mile to a mile, having its origin in a fresh-water source, and the main highway from Riverhead to Greenport, twenty-one miles, is located at the heads of these creeks. . . . A few creeks, longer and wider, put in from the Sound.

"These creeks are at the fresh-water level of the country. Wells of water, according to their location and proximity to these creeks, are from ten to eighty feet deep. The tides rise and fall twice every twenty-four hours, and in a moderate degree the sources and meadows are washed by salt water. At low water it has been noticed for several years past that the upper portions of the creeks were dry, and fresh water failed to flow, and that this bare surface, usually under water, emitted a bad odor in many instances. Also the wells have been very low during the same period, so much so that for two or three years past most of them have been cleaned out, and the springs have been deepened thereby. Last year and this year the water-level has been rising, and is now higher than at any time during the intermittent period, and intermittent fever is less than at any previous period in eight years, and I am convinced it is owing to the higher fresh-water level that prevails.

"At any time in the past intermittent period but a very small percentage of the population *has been affected, and only those who live in the immediate neighborhood of the origin of these creeks.* From three to six families living within a *certain distance* of a creek are affected. Then a half-mile to a mile of entire exemption from this malarial influence until the next creek is reached, and then again a few families affected. If the creek is large and has branches with acres of marsh or meadow, particularly if any of the latter is cultivated for cranberries, the miasm is more general.

"The prevailing type of intermittent is tertian—very few cases of quotidian. It is a mild type, easily controlled with the alkaloids of Peruvian bark, relapses occurring, particularly on the twenty-first day, if quinia is not exhibited. There are no sequels affecting the system organically. April, May, and June are the months in which most of the cases occur, and those affected a previous year are quite sure to fall victims the following year, unless quinia is used anticipating the relapse."

From Jamesport, a place west of the town just considered, we have the following from Dr. C. Wright: "I have been a practitioner of medicine in this place for nearly fifty years, and never saw a case of intermittent that originated here until about ten years ago [1874 or 1875]. It was prevalent here about seventy years ago, and how much or long before I do not know. It commenced here first among the inhabitants that resided near the creeks and marshes—low, swampy localities. It prevailed in these places two or three years before there were any cases a mile or two distant, and now have a few cases all over, but not so many far away from those localities above designated. Formerly those marshes were mowed, and the grass was carted away every autumn or summer; now they are not, and the grass is allowed to rot where grown. . . . It has not disappeared in any locality within my knowledge. The type of fever is generally mild."

From Riverhead we have a communication from Dr. John H. Benjamin. With reference to the prevalence of malaria he says: ". . . Intermittent fever has existed in

Riverhead for ten years, physicians who have practiced here for forty years not having seen cases of this disease previous to the last ten years. Only a small number of this whole population contract the disease in any one year. Main Street, in the village of Riverhead, runs parallel to and a few yards from Peconic River for the distance of about one mile. Of the residents of this street, few have escaped from malaria during the last ten years. Cases occasionally, but not often, occur in other parts of this village.

"The majority of cases that occur here are mild and easily controlled by quinine, ten grains per day being the maximum dose employed.

"I will say a few words of the villages adjacent to Riverhead. At Aquebogue, population 323, situated on one road which runs parallel to and from one to two miles from Peconic Bay, malaria has existed about ten years, cases being mild; soil in this settlement is a mixture of sand and loam, with some salt marshes near Peconic Bay. Jamesport, population 453, situated directly on Peconic Bay, some malaria during past ten to fifteen years; soil sandy, with salt marshes near bay. Canoe Place, Good Ground, Springville, Atlanticville, and Quogue are situated on Shinnecock Bay, and, although their soil conditions are apparently the same as Aquebogue and Jamesport, they are absolutely free from malaria. Flanders and Red Creek are situated on the south side of Peconic Bay; soil sandy, and salt marshes. Malaria unknown. . . . It occurs in some places in this vicinity that are high and distant from marshes; it is absent from other places that are low and marshy."

Dr. R. H. Benjamin, from the same village (Riverhead), writes that "cases occur in every school district, and especially in those localities in the vicinity of marshes and ponds of water with no outlet; and in localities adjoining the river are the greater number of cases" to be found.

Passing up the Peconic River beyond its source, about ten miles from Riverhead, and in the township of Brookhaven, is the village called Yaphank. The following is from Dr. J. I. Baker, Secretary of the Suffolk County Medical Society: "Having practiced here twenty-two years over a region from Great South Bay to the Sound, I never knew a case until about ten years ago. I learn that it prevailed on Long Island some seventy years ago. Now it appears near by where fresh-water streams enter, but scarcely ever on the plain land. Our county almshouse and lunatic asylum is located here, and a case has never originated there. It has prevailed extensively on the highest hills."

The above extracts from letters received constitute the evidence of the prevalence of malarial fever in a mild degree in the townships of Riverhead, Southold, and a part of Brookhaven, comprising that portion of the island lying between the Sound and Peconic Bay. This plain statement of facts comes from five points—Greenport, Cutchogue, Jamesport, Riverhead, and Yaphank, villages on a narrow section of country above referred to. What is quite remarkable about these communications from these five villages is the fact that they agree, not only essentially so, but almost in the minutest particular. The chief points are these: That malarial fever prevailed in a moderate degree about seventy-five years ago; that it was absent until about 1874 or 1875; that it is growing less during the last three or four years; that it occurs mostly in marshy districts; and that the type is nearly always tertian, attacks being usually mild.

The remaining part of Suffolk County bordering on the Sound also suffers from the prevalence of malarial fever, and to a greater degree of severity, perhaps, than the section just considered. Dr. George T. Fanning, of Stony Brook, writes that "all portions of our village have more or less intermittent fever, and some portions more than others. The lower portions, or those situated near a large mill-pond, seem to be the first affected. After a long spell of dry weather, when the pond becomes low, malarial fevers begin to abound and gradually creep up to the higher portions, new cases developing nearly every day. After a rainstorm the whole thing seems to be cut short for a while."

From Huntington we have the following from Dr. G. B. Banks: "Intermittent fever first occurred here in 1867 and 1868, and has prevailed some every year since, a few typical cases only coming to notice. Locality appears to have little or no influence, occurring near the water, in the valleys, and on the hills with equal frequency.

"Some cases of sickness occur in each season of an intermittent and remittent character which can not be truly called intermittent fever, but which yields to the treatment for intermittents. . . . Neuralgia and other neurotic troubles appearing to depend upon the same cause as intermittents are quite as frequent, and more troublesome to treat than typical cases of intermittent or remittent fevers."

Dr. William P. Overton, of Cold Spring Harbor, sends a pencil sketch showing the relative position of the harbor, the village, and the surrounding ponds. His first letter is as follows: "Cold Spring Harbor has been persistently annoyed with intermittent fever for the past fourteen years. When it first appeared it assumed very generally the tertian type. This type was steadily maintained for twelve years. It then changed to what we denominate here dumb ague. This form continued until two years ago, when it began to abate, and during the past two years there has been very little of it around.

"I have frequently been told by the older inhabitants that some thirty years ago it prevailed quite extensively.

"Conditions favorable to its production are abundant, such as fresh-water ponds full of decayed vegetation, with about seventy-five acres of meadow-land that is alternately covered with tide-water and exposed to solar action.

"Every spring and autumn I have had ten or twelve cases of remittent fever, occurring chiefly among children from ten to fourteen years of age. That the malarial poison is still in existence here is evident from the fact that non-residents are certain to be affected by it within two or three weeks. That there is such a condition as acclimation to malarial influences I am quite positive. Sixteen years' observation of malarial diseases in this place has thoroughly convinced me of this fact."

At the request of the Committee, Dr. Overton wrote a second letter. It reads thus: "In answer to your question, 'as to the different forms of dumb ague, and clinical

history thereof?' I would say that a large majority of cases had a paroxysm every other day; no regular chill; simply chilly sensations creeping up the back, generally so slight as to escape notice of patient unless his attention was called to it. Then violent fever, pain in head, limbs, back, and

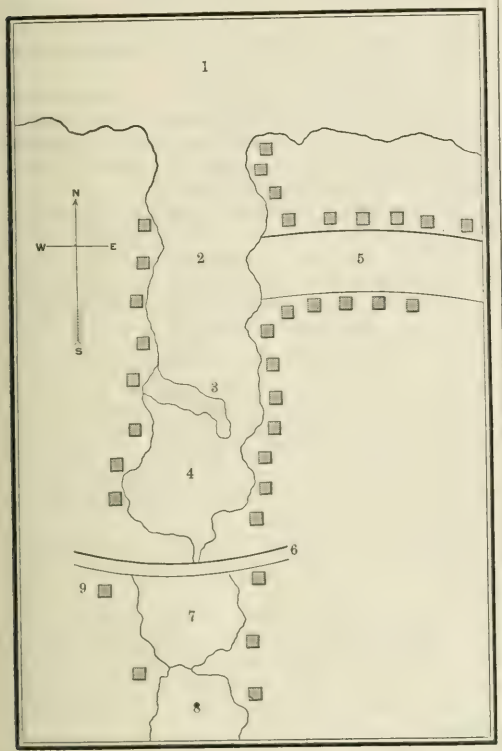


FIG. 2.—A PLAN OF COLD SPRING: 1. Long Island Sound; 2. Cold Spring Harbor; 3. Sand bar; 4. 75 acres of meadow, covered with tide-water; 5. Main street of the village; 6. Mill-dam; 7. Fresh-water pond, about 15 acres; 8. Fresh-water pond, about 40 acres; 9. A house in which malaria prevailed severely. Distance from the mill-dam to the mouth of the harbor, about three miles; deep water in the harbor up to the sand-bar; width of the harbor, about a mile.

epigastric region, lasting from two to six hours, followed by profuse sweating. In other cases this scene would be enacted every twenty-four hours. In a number of cases, especially in adults, violent, noisy delirium occurred during height of fever. Very frequently in children convulsions were the first symptom we had of malarial poison. These cases were very amenable to the action of quinine, but disaster followed the practitioner who, under the supposition that he was dealing with cerebral congestion, resorted to leeching and purgation. One woman, seven months pregnant, felt her child shake *in utero* every other day for ten days. This ceased on giving the mother moderate doses of quinine. This fact was verified by myself in two other cases.

"Cold Spring Village is located along each side of the harbor, with high ground on each side. Our prevailing winds are westerly and southerly. I have repeatedly noticed that eight or ten days' prevalence of westerly winds would drive the malarial poison up the valley from the meadow and fresh-water ponds to a little village about four miles in a southeast direction. Then, again, a southeast wind would impinge it upon the west side of Cold Spring Harbor. This I inferred from the increased number of cases I had in the two localities according to which way the wind had been blowing."

With regard to the southern side of Suffolk County, the reports agree, almost without exception, in the fact that but little, if any, malaria exists. Nor does it appear that it prevailed formerly to any extent, at least within the memory of older inhabitants, with the exception of the section near the Queens County line by the Great South Bay.

"We call Sag Harbor," writes Dr. George A. Sterling, "the most healthy spot on Long Island. Intermittent fever is unknown here."

At Bridgehampton, Dr. John Lyon Gardiner says: "Intermittent fever does not prevail. Cases occur occasionally, which generally can be traced to a foreign source."

Dr. L. D. Halsey, of the same place, expresses great interest in the subject under investigation, being himself a sufferer from intermittent fever caused by a long residence in Connecticut. His letter begins thus: "I have only practiced here a few months (written August 8, 1883), but I can give the experience of one whom I immediately succeeded, and whose observations in this place extended over a period of forty-seven years, ending last March (1883). He said that during all his practice here he never saw a decided case of intermittent fever which originated in this locality, though he acknowledged that in the five years past several cases came under his notice that caused some doubt. In my own practice I have as yet met with no cases but what I could easily trace beyond the village."

From Southampton Dr. D. H. Hallock writes that "no part of this township, as far as I am aware, is subject to intermittent fever."

No written reports could be gotten from the section bordering on Moriches Bay; but it was learned indirectly that there was an occasional case of malarial fever there, but whether it was imported or originated there could not easily be determined.

From Patchogue two physicians were heard from, Dr. S. W. Chapel and Dr. W. S. Preston. The former says: "There is an occasional case of mild form of malaria"; the latter writes that "only occasionally, and to no great extent."

Dr. G. A. Robinson writes that there is no malaria "in Sayville or surroundings."

Dr. E. H. Hamil, of Islip, says: "The entire town is, I believe, entirely free from malaria."

From the same place Dr. A. G. Thompson reports that he has "lived and practiced in the town of Islip for the past thirty-two years," and says:

"I do not know of any portion liable to the occurrence or prevalence of intermittent fever.

"A few years ago the owner of a cranberry-bed kept it under water during the winter, and let it off in May, in con-

sequence of which there were five cases of intermittent fever in his own family. . . . Other than these I have not seen any originating here during the past thirty years."

The president of the Suffolk County Medical Society, Dr. N. W. Hewlett, of Babylon, says: "I can not say that intermittent fever exists in any locality in the territory over which my practice extends. It has long been considered that Babylon and its vicinity are exempt from malaria (using the word in its restricted sense), not only by the more intelligent of its laity, but by the practicing physicians here. Occasionally we find sporadic cases of the disease developing in households where no attention is paid to matters of hygiene. These cases are invariably of the tertian type, so far as my experience goes. I think I am called upon to treat from one to twelve cases per annum of intermittent fever, but I can not recall a single instance of the occurrence of intermittent fever in the same household in successive years."

In Queens County malaria is quite prevalent over the entire county. Scarcely any of its villages are exempt from its influence.

From the northeastern corner Dr. G. W. Fuller writes the following from Oyster Bay: "We have intermittent fever. There was a slight epidemic during 1880. Since then only isolated cases have occurred. Tertian is the type. I have heard of cases having occurred here twenty years ago, though others deny this."

Dr. Charles Blasdale, of Jericho, after mentioning the presence of pools and ponds in his vicinity, and in the vicinity of Woodbury and Syosset, continues: "Now, right in the neighborhood of these pools for the past eighteen years I have been called to treat fever and ague in its various forms and phases. Adjoining my own house there is just such a pond, belonging to the public, and, as a consequence, my family is seldom free from malaria. Quinine, iodine, arsenic, Warburg, Warburg modified, iodide of potassium, etc., fail to give us protection."

"Two miles north of Farmingdale," writes Dr. H. S. Thorne, "where A. T. Stewart's brickyards are located, there has been considerable malaria, both intermittent and remittent, some cases here in town also originating mostly at the brickyards and at other points, and imported here. Both types exist—quotidian and tertian; two cases of typho-malarial this summer (1883). Malaria here is of mild form, and confined to the months of May and June."

Along South Oyster and Hempstead Bays it seems to occur continuously. Dr. F. C. Hagerman, of Seaford, says it is prevalent in "the western portion of the township of Hempstead, extending as far east as Freeport and Greenwich Point."

Dr. William Rhame writes that Belmore has "been subject to malaria about ten years, . . . types of fever, intermittent, occasionally remittent."

Dr. C. H. Hammond sends the following from Freeport: "No part of this section of Long Island is exempt from malaria. All types of malarial disease prevail, intermittent, remittent, chronic malarial poisoning, etc., and many diseases are modified in character in consequence of the presence in the system of the poison—e. g., typhoid fever."

Dr. B. W. Hutcheson, of Rockville Centre, reports that it prevails in that village and vicinity.

Dr. Edwin Webb, formerly president of the Queens County Medical Society, says he has practiced fifty years in Hempstead, and has had not less than two thousand cases of intermittent fever. That it "still prevails, . . . and the removal of the soil and *débris* for the reservoir has added to its increase; . . . but during the last three years it has greatly diminished."

Dr. Charles H. Ludlam, of Hempstead, writes to the same effect: that "for a time after the opening of the reservoir of the Brooklyn water-works intermittents were very prevalent here, but now they are comparatively infrequent, though modified by the character of the season."

In the immediate vicinity of Mineola, and especially in the swampy parts, malaria has existed, says Dr. E. D. Skinner, "as long as any one can remember; the village itself, however, has had none until about four years ago."

Dr. W. D. Wood, of Jamaica, writes that "for thirty years, to my knowledge, malaria has prevailed, and still prevails, principally south of the village, where the ground is low and swampy."

Dr. R. C. F. Combs reports that "all parts of Woodhaven" and vicinity are subject to malaria.

Dr. P. F. Ferrer, of College Point, Dr. F. Wickam, of Corona, and Dr. W. F. Rebman, of Winfield, all send brief reports, and all agree in the fact that malaria prevails all over that part of the county.

In Kings County, outside of Brooklyn, responses were received from Gravesend, New Utrecht, Fort Hamilton, and Flatbush.

Dr. R. L. Van Kleek writes thus from Gravesend: "I have resided in this locality for twenty years, and am acquainted with the towns contiguous, and I do not think we have any more malaria than Flatbush or New Utrecht. . . . Those residing in the neighborhood of swampy or low grounds are more liable than those residing a distance from them of half a mile, or greater distance.

"A curious circumstance in connection with intermittent fever is the following:

"In 1863, when I first came here, Coney Island was *entirely exempt* from the fever. For five or six years I did not see a single case in those persons residing continuously there. It then made its appearance, and, to a limited extent, has prevailed there ever since. All along the shore line, including Sheepshead Bay, I could find no cause for this—there being no improvements, no removing of soil," etc.

In reference to its prevalence at New Utrecht, Dr. T. Schenck replies: "Not now; ten years ago it prevailed."

At Fort Hamilton, Dr. James A. Blanchard, of the Inebriates' Home, writes that "our grounds are almost exempt from it."

Dr. J. L. Zabriskie, of Flatbush, says that it prevails "to a very slight extent, in marked contrast to that which existed ten or fifteen years ago, when it prevailed largely in our town. Now it is a rare occurrence to see a well-marked case of intermittent fever. . . . Since the construction of Prospect Park there has been a steady decrease in the prevalence of malarial diseases, and it is the generally ac

cepted opinion that the decline is due to the drainage and filling up of the many ponds and marshes which abounded in that part of the town. . . . In connection with this matter there is a fact that may be worthy of notice—viz., that many forms of children's diseases of the summer season, including dysentery, diarrhœa, and particularly cholera infantum, have been much less frequent, and, in their aggravated forms, are now seldom met with."

This completes the reading of the essential portions of all the letters. It was to be hoped that the whereabouts of some printed reports bearing upon the earlier history of malarial fever could have been ascertained, but all replies on that point were in the negative. So it appears, from these sources of information at least, that there are no published records of intermittent fever on Long Island up to the present date.

MALARIAL FEVER ON LONG ISLAND; ITS ÆTIOLOGY.*

By WILLIAM HENRY THAYER, M. D.,
BROOKLYN.

"With certain limited exceptions, periodic fever may be said to encircle the earth, in a broad belt, parallel with the equator, its northern and southern boundaries quite irregular in their disposition." (Bartlett.)

Its northern boundary in North America as an endemic is apparently regulated by two causes more or less combined: the character of the soil and the mean temperature. Drake † finds that a temperature above 60° F. continuing for two months, combined with dead organic matter and water in the soil, are necessary to the production of periodic fever. Hence it is found to prevail, westward of the Appalachian chain of mountains, from the Gulf of Mexico to the lakes, and in Canada West, in all low-lying and wet districts, in the valleys of rivers and lakes, even as far north as Montreal.

Eastward of the Alleghany Mountains, its northern boundary as an endemic coincides with the isothermal line of 70° F. of mean summer temperature, which, beginning about Sag Harbor, L. I., runs west-northwest to the Hudson River about West Point, thence north as far as Watervliet Arsenal, thence southwesterly through Carlisle, Pa. This places the greater part of Long Island, Westchester County, and the valley of the Hudson as far north as Watervliet, within the boundaries of the endemic; which will be shown to agree with the record.

When periodic fever has appeared in New England—which has been chiefly in Connecticut and western Massachusetts—it has been as an epidemic, advancing gradually year by year beyond the line of its usual habitat, up the valleys of the rivers and in the vicinity of ponds and swampy grounds, thence, after five, six, or more years, gradually receding. "When New England was first settled, fever and ague was one of the common diseases, being apparently incident to the clearing off of the forest." During the eighteenth century it seems to have disappeared until "1793, when it prevailed, in certain localities in the western portion of Connecticut and Massachusetts, until 1799, when it vanished and did not appear again until 1828, except in Sheffield, Mass., where it seemed to have obtained a foothold, for it appeared there three times during this interval. From 1828 to 1836 the same localities were affected as in the previous visitation. From 1836 to 1850 no cases occurred, so far as known, in any part of New England. But in 1850 it appeared in a swampy locality near New Haven, thence gradually spreading in various directions, reaching the Massachusetts line in 1877, and by 1882 having nearly crossed Massachusetts to the Vermont line." * It appeared in Rhode Island in 1880, but has not visited any other New England State.

In every place in which periodic fever has appeared outside its constant habitat it has been in low, wet grounds or on alluvial soil. But in most of these localities the soil conditions existed constantly prior to the appearance of the fever; and in many cases the fever disappeared while they remained unchanged. It is therefore evident that, in addition to temperature and soil-condition, another element in the ætiology of periodic fever must be admitted: that germ, or that emanation from the soil, which has hitherto evaded the researches of the scientist, but of whose existence, whatever be its nature, we are assured from the results.

In Connecticut and Massachusetts—as no doubt in many other regions—the swamps and low-lying grounds where intermittent fever appeared at the outset of the epidemic were then in the same condition in which they had been for years, while fever was unknown in their vicinity. In Berkshire County, Mass., the chief seats of the disease were around extensive mill-ponds on the Housatonic and the Hoosac Rivers, especially the new Lenox Reservoir and the Cheshire Reservoir, of which Dr. Adams, of Pittsfield, Mass., says "they were the same at a time when chills and fever were unheard of among us." Dr. Greenleaf, of Lenox, writes: "The condition of the reservoir has not materially changed for ten or twelve years"; that is, from four to six years before the first cases of intermittent in Lenox. Dr. Daniel E. Thayer, of Cheshire, writes that the Cheshire Reservoir has existed for fifteen years—ten years earlier than the first case of intermittent fever was seen in that vicinity.

One of the undetermined questions in the natural history of intermittent fever is its relation to continued fever. That some such relation exists is well known. Typhoid fever is the fever of the Eastern States. Drake says: "It belongs more especially to the North than to the South. Its base-line may be said to be in a high latitude and elevations, as the base-line of intermittent fever is in a low latitude and near the level of the sea; and, as we advance to the south, typhoid becomes rarer, just as intermittent becomes rarer in advancing to the north." Bartlett says: † "Typhoid fever

* Read before the Medical Society of the County of Kings, December 16, 1884; being a portion of the Report of the Committee on Hygiene.

† "Principal Diseases of the Interior Valley of North America," by Daniel Drake, M. D.

* "Intermittent Fever in Massachusetts," by J. F. A'leyne Adams, M. D., of Pittsfield.

† "Treatise on Fevers," by Elisha Bartlett, M. D.

is probably less common in those portions of the United States which are visited by the various forms of intermittent and remittent fever." He quotes Dr. Wooten, of Lowndesboro', Ala., on the subject of typhoid fever in his neighborhood as follows: "We have a high ridge of land, of sandy and gravelly soil, about six miles long and from one to three miles wide, and at its nearest point about three miles from the Alabama River. It is surrounded by prairie plantations and prairie sloughs on all sides, except that toward the river, where it is bordered by a low, pondy, and malarial country. In all the surrounding country intermittent and remittent fevers are an annual matter-of-course occurrence, while typhoid is extremely rare. But upon the ridge, where remittents and intermittents are of very rare occurrence, typhoid fever is of frequent occurrence; so that many planters would prefer remaining on their plantations, and having their regular turn of chills and fever, to residing on the ridge and risking this *slow fever*."

And it has been noticed that, where intermittent fever has spread as an epidemic over a part of New England, the typhoid fever endemic there has to a considerable extent disappeared for the time, to reappear on the subsidence of intermittent. The following extracts from a letter of Dr. Adams are a very interesting contribution to this history. He says: "It is a singular fact that, during the prevalence of malarial fever in Berkshire County, typhoid fever was almost unheard of; and, now that intermittent fever is dying out, typhoid is returning, marked, however, by a malarial element. The same sequence has been observed in Connecticut, and reported by Dr. Chamberlain in the reports of the Connecticut State Board of Health." ". . . Another fact is, that for a year or two before the appearance of intermittent fever in our vicinity, the cases of typhoid fever took on a similar character to that which they now exhibit; so that physicians hardly knew what to call them. There was often no diarrhœa, the attacks were shorter, and the mortality was diminished. These cases were the subject of discussion in our county society before malarial fever proper had begun to prevail."

The tables of mortality by typhoid fever, published in the Report for 1882 of the Connecticut State Board of Health, by C. W. Chamberlain, M. D., Secretary, and just referred to by Dr. Adams, show something of the same relations of typhoid and malarial fevers; the deaths from typhoid fever having fallen, from producing seven and three quarters per cent. of the total mortality in 1865, to one and three quarters per cent. in 1879, since which year the rate has been steadily increasing, while malarial fever has been abating in its prevalence. Dr. Chamberlain's table of the annual mortality by the two diseases for ten successive years gives the total number of deaths from typhoid fever in 1869 as four hundred and fifty-eight; in 1878, two hundred and fifty-two; from malarial fever in 1869, nine; and in 1878, one hundred and forty-three.

The relation of the two diseases require a much more extended investigation before we can be satisfied that they are thoroughly understood.

In much of Long Island intermittent fever is endemic. The work of the committee has been to give an outline of its history here, to show its relation to the soil and climate, to discover where and to what extent any efforts made for the removal of such of the local causes as are within control have been successful, and to indicate the course to be pursued in all cases to lessen its prevalence as far as practicable. To recapitulate the statements already made in the committee's report: intermittent fever is endemic throughout Kings and Queens Counties. In the northern part of Suffolk County, including the basin of Peconic River, it has prevailed since 1874, but was unknown for many years previously; while the southern part of Suffolk County—all that is south of the Peconic River basin, from Islip to Montauk Point—is free from malarial fever. But within the region specified as the habitat of the fever there are certain localities where it is yearly present in a marked degree, while in much of the region it is very moderate; and, as in New England and elsewhere, when in any year its prevalence is much increased, as by an epidemic influence, so here on Long Island, within the usual limits, its increase is largely in certain spots, in which the character and condition of the soil are such as are known to be specially favorable to its production.

Long Island is one hundred and twelve miles in extreme length from Fort Hamilton, at the Narrows of New York Bay, to Montauk Point, its eastern limit. An elevated ridge, beginning in New Utrecht at the western extremity of the island, runs northeasterly through Brooklyn, then marks the southern boundary of Newtown and Flushing, separating them from Jamaica, and continues in the same direction across North Hempstead and Oyster Bay. In the town of Oyster Bay the ridge extends southward as far as the northern line of Babylon, thence eastward across Huntington, the northern part of Islip and the center of Brookhaven—the Long Island Railroad running immediately south of the ridge, in the same general direction. The general elevation of this line of hills is from one hundred and fifty to three hundred feet. At Roslyn, in North Hempstead, on Hempstead Bay, is a hill three hundred and eighty-four feet in height, the greatest elevation on the island. From this ridge the land falls away somewhat toward the north, but at the shore of Long Island Sound still presents a continued bluff from eighty to one hundred feet in height.

The whole territory of Kings and Queens Counties, and all of Suffolk County north of the Long Island Railroad and Peconic Bay, and the hills near the Peconic River on the south—thus including all the elevated part of the island and the whole of Kings and Queens Counties—has a soil consisting of unmodified drift, in which is a large amount of clay, or having an impervious substratum of clay at varying depth, sometimes coming to the surface, or lying very near it, or at the depth of forty or fifty feet. There are many superficial clay-basins, quite impervious to water, forming, therefore, the beds of ponds or swamps along the north shore and toward the center of the island.

Wherever we have the clayey soil or subsoil, there we find intermittent fever.

The south shore, from Islip to Montauk Point, has a sandy soil, with a fall of from sixty to ninety feet from the

foot of the hills* in the center of the island to the seashore, through which numerous streams of lively water run and empty into the Great South Bay or into the Atlantic Ocean. This region has no malarial fever.

Next to the natural history of intermittent fever in Long Island which the committee have been able to present, is the question how far the fever has been lessened or removed by the improvement of the soil by drainage or other means.

In Kings County there are some notable instances of the benefit derived from thorough and systematic drainage. "A prominent example exists in the vicinity of Prospect Park, Brooklyn. The whole region of the park, comprehending over six hundred acres, was, previous to drainage, notoriously malarious; scarcely a family escaped autumnal intermittent fever. It is now an admirable specimen of systematic drainage and water circulation, and intermittent fever in its immediate neighborhood is rare" (1874). The same is true of Flatbush and New Utrecht. Prior to 1873, in the town of New Utrecht and at Bay Ridge (which lies between New Utrecht and Gowanus Bay) intermittent fever was very prevalent. There was "a continued line of marshlands, about four miles in width, from the northern line of New Lots, through Flatbush and New Utrecht, to Fort Hamilton, comprehending an area of over one hundred thousand acres."† The ponds and swamps in New Utrecht, about one hundred in number, covered a territory of six hundred and forty acres. At that time (1873) a system of thorough drainage was begun in New Utrecht, under authority of the New York Legislature, by which these ponds were emptied into the bay, the clay which formed their basins being impervious to water; and, although the drainage is not entirely completed, owing to insufficient appropriations, yet a very marked improvement has been shown in the health of the neighborhood, intermittent fever having nearly disappeared in Flatbush and New Utrecht. That part of Bay Ridge which is within the limits of Brooklyn has also been rid of fever since the hollows were filled and built upon. Good circumstantial evidence of the disappearance of intermittent fever in New Utrecht is found in the fact that, whereas quinine was formerly always in stock at the "store," it is no longer kept for sale.

It is probable that a considerable portion of the island now subject to malarial fever is capable of drainage to such an extent as to cause its disappearance; but there are clay-basins where such drainage is probably impracticable.

The general history of malarial fever is full of its relations to the accumulations of water in the soil, and presents many instances of the successful extermination of the disease by thorough drainage. In every epidemic of intermittent fever in New England the disease has invariably appeared first in swampy lands and in river bottoms; and, although gradually spreading to some extent to higher lands, it has not extended far, nor disappeared from the low lands, until the local causes were removed or the general epidemic had terminated.

In Rhode Island few cases of malarial fever had been noticed prior to 1880.* In that year a very serious epidemic occurred at the works of the Nayatt Brick Company, in Barrington, R. I. Nearly every one of the workmen (French Canadians) employed at the brickyard had intermittent fever at some time during that summer. The whole district is very low, and covered with swamps and marshes. In 1881 the disease had appeared in every part of Rhode Island in which swamps and marshes abound. And at the present date (November, 1884) there has been no abatement in the prevalence of malarial fever in the State, the terrestrial conditions being virtually unchanged. These conditions of the soil are, however, the same as they had been for years before the first intermittents were seen in Rhode Island.

In Massachusetts the chief places where intermittent fever appeared were in the Connecticut and Housatonic valleys. In the Connecticut valley the cases weremostly in Springfield, Chicopee, and Holyoke, beginning in 1879 and 1880, in which towns 1,250 cases were reported in 1880—a greater number than occurred in all the rest of the State.†

The agency of decomposing vegetable matter in connection with moisture, in the ætiology of intermittent fever, is well illustrated by the history of an epidemic in Coboconk, a small village in the Province of Ontario, published in the First Annual Report of the Provincial Board of Health, Ontario, 1882. The settlement is mostly on an island in Gull River, with some houses on either bank, and a large saw-mill. The river is dammed, making a large lagoon on one side of the island. For several years previous to the date of the report (1882) almost every inhabitant of the village was affected with malarial fever. The river had been dammed for twenty-five years and the vicinity had been swampy, but in all that time there had been no fever. A few years ago, however, a large saw-mill had been established on the west bank, and sawdust had accumulated on the bank, and now extends one hundred feet into the river and up and down the bank for one hundred yards or more. This has been decaying, and emitting an offensive odor. "We have many other well-known instances," the report goes on to say, "where malaria has been practically unknown until the sawdust from the mills had been exposed to the action of the atmosphere (and water?) for several years; when decomposing, it formed, as we must suppose, a favorable *nidus* for the development of malaria germs." "No malaria occurs again along the Gull River until some saw-mills seven miles above Coboconk are reached, when it reappears. The same fact has been noticed in the neighborhood of saw-mills on the river Moira." "At Fenelon Falls the sawdust of the mills there had been spread out over the open common and left to decompose. Malaria followed; but later on a kiln was built, in which all the sawdust has since been burned, a great decrease in the prevalence of malaria following as a result."

* The Long Island Railroad has an elevation at Hicksville of 142 feet; at Farmingdale, 63 feet; at Suffolk Station, 90 feet; at Medford, 82 feet; and at Riverhead, 32 feet.

† Report of the Committee on Hygiene, etc., Dr. A. N. Bell, Chairman.

* Report of the State Board of Health of State of Rhode Island, 1882 and 1883.

† "Intermittent Fever in Massachusetts," by J. F. A. Adams, M. D., of Pittsfield, Mass.

Dr. George J. Fisher, of Sing Sing, furnished the following evidence to "The Sanitarian" in 1874: "I have resided in Sing Sing twenty-three years, during which period the village has enjoyed a remarkable immunity from intermittent fever and every form of malarial disease, with two slight exceptions. In the year 1866 or 1867 a culvert on the Hudson River Railroad was obstructed by dumping rock and sand, which detained a great deal of animal and vegetable matter, within an estuary or pond of an acre or more in extent. This resulted in the development of intermittent fever in all the families living near this exceedingly impure and stagnant water. The reopening of the culvert to the free entrance and exit of the tides resulted in the entire disappearance of fever. The second exception was first observed three or four years ago, when a considerable number of houses—say, over thirty—were erected in the southern end of Spring and State Streets. Parallel with and lying between those streets is a valley which has never been well drained, but of late the drainage has been so defective as to amount to obstruction. Intermittent fever appeared in the immediate neighborhood of the valley, where the disease was previously unknown. Proper drainage would doubtless promptly restore the original salubrity of this locality."

It is a well-established fact that submerged lands become more dangerous when a lowering of the water again exposes them to the sun and air. Some observers on Long Island have noticed an increase of fever when the water-level in the soil had fallen ten and twenty inches.* In this connection a report on the annual rainfall is interesting. The record kept in New York city † pretty well represents the rainfall of Long Island and Connecticut. The following is a summary of the record for the last forty-seven years:

Mean annual rainfall for	47	years	(1837 to 1883)	=	46·02	inches.
" "	"	"	10	"	(1851 to 1860) = 48·12	"
" "	"	"	"	"	(1861 to 1870) = 53·12	"
" "	"	"	"	"	(1871 to 1880) = 43·47	"
" "	"	"	3	"	(1881 to 1883) = 37·26	"

But the decline in the amount was very considerable from 1879 to 1883, and for the five years was 37·28. And the rainfall in 1883 was only 30·22.

During the last three years there have been long droughts, so that the springs have not in all that time been up to their usual level—a condition that might be anticipated from the summaries given above; and the terrestrial conditions favorable to intermittent fever have been in full operation.

The present epidemic in the eastern part of Long Island has already continued about eleven years—several years longer than the epidemics of 1793–'99 and 1828–'36 in western Connecticut and Massachusetts; and the unusual continuance may very well be due to the much-diminished rainfall of the last five years.

The results of the committee's investigations may be summarized thus:

1. Long Island lies within the endemic range of malarial fever.

2. Even within the endemic limits, any region which has a sandy or gravelly soil—therefore completely porous and well drained—and containing no decaying organic matters, is free from malarial fever.

3. North of the endemic limits malarial fever spreads as an epidemic at varying intervals of time, appearing first only on wet soils, or on the swampy margins of ponds, where humus and decaying vegetable matters are exposed to the air; thence extending slowly, and to short distances, to a few individuals on higher and drier ground, whither it is apparently carried by the wind.

4. Thorough drainage of any tract within the endemic limits reduces the occurrence of malarial fever to a minimum, and beyond the endemic limits entirely removes it.

5. While it is highly probable that malarial fever is directly due to some organic germ, yet it is established that such germ can be developed only where water is retained in the soil.

* Pettenkofer made a similar observation in relation to typhoid fever in Europe.

† N. Y. Meteorol. Observatory, Central Park, etc.

PHOTOGRAPHY APPLIED TO GYNÆCOLOGY.*

By JOHN MERRITT, M. D.

Mr. President and Gentlemen: To-night I have the pleasure of offering for your inspection some photographs of the cervix uteri which I have taken. More than eight years ago I experimented somewhat in this direction, but the obstacles encountered interrupted the work.

Gelatin dry plates were not at that time in the market, and the difficulty of preparing emulsion plates can be appreciated only after a trial. To-day the ready-sensitized, rapid plates are used for all purposes except some styles of gallery work. To accord with improvements in this direction, new forms of cameras have appeared with essential changes in many parts. Reduction in size has increased their adaptability.

Taking advantage of these facts, I have been photographing for some time past, and now desire to call your attention to the ease and rapidity with which illustrations of many physical conditions of the vagina and uterus may be obtained. The hand-camera which I use for this work differs in some essential points from that employed by Dr. T. R. French in his throat photography. Both are made as narrow as possible to afford the least obstruction to light. Of course, no throat-mirror is required. In his camera, the focusing is done by varying the position of the lens; but in mine the lens remains fixed, while sharpness is attained by the "focusing guide" which regulates the distance of the plate from the object. The sensitiveness of the plate and rapidity of exposure obviate the necessity for a stationary camera.

At the outset, proper illumination of the vagina seemed an insuperable obstacle, but, by patient experimenting on my part, the difficulties have disappeared one by one, and I can now assert that photographs of the cervix uteri may be made with ease and rapidity, and that representations of

* Read before the Brooklyn Pathological Society, January 22, 1885.

the parts can thus be obtained more expeditiously and with greater accuracy than in any other way.

Direct sunlight was tried, but it was found inconvenient to elevate the pelvis sufficiently to avoid shadows, and was therefore abandoned. The use of the head-mirror requires the operator's head to be inconveniently low. A concave mirror placed on an adjustable stand will often give good results. The preference is decidedly for sunlight concentrated to a small beam of more or less parallel rays, as being more controllable and insuring better results.

The condenser I use has a fixed arm, parallel to the beam of light, at the end of which is a concave mirror with a universal joint that enables the size of the beam to be adjusted to the field to be illuminated, and then directed as desired; thus the whole beam of light is thrown into the speculum. Any speculum may be used. I have found Taylor's very satisfactory.

I have not to-night portrayed pathological conditions of the cervix or vagina, but have endeavored only to call attention to the facility of an operation so valuable to the profession, and yet involving no additional discomfort to the patient. I have photographed a cervix several times, the patient being aware of it only when informed afterward.

With the patient arranged for an ordinary vaginal examination, the light is thrown through the speculum to the objective point, and in less than five minutes a dozen pictures can be taken.

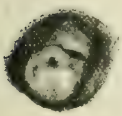


Fig. 1.

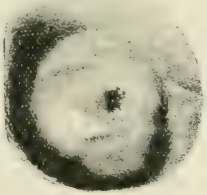


Fig. 2.

Explanation of the Illustrations. — Fig. 1 shows the actual size of photograph taken. Fig. 2 is an enlargement of the same. These figures are reproductions of drawings made from my photographs.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Kirkes's Hand-Book of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Dormer Harris, M. D. Lond., Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh Edition, with nearly Five Hundred Illustrations. Vol. I. New York: William Wood & Co., 1885. Pp. ix-373. [Wood's Library of Standard Medical Authors.]

Our Bodies; or, How We Live. An Elementary Text-Book of Physiology and Hygiene for use in the Common Schools, with Special Reference to the Effects of Stimulants and Narcotics on the Human System. By Albert F. Blaisdell, M. D. Boston: Lee & Shepard, 1885. Pp. vi-285.

Helps to Health: the Habitation, the Nursery, the Schoolroom, and the Person; with a Chapter on Pleasure and Health Resorts. By Henry C. Burdett, Founder of the Home Hospitals Association for Paying Patients, etc. With Nineteen Illustrations. London: Kegan Paul, Trench & Co., 1885. Pp. x-249.

Correspondence.

LETTER FROM WASHINGTON.

National Sanitation.—The Need of Biological Work.

Washington, *March 1, 1885.*

In another week the anxious sanitarians who have so busily plied Congress with memorials, and circulated the leaders of friendly editors, will be able to sum up their work and see what fruit their labors have brought forth.

The Deficiency Bill passed by the House makes an appropriation to pay the expenses of the National Board of Health incurred during the last year, and abolishes that body by providing that "all acts and parts of acts creating a National Board of Health are hereby repealed." The Sundry Civil Bill passed by the House appropriates $300,000 to be expended at the discretion of the President of the United States, under the direction of the Marine-Hospital Service. As both bills were passed under a suspension of the rules, there was no debate, but Dr. Evans, a member of Congress from Pennsylvania, obtained leave to print an elaborate defense of the board, which appears in a recent number of the "Congressional Record." The friends of the board rely on the practice of the Senate, in regard to general legislation upon appropriation bills, to strike out from the Deficiency Bill the fatal repeal of their organization. There seems to be a growing feeling that the board, notwithstanding the efforts of its friends, has steadily lost ground, that what is needed in the United States at the present time is a biological laboratory, which could easily be managed by the Naval Museum of Hygiene, under the general direction of the National Academy of Sciences—a laboratory similar to those of Koch and Pasteur; and it is thought that, by the next meeting of Congress, the National Academy of Sciences may perfect a plan for the practical working of such a laboratory, under governmental auspices, that may do much toward placing that branch of scientific investigation upon as good a footing as the Coast and Geological Surveys, or the Naval Observatory. The desultory and misdirected work of the past few years has been barren of results, as might have been expected from the lack of concentration. The talk about any national organization being "completely equipped" for the necessary work of this nature is the merest assertion, and is contrary to the fact. The National Board never had an organization so equipped, so far as a scientific corps is concerned, and it never had an equipped biological laboratory. It is true that certain well-known investigators were engaged to conduct certain researches, but they employed their own methods in their own way; there was no harmonious direction, such, for instance, as has made the Smithsonian Institution one of the most useful of governmental agencies for the diffusion of knowledge. A simple shriek for an appropriation, however shrill and prolonged, will not suffice to convince Congress, or anybody else, that money ought to be given blindly, and, until there is union upon an intelligent plan, Congress is quite likely to continue the method of appropriating for executive work only. But that does not touch the real need of the country, which is that of methodical, systematic, *concentrated* biological work.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 7, 1885.

THE DEPOPULATION OF FRANCE.

This subject is attracting serious interest among French savants. At a recent meeting of the Academy, M. Lagneau presented a forcible paper containing statistics of a startling character. In the discussion, M. Jules Rochard made an admirable address, which abounded in good sense, as well as in patriotism. He calls attention to the fact that France, which two centuries ago included one third of the total population of Europe, now contains but one tenth. This diminution, he says, must be due to one of two causes, either an excessive mortality, or a diminished number of births. The former factor may be eliminated at once, for the death-rate in France is really lower than in most other European countries. Since it may be inferred that the number of births has decreased, he seeks for an explanation of the fact. In the first place marriages are becoming infrequent, and secondly there is a widespread belief in the Malthusian doctrine, so that means are resorted to for preventing conception. M. Rochard boldly states that the increasing populations of England and Germany may be explained by the higher standards of morality which exist in those countries.

But it is not only to the actual preventing of offspring that the present condition of affairs is due. A large number of French women, says the writer — and here his ideas agree closely with those expressed by Dr. Emmet in the introductory chapter of his "Gynæcology"—are sterile, undoubtedly as the result of their unwise training, their defective physical development, and their luxurious habits. Nor are their husbands free from fault, since the notorious dissipation of the French youth unfits a large number of them for their marital duties. Rising above the purely medical aspects of the case, M. Rochard, with the glowing patriotism of a true Frenchman, warns France that, menaced as she is by armed neighbors, she should be "ready in the hour of peril to throw an army of a million of men upon her frontier."

"It is time," he adds, "that France should recognize the danger which menaces her, and that she should be made to comprehend the full extent of her social peril." If a reform is to be inaugurated, it must be through the agency of the physician, who, by his intimate relations with families, is enabled to accomplish more than any one else. Upon him devolves the sacred duty of saving his country from destruction.

THE PRESENT STATUS OF THE GERM THEORY.

Unconvinced there are many of our readers who are convinced that Koch has dealt a staggering blow to that particular phase of the germ theory which teaches that the comma bacillus is the *conditio sine qua non* of Asiatic cholera, and there are many who seem willing to admit that Tait has fairly unhorsed Listerism. This surgeon, with defiant enthusiasm, rejects antisepticism *in toto*, and, insisting only on the most punctilious cleanliness, sunshine, and ventilation, boldly ransacks the abdominal cavity, washing it out with sponges that are scrupulously clean, but not specially asepticized, and undertakes every every variety of extirpation with as much confidence as ordinary surgeons amputate an arm or tie an artery.

In this country the weight of evidence, with certainly a great preponderance of authority, is unequivocally in favor of a rational observance of Listerian principles; and, whatever may be the final fate of the germ theory, which many investigators have come to consider as quite positively demonstrated, it is evident that extreme and inflexible views on either side of the question are not in accordance, in its present status, with the true scientific spirit, and not calculated to evolve the truth that must underlie the whole discussion.

Even if we admit, as is asserted by Mr. Tait's admirers, that Listerism is of no importance beyond the systematic cleanliness it involves, it must be acknowledged, nevertheless, that much better results are now produced by surgeons in general than were seen before the practice came into use. However we may try to account for this fact, certainly great praise is due those who have done so much to rob surgery of its danger and uncertainty, whether indirectly or as the strict consequence of their theories.

A HARDSHIP TO MEDICAL WITNESSES.

We would call the attention of the Legislature to another item of legislation, relating indirectly to the profession, which needs attention. As the law now stands—and, if we are correctly informed, it is a provision of a resurrected code which has practically lain in a state of mummification for half a century or less—it compels medical men and others to obey the subpœna of any legislative committee at even the most inclement and the busiest season of the year, and give their testimony touching subjects of investigation, and in return tenders them fifty cents a day for attendance and four cents a mile for travel.

As an example of the injustice of this law let us cite a single case which occurred during last winter's session in connection with Senator Low's Committee on Adulterations. An active practitioner from an extreme northern county, whose trip to the capital involved forty or fifty miles of staging in the midst of the worst snow blockade of the season, requiring four or five days of absence from his patients, and traveling expenses, including a day in Albany, of not less than forty dollars, was remunerated with a paltry fifty cents for a day's attendance, and less than twenty dollars for mileage. And this in the face of the fact that he was called on to give what amounted to expert testimony.

No private citizen or corporation would have asked any professional man to leave his pressing business engagements and give five days' time without tendering him a handsome fee per diem and all his expenses while going and coming to court. Is the commonwealth of New York more parsimonious than individuals or corporations? A law should be framed covering

such contingencies in future, and at least a minimum price fixed on the value of expert testimony. Dragging medical men five hundred miles away from their busy vocations, in dead of winter, or at any season of the year, and compelling them to testify in the line of expert evidence, and then sending them home with barely half enough to cover traveling expenses, without a cent of remuneration for their time, is an injustice which could exist only by palpable oversight on the part of the lawmakers; and it would seem that, to be righted, it need only have attention directed to it.

MINOR PARAGRAPHS.

TREPHINING THE FRONTAL SINUSES.

In a recent number of the "Medical Chronicle," Mr. Ogston, of Aberdeen, states that he has practiced this operation in several cases of obstinate catarrhal disease in which other treatment was unavailable. The symptoms indicating this measure were constant pain at the root of the nose and above the orbits, increased on deep pressure, with periodical discharges of thick, yellow pus. The operation consists in making a vertical incision two centimetres long in the median line, between the eyebrows, after which the periosteum is carefully lifted from the bone and the sinuses are opened with a small trephine. The diseased mucous membrane is removed with a sharp spoon, and a strong solution of chloride of zinc is applied to the interior of the cavity. Drainage is established through the nose.

This radical procedure (by no means new, since it was practiced by von Langenbeck) has received a decided impetus at Mr. Ogston's hands; but, in spite of the fact that he reports a cure in every case, and with no recurrence of the trouble, conservative surgeons will be apt to hesitate before resorting to a measure that seems to be of such an heroic nature.

THE CURE OF ILEUS BY IRRIGATION OF THE STOMACH.

From a communication made by Dr. Cahn to the "Berliner klinische Wochenschrift," it appears that the operation of irrigating the stomach, to which brief reference is made in another column, has a wider application than was supposed when it was first suggested. Professor Kussmaul, in whose clinic at Strassburg the successful cases of its employment for ileus occurred, explains the fortunate result of the treatment on the ground that, by washing out the stomach, we relieve the tension above the point of constriction, caused by gas and accumulated fæces, and at the same time restore the normal peristaltic action. By a consequent change in the position of the affected coil of intestine the twist is removed. Whatever the explanation of the effect may be, it is certain that in this comparatively simple manipulation there seems to be a remedy for a condition which heretofore has seldom been relieved except by a formidable operation.

THE HEALTH OF GENERAL GRANT.

We regret that we have no information that would warrant our undertaking to allay the popular apprehension which has been raised in regard to the condition of General Grant; we can only join in the general feeling of anxiety. We may be permitted, however, in our own interest, to point out an error into which one of the physicians in attendance upon the General seems to have fallen, if he was correctly reported in the "Mail and Express" of last Saturday. He is reported to have said: "What was my surprise to see a rose-colored statement published the following Saturday in the 'Medical Journal,' and copied by other papers, stating that I said General Grant was better! I did not authorize any such statement, and wonder that just the opposite of what we decided in consultation should be published." This journal has not before made any allusion to General Grant's health, and it was, therefore, not in our columns that anything was published that could have worried the distinguished sufferer or embarrassed his medical advisers.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 3, 1885:

DISEASES.	Week ending Feb. 24.		Week ending Mar. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	10	4	4	2
Scarlet Fever	93	20	103	12
Cerebro-spinal meningitis	4	3	2	2
Measles	112	26	171	29
Diphtheria	55	25	58	25

The Bellevue Hospital Medical College will hold its twenty-fourth annual commencement at the Metropolitan Opera House on Monday, the 9th inst. The programme includes addresses by the Hon. William Dorsheimer and Mr. Andrew Carnegie.

The University of Buffalo.—At the recent annual meeting of the Alumni Association of the Medical Department, held on Tuesday, February 24th, the exercises were particularly interesting, and we regret that lack of space prevents our giving a summary of them. Officers for the ensuing year were elected as follows: President, Dr. F. E. Dewey, of Peterboro, N. Y.; vice-presidents, Dr. C. Diehl, Dr. D. W. Harrington, and Dr. Mary Berkes, of Buffalo, Dr. Charles Van Pelt, of Toledo, Ohio, and Dr. W. J. French, of West Valley, N. Y.; secretary, Dr. J. J. Walsh, of Buffalo; trustees, Dr. C. C. Wyckoff, Dr. W. C. Phelps, Dr. P. W. Van Peyma, Dr. Henry Lapp, and Dr. E. C. W. O'Brien; executive committee, Dr. C. A. Ring, Dr. F. H. Potter, Dr. J. W. Putnam, Dr. Charles Cary, and Dr. F. E. Dewey.

The Hospital Medical College, of Evansville, Ind.—At the recent annual commencement the degree of doctor in medicine was conferred on six candidates.

The Arkansas Industrial University.—At the sixth annual commencement of the medical department, held Friday, February 27th, the degree was conferred on eight candidates, and the honorary degree on Dr. W. M. Lawrence, of Batesville.

An Appointment under the Civil Service Rules.—We learn that Dr. Robert L. Dickinson was lately appointed, out of a large number of candidates examined, to the position of surgeon to the Brooklyn police force.

The Paterson Training School for Nurses.—Miss Clara S. Weeks, a graduate of the New York Hospital Training School for Nurses, has taken charge of the training school at Paterson, N. J.

The Paris Faculty.—The "Gazette hebdomadaire de médecine et de chirurgie" announces that M. Grancher has been appointed clinical professor of diseases of children.

Civil Service Examination of Health Officers.—Candidates for the position of Health Officer to the various local boards

of health in the State of New York may be interested to learn that the Civil Service Commission has announced that the subjects embraced in the examination will be covered by Wilson's "Handbook of Hygiene," or the larger works by Parkes and Buck. Opportunity is thus given beforehand to those who wish to refresh their memories of the elements of public hygiene.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 21, 1885, to February 28, 1885:*

Bentley, Edwin, Major and Surgeon. Relieved from further duty at Fort Clark, Texas, and assigned to duty as Post Surgeon, Fort Brown, Texas. S. O. 17, Department of Texas, February 16, 1885.

Taylor, M. E., Captain and Assistant Surgeon. Assigned to duty at Fort Stanton, New Mexico, as Post Surgeon. S. O. 29, Department of the Missouri, February 21, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending February 21, 1885.*

Battle, K. P., Assistant Surgeon. To proceed to Pittsburgh, Pa., for temporary duty. February 19, 1885.

Resignation.

Heath, W. H., Passed Assistant Surgeon. Resignation accepted, as tendered, by the Secretary of the Treasury. February 14, 1885.

Promotion.

Kalloch, P. C., Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from March 1, 1885. February 19, 1885.

Purviance, George, Surgeon. Granted leave of absence for one week. February 24, 1885.

Kalloch, P. C., Assistant Surgeon. When relieved, to proceed to Pittsburgh, Pa., and assume charge. February 27, 1885.

White, J. H., Assistant Surgeon. To proceed to Savannah, Ga., and assume charge. February 24, 1885.

Society Meetings for the Coming Week:

Monday, *March 9th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *March 10th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Chemung (Elmira) and Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, *March 11th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Societies of the Counties of Cayuga and Montgomery, N. Y.; Pittsfield, Mass., Medical Association (private); Worcester District, Mass., Medical Society.

Thursday, *March 12th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence, New York; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private).

Friday, *March 13th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *March 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

A CASE OF INJURY OF THE HEAD.

Richmond, Ky., *December 8, 1884.*

To the Editor of the New York Medical Journal:

Sir: Having been called in consultation to see a very unusual and interesting case of head injury, followed by a peculiar train of symptoms, with recovery after eleven days of unconsciousness, I take pleasure in presenting the case to your readers, hoping to partially verify the statement of Liston, that no case of injury to the head is too trivial to be despised, or too serious to be despaired of.

On November 14, 1884, Lida Turner, aged eleven years, was thrown from her horse while attempting to pass under an overhanging limb. Her foot hung in the stirrup, and the horse dragged her a distance of a hundred yards. She had her foot extricated by the horse stepping upon the calf of the disengaged leg, which caused the stirrup-leather to break.

On being taken into the house, she was found to be thoroughly unconscious and suffering from all the symptoms of cerebral concussion. The family physician, Dr. Jennings, arrived in half an hour, and found that her father was administering stimulants and making warm applications to the surface. Reaction, so far as the circulation was concerned, was brought about in a few hours. Tincture of digitalis was then given to control the pulse. On examination of her body, a deep cut was found on the left calf, the skin was rubbed from the prominent points over several ribs, there was a cut over the shoulder blade, and a slight bruise over the right temple, with an ecchymosis of the conjunctiva of the corresponding eye. The skin was unbroken over the entire scalp, and, so far as we could determine, there was no fracture of any bone of the head. On the second day she was found unconscious to all her surroundings, with the exception of the pain which she suffered on being moved, which caused her to make a crying noise, although no tears were shed. She would not evince any sign of recognition on being called in a loud tone of voice. Her eyes were closed, and she appeared as if sleeping. When food was placed in her mouth she would swallow it in a mechanical way. She showed no disposition to help herself or to move her limbs, although the only paralysis noticeable was a slight immobility of the muscles of the right side of the face. She remained in this semi-comatose state for eleven days, during which time her appetite never failed her, nor was there any trouble with her bladder or bowels. On three or four occasions a soap suppository was used, and once an enema given. During this time her pulse fluctuated between 96 and 108. The temperature varied from 99° to 101°. The pupils were slightly dilated, but responding readily to light.

On the twelfth day she would arouse on being spoken to in a loud tone, and would make answer to the first question asked her if the answer only required the use of yes or no; but, on being asked a second or third question, she would seem confused and unable to express herself. From the twelfth to the eighteenth day she began to recall gradually her vocabulary, but found great difficulty in expressing her thoughts, owing to several words, which seemed to be continually on the end of her tongue, falling in a random way in the midst of her sentence, which would make her efforts at talking quite ludicrous. These words were *rat, cat, fat, crack*.

I would note here that a vesicular eruption appeared along the course of the facial nerve of the right side.

Another interesting feature of the case was the change in the child's disposition. Before the accident she was very choice in her language and of a very amiable disposition; but, on returning to consciousness, she was cross and abusive, and

seemed to make an effort to find ugly words to express her dislikes. On this the twenty-second day she is sitting up and quite recovered, with the exception of an inability to carry on a protracted conversation.

The treatment was mostly on the expectant plan. On three days eight-grain doses of potassium bromide were given every three or four hours, afterward only as needed.

From the eighth to the twelfth day stimulants were administered at short intervals, as the pulse was disposed to intermit. On the fourteenth day, finding the patient disposed to be drowsy most of the time, and other symptoms calling for it, we began the use of sulphate of strychnine, gr. $\frac{1}{120}$ ter die. She improved rapidly after beginning the last remedy.

Respectfully,

JOHN M. FOSTER, M. D.

THE PROPOSED BUREAU OF HEALTH.

UNITED STATES MARINE HOSPITAL,
SAN FRANCISCO, CAL., *January 26, 1885.*

To the Editor of the New York Medical Journal:

SIR: In your issue of the 17th inst., which has just come to hand, I notice a letter from Washington, in which the correspondent speaks in terms of commendation of a new health bill, recently introduced by Senator Palmer, of Michigan, into the United States Senate, creating a "Bureau of Health" in the *Treasury Department.* Your correspondent states that the bill is the "most elaborate and practical of any yet introduced." He then gives a summary of its provisions. Judging from that statement, one might think the bill elaborately foolish and practically dangerous. The "Commissioner of Health" is to have powers far beyond those of the President of the United States, the latter being obliged to detail for special purposes, to be determined by the former, surgeons of the army and navy on the application of the Commissioner. He is to be above Congress, as he may prohibit the use of "*all goods designed for food or drink of man, for wearing apparel, or for furniture or decoration of habitations,*" as he, in his infallible judgment, may determine to be "so *poisoned by adulterations* as to be dangerous to human life or health!" Fancy the Commissioner issuing an edict declaring pork and beans or ice-cream, corsets and patent-leather shoes, colored lunch-cloths and steam radiators, "contraband of commerce!" Imagine the Commissioner, endowed with preternatural vision, announcing to the ignorant, thoughtless public that an epidemic has invaded our country, and forthwith appointing an army of "competent physicians," at "$10 a day and expenses," to go forth to battle with the invisible hosts! Think of the poor citizen stripped of his coin to the tune of $1,000, and languishing in a dismal prison-cell for a year, because he dared to violate a provision of this mighty Act or some "*regulation authorized by it!*"

Consider how charming it will be to receive the "Weekly Bulletin" *free,* and feast on the "useful sanitary information" promised us therein! Then it should not be forgotten how near the millennium we shall be when the Commissioner (puissant and omniscient) promulgates his "code of regulations for the practice of medicine, surgery, and midwifery, in places within the jurisdiction of the United States!"

But, Mr. Editor, I have not time to dwell longer on these considerations now, and will conclude by expressing the hope and belief that the Congress of the United States will never be so careless in legislation as to stultify itself by passing the bill referred to. The medical profession throughout the country should see to it that no such bill be allowed, by inadvertence, to become a law.

JNO. VANSANT, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of February 23, 1885.

The President, Dr. DANIEL LEWIS, in the Chair.

Cholera; its Mode of Introduction; its Prevention and Treatment.—Dr. JOHN C. PETERS read a paper on this subject. Cholera, he said, had been introduced into North America only at three different places, New York, New Orleans, and Quebec. The contagion had never been blown into this country, otherwise it would have reached points to which vessels had to pass close in entering those ports. The epidemic which was introduced at Quebec was traced up the lakes, and down the Mississippi River to New Orleans. Cholera appeared at nearly the the same time at New York, and in 1848 it was brought almost simultaneously to New York and New Orleans. From the latter place it was carried up the Mississippi, was taken by emigrants to California and the territories, and also reached San Francisco by vessels from New York. In 1854 it entered New Orleans, was carried up the Mississippi, and reached Niagara Falls before New York had any cases. The outbreak in this country in 1866 started from cases which reached the port of New York the latter part of 1865. In April or May, 1865, cholera existed in Calcutta, from there was carried to Mecca, reached Europe by way of Marseilles, and finally was conveyed to America. In 1873 the disease was introduced at New Orleans, in what manner could not be learned, but from there it spread to Memphis and to Nashville. Bombay had had cholera every year since 1848, but with a gradual diminution of the death-rate, commencing with improved sanitary conditions. There was some difference of opinion as to the exact manner in which the cholera had reached France from Bombay in 1884. The speaker thought it came by way of the Red Sea and the Suez Canal to Damietta, from there was spread over Egypt by the fleeing citizens and visitors, and from Egypt reached France. He was disposed to think the rise of the river Nile did more toward freeing Egypt of the plague than the sanitary laws of the English. Dr. Peters condemned the way in which Marseilles had concealed the origin of the disease, as it was now said to have existed there before it reached Toulon. He referred to the interesting fact that Lyons, on account of its excellent drainage by two rapid rivers, had had almost entire immunity. The advantages of an effective quarantine were illustrated in Denmark, which had always escaped cholera, except on one occasion, when it raised its quarantine; and also in Greece, which did not have a cholera epidemic until the quarantine was forced by the French and English during the Crimean War.

With regard to the manner in which the cholera was conveyed, Dr. Peters believed it was always by ships, caravans, pilgrims, and clothing, and not by the wind (at least to any extent). Several hypotheses as to the manner in which the cholera was conveyed had been suggested and exploded, one of which originated with himself, namely, that ocean currents carried the germs of the disease. Another was that earthquakes and volcanoes favored its outbreak. Dr. Peters was of the impression that during the present year cholera would probably first break out in Spain, be conveyed from there to Cuba, and from Cuba to the Southern States. Its occurrence in Spain, however, would have no connection with the earthquakes in that country. The speaker further traced the origin of cholera on Blackwell's Island, among the soldiers, etc. It was his opinion that a person did not get cholera without swallowing some of the contagious element, either with the food, water, or by

other means, and one of the most important safeguards against this was the use of clean towels and frequent ablution of the hands. He did not believe that any form of diarrhœa not of choleraic origin would end in cholera without the introduction of the germs of the specific disease, just as occurred before the development of cholera in a healthy person. It was proper, however, to treat every case of summer diarrhœa as if it were one of Asiatic cholera.

Recent Researches in Cholera.—Dr. E. C. Wendt read portions of a long paper on researches into the cause of Asiatic cholera and the theories which had been advanced in explanation of its origin.

The Artesian Wells of New York as affording Potable Water.—Dr. Cyrus Edson, of the Committee on Hygiene, read a paper, in which he showed that cholera had often been spread by drinking water contaminated by privy and sewage poison in cities. The water supply of some towns and cities constituted a sort of endless circulation: well, man, privy, well. Regarding the wells of this city, which varied in depth from less than a hundred feet to a number of hundreds of feet, they all received their water from the surface or sewage drainage of the city itself, and not from a distance. This fact was due to the peculiar geological formation of the island. In Paris it was different; there the water supply of the artesian wells came from the drainage of land outside of the city, and passed through a disinfecting stratum. An analysis of the water from the wells on Manhattan Island showed that it all contained sewage. It was for this reason that the Board of Health had interdicted its use except for chemical and manufacturing purposes. The brewers were allowed to use it, as during the process of making beer it was subjected to a high degree of temperature, which acted as a disinfectant.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of December 16, 1884.

The President, Dr. J. A. McCorkle, in the Chair; Dr. Z. T. Emery, Secretary.

Malarial Fever on Long Island.—The report of the Committee on Hygiene [see page 267] and Dr. Thayer's paper [see page 273] having been presented, Dr. A. N. Bell was invited to open the discussion. He said that the report had been to him of very great interest, because it was, in a measure, a continuation of a work with which he had something to do several years ago. That part of the report relating to the description of the soil had not, in his opinion, been sufficiently emphasized. It must have been observed by every one present who had traveled on the island that the surface of the ground was peculiar. We had a multitude of what might be called "punch-bowls," with "hard-pan" bottoms, just beneath the surface, and in no part of the island was that peculiar formation more characteristic than from New Utrecht to Fort Hamilton; in that direction this water-tight subsoil layer, varying in depth from a few inches to six feet below the surface, prevailed. He had gone over the ground with the commissioners twelve years ago with a view to draining it, and made special note of the deep cuts which had to be made between the ponds. These ponds frequently had no outlets, and were nothing less than stagnant pools of water, and, as Dr. Thayer had observed, the impervious clay cropped out to within a few feet of the surface. Wherever these peculiar formations existed, malarial fevers abounded. Some of the ponds in the portion of the island referred to were drained by interception ditches half way down their sides, and from the bottom of these ditches wells sunk below the bottoms of the ponds. The hard pan bottoms then being broken up, the ponds were converted into meadows. Malarial fever was on Long Island, one might say, almost perennial—it lasted all the year round. He believed the island could be thoroughly drained. There were some parts of it where there was natural drainage, and where there was nothing to be done—where there was no fever. We had an example of what could be done in other places by that which had been done on Bay Ridge. He hoped the practical outcome of these papers would be to push along the work of drainage, and insisted that it should be done. While the paper was being read he had thought of some exceptions to the views expressed in a portion of it (Dr. Thayer's). Intermittent fevers exist in some places where we did not have this peculiar clay formation, such places, for example, as the Palisades on the New Jersey shore of the North River, with underlying rocky formations, but virtually due to the same cause—the emanations from decaying vegetable matter and stagnant water in the crevices of the rocks. Another point: It did not always appear to be necessary to malarial fever to have stagnant water and vegetable decay in combination. He had traveled over sandy soil where there did not seem to be a vestige of vegetation of any kind, and yet this malarial fever broke out in persons residing or spending any time there. He also remarked upon certain analogous conditions of malarial and typhoid fevers, and referred to two important recent papers on the subject, one by Dr. Pinckney Thompson, of Kentucky, and another by the late Dr. Robert J. Farquharson, of Iowa. They both held that typhoid fever frequently originated from vegetable decay. It was remarkable that, so far as aërial emanations were concerned from animal and vegetable putrefaction, they possessed identical properties. We were all disposed to believe that *germs* had something to do with the causation of these diseases, but he was satisfied that, however much living germs might have to do with this matter, the conditions in which these germs delighted were conditions of putrefaction, and that the gases of putrefaction also had much to do with the production of disease independently of germs. But Dr. Smart, of the United States army, an excellent observer, had pretty much come to the conclusion that the water we drank had more to do with malarial diseases than the air we breathed. The speaker had not verified this observation, but he could very easily see that it might be the case with water originating in malarious regions. We all knew that moisture took up the poisonous particles in the air, and that they were conveyed by that vehicle. We knew that malaria prevailed chiefly along the coasts, and that it could not cross wide rivers, or extend far out over the water. We knew it was not safe for people to remain along or near the coast in malarial districts, or sleep there. They were apt to get malarial fever. Thus we saw that the poison was easily absorbed by the water, and hence the water might itself be poisonous.

Dr. Thayer stated that the committee referred to the emanations from the soil—whatever they might be—and did not assume that there were any germs. As to the matter of malarial fever being produced by drinking impure water, he remembered reading of an instance where some eighteen or twenty people had intermittent fever at one time, and it was shown that they had depended for water upon a certain spring which was traced to impure sources. The use of it was stopped and the fever subsided. This was undoubtedly the cause of the trouble. He was perfectly well aware of the fact that malarial fever existed where there was no appearance of vegetable decomposition: but, as a rule, where the soil was sandy and gravelly, and well drained, it was absent.

Dr. Raymond said that during the last summer some fifty-five ponds in Brooklyn had been filled up at an expense of $25,000, and, so far as his observation went, there remained but six more to be filled up, and this, in all probability, would

be done before the winter was over. It would be interesting to know what effect the filling up of these ponds would have upon the prevalence of intermittent fever in those localities.

Dr. WALKER said that several years ago there was in the society a Committee of Public Instruction. He thought this subject was one upon which the public should be enlightened by the society, and he therefore moved that the report of this committee be referred to the Council, who should prepare a summary of the same, to be given to the people for the use of the public at large.

The resolution was not seconded.

Dr. CHASE said that, inasmuch as the president of the Board of Health was present, he would like to inquire whether the source of the supply of water of this city came from a decidedly malarial district, and whether he had any reason to believe that it brought malaria to the city.

Dr. RAYMOND had no information on those points.

Dr. P. H. KRETZSCHMAR said that he noticed that the professional gentlemen in New Lots had not responded to the requests of the committee. Of course it was interesting to hear reports from different portions of the island, and he thought it was especially important to the members of this society to hear reports from localities near Brooklyn. He asked, if any gentlemen were present from the outlying wards, that they would address the meeting upon the condition of those wards and neighboring localities in this respect. If no one else was prepared to do so, he would like to make a few remarks relative to his experience in the town of New Lots. Two weeks before, the death-rate of New Lots was the second highest among towns in the State of New York. He was convinced that a great many of said deaths were caused directly and individually by malaria and its unfavorable influences; and he thought there existed to-day in the twenty-fifth ward, in East New York proper, in Bowronville, and in the regions near to Canarsie, malaria to a greater extent than anywhere else on Long Island. Of course, so far as the twenty-fifth ward was concerned, it should be remembered that there had been considerable building, and that streets and sewers had been constructed, and this was one of the wards where ponds could be found if they were to be found anywhere in Brooklyn. In East New York he had, within the last three years, observed some interesting cases of malarial fever of the severest form. He had been very much struck with the remarks made by Dr. Bell about the close connection between malarial and typho-malarial fevers. He referred to four cases of fever which he had considered typho-malarial fever, until recently, which occurred in East New York, in all four of which the patients died. They appeared to be at the onset of the disease well-developed cases of remittent fever. In none of these cases were there any decided enteric symptoms, and there was no eruption, or any enlargement of the spleen at the beginning. Still later on in the course of the disease diarrhœal symptoms appeared, and yet there never were any well-developed typhoid symptoms. The patients became somewhat delirious. He had a post-mortem made in two of these cases. Dr. Andrews, the health physician, attended one of these two patients until two days before the death, when the speaker was called in. There was some doubt as to whether or not an injury had something to do with the case. There was found ulceration of Peyer's patches, indicative of typhoid fever. Yet there was an absence during life of all symptoms of typhoid fever. A year before, there was another post-mortem in another case (that of the wife of a patient, who also died with malaria), and the same evidences of typhoid fever were found, although there had been an absence of symptoms pointing that way during life.

One word about the treatment of malarial fever in children. Some of us had had unpleasant experience in the administration of quinine to these little patients. He had, within the last five or six years, been in the habit of giving quinine to children *externally* by means of inunction, and he had found it to be the most satisfactory way of giving the remedy to children, say up to five years of age. The formula generally used was one part quinine, one half part chloroform, eight parts fat, or Squibb's oleate of quinine. He had had the most uniformly pleasant results. Dr. Jacobi had informed him that some French writer had written an article on the examination of the urine after the external administration of quinine, and had found evidences of quinine in the urine thus examined. A member of the society had informed the speaker that cinchonism had occurred in his practice after three days' use of quinine administered in this manner. If quinine could be found in the urine, and cinchonism followed inunction of quinine, there could be hardly a doubt that quinine was absorbed through the integument. Usually no unpleasant results followed. He thought, therefore, that it was worth while for gentlemen to try this method of administering quinine. Of course it was unnecessary to say what the advantages were. If there was no other advantage than that of getting the quinine into the patient's system and allowing the stomach to perform its proper function of digesting food, the advantage was great.

Dr. THAYER said, in regard to Dr. Kretzschmar's criticism, that the points referred to by him would be covered by Dr. Segur's paper—i. e., everything relating to Brooklyn and its vicinity. He had used quinine externally with admirable results.

Meeting of January 20, 1885.

The President, Dr. J. A. MCCORKLE, in the Chair;
Dr. Z. T. EMERY, Secretary.

Electrolysis as a Cure for Uterine Fibroids.—Dr. J. N. FREEMAN read a paper with this title. [See p. 262.]

Dr. A. J. C. SKENE thought that the paper was one of interest. Anything that promised to be of value in the management of fibroids was worthy of all attention, because such tumors were common, and some of them that he had met with had been difficult to manage. At the same time he might say that, of all the neoplasms of the sexual organs, the fibroid was one of the most harmless to life. With regard to the method of treatment advocated in the paper, he begged leave to differ from the statements made by the author, and he could, perhaps, show why he did so. First, the method was not a new one, as would be seen presently. Referring back to the use of electrolysis in the management of cysts of the ovary—say about fourteen to sixteen years ago—Dr. Semeleder reported twenty cases of ovarian cysts treated by electrolysis, the majority of which were cured or improved. He came to New York, and was invited to practice electrolysis in the Woman's Hospital, and he there met with failure. Dr. Skene did not remember any of his cases that were cured. One patient died, he believed, and the success of electrolysis in that direction was not satisfactory. About the same time Dr. Ephraim Cutter, of Cambridge, Mass., reported fifty cases treated by electrolysis—the majority cured or improved. These fifty cases were published in the "American Journal of Obstetrics," edited by Dr. Mundé. Now, that Dr. Mundé should tell Dr. Freeman that he had never heard of the successful treatment of fibroids by electrolysis was peculiar. One thing was certain, either he had forgotten, or he did not read his own journal. At the time these cases were reported Dr. Thomas visited Dr. Cutter, saw him treat a number of cases, came back to New York with the apparatus and full directions as given by Dr. Cutter, and began a series of observations in his own practice, chiefly in the Woman's Hospital, the speaker thought, but

without much success. He failed to get the results that Cutter did. Scattered through the literature of gynæcology about that time there were many occasional cases reported. The speaker also caught the idea, and made a few observations about the same time. Two of them were recorded in the history of the College Hospital. He thought, upon consideration, that three of them would be found on the records there. Two of them were most excellent cases for this kind of treatment. The tumors were interstitial, and extended down into the cervix and low down into the vagina, so that he could practice electrolysis with the greatest facility, and without the necessity of employing an anæsthetic. In the first applications in each case he employed ether; after that, as he found it was not specially required, he did not employ it. So long as he stuck to electrolysis, the tumors were not modified. When he pushed it beyond the mere decomposition of the fluids in the tumors and got the electro-cautery effect, suppuration and diminution of the tumor were produced. In both cases the tumors became softer, but did not diminish in size especially. In another case, a hospital one, he practiced electrolysis by passing needles through the abdominal walls. The tumor extended above the umbilicus. He repeated the treatment at least seven times in all, and he thought, by stretching his imagination a little, that the tumor was reduced one sixth in two years. The tumor did not threaten the patient's life or render her useless, and she declined further treatment. Another case occurred in his private practice, with similar results; so that his own observations would not appear to favor the use of electrolysis. He had seen other cases treated by other gentlemen with somewhat similar results. He might go back, if not out of order, and refer again to electrolysis in the treatment of ovarian cysts. About the same time that Semeleder's cases were reported, Dr. Skene was invited by Dr. Hesse to see a case of cyst in the abdomen in his practice. There was no doubt about the diagnosis, so far as regarded the presence of the cyst. Dr. Hesse practiced electrolysis, and entirely removed it. This case was published in the "American Journal of Obstetrics" in 1877. From the history of it, and the general appearance and physical signs, he was inclined to think it was a cyst of the broad ligament. After the treatment by electrolysis and the complete cure, he was even more convinced of that. About the same time he had a patient with a very large ovarian monocyst. She absolutely refused to be operated on. She was then told of this new method, which she accepted. She was warned that it might be dangerous, that he knew but little about it. She accepted his little experience. He therefore practiced electrolysis, with the result of getting up an inflammation of the ovarian cyst, which extended to the peritonæum, and the patient died at the end of a week.

Such was his own personal experience in the use of electrolysis. He was inclined to think that this was the experience of many others also, because there was a great deal of enthusiasm on this subject a few years ago. Many tried it, but he had heard nothing about it of late years. Had the gentlemen who practiced this treatment of fibroids met with the promised success, they would have continued in well doing, and the profession would, no doubt, have heard of their good deeds. In place of this, there had been a marked silence on the subject till now. Then again, it was exceedingly difficult to estimate the benefit derived from any form of treatment of fibroids. He noticed that several of Dr. Freeman's patients were in the neighborhood of forty years of age. Now, it was a notorious fact that fibroids about that time often disappeared without treatment of any kind; and often even earlier than that they appeared to be arrested in their growth. There were so many natural means of cure that in estimating the benefit of treatment we must remember that nature sometimes accomplished that which art could not do. If the patient lived until the menopause, or final involution of the uterus took place, the fibroid would disappear also. Again, a little inflammatory action in the mass itself, or in the uterus, might cut off the circulation and the tumor would disappear. There were, indeed, many ways in which these tumors became arrested in their growth, so that great care must be taken in estimating the benefit of any method of treatment. While he fully appreciated these histories as given by Dr. Freeman, it must be remembered that three swallows did not make a full meal, neither did three cases fully prove the value of this treatment. A number of cases were necessary in order to pass upon its value. We therefore had to accept these cases as evidence that this mode of treatment was still under observation. It might be successful in the future, but was at present only on trial. One thing he ought to say in regard to this mode of treatment, and that was—it was not so dangerous as he supposed it would be. He remembered that when he first passed those needles through the abdominal walls and drove them into the hard mass, he was very much afraid of the consequences. He supposed he was the most unhappy man in Brooklyn one day when the patient, after coming out from the ether, had a terrific chill. He imagined it was the beginning of the dreaded peritonitis, but it was only a nervous chill—the temperature did not go up. After that the patient came to the hospital, say today, was treated to-morrow, and then the next day went home about her business. Cutter's instruments were larger than needles. They looked like little daggers; had handles and V-shaped heads. He used to take them by the handles and thrust them into the tumor with great force, and yet only one of the fifty patients died. Very few of them had any peritoneal trouble. That was very much in favor of the method, and deserved particular attention.

Now, when we came to compare electrolysis with ergot and laparotomy in the management of these cases, it could only be maintained that it was one of the means of treating fibroids, and one that was not effectual in all cases. That we did have most excellent results from ergot we all knew. When the tumor was intra-uterine, surrounded by strong muscular walls, it would respond to ergot. If the uterus would respond to ergot, we should accomplish one of two things—either the mass would be entirely expelled, or could be removed by traction and enucleation, or else, by the circulation being cut off, it would become atrophied. When the tumors were interstitial, ergot acted less effectually; when they were subperitoneal, little if anything could be done, and the result was not by any means satisfactory. These were the cases where we had to resort to laparotomy. When we remembered how many of these cases there were, and how many patients got along comfortably for years, the tumor being stationary, and how many of them got well without treatment, the field for the use of electrolysis was limited as compared with other means.

Dr. Freeman replied that Dr. Mundé had mentioned Cutter's cases, but had said they were not satisfactory. Dr. Cutter's operation was essentially different from the author's. Dr. Skene had accurately described his method—with a V-shaped dagger—and he generally produced suppuration. This Dr. Freeman had tried to avoid. Dr. Cutter's cases had not been published, and Dr. Freeman had not heard of them when he made his first experiments, and only learned the results when they were published the next year.

Dr. Freeman had treated two of his cases in St. John's Hospital, and had succeeded in preventing suppuration in every case except after one treatment, and in that it was limited to the abdominal wall and did not affect the tumor itself nor the peritonæum. In all these cases there was a gradual softening and absorption of the substance of the tumors.

Dr. SKENE said that Dr. Freeman must have misunderstood his remarks. There was no essential difference in the methods practiced by Dr. Cutter, Dr. Freeman, and himself.

NEW YORK CLINICAL SOCIETY.

Meeting of January 23, 1885.

Dr. L. EMMETT HOLT, Chairman; Dr. W. DUNCAN MCKIM, Secretary.

Forward Dislocation of the Head of the Radius.—Dr. J. H. EMERSON presented a patient, a boy of seven years, with an old forward dislocation of the head of the radius upon the external condyle of the humerus. Motion in the joint was remarkably free, which fact was to be explained by the marked atrophy of the external condyle. Nothing was known in the way of history, except that the patient had fallen upon his elbow, three years previously, and was then supposed to have sustained only a bruise.

Cheiloplasty.—Dr. ROBERT ABBE presented a patient, aged fifty, on whose face he had performed several plastic operations, following removal of the entire lower lip, four months before, for epithelioma, which extended outside the commissure of the lips on both sides. Photographs of different stages were also shown.

At the first operation a large V-incision was made, including the entire breadth of the disease, and pointing far below the chin. Then a longitudinal incision was made through each cheek, well back, and an inverted V-piece removed from each side, above the cut, to prevent pouching when the lower flaps were dissected up and slid forward.

Ten days later, a slough had taken place, at the median line of the lower lip. After some time, a second operation was done to correct this gap of more than an inch. Its edges were pared, and a long horizontal cut was made, an inch and a half below the first, extending back to the parotid gland, and then curving upward to the level of Stenson's duct. The flaps were undermined, and again slid forward to meet. Union was good, but a fistula remained under the middle harelip-pin, which finally had to be closed by a horizontal rectangular flap from the front of the chin, that was swung into a vertical position to fill a gap made by vertical cuts, including the fistula and cicatrix.

The latter operation was done under hypodermics of cocaine, which worked most excellently. The ultimate result was very satisfactory.

Ridge-like Formations in the Bladder.—Dr. L. B. BANGS presented the bladder and kidneys of a patient with the following history: At first, the only symptom was frequent and painful micturition, the pain being especially in the head of the penis. Neither stricture nor stone could be detected. After a few months, the searcher indicated the presence of some obstacle at the base of the bladder, but its nature could not be determined. The urine always contained pus, but no casts were ever found. The patient then disappeared. Four years later, he presented himself again with his condition much improved, urinating about every four hours only. A few weeks later, he died with uræmic symptoms. He had had an early gonorrhœa.

Post-mortem examination showed a ridge extending between the vesical orifices of the two ureters, with a second ridge coming off from the middle of the first and prolonged into the prostatic urethra. Both ureters were dilated; and the kidneys were the seat of multiple abscesses. The case was evidently one of obstruction at the internal meatus.

Injury of the Head.—Dr. A. A. SMITH narrated the following case: A child, aged six years, fell over a balustrade to a floor, twenty-six feet beneath, striking upon the forehead. The forehead was much swollen, the left eye was closed from swelling of the lids, and there was a tender spot on one of the legs. The pulse was 88, regular; the temperature was normal; there was no vomiting. The child could speak when the tender leg was touched. The next morning he seemed bright, but afterward he refused to talk, and then had a convulsion—fourteen hours after the accident. After that he vomited, and immediately fell into a quiet sleep. Another convulsion took place, but it was slight. It was followed by vomiting. For three nights there was slight delirium, but the patient then made a good recovery.

Dr. J. W. WRIGHT inquired as to when the child had taken food before the accident. He thought that the convulsions were due to the presence of food which the stomach was unable to digest during the shock of concussion. Under such circumstances he would give an emetic.

Dr. SMITH thought that there were three plans of treatment for such cases—an emetic, a cathartic with an opiate, and bromide of potassium. In this case he used the bromide.

Vesical Calculus.—Dr. WRIGHT presented the detritus of a stone removed from the bladder, after the injection of ʒj of a four-per-cent. solution of cocaine into the urethra. No pain was experienced, but slight discomfort from the stretching of the bladder by water.

Perforation of the Bladder.—Dr. WRIGHT presented a specimen of perforated bladder, with the following history of the patient: A laborer, aged twenty-six, admitted to Bellevue Hospital November 26, 1884. Had suffered from painful micturition since childhood. For the previous three months he had micturated about every half-hour. The urine was frequently bloody. He had never had gonorrhœa. Eight months ago he was treated for stricture, a steel sound being passed three times a week for eight weeks. November 25th, Dr. Wright detected a stone with a small-sized Thompson's searcher. At this time the urine contained blood, pus-cells, and much mucus, and was alkaline, of an ammoniacal odor, and of the specific gravity of 1·020. There were no casts.

November 29th, after three days' rest in bed, with the use of diluents, etc., the patient was much better. He was etherized, and three ounces of warm water were injected into the bladder. A small Thompson's searcher was passed into the bladder, and after about five minutes the stone was felt, but its size and quality could not be determined, from the obstinate contraction of the bladder. A larger instrument could not be passed, on account of a stricture and the presence of false passages near the membranous portion of the urethra.

December 1st, peritonitis was recognized. On the 8th the patient was deemed convalescent, but a return of the peritonitis took place on the 11th, and on the 13th death.

Autopsy, sixteen hours after death.—General peritonitis was found; also acute left parenchymatous nephritis. Between the anterior wall of the bladder and the pubic bones there was an abscess, with well-defined walls, containing three or four ounces of pus, but having no communication with the peritonæum. The bladder was very small, its capacity being not more than three ounces, and its walls were much contracted and thickened, and in a state of chronic inflammation. In the right lower segment, somewhat posterior to the lateral median line, and about one inch from the vesical opening of the urethra, was found a perforation large enough to admit the end of the index-finger, which communicated with the cavity of the abscess. Its margins were smooth and thoroughly cicatrized, with every appearance of having existed for several months.

The bladder contained an oxalate-of-lime stone, one inch in diameter, and weighing 276 grains.

Dr. Wright raised the question whether this perforation was due to the use of instruments, or to the ulceration caused by the stone itself.

Dr. Bangs, after examination of the specimen, was convinced that the perforation had been caused by ulceration due to the presence of the stone.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of February 3, 1885.

Vacuolation of the Brain.—Dr. J. C. Shaw read a paper on this subject and showed a specimen.

Dr. Peters stated that very interesting cases were to be found on record in the "Transactions of the Pathological Society of London."

Dr. Parsons had never seen vacuoles of the brain of the size of those shown in the specimen. He had seen smaller ones. His impression was in accordance with the views expressed in the paper with regard to the origin of the enlargement of these perivascular spaces.

Dr. Weber thought that the vacuoles in this brain might be connected with septic fever, which certainly must have taken place during the man's life. He was inclined to think that there might have been infarctions in that brain which might have something to do with such immense vacuoles. He wished to know if Dr. Shaw had examined the brain soon after death.

Dr. Shaw said that he had done so the next day. He had cut into the brain afterward and found these cavities. There was nothing on the outer surface of the brain to indicate them.

Dr. Weber asked if Dr. Shaw really believed the larger-sized ones to be real vacuoles.

Dr. Shaw said that he really did.

Dr. Weber then asked if vacuoles as large as these had ever before been seen by Dr. Shaw or by any one.

Dr. Shaw stated that no one had seen them so large. He had not, at all events. The largest he had ever seen were of the size of a small nut.

Dr. Weber stated that the largest he had ever seen were as large as a pea, drawn out. They were of the size of the smaller ones surrounding the large ones in the brain that had been shown. In this respect he considered the specimen unique.

Dr. Shaw said that the reason he had presented it was because it was an extraordinary specimen. A great many cases were reported where there were no vacuoles. This man had certainly been subject to septic trouble. Dr. Shaw asked if those cyst cavities were not due to hæmorrhage.

Dr. Weber thought that the man probably had septic pleurisy. There might have been emboli carried into the brain; certainly there was septic matter coursing through the arteries. In the cases he had known of there had been no structural disease going on.

It had struck Dr. Shaw that possibly thrombosis might have taken place in some of the small vacuoles, and that a large number of them might have been blocked up in that manner. The explanation that the perivascular spaces had been dilated was not a very good explanation for cavities of such large size.

Dr. Birdsall was reminded of a spinal cord that he had been very much interested in while working with Professor Meynert in Vienna. It was hardened in the usual way, and showed nothing particular, but, on making sections of it, it was found to be a perfect honeycomb, so completely had certain portions disappeared, and other portions shrunk together. He did not know whether any one present remembered the appearance of a worm-eaten beam, but the transverse section of this cord looked very much like one of these. It was difficult, he admitted, to account for the large cavities in Dr. Shaw's specimen. It seemed to him, though, that the œdema of the brain that was to be found in cases of chronic alcoholism might produce such a condition, provided the cavities were due to a shrinking away of the tissue, as Professor Meinert had suspected in the case he had alluded to.

Dr. Flint thought that the method of preparation of the brain was decidedly wrong. He wanted to know if Dr. Shaw had said that the brain enveloped in its membranes had been placed in alcohol.

Dr. Shaw stated that it was placed in alcohol, but not with its membranes.

Dr. Flint thought that nevertheless a number of changes took place afterward. There might, perhaps, be little cavities formed. He confessed, however, that he had never seen cavities as large as these. A great many that he had seen had arisen from the faulty method of putting the brain in the alcohol. The brain became hardened. He for one was of the opinion that not all the cavities in this brain had existed during the lifetime of the patient, but that some of them had formed after the brain had been removed from the body; and, consequently, they lost their pathological significance.

Epilepsy as a Cause of Death.—Dr. W. M. Leszynsky read a paper with this title. [It will be published in full hereafter.]

Dr. Parsons said his experience had been very much in accordance with the author's as to the cause of death of a large number of patients who were sufferers from epilepsy. Very soon after he became connected with an institution in which there were many epileptics, he was struck with the fact that they did die in some way in consequence of an epileptic seizure, contrary to the statements in treatises. To such an extent was this true that it seemed to him the rule that epileptics died as the result of the seizure. In a few cases they died from accident, as from suffocation, or some other injury received during the epileptic seizure. In some cases they died from shock. Most of them, however, died in the *status epilepticus*, after they had had attacks running from two to three days. Autopsies were made in the great majority of these cases. His impression was that in almost all of them the condition of the brain was one of intense congestion, either with or without effusion into the ventricles. He had been very much surprised at the difference of experience between himself and eminent men who had written on the subject. It hardly seemed possible to him that the results could differ very much from the experience in New York institutions.

Dr. Birdsall thought that the cases that had been presented in the paper had been complicated with other forms of disease, and that this introduced a factor that made it difficult to apply them to ordinary epilepsy. In the first case it was not certain that death was caused by epilepsy, at least as stated. The patient was found dead, and with no record of a convulsive attack immediately previous. In one case, for example, we had indications of atrophic changes, and in several cases there was a possibility of epileptic attacks being the result of gross lesions; and it seemed to him that these things should be borne in mind.

Dr. Leszynsky said that Dr. Parsons had spoken of a large majority of cases where the brain was found to be intensely congested. So it was in these cases where the autopsy had been made, but there were cases where the brain was quite anæmic. In the doubtful case which Dr. Birdsall referred to, where the patient was found dead, it was to be presumed that she died from epilepsy, for she was always in excellent health. She frequently had convulsions and fell upon the floor. It was to be presumed, consequently, that she died from epilepsy. In the other doubtful case, where the autopsy was made, the patient had always been an epileptic. Gross lesions were found frequently, but he did not think that anything had yet been discov-

ered which would account for the condition of epilepsy. With regard to the treatment, he had confined himself exclusively to the *status epilepticus*, and not to the condition of epilepsy; still, he would state that he not only used the bromides, but conium. He had also used chloral, belladonna, and ergot, and, together with bromides, every patient received tonic treatment. A great many were ordered cod-liver oil with iron. Some were given arsenic. A number had been paralyzed by the bromides, and they had had to be given up.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 17, 1885.

(*Continued from page 231.*)

Diabetes.—In the continuation of the debate on this subject, Dr. JOHN L. BAILEY related a case that had come under his care three years after an injury to one of the upper limbs that produced partial paralysis. The patient was an elderly lady. The speaker thought it probable that the glycosuria was due to the injury, although there was no direct communication between the nerves injured and the nervous mechanism of the liver, so that it closely resembled the experimental diabetes of Schiff, produced by division of the sciatic nerve. Long-continued nervous irritation might have weakened the nervous system, and contributed in a measure to the production of the disease.

Dr. THOMAS E. SATTERTHWAITE remarked that we should proceed with caution in putting a patient upon the use of anti-diabetic diet, for even persons of the greatest self-control would sometimes break through the rules laid down, and gorge themselves with sugar or starchy food. We should forbid sugar first, and then, as the patient had trained himself to subdue the desire for it, proscribe the starchy foods one by one. Neglect of these precautions would often cause failure at the very outset. When sugar had been constantly absent from the urine for two or three months, a gradual return might be made to the ordinary diet. The speaker had found, as a rule, that diabetics did not bear the bran and gluten breads well; some, indeed, refused them absolutely. According to his experience, some of the diabetic bread in the market was unpalatable, but it was certainly possible for patients to live on a purely nitrogenous regimen, as was abundantly proved by the fact that the Esquimaux and other residents of high latitudes did so.

Symptomatic treatment was next in order after restricting the diet, and the first indications were usually such as called for sedatives to relieve the neuralgic and muscular pains. Besides bromides and opiates, valerian and strychnine were the principal remedies in use. There appeared to be little danger of the patient's contracting the opium habit if codeine was selected, nor was the usual constipation of the disease greatly aggravated, as the doses required were not large. For palpitation, digitalis and alcoholic and diffusible stimulants were often advantageously employed. In one instance, he had known a tincture of the *Cereus Bonplandii*, in ten-minim doses, prove effectual in controlling palpitation that was annoying at night. One dose at bedtime secured the desired result. Of the forty cases that he had collected as occurring in New York, from two to five per cent. seemed to have been cured, and the same proportion had successfully resisted the disease, but most of the remainder were known to have gone on from bad to worse. There was a fair possibility, however, that the percentage of cure or arrest might at some time be found to be better than appeared from these statistics. Many of the patients had passed out of observation, and therefore no deductions could be drawn from them. One case in the second category was noteworthy. The patient had come to him three years before, showing marked emaciation and obvious symptoms of the disease. He was syphilitic. After an attack of cerebral syphilis he was put upon a six-months' course, and the diabetic symptoms were reduced to a minimum; but, even now, although he had gained flesh and color, and was in the full swing of an active life, he felt the need of two bottles of claret with his dinner. Ergotin was used in the second case in which the disease was arrested, and in combination with codeine and sulphide of calcium. One grain of ergotin was given three times a day, and the codeine in ordinary and moderate doses.

One point ought to be insisted upon by the practitioner on assuming the care of a case, and that was that the urine should be examined every week, to determine the quantity of sugar, so that the results of the treatment might be noted; and at the same time a careful examination for casts should be made, since one of the greatest dangers in this disease was that, with the cessation of the excretion of sugar and the apparently favorable turn of affairs, the more insidious and dangerous nephritic complications might supervene.

Dr. ANDREW H. SMITH thought that the theory of the hepatic origin of the disease was not sufficient to account for all the cases; for instance, those induced by cerebral traumatism, tumor, or mental excitement, as in the case of the duellist in whom diabetes was established after an encounter where, having delivered his shot, he was obliged to wait for some seconds for that of his adversary, whose pistol had missed fire. Those cases where it had followed upon the loss of property, and other such severe mental strains, might be included in this category. It seemed more probable that the principal seat of trouble was in the nervous system, and more particularly in the brain itself. The liver was probably implicated, but he believed that there was a primary lesion back of it. He could not overlook the experiments of Bernard, who had found that, on puncturing the floor of the fourth ventricle, sugar appeared in the urine without any increase in the amount of the secretion, but that, if the puncture was made a little lower, the sugar again appeared—this time, however, with an increase of the quantity of the urine, while, when the puncture was made at a higher plane, the water was increased without the least trace of the appearance of sugar. The sympathetic system was probably the channel for the diseased impulses which were conveyed from the brain or the cord, for, if the cord was divided above the third cervical ganglion, no such result followed puncture of the floor of the ventricle, while, if the division was made below this ganglion, the usual consequences were noted. It seemed probable, therefore, that the track of the diabetic impulse switched off into the sympathetic system in the region of the third cervical ganglion, and through it to the liver. The dilated capillaries of the liver also favored this view, as the nerves that preserved the arterial tone were known to have their origin in the floor of the fourth ventricle. The speaker had found a variety of lesions in the liver, and considered them, as well as those of the other organs, probably due to the derangement of the circulation of the blood. The enlarged kidney was unquestionably due to hyperæmia, probably from the irritation of the sugar. The low temperature in this condition usually bore a direct relation to the amount of sugar eliminated, and often fell two, three, or more degrees below what was normal.

The extreme fatality of erysipelas occurring in the course of this disease had not been remarked upon. Facial erysipelas under these circumstances was nearly always fatal. He thought that iodoform fell into the same class as opium and codeine in the treatment of the disease, as its effect was directed toward

the nervous system. Several years before he had treated a patient on the theory that the difficulty depended on some local irritation of the olivary bodies or about the medulla, and had applied a permanent issue at the root of the neck. It seemed to have a decided effect in lessening the amount of sugar passed, and the patient improved so much without dieting that he was enabled to resume his duties as a chaplain in the army. He died subsequently, however, of diabetes. The speaker thought that ergot might be of some service in controlling the vaso-motor system.

(*To be concluded.*)

Miscellany.

The Cæsarean Operation among the Aborigines of Central Africa.—The "Edinburgh Medical Journal" publishes a description of an operation that was witnessed by a traveler in Central Africa. The operator (who was one of the tribe) made a bold incision through the abdominal wall, extending from the umbilicus to the pubes. This partly opened the uterine cavity. The hæmorrhage was arrested by the application of a hot iron, then the wound in the uterus was enlarged and its edges were held open by an assistant while the operator extracted the fœtus and placenta. The wound was closed with rude acupressure pins made of iron, shreds of bark being used for the figure-of-eight sutures. Over the whole was placed a dressing of herbs, which the operator had previously reduced to a pulp by chewing them. Union was perfect on the eleventh day.

The New York Clinical Society.—At the annual meeting, held February 27th, Dr. A. A. Smith was elected president, Dr. E. G. Janeway vice-president, and Dr. F. H. Markoe secretary and treasurer.

The West Virginia State Board of Health.—Dr. L. D. Wilson, of Wheeling, has been appointed a member of the board, in place of Dr. James E. Reeves, resigned. As the board is now organized, Dr. C. T. Richardson, of Charleston, is president, and Dr. T. A. Harris, of Parkersburg, secretary.

The Central College of Physicians and Surgeons, of Indianapolis, held its annual commencement exercises at the Grand Opera House on Friday afternoon, February 27th. The degree in medicine was conferred upon nine gentlemen, and Professor R. French Stone delivered a most interesting and appropriate address.

Horsford's Acid Phosphate as a Preventive of Cholera.—Dr. Charles Gatchell, of Chicago, says: "As it is known that the cholera microbe does not flourish in acid solutions, it will be well to slightly acidulate the drinking-water. This may be done by adding to each glass of water half a teaspoonful of Horsford's Acid Phosphate. This will not only render the water of an acid reaction, but will also render boiled water more agreeable to the taste. It may be sweetened if desired. The Acid Phosphate, taken as recommended, will also tend to invigorate the system and correct debility, thus giving increased power of resistance to disease. It is the acid of the system, a product of the gastric functions, and hence will not create that disturbance liable to follow the use of mineral acids."

THERAPEUTICAL NOTES.

The Absorption of Atomized Liquids by the Skin.—Juhl ("Deutsch. Zeitsch. f. klin. Med.", "Gaz. hebdom. de méd. et de chir.") states, as the result of a number of experiments made at the Munich clinic, (1) that the horny epidermis is readily permeable by watery and alcoholic liquids in a state of fine division, and (2) that it admits alcoholic more readily than aqueous liquids.

Lactate of Quinine.—Vigot ("Gaz. hebdom. de méd. et de chir.") recommends this preparation for use in hypodermic injections, because of its solubility, and the fact that it forms a neutral solution. He prefers this combination:

Lactate of quinine	15 grains;
Glycerin	6 drachms;
Distilled water	20 "

About seventy-five minims of this solution should be injected three or four times a day.

Syncope from the Use of Cocaine.—Dujardin-Beaumetz (*Ibid.*) has observed several cases in which the hypodermic injection of weak solutions of cocaine was followed by syncope of brief duration. He attributes the occurrence to cerebral anæmia, and says that it never takes place if the patient is kept in the prone posture.

The Treatment of Ileus by Irrigation of the Stomach.—Cahn ("Berlin. klin. Wchnschr."; *Ibid.*) reports the successful results of this treatment in three cases of ileus observed at the Strassburg clinic. The method employed was that recommended by Kussmaul. To these successful cases another has recently been added by Senator.

Jacaranda Lancifoliata.—Mennell ("Brit. Med. Jour.") reports fourteen cases of venereal disease in which he used this drug with satisfactory results. Not only did he cure obstinate urethritis, but found it of decided benefit in two cases of secondary syphilis. For gonorrhœa, he advises the use of the tincture, in doses of fifteen minims, together with injections of ten minims of the tincture to an ounce of water.

Phosphide of Zinc in Dysmenorrhœa.—Decoux ("Union méd.") writes in praise of this drug, which he has used in many cases of dysmenorrhœa and amenorrhœa, with satisfactory results. He gives a little less than a third of a grain daily—two pills of about a twelfth of a grain each before breakfast, and two more at night. He admits that this drug possesses no distinctive properties other than those of pure phosphorus, but thinks that it is safer and more manageable.

Chronic Inflammation of the Eustachian Tube and Tympanum.—Gampietro ("Arch. di Otojat."; "Gazz. degli Ospit.") recommends the following solution, which can be applied by means of a suitable syringe:

Tannic acid	15 grains;
Salicylate of sodium	1 drachm;
Distilled water	1 quart.

For chronic catarrh of the external ear he recommends this preparation:

Laudanum	3 minims;
Sulphate of zinc	4 grains;
Rose-water	6 drachms.

To be instilled three times a day.

Quinoline in Diphtheria.—Seiffert ("Berlin. klin. Wchnschr."; "Union méd.") has used tartrate of quinoline somewhat extensively in diphtheria. He employs topical applications of a five-per-cent. solution, and states that its use is followed by a fall in the temperature and an improvement of the local and general condition.

An Ointment for Eczema of the Eyelids.—Galezowski ("Union méd.") proposes the following:

Oil of cade	4 minims;
Red precipitate	1½ grain;
Camphor	4 grains;
Vaseline	2½ drachms.

Apply to the eczematous patches on the nose and lids of scrofulous children.

An Antiseptic Mouth-Wash.—Magitot (*Ibid.*) suggests the following:

Borate of sodium	15 grains;
Thymol	8 "
Distilled water	1 pint.

The mouth is to be washed several times daily, to correct fœtor of the breath. The solution also acts as a local anæsthetic in cases of decayed teeth.

An Application for Elytritis.—Sigmund (*Ibid.*) uses this glycerite:

Iodine	1½ grain;
Iodide of potassium	7 to 14 grains;
Glycerin	5 drachms.

Tampons saturated with the solution are to be introduced into the vagina.

Original Communications.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.*

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IN order to comprehend fully the nature of the injuries to the pelvic floor and their varied and important pathological relations, it is necessary to review briefly the anatomy and physiology of this structure.

The pelvic floor, which has also been known by the somewhat indefinite name of perinæum, comprises the tissues which together occupy the space between the bones of the pelvic outlet. It is composed of muscles, fascia, areolar and elastic tissue. The muscles, which are the chief element in the structure and perform its function, have their origin from the ischium, the pubes, and the coccyx. From these points they extend downward, inward, and backward to the median line, and are united to the terminal ends of the rectum and vagina and to each other from the opposite sides.



FIG. 1.—The Levator Ani, seen from without after removal of part of the hip bone. (After Luschka.) A, anal opening, with sphincter; V, vagina.

The levator ani muscle arises from the posterior surface of the os pubis, the pelvic fascia, and the spine of the ischium. It passes downward, backward, and inward, to be inserted at the following points: in the median line, the walls of the vagina and rectum, its fellow of the opposite side, and the end of the coccyx. Fig. 1 shows the position and attachment of this muscle.

The transversus perinæi muscle arises from the spine of the ischium and passes across to the median line, where it joins its fellow of the opposite side. This muscle fills up part of the space left uncovered by the levator ani. The coccygeus arises from the spine of the ischium and is inserted into the side of the lower part of the sacrum and side and front of the coccyx. It is understood, of course, that there are two of each of the three muscles thus far described, one on each side—although the two parts of the levator ani may be considered as one because they act as one muscle. The same may be said of the transversus perinæi muscle. The bulbo-cavernosus can be most easily traced by taking as its origin the space between the sphincter ani and

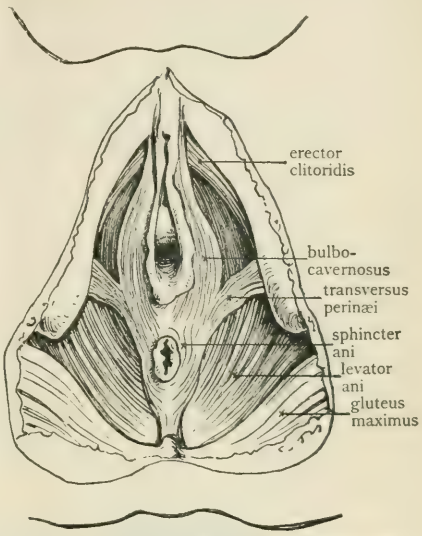


FIG. 2.—The muscles of the pelvic floor. (After Hart and Savage.

the orifice of the vagina. From this point its two halves pass upward, one on each side of the vagina. The upper anterior end of each slip of muscle divides into three parts, which are inserted as follows: one into the lower surface of the corpus cavernosum of the clitoris, a second into the posterior portion of the bulb, and the third unites with its fellow of the opposite side in the mucous membrane of the vestibule; and all of them are, through the medium of tendon and fascia, connected to the pubic bones. If this muscle is traced from above downward to the center of the pelvic floor, it will be seen to have an origin and insertion like that of the anterior fibers of the levator ani; hence they may be considered as one muscle. This view is justifiable from the fact that they also contract together, having a similar function.

All of these muscles have one feature in common, and that is, the blending of their fibers from the opposite sides of the pelvic outlet, and their attachment to the terminal ends of the rectum and vagina.

The sphincter ani muscle, which has a function peculiarly its own, is closely united to all the other muscles of the pelvic floor by an interlacing of the muscular fibers and by tendinous and fascial attachments. The sphincter ani arises from the end of the coccyx; it surrounds the end of the rectum in conjunction with its circular fibers, while some of its deeper fibers are attached to the tissues in the median line between the rectum and vagina. The superficial fibers of this muscle are circular, and attached to the integument like all true sphincteric muscles.

Taking the muscles of the pelvic floor in the aggregate, they form one complete diaphragm of muscular tissue which

* Read before the Medical Society of the County of Kings, September 16, 1884. With few exceptions, the illustrations to this article are from drawings by R. L. Dickinson, M. D.

fills the pelvic outlet. By this arrangement the rectum and vagina are held in position, and their terminal ends controlled in the performance of their function.

The muscular attachment of the muscles and vagina is in part shown by the preceding Figures 1 and 2.

The normal elevation of the pelvic floor is illustrated by Fig. 3 (Foster).

This position of the pelvic floor and the relations of the rectum and vagina should be noted because they become changed in most of the injuries of this structure.

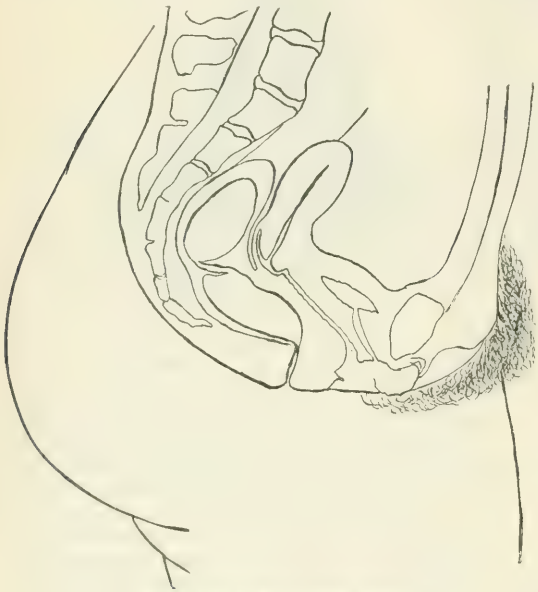


Fig. 3.—A sagittal section. (After Foster.)

The muscles of the pelvic floor are surrounded by the deep and superficial fascia, which in some parts become ligamentous in character; for example, the ischio-perineal ligament—that dense portion of the fascia which stretches from one side to the other through the space between the rectum and vagina. This fascial structure accompanying the muscles is characteristic of all muscular structures which have to afford continuous sustaining power, like the muscles of the back, of the neck, abdomen, and thigh.

Function.—These anatomical facts regarding the floor of the pelvis suggest that its functions are to sustain the rectum and vagina, and to aid in their functions. The arrangement of the muscles is such that they close by sphincteric action the terminal ends of the rectum and vagina, yet also permit the distension of their orifices during the acts of parturition and evacuation of the rectum. When pressure is made downward by any body in the rectum or vagina, the perineal muscles act to draw the orifices of these canals upward, and hence supply a resisting force to the downward pressure which effects dilatation of the vagina and rectum. The action of the muscles in resisting downward pressure is well demonstrated during parturition. When the child's head presses upon the floor of the pelvis, the muscles, by retraction, distend the sphincter ani to a great extent. The dilatation of the vagina is by a more passive giving way to the forces above, and yet the muscles exert a well-defined power in retracting that portion of the pelvic floor. This function of the muscles should be noted because it enters into the mechanism of most of the injuries to be discussed.

This brief statement regarding the function of the pelvic floor embodies the essential points in its chief offices. There remains something to be said regarding its relations to the pelvic organs.

Up to the present time the attention given to this subject by gynæcologists has been almost wholly confined to laceration of the so-called perineal body—an injury frequently seen, but not by any means the only one that occurs to these parts. This concentration of attention on one portion of the subject has given rise to great diversity of opinions regarding the function of the perinæum and its relations to the displacements of the pelvic organs, one party believing that the perineal body has much to do with sustaining the pelvic organs in position, the other holding that it has very little power in this respect. Without summing up at great length the arguments on both sides, the facts bearing on the practical side of the subject may be briefly stated.

In all injuries of the pelvic floor which impair its supporting function to any extent, prolapsus of the pelvic organs will follow in time, except in three conditions:

1. When the injury is compensated for by the muscles (which still maintain their attachment to the vagina and rectum) drawing the remaining portion of the pelvic floor upward, forward, and toward the pubes, thereby closing the vaginal orifice and supporting the pelvic organs.

2. Where by reason of some intra-pelvic inflammation the organs have become fixed by adhesions; and,

3. Where the subject is abundantly supplied with adipose tissue, and takes very little active exercise.

Excepting the circumstances here named, prolapsus of the pelvic organs invariably occurs after important injuries of the pelvic floor. The displacement does not follow the injury immediately, but, as a rule, comes on slowly. This conclusion has been arrived at from a large number of clinical observations, and it helps to definitely settle the question regarding the value of the pelvic floor as a means of support for the pelvic organs. From these facts one may obtain the key to the differences of opinion which have been held by gynæcologists regarding the functions of the pelvic floor. Those who believe that it plays a secondary part in maintaining the pelvic organs in position argue that there are anatomical structures which sustain the pelvic organs in place without aid from the pelvic floor, and, in proof of this, point to the fact that the removal of the pelvic floor is not followed by displacement of the pelvic organs. This is often seen in cases in which lacerations sufficient to largely impair the function of the pelvic floor have existed for years

in women in active life without the occurrence of prolapsus of the pelvic organs. And, more than all this, it is said, prolapsus of the pelvic organs occurs where there is no apparent injury of the pelvic floor—i. e., no laceration of the perinæum. The fallacies of this argument are that, although the pelvic organs are held in position by supports that are sufficient to resist ordinary taxation for a given time, they are not able to do so under extraordinary pressure for any length of time unaided by the pelvic floor.

Again, the cases cited in which prolapsus does not occur while the perinæum is lacerated belong to one or another of the three exceptional states which I have already given.

And, finally, the cases in which there is prolapsus while the pelvic floor appears to be uninjured are, as a rule, cases of mistaken diagnosis, the floor of the pelvis being really imperfect, although not apparently so on examination by the sense of sight alone. Some observers look for a laceration of the perinæum by inspection of its mucous and tegumentary surfaces, and, if injury to these surfaces is not found, they pronounce the pelvic floor perfect, while the fact is that laceration of the perinæum in the median line is only one of many injuries of the pelvic floor which render it functionally imperfect. But granting that the pelvic floor takes no part in supporting the pelvic organs under ordinary taxation, it certainly aids in doing so in case there is extraordinary downward pressure from lifting heavy weights, violent coughing, and the like. Again, when the pelvic floor is injured—say by laceration—and loses the power to support itself and the vagina and rectum, prolapsus, especially of the vagina, occurs. This causes a dragging upon the pelvic organs which in due time will cause them to descend. In view of these well-known facts, the most enthusiastic advocate of the independent supports of the pelvic organs must admit that the pelvic floor is at least indirectly concerned in supporting the structures above it.

Varieties.—The injuries of the pelvic floor usually seen in practice are:

1. The various degrees of laceration of the perinæum, i. e., in the median line of the pelvic floor.

2. Subcutaneous separation of the muscles of the pelvic floor at their junction in the median line, or so-called perineal body.

3. Laceration in the median line, and temporary loss of power in the remaining muscles from over-distension.

4. Laceration of the levator ani muscle, occurring alone or accompanied by the lesions already given.

5. Atrophy and permanent paralysis from injuries during parturition and other causes.

6. Loss of muscular motion caused by the products of former inflammation.

The first of these, laceration in the median line of the pelvic floor, is the injury most frequently sustained during parturition. Several degrees of this injury are described by teachers, but in regard to the pathology and treatment there are only two which, in this connection, require attention: the one which extends through the muscles of the anterior portion of the pelvic floor—that is, from the vulva to the sphincter ani muscle, and the other which extends through the sphincter ani muscle and into the rectum. The former of these is the injury which is most frequently recognized, and is therefore presumed to occur most frequently, although this point is not yet settled. Certainly it is the least grave in its consequences if properly cared for, because it is the most easily remedied by surgical treatment.

In its simplest form the laceration extends through the mucous membrane of the vagina, the integument, and the junction or union of the bulbo-cavernosus with the transversus perinæi muscle, a few fibers of the levator ani and the fascia, elastic and areolar tissue which constitute the perineal body.

When this injury is uncomplicated with laceration of the muscles of the pelvic floor elsewhere than at the median line, the separated ends of the muscles involved in the rupture still retain their union to the divided side of the perineal body and to each other. This is very clearly shown by the fact that the bulbo-cavernosus, transversalis perinæi, and anterior fibers of the levator ani muscles hold the separated sides of the perineal body and the posterior, uninjured portion of the pelvic floor upward. At the same time that the posterior portion of the pelvic floor is maintained at its normal elevation, it is often brought forward to compensate for the loss of support caused by the laceration. (See Fig. 4.) This compensation does not occur in all cases,

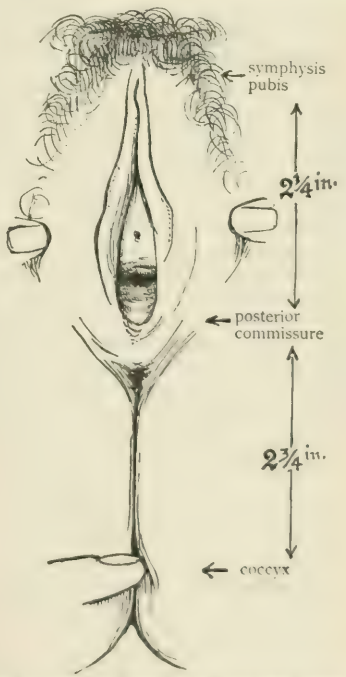


FIG. 4.—Laceration of the perinæum; anus drawn forward.

but usually does so unless there is damage done to the muscles other than at the median rupture alone. I have observed in some cases sufficient drawing forward to lessen the distance between the meatus urinarius and anus very perceptibly. This is familiar to all who have studied the

subject with a view to operating, from the fact that, in order to estimate the depth of the laceration, to determine how extensive the vivifying of tissue need be, it is necessary to retract the posterior portion of the pelvic floor with the finger or sound in order to press the rectum or anus backward into its place. This compensation prevents prolapsus of the pelvic organs for a long time, in some cases for many years, and is one reason why rupture of the perineal body is not always followed by prolapsus uteri. In this condition the vulva is not enlarged from distension by the partially inverted vaginal walls, nor is the uterus necessarily displaced. Many such cases are seen among patients who seek relief for other affections, but have no symptoms which can be traced to the laceration, except occasional pain in the scar tissue in the injured part.

Case.—Mrs. H., aged forty; six children. During first labor says she was "torn," the child weighing thirteen pounds. Of the perineal body only anal sphincter remains; but a little way up the posterior vaginal wall a thick, strong, active muscular band crosses, which tightens about the examining finger. It draws posterior commissure and anus forward, and puckers the skin surface between them. Uterus in place. No rectocele. No sagging of pelvic floor. (See Fig. 4.)

Rupture through the sphincter ani is the most unfortunate of all injuries of the pelvic floor, owing to the incontinence which follows. The unfortunate subjects of this accident are debarred from taking much active exercise, and usually avoid society. Strange as it may appear, they do not all suffer from prolapsus of the pelvic organs—in fact, I think that prolapsus following this injury, to any great degree at least, is the exception. This is, no doubt, due to the fact that such patients are unable to do much walking or standing, and therefore the pelvic organs are not submitted to much downward pressure. It might be supposed that relief from this distressing condition would be sought before time was given for prolapsus to occur, but this is not always the case, for I have seen several such injuries of many years' standing, and yet there was very little displacement. There is indeed very little falling of the pelvic floor or of the divided sides of it. This is accounted for by the fact that the laceration extends through the major portion of the pelvic floor, leaving little remaining to settle downward. In most cases the two halves of the floor are held well up in position by the muscles which are attached to them. When the laceration is through the sphincter ani muscle only, and does not extend upward into the anterior wall of the rectum and the posterior wall of the vagina, there is a little control of the rectum still retained.

This retaining power is sometimes favored by a band of scar tissue, which lies between the upper fibers of the divided sphincter, and gives a fixed point toward which the muscle can contract in an imperfect way. There is usually prolapse of the mucous membrane of the rectum in cases of any long standing, and the prolapse is almost always greater if the wall of the vagina and rectum are also lacerated to any great extent.

The second form of injury mentioned in the classification is subcutaneous separation of the muscles of the pelvic floor at their junction in the median line, or perineal body. The mucous membrane of the vagina and the skin covering the perinæum remain normal, but the transversus perinæi muscles are torn apart in the median line. The bulbo cavernosus muscles are separated from their insertion at the center of the perinæum, and possibly some of the fibers of the levator ani muscle are also lacerated. There is, in short, a complete laceration of the deeper structures of the perinæum, the skin and mucous membrane alone remaining uninjured. The result of this injury is falling of the pelvic floor, and usually prolapsus of the pelvic organs. The function of the pelvic floor is destroyed as completely as in the first injury described.

I believe that this condition has frequently been mistaken for functional imperfection of the perinæum, or relaxation, as it has been called. The fact is, that it is a well-defined anatomical lesion, which can be demonstrated quite easily by passing the finger into the vagina and pressing downward and outward. In this way the absence of the muscles, fascia, and connective tissue is discovered. It is found also by this examination that all muscular resistance is lost in the parts. Again, while the index-finger is in the vagina the parts anterior to the sphincter ani muscle can be grasped between the finger and thumb, which will show that where the perineal body should be there is only skin and posterior vaginal wall. There is still another method of examination, and, perhaps, the most critical one—that is, to pass an index-finger into the vagina and the other into the rectum, when it will be found that the only resisting muscular tissue felt between the two fingers is the sphincter ani.

These examinations by the touch are quite sufficient; but, if further evidence is desired, it may be obtained by trying to excite contraction of the muscles which act as a sphincter vaginæ. This can be done by the interrupted electric current, or by irritating the labia. In making a vaginal examination, every one has noticed how actively the muscles of the pelvic floor contract and close the introitus vaginæ in the normal state; but in this injury no such contraction occurs, nor can it be produced by pricking the labia with a needle, or any such means used to excite reflex action.

In case the levator ani muscle remains intact, the posterior portion of the pelvic floor remains in its normal position, except that the end of the rectum may be displaced backward, which it often is, because the vagina and uterus are prolapsed. The counterpart of this lesion is often seen in cases that have been operated upon with the intention of restoring the pelvic floor or perinæum, the operation having failed in its object. Union of the skin and mucous membrane is obtained, but the muscles are not united, and hence, although upon removing the sutures the result is pronounced to be perfect, and to the superficial observer appears to be so, the muscular function of the pelvic floor has not been restored, and the operation is, in fact, a complete failure.

The third form of injury given in the classification presents the same lesions as given in the two preceding forms. There is a laceration in the median line down to the sphincter ani, and also an overstretching of the muscles, which gives rise to sagging of the whole pelvic floor and backward displacement of the rectum. In some cases, in place

of overstretching there is retraction of the ends of the torn muscles, so that they have no further connection with the divided sides of the perineal body or with the sphincter ani, and hence they no longer can sustain the pelvic floor even in an imperfect way, as observed in cases of simple laceration already described, in which compensation is made by the muscles drawing the posterior portion of the pelvic floor upward and forward. Evidence of this subcutaneous over-distension or retraction of the muscles and temporary paralysis is seen in a great many cases of parturition. Every obstetrician has observed the complete relaxation of the pelvic floor that so frequently follows delivery, even where there is no laceration of the integuments. There is not only loss of muscular motion, but also loss of sensation in some cases. That this relaxation is due in many cases to over-distension without solution of continuity of the muscles is probable from the fact that recovery is so rapid and complete. Still, in many cases the injury done to the muscles is sufficient to defy the natural recuperative powers, and remains permanently, if not relieved by surgical treatment.

In many of the cases of this kind seen in practice the muscular insufficiency is doubtless caused by over-distension produced by prolapsus of the pelvic organs. As soon as the pelvic organs descend so as to make continuous pressure upon the pelvic floor, the muscles (impaired by the laceration in the median line) gradually give way, and finally lose their contractile power, either temporarily or permanently, according to the length of time that the prolapsus has existed. It follows, then, that it is only when sagging of the pelvic floor is seen before any prolapsus of the pelvic organs has taken place that we can reasonably infer that the muscles were impaired at the time that the laceration occurred, and that the injury was more extensive than the mere separation at the median line.

The fourth injury is laceration of the levator ani muscle with or without being accompanied with the injuries which have been described already.

This is the most extensive injury which occurs, and is one of the most disastrous of all in its consequences, and what gives it greater importance is the fact that it is not, so far as I know, mentioned in our literature. I am satisfied that this injury to the pelvic floor occurs frequently, but, fortunately, recovery occurs many times unaided by any special treatment. Still, there are many cases in which the injury is permanent, and can not be relieved by any treatment known at the present time. This condition may be associated with complete laceration in the median line, but usually is not. I presume that the subcutaneous laceration of the muscles saves the superficial structures of the perineal body. When there is no laceration in the median line the tissues between the rectum and vagina appear to be normal; at least the distance from the anus to the posterior commissure of the vagina is normal, but there is loss of contractile power in the parts. The whole pelvic floor, including the rectum, vagina, and lower part of the labia, projects downward below its normal elevation. This suggests the thought that subcutaneous laceration of the transversalis perinæi generally takes place also when the levator ani is injured.

Fig. 5 shows the downward displacement resulting from the injury to the muscles. This displacement can be demonstrated upon the subject by placing one finger upon the pubes and the other on the tip of the coccyx, and observing the extent to which the pelvic floor projects below these two points. Again, by placing the patient upon the side and flexing the thighs at right angles with the trunk, the downward displacement becomes apparent. In the most pronounced cases the parts project down almost on a line with the nates. The physical signs of this form of trouble will be referred to again in connection with atrophy of the muscles and the differential points noted.



FIG. 5.—Sagging of the pelvic floor. The heavy line from A to B denotes the sagging portion of the pelvic floor.

Atrophy, and the consequent paralysis from injuries during parturition and other causes, occurs only in cases of long standing, and is, in fact, a secondary state resulting from laceration of the muscles or over-distension. It may follow any of the injuries already mentioned that have been long neglected, or in which unsuccessful efforts have been made to overcome the original injury. The muscles, having been torn or separated from their ligamentous attachments during parturition, become functionally inactive, and remain so until they undergo fatty degeneration and are finally lost. These are usually neglected cases, but the same condition is seen when a surgical effort at restoration has been made which has resulted in union of the skin and mucous membrane without restoring the muscles. The same thing is produced in another way. The pelvic floor sustains an injury, slight in itself, which is permitted to remain until prolapsus of the pelvic organs produces over-distension of the muscles, and maintains it so long that atrophy of the muscles takes place and permanent loss of the function of the pelvic floor follows. Other and rarer cases are seen in which atrophy of the muscles occurs as the result of long-

continued over-distension. This I have seen in cases of paralysis caused by hypertrophic elongation of the cervix uteri and small fibroids in the uterus. In these cases there was no evidence that the floor had sustained any injury other than that produced by the prolapsus. I am also personally convinced that prolapsus of the pelvic organs may be due to injuries of the uterine ligaments and upper pelvic fascia while the pelvic floor sustained no injury whatever until the prolapsed organ caused over-distension of it. Again, habitual constipation will cause paralysis of the muscular tissues of the rectum, and also (to some extent, if not wholly) of the levator ani, and, if this continues long enough, atrophy and permanent paralysis will follow. If to this constipation prolapsus of the pelvic organs is added, and they both continue for a long time, permanent insufficiency of the pelvic floor will occur from muscular atrophy. Finally, I presume (though I can not prove) that atrophy of the muscles occurs in very old women from no other cause than senile malnutrition. In this state of the parts other anatomical lesions occur in nearly all cases. The fascia and elastic tissue are wanting, and the blood-vessels—notably the veins—become over-distended, giving a well-marked passive hyperæmia. The vast difference in the vascularity noticed in operating in different cases is accounted for in this way.

The extent of prolapsus which occurs in this form of muscular insufficiency differs. In the most marked case that I have seen it was so great that the anus was nearly on a line with the nates while the patient was in Sims's position. The physical appearance of this affliction has been already illustrated in connection with recent lacerations—the fourth injury described. (See last Fig.) The information obtained by inspection is sufficient for a diagnosis usually, but still further evidence can be obtained by the touch; this shows the lax, non-resistant state of the muscles, which, as already stated, can not be excited to contraction by irritation or the electric current.

In the diagnosis of all these injuries, the all-important question is to determine whether the paralysis is due to over-distension of the muscles and temporary only, or due to atrophy, and hence permanent. This can not always be settled at once and positively. If the tissues of the pelvic floor appear to the touch to be lacking muscular fiber, and no muscular contraction can be induced by stimulation, it is presumptive evidence of muscular atrophy; and yet it may be only a temporary loss of muscular power. It is necessary, then, to support the pelvic floor and let the patient rest in the recumbent position to remove all downward pressure from the parts, and, by the use of astringents and electricity, endeavor to restore the muscular function sufficiently to prove that there is still muscular tissue present. If by such means the muscular function is even partially restored, the diagnosis is completed, and the indications for further treatment are established. It is then and only then that surgical treatment may be employed with the hope of obtaining complete recovery. Should all well-directed efforts fail to give evidence that the muscles still retain their true anatomical characteristics, it is useless to hope for success in operating.

Symptoms.—The symptoms which are developed by injuries to the pelvic floor are not sufficiently diagnostic, or else they have not yet been sufficiently studied, to make them of decided value to the diagnostician. Patients express a feeling of want of support of the pelvic organs, or dragging down feeling, and some derangement of the functions of the rectum and bladder, but, as these symptoms occur in all the forms of injury named, and as they also in like manner occur in displacement of the pelvic organs, but little reliance can be placed upon them. When the function of the levator ani muscle is lost from injury or atrophy, there is usually much difficulty in evacuating the rectum. This is, of course, most marked when the patient is constipated, but it is noticed also when the bowels are free, to a less extent. When there has been a laceration in the median line the scar tissue is often tender to the touch, and occasionally causes some general nervous disturbance. The sensitiveness of this scar tissue is sometimes so great as to produce reflex muscular contraction when touched while the patient is anæsthetized. The admission and expulsion of air from the vagina (flatus vaginalis) is said to occur frequently in these injuries, and it is no doubt one of the most reliable symptoms of injuries of the pelvic floor, as it rarely occurs in any other condition.

The last of the pathological states of this structure to be described is muscular rigidity produced by a previous inflammation, the products of which have impaired the muscular tissue.

This affection has been classed by authors under the head of rigid perinæum, vaginismus, and spasmodic muscular contraction, but it belongs to a different pathological order of things. There are cases of rigidity or spasmodic contraction of the muscles due, perhaps, to hyperæsthesia, but the condition under consideration is simply a rigid state of the muscles caused by the products of a former inflammation which impaired the elasticity and motion of the muscles. The cases of that kind that I have seen gave a history of pelvic inflammation—in two following scarlatina, in one from an injury sustained by falling upon the rail of a fence, and in another of a perirectal abscess. No difficulty was experienced in either case until after marriage, when it was found that coition was impossible. An examination showed that the vagina was rigidly closed and the muscles of the pelvic floor could not be distended. All efforts to move them caused severe pain. In short, there was muscular ankylosis. The treatment for this affection commended in the books is to incise the pelvic floor from the vaginal orifice down to the sphincter ani muscle, an operation entirely uncalled for and unsatisfactory in its results, as will be seen when we discuss the treatment.

Causes.—The causes of these injuries are traumatic (excepting the last one described), that is, over-distension or stretching of the parts during parturition. The exceptions to this have already been mentioned, viz., long-continued over-distension from prolapsus of the pelvic organs, extreme constipation, and malnutrition in old age.

There are, no doubt, certain states which predispose to these injuries. Phlegmatic women who have failed to take exercise sufficient to develop these muscles are liable to lacerations during parturition. In such cases the muscles of

the pelvic floor are poor in quality, and break easily under extreme pressure. The very opposite of this apparently predisposes to the same accidents. In vigorous muscular women the pelvic floor is often unyielding because of the great strength of its muscles. They resist the pressure of the child as it is forced against the pelvic floor by a powerful uterus, and, seemingly, rather than relax and stretch, their union at the median line gives way; it is in such cases that complete laceration in the first degree is most likely to occur. Again, in those in whom the pelvis is shallow and wide in the straits, the child passes easily through the pelvic bones, when rather sudden unrestrained pressure comes upon the parts and they are unusually liable to give way. In others still, either from habits of life or the position of the uterus in relation to the pelvis, the return circulation is retarded, the vessels become over-distended, and a deranged nutrition, with softening of the tissues of the pelvic floor, renders them easily torn.

The immediate cause of lacerations—whether subcutaneous or complete—is distension during delivery. The tissues in the median line give way in the great majority of cases because the greatest pressure is brought to bear at that point. That the laceration extends to, but not through, the sphincter ani muscle, as a rule, is no doubt due to the strength of this muscle. In fact, it is a matter of surprise that the sphincter is ever lacerated when its position is considered in relation to the force brought to bear upon it. The only rational explanation of the laceration which I have been able to obtain from a careful clinical study of the matter is as follows: The transversalis perinæi, levator ani, and bulbo-cavernosus muscles are so strongly attached to the sphincter ani muscles that, during delivery, when the head distends the pelvic floor they hold the sphincter ani upward and forward. If the size of the head is out of proportion to the distensibility of the pelvic floor, one of two injuries must occur; either the muscles attached to the sphincter must give way and permit the sphincter to recede downward and backward and escape injury, or else the sphincter must be torn through. This effect of the other muscles upon the sphincter ani during delivery of the child's head can be seen by the way in which the sphincter ani is drawn upward until the anus is distended an inch or two. While the fœtal head unusually distended the pelvic floor, and while the hand was placed upon the parts to "support the perinæum," I have felt, or fancied that I could feel, the muscles attached to the sphincter ani give way and permit the rectum to recede backward and escape injury.

Regarding the causes of injuries to the levator ani muscle, one has only to recall the phenomena of labor as related to it to understand how it may be freely lacerated in ordinary labor. It certainly is as freely exposed to injury as some of the other muscles which we know are frequently lacerated subcutaneously. In delivery with forceps, the levator ani muscle is frequently injured, I believe. While the child's head is in the grasp of the forceps and during traction, I have noticed, by passing the finger into the rectum, that the levator ani was drawn so tight over the edges of the blades of the forceps that it appeared as if it must be torn, and I feel sure that it often is. I am the more fully convinced of the truth of this by having carefully watched patients that I had delivered with forceps, and have found in some of them evidence of injury of the levator ani above its lower attachment. That evidence was obtained by finding, on subsequent vaginal examination, that the resistance of the levator muscle usually found was wanting, and also that there was prolapsus of the pelvic floor, and loss of contractility upon irritating the parts.

(To be continued.)

SECONDARY NERVE SUTURE.*

By THOMAS M. MARKOE, M. D.

It has long been known that divided nerves would, under certain favorable conditions, unite, with restoration, more or less complete, of the functions which had been abrogated by the injury. Indeed, this fact has played a prominent part in the results of the operations which have been performed on nerves, the seats of neuralgia, where it has been sought to cure the pain by abolishing the sensibility of the affected nerve, by separating it by section from its trophic center. These operations, as is well known, though giving temporary relief, have commonly failed to be of permanent benefit, because the divided nerves after a certain lapse of time have reunited, with re-establishment of function which has announced itself by a return of the pain in all its original severity. To avoid this disappointing result, operators have been at much pains to prevent, if possible, the reunion of the divided trunk, and various devices have been resorted to for this purpose. Sometimes considerable portions of the nerve have been removed, sometimes a loop of the exsected nerve has been doubled back at each cut extremity, and some have fastened back these loops by sutures or ligatures. Some have modified this procedure, where the trunk was easily accessible, by burying the looped ends deeply in the surrounding tissues, and sometimes foreign bodies have been interposed between the divided ends to keep them separate until the disposition to unite should disappear. In spite of all these precautions, it has not been possible, in certain cases, to prevent a recurrence of the neuralgic disorder, a recurrence which is generally believed, and in some instances has been proved, to be associated with a union, and sometimes with an extensive regeneration, of the injured nerve. Examination of nerve-trunks which have undergone this regeneration have shown the nerve-tubules perfectly restored in their continuity, and but little changed from their normal condition.

Such facts as these led very naturally to the hope that nerves, accidentally divided, and where restoration of function has not occurred, might be restored to their normal powers of transmitting sensory and motor impressions by exposing the injured trunk and bringing together by suture the divided ends. This operation is not by any means a new one. It was done by Arnemann in 1826, and by Flourens in 1828, and it is stated that it was practiced by Du-

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puytren, in several instances, at the Hôtel Dieu. It was not, however, until after the elaborate researches of Augustus Waller, which were published in the *Comptes rendus* of the Academy of Sciences in Paris, in the year 1852, that the operation was placed on a scientific basis. He showed, by means of experiments on animals, the whole history of degeneration and regeneration of nerves after injury so completely that he has left scarcely anything to be done by his successors, and, encouraged and guided by his discoveries, surgeons have performed the operation of the suture of divided nerves in a large number of cases in England, on the continent, and in this country, with a success generally extremely satisfactory, though it must be acknowledged not equally or uniformly so. The operation has been done in certain instances immediately on the receipt of the injury, while the cut surfaces were yet fresh; and it has been done as a secondary operation, weeks, months, and even years after the original accident, thus dividing the operations into two classes, the primary and the secondary. It is of the latter only, the secondary operations, that I propose to speak this evening.

I have had the opportunity of performing the operation in two cases, of which the histories are as follows:

Valentine Keller, aged thirty-six, a German, was brought into the New York Hospital, December 25, 1883, with a stab wound of the left arm. The wound was situated on the external aspect of the arm, about two inches above the external condyle of the humerus. It was not more than half an inch long, but the blade of the instrument had penetrated so far as nearly to transfix the limb, grazing in its course the anterior face of the bone. It was noticed that there was no pulsation at the wrist. A counter-opening was made at the point where the wound approached the skin on the inner side of the arm, and a fenestrated drainage-tube passed from one opening to the other. The day after his admission, without any apparent cause, a profuse arterial hæmorrhage took place. The wound on the inside was enlarged, and the brachial artery tied above and below the wounded point. No further hæmorrhage occurred, but the loss of blood had been so great as to bring on a condition of collapse which was very alarming. Transfusion with a saline fluid was promptly resorted to, and gradually the patient rallied. The wound healed slowly, mainly by granulation, and cicatrization was not complete till the end of January. On the 20th of January attention was called to the fact that paralysis, both of sensation and motion, existed in the parts supplied by the musculo-spiral nerve. There was loss of the power of extension of the hand; flexion of the hand not impaired. There was loss of extension of the fingers, flexion remaining perfect, motions at elbow joint perfect. Anæsthesia, but not complete, existed over dorsal surface of thumb, index and middle fingers, with a good deal of burning pain. He had now recovered his general health, but no improvement could be discovered in the paralyzed parts, though electricity and massage were daily and faithfully employed. He suffered so much from the causalgia, and the trophic disturbances in the muscles and skin were beginning to show themselves so distinctly, that suture of the nerve was decided upon, and performed on the 9th of February, forty-six days after the receipt of the wound.

An incision was made along the course of the musculo-spiral nerve, having the seat of the wound as its center. A good deal of cicatricial tissue was encountered in passing down between the brachialis externus and the supinator longus, but, when the nerve was reached, it was found to be free and distinct above and below the point of injury; and was, without much difficulty, isolated from the cicatricial mass and cut off clean with a pair of sharp scissors. By flexing the arm the divided ends could be easily brought together, and the two were united by two slender catgut sutures passing through the substance of the nerve. The signs of degeneration of either end were not distinct. The wound was carefully closed and the forearm left flexed at about a right angle with the arm.

February 10th.—Complains of much pain in the wound, but says he feels it radiating down the limb, along the musculo-spiral distribution, mostly on the dorsum of the thumb and the index-finger. This pain was regarded as a favorable sign, and, it was hoped, would be the precursor of rapid restoration of lost power. This expectation, however, was not realized. The pain gradually subsided, and then disappeared altogether, the wound meanwhile healing well, mostly by primary union. By the time the operation was performed the man had recovered his health and strength, and seemed to be in as good a condition as could be desired for its success. Electricity and massage were employed daily, and he was encouraged to use the arm as much as possible. The faradaic current caused no response. The galvanic produced at first some contraction, but this soon ceased entirely. The affected muscles were flabby, but not appreciably atrophied. He was kept under observation, and treatment was sedulously continued, when, on the 14th of April, at his own request, he was discharged from the hospital. At this time there was no apparent improvement in the condition of the paralyzed muscles. The conditions as to sensibility were not noted. The hand and fingers were perfectly powerless so far as extension was concerned, and the member was therefore practically useless. I explained to him that restoration of function was often long delayed in these cases, and encouraged him to use all the muscles of the limb that were capable of acting, and in particular I urged him constantly to direct his will along the paralyzed cord and try to make the muscles respond to their natural stimulus. I heard nothing more from him except that he was under Dr. McBride's care in the out-patient department of the hospital, and was not improving. Recently, however, I have received a note from Dr. McBride saying that Dr. S. O. Van der Poel, Jr., who had acted in his absence, had reported to him that the man had so far recovered the use of the limb as to be able to go to work.

I saw him on the 1st of February, and found that he had regained the use of the paralyzed muscles so far that he could extend the hand and fingers, and supinate the hand almost to the full extent, and with a good deal of power. The actions could not be performed rapidly as yet, nor completely, owing, no doubt, to the stiffness of the joints concerned from prolonged disuse. He is conscious of daily improvement, both in strength and facility of movement. The muscles can be felt to contract under the finger, and have regained their normal bulk and firmness.

The second case was to me one of unusual interest, as I had no experience, either of my own or of others, to guide me in diagnosis, prognosis, or treatment. I believe the case to be unique in the history of surgery.

Lillie Dougherty, aged five years, was admitted to the New York Hospital, October 22, 1884, with a wound of the neck, inflicted by a sharp, clean instrument a short time before her admission. There was found an irregular wound, extending from the nucha on the left side, opposite the fourth cervical vertebra, passing obliquely downward and forward to the posterior border of the sterno-cleido-mastoid muscle, and stopping about an inch above the upper margin of the clavicle. The sterno-mas-

toid and the trapezius were both partly divided. Considerable hæmorrhage had occurred, but no vessel required a ligature. The child was slender in form, pale and delicate in appearance, but in good health as far as could be ascertained. The wound was brought together carefully, treated antiseptically, and healed, partly by granulation, in about a month. Soon after the injury, October 30th, it was noticed that she was unable to raise the right arm from the side, and gradually, as the disability of the shoulder from the wound subsided, it became evident that a certain amount of paralysis existed, unquestionably dependent upon some nerve injury inflicted in the depth of the wound. There was no nerve-trunk in the course of the wound whose division could account for the paralysis, and in point of fact nothing but a wound of some part of the brachial plexus was competent to explain the symptoms presented, and this idea was rejected by me at first, and for two reasons: First, the wound did not appear deep enough to reach any part of the brachial plexus, and, second, the line of incision in the neck seemed to be entirely above the course of the fifth cervical nerve which forms the uppermost cord of the plexus. On carefully studying the conditions, however, I finally reached a positive diagnosis, becoming convinced that nothing could have happened in such a wound, except a severing of the upper cord of the brachial plexus, which could afford an explanation of the symptoms presented.

These symptoms were loss of power of abduction of the arm and of flexion of the forearm upon the arm. Supination was limited and feeble; pronation good; extension of the forearm slightly, if at all, affected. Flexion and extension of the hand and fingers were not notably impaired. Anæsthesia was well marked over the shoulder and the outer aspect of the arm. By the time that cicatrization of the wound had taken place, about the 1st of December, these signs of paralysis had become perfectly distinct, and it was also noted that atrophy was beginning, and was in fact well marked in the deltoid, and supra- and infra-spinatus muscles, and less distinctly in the biceps and brachialis anticus.

She was placed upon tonic and invigorating treatment and regimen, and everything was done to improve and maintain her general health. Faradization of the affected muscles and friction of the shoulder and arm were continued daily, but without any manifest results. The general condition improved very much to our satisfaction; she was very tractable and obedient in seconding our efforts to make her use her arm and shoulder muscles as far as her will had any control over them. No improvement could be discovered, the arm hung useless by her side, and, when she wanted to play with her dolls, she had to lift the palsied arm on to her lap with the other hand, and then she could use the fingers to hold it.

On the 8th of December a careful examination of the reaction under galvanic and faradaic currents was made with the following results:

MUSCLES OF THE SHOULDER.

Nerve.	Muscle.	Galvanic current.	Faradaic curr'nt
Spinal accessory.	Sterno-mastoid, trapezius.	Normal.	Normal, m. and n.
Anterior thoracic.	Pectoral.	Normal.	Normal.
Subscapular.	Latissimus dorsi.	Normal.	Normal.
Circumflex.	Deltoid.	Normal; increased when applied to muscle direct (reaction of degeneration).	Absent; muscle atrophied.

MUSCLES OF THE ARM.

Nerve.	Muscle.	Galvanic current.	Faradaic curr'nt
Musculo-cutaneous.	Biceps, brachialis anticus.	Normal; increased when applied to muscle direct (reaction of degeneration).	Absent, m. and n.; atrophy of muscles.
Musculo-spiral.	Triceps, supinator longus.	Normal.	Normal or slightly diminished.

The reaction of the muscles supplied by the rhomboid, supra-scapular, and long thoracic nerves could not be satisfactorily obtained, but the muscles themselves showed marked atrophy. The muscles of the forearm were not involved.

The faradaic current was now replaced by the galvanic, which was applied daily. No improvement in muscular reaction. Atrophy of shoulder muscles appears more marked. Her general condition is greatly improved. She is in good spirits, eats and sleeps well, and presents the appearance and demeanor of a child in good health.

That the most careful study of the paralyzed muscles alone would have warranted a diagnosis as to the precise point of injury I am not prepared to assert. Taking, however, all the points as they have been presented above, and associating them with a careful topographical survey of the line of the wound, and there seemed to be but one conclusion to which all the facts pointed, and that conclusion marked the fifth cervical nerve, which is the first or upper cord of the brachial plexus, as the seat of the injury, and, in consultation with my colleagues, it was deemed right to make an attempt to suture the wounded cord in the hope of restoring the functions of a limb in its present condition absolutely useless. In view of the fact, however, that these injuries to nerve-trunks do sometimes recover spontaneously, it was thought best to wait, before undertaking any operation, until it should become quite certain that nature was unable to effect a cure. Accordingly, treatment was steadily persevered with until the beginning of March, when, no improvement being perceptible, it was deemed justifiable to try what surgery could do to bring relief.

The operation was done March 2, 1884, one hundred and thirty-one days after the infliction of the wound. An incision was made along a line corresponding to the upper part and outer margin of the brachial plexus, and carefully followed down until this border of the plexus was reached. The cicatricial tissue was very extensive, and very confusing as we tried to recognize the anatomical landmarks, and a very careful and tedious dissection was necessary before we clearly recognized the nerve-cord involved in the wound. Finally, however, the nerve-trunk above and below the wound could be distinctly seen, and was isolated sufficiently to enable us to trace its whole length from the point of its emergence from the intervertebral foramen to the point where it joins the plexus below. We were extremely careful not to handle roughly, or to pinch with forceps, any part of the exposed nerve, and this it was that so greatly prolonged an already very tedious operation. The cord which was now seen to be the upper root of the plexus, as we had originally supposed, was divided in two places with sharp scissors, so as to include all that part involved in the cicatrix, leaving a clear cut on both distal and proximal ends through healthy nerve-substance. I say healthy nerve-substance, but it became evident, on making the section, what I suspected when the nerve was first exposed, that the distal portion beyond the cut was in a condition of physiological integrity, while the short portion, less than an inch in length, which formed the proximal stump, was manifestly smaller, its fibers not so clean and glistening as

in the cord below and in the surrounding nervous trunks. In short, it was the proximal, and not the distal, portion of the cut nerve which had undergone the classical degeneration, the distal portion retaining almost perfectly its normal appearance. I very much regret that I can not make this statement with the authority which would give it value as a scientific fact; for, unfortunately, no microscopic examination of the cut ends was made, and I am well aware that the gross appearances, though very distinct, would not alone be reliable evidence as to the condition of the nerve-tubules. Two very fine catgut sutures were now passed through the cut ends and tied not very tightly. Some strain on the suture was easily overcome by flexing the head on the trunk, and drawing it toward the left side. In this position it was secured by bandages. The wound was dressed with iodoform and sublimate gauze, and behaved perfectly well, though not healing entirely by primary adhesion. By the 14th of March the wound was cicatrized, and she soon regained her usual condition of health. Convalescence was delayed by a pretty threatening attack of purulent conjunctivitis, which at one time seriously threatened the cornea. This, however, passed safely by, with no corneal damage, and no further complication occurred. The electrical treatment was resumed, and continued during the remainder of her stay in the hospital. No improvement followed the operation, and at the time of her discharge, in the beginning of May, the condition of the muscles, both with regard to electrical reaction and voluntary motion, was just what it had been before the operation, saving that the atrophy, particularly of the deltoid, was more than ever conspicuous.

During the summer she was taken to the country and seemed in all respects quite well, but no change in the paralyzed parts was noticed until about the 1st of October, when slight voluntary motion began to show itself, which slowly but steadily improved. About the middle of January she was brought to my office, and I was delighted to find that she could flex the forearm upon the hand, and could abduct the arm from the side, during which movements the muscles could be felt contracting and hardening under the finger placed upon them. The shoulder had recovered its rounded contour and the flexor muscles had become markedly developed. In short, the evidences of atrophy had disappeared, and the indications of voluntary power were daily increasing. On the 21st of February I saw her again, and found the extent and power of muscular motion surprisingly increased. The case promises to prove a complete success.

The study of this whole subject during the last fifty years has led to some important and very interesting discoveries as to the behavior of nerves under and after severe injury. In the first place it has been shown that, after complete section of a nerve-trunk, there ensues a degeneration of all that part of the nerve beyond the point of severance which extends throughout the whole distribution of the cut nerve, and is so complete that, according to most observers, all trace of original nerve-tissue is lost. There is, however, considerable discrepancy of opinion as to the completeness of the degeneration, some contending that it is absolute and others believing that the sheaths of Schwann and the axis-cylinder never entirely disappear. That nerves thus degenerated by section would heal long before his time, but Augustus Waller, in 1852, by his admirable and ingenious experiments, brought out all the facts connected with both the degeneration and regeneration of nerves so completely that scarcely anything of importance has been added to the history of the process since his time. The changes, as described by Ranvier, are about as follows: The experiments being conducted on cats and dogs, it was found that after section of a nerve the distal segment began to show signs of change as early as the first day. The myelin begins to disintegrate, and by the fourth to the sixth day has mainly disappeared, leaving the sheaths of Schwann filled with fine, fatty granules. The axis-cylinder has also, by this time, according to his observations, entirely disappeared. By the twentieth day the sheaths of Schwann have become empty, and this he considers to mark the extreme point of degeneration, from this condition very little change being observed. A similar degeneration is noticed to begin at the cut extremity of the proximal end, but only reaches for a line or two from the end of the nerve, and then ceases, the axis-cylinder remaining unchanged. This disintegration is now to be followed, after a varying interval, by a regeneration by which, in favorable circumstances, the altered nerve is to be restored to its normal condition and functions. This change consists in a reversal of the steps which the nerve took in its degeneration. The sheaths of Schwann which, according to this observer, never entirely disappear, begin again to be filled out with a granular substance which soon assumes the character of myelin, the axis-cylinder makes its reappearance, and, in short, the atrophied and shrunken cord gradually assumes the appearance, and nearly the dimensions, of the original nerve. While this reformation of the nerve-tubules is going on the union of the cut ends is being accomplished. By about the twentieth day fine delicate fibers begin to sprout from the proximal end into the cicatricial tissue which surrounds it, and, gradually developing themselves in size and perfection of organization, shoot through the intervening bond of union till they encounter the distal end, with which they amalgamate themselves. Finally, if the ends are in good apposition, the cicatricial bond of union is occupied and displaced by a newly formed nerve which joins the two into one continuous cord, in which the individual nerve-fibers are almost perfect imitations, perhaps on a slightly reduced scale, of the original nerve-elements. In the animals experimented on the repair was not perfected until about six months had elapsed. In man, it is probable that the period of perfect restoration is longer, but no accurate knowledge on this point has been attained.

Another of the effects of nerve-section which has of late engaged the earnest attention of both physiologists and practical surgeons is the paralysis of motion and sensation which usually follows a complete section of a nerve-trunk. I say usually, because the results of nerve-division are by no means uniform or constant. There are reported, for example, a certain number of cases in which, after complete section of a nerve-trunk, no loss of sensibility could be detected in the parts supplied by it, and a certain number of others in which sensibility, being momentarily suspended, has been regained in a period so short as to make the immediate and perfect union of the divided ends the only explanation possible of the rapid restoration of nerve-power. Still further, it is constantly noticed that anæsthesia following a divided nerve-trunk does not by any means accurately correspond with the area of distribution of the branches of that trunk, but is much less extensive than it should be,

anatomically speaking, sometimes occupying only a small part of the region, the whole of which we should expect, *a priori*, would be affected. To the explanation of these facts much attention has been given by German and French observers, and much careful research has been expended with the result of leaving some of the phenomena not as precisely accounted for as might be desirable.

The first mode of explaining these facts of the limited area of anæsthesia and the rapid return of sensibility is by invoking the aid of anastomosis. That anastomosis, in the ordinary acceptation of the term, does not exist among the nerves is conceded. It has been demonstrated by Waller that the nerve-tubules individually are continuous from the point of their central origin to the point of their final distribution, and that no communication exists between the myelin in these tubules, and that therefore one tubule can not take up the function of a neighboring one which has been injured. It has been clearly shown, however, by the elaborate experiments of Arloing and Tripier, that, in the cat and the dog, and in the horse and the ass, there are certain tubules which pass from one nerve to another in a continuous or in a reverse direction, to be lost on the nerve to which they have attached themselves at a varying distance on the adopted trunk. These intercommunications are found first in the plexuses, where they are probably very frequent. Second, in the branches which are known to pass from one nerve-trunk to another in the course of its distribution, such as those that pass between the median and the radial, and the anastomotic twig that joins the ulnar and the internal cutaneous. The most abundant anastomosis, however, is found near the peripheral termination of the nerves, where all the terminal twigs unite to form the network of final distribution.

Another explanation of the partial and limited anæsthesia which sometimes follows nerve-section is found by some in the belief that there may be such a thing as the immediate union of the divided ends with immediate restoration of function. This belief is entertained by such men as Schiff, Gluck, Tillmans, Paget, and more recently by Caput and Wolberg, who consider that this primary union is so prompt and complete that no degeneration of the distal fibers can take place; while, on the other hand, it is held to be untenable, because unproved, by such observers as Nicaise, Weir Mitchell, Letievant, Brown-Séquard, and indeed by the majority of the most distinguished experimenters. These observations as to the limitations of paralysis after section do not apply quite so commonly to lesions of motility. Here the conditions seem to be somewhat different. The effect of section here seems to be, almost uniformly, a complete motor paralysis, followed pretty early by muscular atrophy, which continues until the function of the nerve is restored by its union. Letievant has, however, called attention to the fact that even here there is room for deception, the associate muscles not paralyzed acting so as in a measure to supply the deficiency of those that are paralyzed, so as to give to the whole group what he calls supplemental motility, which may easily mislead the careless observer. This error is easily avoided by applying the electrical test and by noting the atrophy which is sure to develop itself soon after the nerve supply is cut off. These electrical tests are exceedingly valuable in all stages of these injuries, and may be furnished by both the faradaic and the galvanic currents, applied either to the cut end of the nerve or to the skin over the belly of the affected muscle. It is noticed that the electrical current, applied in either way, soon after section, causes a feeble contraction of the palsied muscles, but that this contraction grows less and less from day to day as the muscular fiber is undergoing disorganization, and finally ceases altogether, the strongest current producing no response. A curious fact is observed in connection with these electrical tests. It is thus expressed by Nicaise: "The faradization curve during the first fifteen days becomes gradually depressed. After the third week the muscle is no longer excitable, at least through the skin. Toward the sixth week, in favorable cases, the excitability reappears and gradually increases until it reaches the normal reaction. The galvanization curve follows an entirely different course. During the first fifteen days it follows the faradization curve; but from the third week, when the interrupted currents have no longer any effect, the galvanic reaction becomes exaggerated, the curve is raised, soon exceeding the normal, and reaches its maximum when the other is at its minimum. At the moment when repair begins to take place the galvanic phenomena follow an inverse order; at the same time that the faradaic current is raised, the galvanic curve is lowered, and both gradually return to the normal level." This is what is spoken of as the reaction of degeneration by the German authors.

With regard to the facts of compensatory nerve-supply, after section of a trunk, there can be no doubt, as the facts are so common and so easily observed; but as to the part which anastomosis takes in this return of function, our knowledge can hardly be said to have assumed a positive character. For example, the experiment by Arloing and Tripier—in which each of the four nerves going to a toe in the dog's paw were successively divided, with the result that no insensibility to pain followed the division of the first nerve, and none followed the second, and none the third; but when the fourth was cut, complete anæsthesia was immediately produced—seems to indicate so perfect a communication between the different nerves at some part of their course that we can hardly understand why, if this communication is always present, a severed nerve should show any sign whatever of paralysis.

Another point in the anastomotic theory, which at first seems hard to comprehend, has reference to the communicating branches which join together some of the larger trunks. In these there have been shown to be fibers which pass from one trunk to another, recurving toward the cerebral centers, when they reach the trunk to which they are destined, and reaching a certain distance up this trunk toward its point of origin. Now, as far as we know, nerves in their normal condition transmit impressions only in one direction, i. e., the sensory nerves send their current from the periphery to the center, while the motor fibers bring the mandates of the central organ to the muscles at the periphery. If, therefore, there is to be any anastomotic

current supplied through these recurrent fibers, the nervous impulse must pass along the nerve in a reverse direction to that which it originally followed. This is a fair objection to this part of the theory, and at first sight seems well taken. The well-known and ingenious experiment of M. Paul Bert I think fully answers the objection. M. Bert made an incision along the back of a rat, and then, having denuded the end of the tail of its skin, placed the tail thus denuded in the incision in the back, where it adhered firmly. After the union had become firm, he cut off the tail at its root, leaving its end adherent to the back. Now, upon irritating the tail at its root, evidences of sensibility to pain were distinctly manifested, showing that a nerve under altered circumstances could convey impulses in a reversed direction, very much as a telegraph-wire can convey messages in both directions.

Of the *technique* of these operations, but little requires to be said. The injured nerve-trunks are usually superficial, and therefore easily accessible. In the operations which I have done, the main difficulties have been, first, the finding and identifying the atrophied extremity, and, second, the disentangling, without bruising or laceration, of the cut ends from the cicatricial tissue by which they are surrounded, and with which they are apt to be very closely incorporated. Both these proceedings require great delicacy in handling, and great patience in unraveling the slender and fragile fibers, and in extricating them unharmed from the tough and unyielding cicatrix in which they are buried. Another difficulty which I encountered in the neck case was the misleading effect of the cicatricial tissue when I was trying to follow down the areolar interspaces in order to arrive at the injured nerve. So utter was the confusion of layers that, although I had rehearsed the operation many times on the cadaver, I found myself wandering so far from my course that I was well over toward the jugular vein before I could be sure of my landmarks. The two ends of the divided nerve being exposed, the extremity of each is to be severed with a pair of sharp scissors, taking care to go sufficiently high to reach original nerve-tissue, and at the same time being careful to avoid cutting away more than is necessary lest the tension be increased when the ends are brought together. In one of my cases, that of the arm, microscopic examination showed no trace of nerve-fiber in the part cut away by the scissors, proving that my section had not reached the real nerve-end. This I think unfortunate, and must always delay, and probably sometimes defeat, the object of the operation. Various sutures have been used to join the cut ends, but opinion seems to have settled upon catgut, as fine as is consistent with strength. The shape of the needle is not unimportant. A common round cambric-needle is the best, making its way through the tissues by displacement rather than by cutting. Wolberg recommends a flat needle, shaped like a saber but without cutting edge. Some are careful not to pass the needle through the substance of the nerve for fear of injuring the tubules. Most operators prefer to pass the suture through the body of the nerve, as securing a stronger hold. Some cut the two ends obliquely so as to make flaps which, being applied to one another, afford an increased surface of contact. Rawa brings the ends together side by side and then surrounds them and binds them together with a catgut ligature. When much loss of substance has occurred and the ends can not be made to touch, Vanlear has suggested placing the ends in a Neuber's drainage-tube, and, with catgut threads attached to each end of the nerve, drawing them as near as possible together within the tube, and leaving the space between the ends to be filled up by the reparative material. In a case in which he found it impossible to bring the ends in apposition, Lösker resected the bones of the forearm, thus shortening the limb so that the ends could be approximated without tension. In an experiment Gluck transferred a rabbit's nerve to the limb of a chicken with success; and on the human subject Albert replaced an exsected nerve with a segment of nerve taken from a recently amputated limb.

The nerve-ends being brought securely together, great care is to be taken by position of the limb that no tension should occur. The wound should be brought together so as to secure primary union if possible, as the healing by granulation is believed to exercise a very unfavorable influence on the result, particularly if it be long delayed, or accompanied by much suppuration.

The time at which return of sensation takes place is very variable, in some cases sensibility being well marked in a few days, in others not until months or even years have elapsed. It is sometimes noticed, as in my musculo-spiral case, that, very soon after suture, a painful sensation pervades all the branches of distribution of the severed nerve, and this is sometimes the precursor of a healthy restoration of sensibility. It is not so always, however, but sometimes gradually subsides, leaving the parts in their original more or less perfect insensitiveness. The return of motility is commonly longer delayed than the return of sensibility. Here we have not only the degeneration of the nerve, but degeneration of muscular fiber to be overcome, and, accordingly, this paralysis is not only more slowly recovered from, but much more frequently remains a permanent disablement. It will be noticed that, in this communication, I have scarcely alluded to the trophic changes which are so certain to ensue after nerve-section. This has not been because I undervalued these changes either in their clinical or scientific aspects. It is simply because in the two cases which have been the basis of my studies these trophic changes never assumed any prominence.

With regard to the results of the operations that have been put on record, the most recent and the best tabular statement is found in Weissenstein's article on Secondary Nerve Suture, in von Bruns's "Chirurgische Klinik," 1884. He gives the results of thirty-three cases, from all sources, in which the operation has been done at varying periods after the nerve injury, in almost every case after the original wound had healed. To these thirty-three cases I have been able to add the following:

1. Dr. W. S. Halsted's Case.—B., aged twenty-two years, injured by glass. Degenerative reaction of muscles and complete loss of sensation in the regions supplied by the median and ulnar nerves at the time of the eighth month after the injury. Separation after paring off nerve-ends, about three inches. Neuro-

plastic suture of median and direct suture of the ulnar, with relaxation sutures in both. Strong flexion of hand and forearm, and still some tension. The wound healed by primary union. No benefit six months after the operation.

2. By Dr. Weir.—Wound of sciatic nerve nine years previously, operated on December, 1882; catgut sutures. By suturing adjacent tissues, and flexing knee forcibly, approximation was obtained. No improvement in motility, but gain in general sensation, and great improvement in trophic changes, which had advanced to ulceration. The ulcers all healed and local nutrition generally improved.

3. A Case operated on by Dr. W. T. Bull in July, 1883.—It was a case of wound of median and ulnar nerves with corresponding paralysis. The suture of both nerves with catgut was done about seven weeks after injury. Was discharged from the hospital about five weeks after operation, with both sensation and motility beginning to return, and improving daily.

4. A Case reported by Dr. Roscell Park, of Chicago, in which the radial was sutured with catgut sixteen days after its division. The recovery was rapid, the patient being considered well in six weeks.

5. The case reported by me above, of musculo-spiral suture forty-six days after wound. Catgut suture, recovery of sensation and motion, with a useful limb; daily improving.

6. The case reported above of suture of upper cord of brachial plexus, one hundred and thirty-one days after its division. Recovery of sensation and motion and nutritive condition, daily becoming more perfect.

Müller adds two cases, and Tillaux also two cases, making the whole number of secondary sutures reported forty-three.

These ten cases, added to Weissenstein's thirty-three, make in all forty-three cases. Of these, thirty-three were successes, in so far that sensibility and motility were at least partly recovered. In six cases no improvement, or almost none occurred, and in four cases the data were insufficient for statistical use. The dates of improvement can be given approximately thus: Traces of sensibility were noted in from two to four weeks. Traces of motility in from sixteen days to sixty, in two cases more than a year. Complete restoration of muscle function was marked in one case as occurring in twenty-six days; in several cases not till the lapse of one or even more years. All the authors seem to agree that electricity and massage greatly favored the return of function in the paralyzed parts. If now we consider that three quarters of all the reported cases were more or less successful, and still further consider that many of the cases were reported so soon after operation that the full results had not yet been realized, I think we are warranted in concluding that the proceeding promises a degree of success which we can count upon in very few of the operations which we are every day performing. When we take into account the serious and permanent disability for the cure of which the operation is recommended, the entire freedom from danger to life, no fatal case having been reported, and the large measure of success which has followed its performance, we are entitled, I think, to regard it as one of the best and most useful contributions that have been made to modern surgery.

RUPTURE OF THE UTERUS;

REPORT OF A CASE IN WHICH THE ENTIRE UTERINE CONTENTS AT FULL TERM ESCAPED, UNRUPTURED, INTO THE ABDOMINAL CAVITY.*

By FRANK W. ROSS, M. D.,
ELMIRA, N. Y.

The following is the report of a case which occurred in the practice of Dr. William Woodward, of Big Flats, Chemung County, N. Y.:

Mrs. ———, aged forty-two, native of the city of Poole, Dorsetshire, England; small in stature; weight, ninety pounds.

She brought a letter from Dr. Philipott, of Poole, stating that her pelvis was unusually small, and so much contracted by the projection of the sacral prominence as to render the superior strait almost cordiform; that it was impossible for her to give birth to a living child at full term. Dr. Woodward was called to attend her in labor, July 8, 1882, soon after her arrival from England. He was told that she was advanced to the seventh month, which was evidently her condition. On examination, he found the pelvis contracted, leaving only a fissure on the left of the sacral promontory of about two inches in width, and an opening on the right side of about three inches and a half in diameter. The breech was presenting at the larger opening, and with some difficulty he succeeded in bringing down the feet and delivering, the cranial bones yielding to the pressure, being still soft and not yet ossified.

In the summer of 1883 she was again pregnant, the fœtus being expelled without assistance at about the seventh month.

In March, 1884, she announced to Dr. Woodward that she was again pregnant, about three months advanced, and was advised that premature labor must be induced unless she became relieved at an early period by a miscarriage. Two months later, she announced her determination to hazard going to full term, hoping to bear a living child. She was advised not to proceed, and was warned of the danger, but to no purpose. Her desire for a living child was so strong that she insisted on attempting to give birth to one if her life paid the forfeit, but agreed to send for aid on the first appearance of labor.

August 20, 1884, between 2 and 3 P. M., Dr. Woodward was sent for, and found his patient with the countenance pale, lips livid and exsanguine, and the surface of the body bathed in a cold perspiration. She had been taken with labor-pains at about 5 A. M.; and at 10 A. M. the pains were very severe, not like labor-pains, but tearing and constant. She had vomited frequently and flooded profusely. The pain was most excruciating, and she begged for a powder to relieve her suffering. Supposing that it was a case of placenta prævia, an examination was made *per vaginam*, but Dr. Woodward could reach neither the placenta nor any presenting part of the fœtus. At this time the hæmorrhage was slight; but within ten minutes after his arrival the patient was dead.

At the autopsy the following condition was found: The fœtus was lying in the peritoneal cavity upon the intestines, invested with the membranes intact, the placenta being still attached to the sac, all having escaped through the uterus and lying free in the abdominal cavity, the rupture having taken place at the placental site. On removing the child, a full-grown male, the fissure, about eight inches in length, could be seen along the anterior portion of the uterus, as can be readily noted by an examination of the specimen here presented. Considerable blood was found in the abdominal cavity, most of the

* Read before the New York State Medical Association, November 19, 1884.

hæmorrhage coming from the torn uterine sinuses at the point of rupture.

This was her tenth pregnancy.

This case is an instructive one; and I present it to the Association, not giving details of ætiology, pathology, or treatment, but simply to draw a few practical inferences which may be of value to some of us in the future and impress on our minds the fact that such accidents occur often when there is no deformity.

This remarkable case is of special value, aside from its rarity, it being the second ever recorded (the other by Hamilton) in which the entire contents of the uterus escaped, unruptured, into the abdominal cavity. It gives the typical symptoms of a ruptured uterus—viz., the sharp, agonizing, tearing pains, a sensation of something giving way, followed by a pain which is constant and unremitting, with the escape of blood through the vagina. The rupture being at the placental portion of the uterus, and large enough to permit the escape of the fœtus with the sac entire, may explain the *modus operandi* of a similar condition which has been observed a number of times, in which the fœtus escapes, at term, with the membranes intact, through the vagina.

This case illustrates the folly and danger of attempting to carry a child to full term in a pelvis which is known to be deformed, and in this instance it gives a sad example, with the terrible results of a fatal and criminal omission on the part of patient and friends, in neglecting to call medical aid; for in this case the woman survived the rupture four or five hours, and it was not until she was dying that aid was summoned. Without doubt, had the physician been called in time, he would have crushed the head and delivered; or, if the rupture had taken place while he was present, he could have easily recognized it, opened the abdomen at once, and delivered by Cæsarean section.

Although a ruptured uterus is a rare condition, it is an accident which may occur in the practice of any one of us, even when we least expect it, at the most inopportune time and place, as in this case, in a little country town, in the practice of a man who has spent over a half-century in the practice of medicine, with a vast number of obstetrical cases, and yet this accident occurs to him but once and at this late day; while in the practice of the youngest of us it may occur at our next case. When the accident does occur, the symptoms as a rule are well marked. In the present advanced condition of abdominal surgery, we should be prepared to open the abdomen at once and deliver, with reasonable hope of success.

THE CHOLERA EPIDEMIC OF 1862 IN BATURITÉ.

By F. J. B. CORDEIRO, M. D.,

ASSISTANT SURGEON, UNITED STATES NAVY.

In 1862 a severe cholera epidemic visited Brazil, raging with a special fury in the northern provinces. The history of the epidemic in the province of Ceará is especially interesting, as some of the factors found there approximate to the conditions of a perfectly controlled experiment. The town of Ceará, the capital of the province of the same name, is on the coast, and contained, at that time, a population of about twenty thousand. The town is laid out in regular squares, and is clean and well drained. The soil consists of a loose white sand. A short distance inland the country becomes mountainous. Baturité is a small town in the mountains, sixty miles direct from Ceará. It is built on a plain surrounded on all sides by high hills. In one direction only is there a break, where the road comes in from Ceará and a small stream flows out. With a strange disregard of sanitation, many of the people were in the habit of using this stream for their drinking fountain, their baths, etc., and naturally, from the conformation of the country, it was their sewer also. The soil is a loose loam of a rich red color, the same as is seen around Rio, and supports a luxuriant vegetation.

The contrast between Ceará and Baturité is as great as can reasonably be imagined. One is a well-drained, well-ventilated town, its streets sloping down to the ocean and swept by the sea-breezes; the other draining into a stream with an insufficient outflow, and feeling only the upward and downward currents of the heated or cooled atmosphere. A sanitary engineer standing in that basin could not but instinctively query: "I wonder what the effect of an epidemic would be here."

The epidemic came in July, 1862. As early as the latter part of May, physicians had been stationed by the Brazilian Government at different points to care for the poorer classes. One was stationed at Baturité, which contained then about five thousand inhabitants. In June, cholera appeared at some of the seaport towns, noticeably at Ceará. The cases here were neither many nor severe, hardly partaking of the characters of an epidemic. From Ceará the cholera traveled up the direct road to Baturité. Its progress was of the nature of a march, slow but steady. Village after village, hamlet after hamlet, was attacked, until at last it reached Baturité, the terminus of the road.

I quote, by permission, from a letter from a lady who was at that time in Baturité:

"On the 4th of July we had two Americans—a gentleman and his wife—from New Orleans, as our guests at dinner, to celebrate the anniversary of our national independence. We sat afterward on the veranda, chatting, drinking our coffee, and inhaling the fragrant fumes of cigar-smoke, wondering which of us four would be the first victim. For we knew that we could not escape the dread visitor speeding on toward us. B. said he was certain he should be one, as from the first news of its reaching Ceará he felt he was doomed. We tried to laugh him out of this fancy. . . . Almost immediately after that pleasant celebration it did indeed come; for it had walked regularly up the street till it arrived at the house next to us, and laid two prostrate."

In one week after, the government physician was dead. The wealthiest people, and all who could get away, fled the country. The remaining ignorant and panic-stricken inhabitants tried other means of escape. Written prayers to God and the Virgin for help were pasted up everywhere. The principal street was dug up deeply, others were plowed up.

Every evening there were processions, clothed in white,

carrying heavy stones on their heads for penance, to the church. Arrived at the sacred edifice, they filled the air with wailing shrieks for mercy. I quote again: "Worse than all came the sound of self-inflicted flagellations, with a scourge on their bare shoulders, till the very walls were spattered with blood. Then they dragged their exhausted, bleeding bodies home, making night hideous and sleep impossible." As the neighboring countrymen failed to bring in the necessary supplies, from fear of infection, famine was added to the epidemic. The daily death-rate at first was eight or ten, but this afterward increased to a hundred and over. Many lay unburied for a long time where they had died. The sick heard the creaking of the dead-cart all night. It was afterward remarked that the cholera at Baturité ceased simply from lack of material. The epidemic had pretty generally disappeared throughout the northern provinces by November and December of the same year.

The attack was in almost every case preceded by diarrhœa, and, from the outset of actual symptoms to death, averaged sixteen to twenty hours. Post-mortem spasms were frequently remarked, leading the common people to suppose that in some instances the victims had been buried alive. It was generally believed in Brazil that the epidemic had come from Europe, though I have been unable to discover from what particular point the Brazilian epidemic started.

THE STING OF A SCORPION.

By B. F. HAYWARD, M. D., Holyoke, Mass.,
SURGEON OF THE STEAMSHIP CITY OF PUEBLA.

The sting of a scorpion has been regarded by the laity at large and some of the profession as being necessarily fatal. But I had the opportunity a few months since of treating a case which proved to be contrary to the general impression. The case is as follows:

The stewardess on board one of the Southern steamers was stung on the little toe of the left foot. Five minutes after it occurred I had the patient under treatment. On examination, I found a white surface of about the size of a half-dime. In the center was a little red spot, which seemed to penetrate to the bone. At first there was pain, accompanied by swelling of the foot and ankle. She complained of dullness extending first to the ankle, thence to the knee, and afterward to the hip. The limb was cold, and of a dark color, the circulation being impaired, and it seemed to me as though the blood coagulated in the veins. The pulse was rapid and feeble, the patient restless and fretful, the face pale, with dark lines under the eyes. In a few moments there was a red streak which commenced at the little toe and gradually extended to the hip.

I made a cross-incision over the seat of the wound down to the bone, and allowed it to bleed freely, and then applied hot flaxseed poultices.

Internally, I gave whisky and the aromatic spirits of ammonia in the proportion of two thirds and one third, giving ʒ iv every fifteen minutes until the patient had taken ʒ vii, and then, as the stimulants commenced to have effect, it was decreased gradually. The next morning the only symptom present was the numbness and heaviness of the entire limb, which disappeared during the day.

I have made inquiries among the natives along the Gulf-coast of Mexico, and have been unable to learn of an authentic case of death from a similar occurrence.

Book Notices.

A Text-book of Practical Medicine, designed for the use of Students and Practitioners of Medicine. By Alfred L. Loomis, M. D., LL. D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York, Visiting Physician to Bellevue Hospital, etc. With Two Hundred and Eleven Illustrations. New York: William Wood & Co., 1884. Pp. xv–1,102.

Dr. Loomis's reputation as a lecturer has prepared his readers for a book in which some concessions should be made to that class who desire an "interesting" treatise on medicine. Without regard to anything but the presentation of facts in a clear and concise form, the author has written a text-book *par excellence*. From the preface to the closing sentence the work is a model of compactness; it is the product of an extended experience—an experience not to be inferred from the frequent intrusion of the pronoun "I" into the text, but from the admirable generalizations which can be the outgrowth only of a ripe and mature mind.

With a self-control seldom possessed by writers of his reputation, Dr. Loomis sinks his personality, though never his originality, in his theme. Keeping ever before him the class of readers for whom his work is intended, he seldom turns aside from his course to pursue tempting digressions such as might display his own erudition to better advantage. We feel all the time that he knows a good deal more than he is telling us, and therein he differs from men who, in their desire to prove their experience, wander off into details which are useless alike to the student and to the practitioner.

We commend the preface as a model of clearness and brevity; it covers the whole ground, and, when the author has finished what he has to say, he stops.

The general arrangement of the book is somewhat different from that of the popular text-books. In our opinion, it is a good one.

Beginning with diseases of the respiratory organs, the student next considers diseases of the digestive system; in Section III he studies affections of the heart and kidneys; in Sections IV and V, acute and chronic general diseases; while in the concluding section he enters upon the most difficult study of all —that of diseases of the nervous system. This seems to be a very rational order from the student's standpoint, since he is led on gradually from a subject of less to one of greater abstruseness, so that he does not meet with such an abrupt transition as he would if he passed at once from bronchitis to myelitis.

Another novel feature of the book is the presence of numerous illustrations, an idea derived from the author's experience in the lecture-room. The drawings have been carefully executed and are nearly all original, and, moreover, the woodcuts show finer work than we are accustomed to see in medical books. Before discussing each chapter of the work separately, it may be interesting to note the system which is rigidly adhered to in the treatment of every subject. A brief definition is given of each disease, the ordinary synonyms being mentioned. The main features of the morbid anatomy are next mentioned, following which is a short paragraph on etiology. The symptoms, physical signs, and differential diagnosis come

next, then the prognosis, and lastly a section on treatment. This systematic distribution of the topics, as well as the care which is observed in order that each paragraph may be distinct in itself, will render the work valuable for purposes of recitation.

Unlike most writers upon such a broad subject as general medicine, Dr. Loomis enters at once upon the discussion of diseases of the respiratory organs, after a brief description of the phenomena of inflammation. Other points in general pathology are considered as they occur in the course of the lectures.

Of the topics mentioned in Section I, acute lobar pneumonia receives the most extended notice. The pathology of this important affection is given briefly and to the point; the symptomatology is as graphic as it is accurate. In connection with the subject of phthisis, the author takes occasion to refer judiciously to the *Bacillus tuberculosis*.

Section II is rendered particularly attractive by the beautiful illustrations which accompany it. We can not but admire the clearness with which the diseases of the alimentary tract are differentiated. The pages describing peritonitis are highly instructive. Diseases of the liver are thoroughly studied, and in this connection many valuable hints are offered on palpation of the abdomen.

Dr. Loomis gives the affections of the heart "in a nut-shell"; we have seldom seen so much matter condensed within such a small space. The remarks on cardiac hypertrophy and dilatation are worthy of careful perusal on the part of practitioners as well as students. From our knowledge of the author's extensive experience, we should expect an exhaustive study of the subject of aneurysms, and we are not disappointed. We shall not comment upon his treatment of renal affections, as the profession are already familiar with a previous work by him upon the same subject. The paragraphs upon diagnosis and therapeusis will be found to be specially valuable.

The section upon acute general diseases opens with an exhaustive chapter on typhoid fever, from which nothing of importance has been omitted. Diphtheria, yellow fever, and cholera are very fully treated of, but we miss any allusion to the comma bacillus in the latter chapter. Typhus receives more attention than is usually bestowed upon it in general text-books, a fact due to the personal interest which the author feels in that disease. In speaking of the treatment, he makes one of the digressions in which he rarely indulges, and refers to some observations of his own, as a result of which he decided that stimulants were to be used in typhus rarely and with great caution.

The author's descriptions of small-pox and scarlet fever are quite vivid. Fifty pages are devoted to the different forms of malarial fevers.

The last section, upon nervous diseases, is a very valuable one, enriched as it is by several excellent woodcuts. We believe that Dr. Loomis has succeeded in presenting the obscure subject of cerebral lesions in as clear a form as the student can ever expect to find it in books. We do not mean that he has gone exhaustively into the matter, but he has given the most important facts with great brevity and perspicuity. As an example, we refer to the two pages on cerebral localization (pp. 370 and 371). The paragraphs upon diseases of the spinal cord are brief, but they contain quite enough for the student, and, moreover, they cover the whole ground. A number of affections are treated under the head of functional nervous diseases, epilepsy, hysteria, neuralgia and sunstroke receiving most attention.

It is impossible within a brief space to do justice to the individual excellences of this book. In order to value it aright one must read it for himself. Its terse style, its practical, lucid method can only be appreciated by a personal inspection. As a text-book it is admirable. We predict for it a future, not as a great and original work, but as the outgrowth of years of patient toil, as the legacy of a brilliant teacher.

BOOKS AND PAMPHLETS RECEIVED.

Topographical Anatomy of the Brain. By J. C. Dalton, M. D., Professor Emeritus of Physiology in the College of Physicians and Surgeons, New York, and President of the College. Philadelphia: Lea Brothers & Co., 1885. Three Volumes: 4to, pp. vi–56; iv–59 to 114, inclusive; iv–115 to 175, inclusive; heliotype plates.

Cases of Disease of the Frontal Sinus. By Charles J. Kip. M. D., Newark, N. J. [Reprint from the "Transactions of the American Ophthalmological Society."]

Weitere Untersuchungen über die Natur und Wirkung der Oleate. Von John V. Shoemaker, A. M., M. D., in Philadelphia. [Reprint from the "Monatshefte für praktische Dermatologie."]

Transactions of the American Ophthalmological Society, 1884.

Proceedings of the Philadelphia County Medical Society, Vol. VI, September, 1883, to June, 1884.

The Jenner of America. An address delivered before the Philadelphia County Medical Society, January 14, 1885. By W. M. Welch, M. D., Retiring President. [Reprinted from the "Proceedings of the Society."]

Eighth Annual Report of the Board of Health of the State of New Jersey, 1884, and Report of the Bureau of Vital Statistics.

Notes on the History, Manufacture, Uses, and Properties of Hydrochlorate of Cocaine. Published by McKesson & Robbins, New York.

Facts about Canned Goods. Submitted to the Committee on Trades and Manufactures, of the New York Assembly, by the Canned Goods Committee of the New York Mercantile Exchange, etc. February 4, 1885.

Correspondence.

LETTER FROM WASHINGTON.

Charitable Appropriations by Congress.—Candidates for Medical Appointments.

Washington, *March 9, 1885.*

Among the appropriations by the late Congress are those giving $15,000 for the care of non-resident sick poor in the Providence Hospital, $7,500 for the Garfield Hospital, $15,000 for the Columbia Lying-in Hospital, $5,000 for the Children's Hospital, $15,000 for the erection of a homœopathic hospital, and $10 a month, each, for the physicians to the poor. The National Board of Health gets $5,000, and the Senate struck out from the Sundry Civil Bill the provision doing away with the board, and authorized the payment of the expenses incurred by it last year.

Office seeking is not confined to mere politicians; among matters of interest to medical men in this respect is a petition circulating in several cities, praying for the appointment of Dr. A. N. Bell, of New York, as Surgeon-General of the Marine-Hospital Service, to supersede Dr. John B. Hamilton, who was appointed six years ago from among the corps of surgeons of the service. In the District, the health office seems more generally sought after. Dr. C. M. Hammett, Dr. H. H. Barker, Dr. Allen, and others are mentioned as among the candidates. The present incumbent is Dr. Smith Townshend.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 14, 1885.

THE MEDICAL JOURNAL AS AN EDUCATOR.

We have heard much of late concerning the necessity of higher medical education in this country. So oft-repeated and so persistent have been the protests against the methods in vogue, that many Americans have begun to regard all their medical colleges as fit ground for missionary work. While all this has been going on, more or less extensive improvements have been inaugurated in the prominent institutions at least; so that at the present day the schools in the large cities afford every reasonable facility for practical instruction.

And yet there is a vague feeling that the schools are not accomplishing that which the highest interests of scientific medicine demand. There are practical good fellows in plenty; but there is a lack of "sacred fire"; original research does not advance with that rapidity which the advocates of the new educational system had been led to anticipate. This is true, at least, in so far as the work accomplished within the precincts of the college and its dependencies is concerned. To this accusation it may be answered that little of an original or scientific character can reasonably be expected from those who are yet barely upon the threshold of acquisition. Just here lies the fallacy. There is no more egregious misconception than that which lends countenance to a system that deals solely with the memory to the exclusion of the reasoning and imaginative faculties—those attributes which are the very corner-stone of original research. True, the faculty of memory plays, of necessity, a leading part during the acquisitive period of education; but the need of counteracting the mental automatism thereby engendered is all the more evident, and admits of no postponement. But is the realization of these psychological demands, necessary though they be, within the range of practical possibility? We reply, not only that the problem is capable of solution, but that it has actually been solved, at least as far as German medical institutions are concerned, and that in the simplest manner. In the schools of that country the student is initiated into the hidden charms of original laboratory and clinical work long before he graduates, and, as a result, he enters upon the practice of his profession not as a shoemaker's apprentice upon the exercise of his trade, but with lofty conceptions of the possibilities of his calling both as a science and as a profession.

To this fact is due the enormous literary expression of medical thought in Germany to-day; and let it not be forgotten that the progressive tendencies of any science are discernible in the copiousness of its literature. Hence the interest in American medicine abroad is only co-extensive with the recently developed activity in medical literature throughout the United States. And what has that literature done for us, from an educational point of view, irrespective of its intrinsic scientific merits, which are undoubted?

To our own mind, the great distinctive service of American medical journalism consists in this, that it has counteracted the pedantry sown in the schools, as far as it has been able, and encouraged the expression of original thought in young men. This of itself is enough to commend it to the lasting gratitude of the profession. If any one doubts that the medical journals constitute the cradle of rising thought in the American profession to-day, let him compare the lists of contributors to the same, with their ages as expressed by the time of graduation. More than one of these young gentlemen has added two or three volumes, besides thirty or forty articles, to medical literature before the age of one and thirty. This of itself is most gratifying; and it is but right to state that it is in great measure due to the independent exertions of the medical editors themselves, whose practiced eyes are accustomed to discern promising material where it was least expected. Many a flower of journalism, apparently doomed "to blush unseen," has been discovered in this way, as the testimony of any medical editor of prominence will amply bear witness.

Nor have these good offices been by any means confined to isolated instances, for the example has been contagious, and the precepts of the few have been gradually followed by the many. There is no encouragement to endeavor at all comparable to the "printed word"; nor is there any means of mental development at all equal to the systematic and conscientious use of the pen, as the professional histories of those who have thus used it abundantly testify.

Our advice to any young man of parts and ambition who would take his professional destiny into his own hands is, think and write.

THE INTRAFUSION OF SALT SOLUTION.

There are few operations which have been more frequently recommended and less frequently practiced than transfusion. Every writer upon surgery and obstetrics feels constrained to describe the process, yet rather from a sense of duty than because he considers that he is actually dealing with a matter of practical interest. Dr. Lusk, with a frankness which is worthy of imitation, acknowledges that, although he carries the necessary apparatus about with him, he has never reached the point at which he cared to test it. If the truth were known, very few of the authors who have said most about transfusion are able to present many positive results from their own experience. Just as the younger generation of medical men have only a theoretical acquaintance with the operation of phlebotomy, the profession at large are entirely ignorant of the technique of transfusion, except as they may have seen in their early hospital career a few crude attempts at restoring moribund patients. The fact is that, when a man does meet with just the sort of case in which he has always imagined that he would "try transfusion," he does not care to try it. Whether this timidity arises from a fear of the possible dangers of the operation—thrombosis, the entrance of air into the veins, or other phenomena

which have been so graphically pictured by pathologists—or from an ignorance of its details, certain it is that surgeons who are bold enough on other occasions shrink from this simple procedure.

We can not analyze this feeling entirely. It is doubtless to some extent a dislike of troubling a patient when *in extremis;* the supposed necessity for elaborate preparations deters others. Dr. Lusk is frank enough to say: "In the few cases where I had intended to use it, the tubing was never in perfect order." Without doubt the idea of removing blood from another subject and subjecting it to a rather complicated preparation has been the great stumbling-block to the general use of transfusion. Dr. Thomas, with his characteristic boldness and ingenuity, has advocated the use of fresh milk, and greatly simplified the operation by recommending as the only apparatus necessary an ordinary glass funnel to which is attached a rubber tube terminating in a delicate cannula. It is interesting to note that his device is the one which has recently been employed successfully on the continent of Europe to the exclusion of the more complicated instruments.

The Germans have always been deeply interested in the subject of transfusion, as may be inferred from Landois's monograph, written ten years ago. He reports three hundred and fifty cases in which human blood was used, over one third of which were successful. It is safe to say that during the past decade his countrymen have made the principal additions to our knowledge of this matter. Few general readers realize the extent to which the intrafusion of a solution of common salt has been practiced by German surgeons, or the immense importance of the discovery that this fluid not only possesses the same advantages as blood, but is even superior to it. The method is not founded upon pure empiricism, but upon the soundest physiological basis, and it deserves more serious consideration in America than it has hitherto received. We have perhaps been prejudiced against the intra-venous injections of salt solution by the fact that they were widely employed by the French physicians during the recent cholera epidemic, and often with a negative result. But injections practiced during the collapse stage of cholera, and those which are resorted to in acute anæmia following hæmorrhage, should not be compared, since the conditions are dissimilar. It is in the latter class of cases that the method finds its true application.

Professor Mikuliez, who is a warm advocate of the operation, contributes an article to a recent number of the "Wiener Klinik," in which he states that he has obtained brilliant results from the injection of 600 centimetres of a solution of salt, the apparatus being hastily improvised with a glass funnel, a piece of rubber tubing, and a small trocar. He urges the injection of a larger amount of fluid than is usually employed in England and America, even as much as a litre. The operation should occupy from ten to fifteen minutes. He uses six parts of salt and one part of carbonate of sodium to one thousand parts of water.

We have not referred either to the technique of the procedure or to the indications. These are self-evident. To recognize when a patient is in a critical condition, to expose one of the veins at the bend of the elbow, and to insert into it a cannula, a glass tube, a quill—surely the average practitioner can be credited with enough sagacity and coolness to do this. There is a great deal said about the after-treatment of hæmorrhage, but the fact is that many men stand and watch a patient slipping away from them, just out of pure helplessness. We hope to see the intrafusion of salt solution practiced extensively. It does not seem likely to do harm, and it is now proved beyond a doubt that it is a powerful agent for good when properly employed. Let us not regard this operation as a mere curiosity, or as one to be practiced upon an individual *in articulo;* it should become a recognized and legitimate procedure, and take precedence of the reprehensible and unscientific method of trying to refill the empty vessels of a patient by administering hypodermics of brandy or ether, and the more dangerous practice of injecting ammonia into the veins. It is time that the operation should be removed from the realm of the novelist, and become a practical entity.

MINOR PARAGRAPHS.

THE CONDITION OF THE BLOOD IN CHOLERA.

M. Hayem, whose studies of the blood have been so extended as to render him a weighty authority upon this subject, publishes in a recent number of the "Gazette hebdomadaire de médecine et de chirurgie" some interesting observations made by him at the time of the cholera epidemic. During the algid stage he found that the blood was poor in plasma, but that the red corpuscles presented a normal appearance under the microscope, and collected as usual in *rouleaux;* the white corpuscles were more numerous than normally. The blood coagulated at the expiration of fifteen minutes. During the stage of reaction it returned rapidly to its healthy condition. As regards the number of the elements, M. Hayem found that during the period of collapse the red discs sometimes increased to 6,500,000 to the cubic millimetre, a condition that he estimates as representing a loss of water equal to 1·15 kilogramme, the whole amount of blood in the body being considered as five kilogrammes.

The effects of intrafusion are worth mentioning. In the cases in which the operation was successful the blood remained as thick as before; in the unsuccessful cases, on the contrary, the fluid injected was not absorbed from the vessels, but mingled with the blood, diluting it to such an extent that only 4,000,000 red corpuscles were counted. After the operation, coagulation occurred with the usual rapidity. Throughout the stage of collapse the reaction of the blood was slightly acid; this phenomenon, however, was not constant. M. Hayem failed to find micro-organisms in the blood, after repeated search.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 10, 1885:

DISEASES.	Week ending Mar. 3.		Week ending Mar. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	4	2	7	2
Scarlet Fever	103	12	86	21
Cerebro-spinal meningitis	2	2	4	2
Measles	171	29	191	24
Diphtheria	58	25	46	21

Bellevue Hospital Medical College.—The twenty-fourth annual commencement was held at the Metropolitan Opera House on Monday evening, the 9th inst. The degree of doctor in medicine was conferred upon one hundred and thirty-four gentlemen. The honor men, mentioned in the order of their merit, were as follows: Sollace Mitchell, of Florida; Lewis Mann Silver, of New York; Thomas Jackson Charlton, Jr., of Georgia; George Garmany Larcombe, of Georgia; John Purdue Gray, Jr., of New York; Leonard Sigmund Rau, of New York; Patrick Samuel Keogh, of California; and Samuel Case Jones, of New York. Remarks were made by the Hon. William Dorsheimer, and Mr. Andrew Carnegie, of the Board of Trustees, gave the address to the graduating class. The hearty "'rah, 'rah, 'rah, Andrew Carnegie," pronounced by the members of the class, standing, at the opening and close of Mr. Carnegie's address, showed their appreciation of that gentleman's substantial contribution to the teaching facilities of their alma mater and, indirectly, to our educational resources in general.

The Albany Medical College held its fifty-third annual commencement on Wednesday, the 4th inst., at the Leland Opera House. The graduating class numbered thirty-three—all from the States of New York and Massachusetts. The twelfth annual meeting of the Association of the Alumni was held the same day, and the first and second of Professor William H. Thomson's lectures on the germ theory of disease were delivered.

The New York County Medical Association.—At the next meeting, to be held Monday evening, the 16th inst., Dr. John Shrady will read a paper on "The Ætiology of Stillbirth," and Dr. Charles A. Doremus will show a new apparatus for the determination of the quantity of urea in the urine.

The Medical Department of the University of the City of New York.—The forty-fourth annual commencement was held at the Academy of Music on Tuesday evening, the 10th inst., when a class of one hundred and seventy-eight was graduated. The Rev. Dr. Hall delivered the address to the graduating class. Prizes were awarded to W. B. Waterman, G. K. Meynen, J. C. Edgar, R. H. Wylie, A. W. Berle, E. F. Arnold, F. A. Rand, C. H. Gardner, and J. C. Clark, and honorable mention was made of J. C. Edgar, A. W. Berle, F. M. Nichols, F. S. Halsey, H. Vreeland, E. F. Arnold, W. J. Schuyler, M. L. Young, R. H. Wylie, F. A. Rand, R. T. Sloan, E. P. Covington, E. T. Steadman, S. B. Lynch, J. B. Peters, W. D. Garrett, D. E. Walker, C. H. Gardner, J. J. Baxter, and J. M. Swan.

The American Veterinary College.—The tenth annual commencement was held at Chickering Hall on the 4th inst., when a class of thirty-one gentlemen was graduated. Prizes were awarded as follows: the Trustees' gold medal to H. T. Yokura, of Japan; the New York State Veterinary Society's gold medal to J. W. Scheibler, of Tennessee; the Alumni Association prizes to J. P. Wilson, of Ohio, and R. E. Buckley.

The late Dr. Louis Elsberg.—At a stated meeting of the Philadelphia Laryngological Society, held February 27, 1885, Dr. J. Solis-Cohen having announced the death of Professor Louis Elsberg, M. D., of New York, it was, on motion,

Resolved, That the Philadelphia Laryngological Society learn with deep sorrow of the early demise of the pioneer laryngologist of America, for whom they have ever entertained the highest respect as one of its most enthusiastic and brilliant expounents.

Resolved, That American laryngology is indebted in great measure to the example of the deceased for the high standard which it has attained as a leading specialty in medical science and medical practice.

Resolved, That copies of these resolutions be transmitted to the family of the deceased in evidence of our deep sympathy.

[Signed] Louis Juerst, *Secretary*.
Charles E. Sajous, *President*.

The College of Pharmacy, of the City of New York, will hold its fifty-fifth commencement at Steinway Hall on Tuesday evening, the 17th inst., at 7.45 P. M. An address will be delivered by the Rev. Robert Collyer, D. D.

A Woman's Hospital for Iowa is advocated in an able manner by Dr. J. W. Smith, of Charles City, in the February number of the "Iowa State Medical Reporter."

The College of Physicians and Surgeons, of Baltimore, held its annual commencement on Friday, the 13th inst., and graduated a class of one hundred and fifty-four.

The Death of Dr. Caleb Swan, of Taunton, Mass., took place suddenly on the 6th inst. Dr. Swan was a graduate of the College of Physicians and Surgeons of New York, of about ten years' standing. For eight years he had had a large practice in Taunton, where his many fine qualities as a man and a physician caused him to be held in high esteem.

The Death of Dr. Nathaniel Ford, of Brooklyn, occurred on Monday, the 9th inst. He was a graduate of the Medical School of Maine, of the class of 1836, and was one of the oldest members of the Medical Society of the County of Kings.

The Death of Dr. Ellerslie Wallace, formerly professor of obstetrics in the Jefferson Medical College, took place in Philadelphia on Monday, the 9th inst., as the result of a long and painful illness.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 1, 1885, to March 7, 1885:*

Byrne, Charles C., Major and Surgeon. Ordered to Department of the East on expiration of his present leave of absence. S. O. 50, A. G. O., March 3, 1885.

Woodruff, Ezra, Captain and Assistant Surgeon. Ordered for duty at Fort Maginnis, Montana Territory. S. O. 23, Department of Dakota, February 25, 1885.

Porter, J. Y., Captain and Assistant Surgeon. Sick leave of absence further extended fourteen days on account of sickness. S. O. 51, A. G. O., March 5, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon. Having relinquished unexpired portion of leave of absence, ordered for temporary duty in the field. S. O. 23, Department of the Missouri, March 2, 1885.

Raymond, Henry I., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty in Department of California. S. O. 50, A. G. O., March 3, 1885.

Society Meetings for the Coming Week:

Monday, *March 16th:* New York County Medical Association; New York Academy of Sciences (Section in Geology and Mineralogy); Medico-Chirurgical Society of German Physicians, New York; Hartford, Conn., City Medical Association.

Tuesday, *March 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *March 18th:* Northwestern Medical and Surgical Society, New York (private); Medical Society of the County of Allegany, N. Y.; New Jersey Academy of Medicine (Newark).

Thursday, *March 19th:* New York Academy of Medicine;

Roman Medical Society, New York (private); New Bedford, Mass., Society for Medical Improvement (private).

Saturday, *March 21st:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Letters to the Editor.

PUERPERAL PERITONITIS.

498 Classon Avenue, Brooklyn.

To the Editor of the New York Medical Journal:

Sir: Apropos of the discussion that has taken place during the past few months in regard to the treatment of lying-in fevers, I would bring to the notice of the profession the subjoined case as a sample of the method which, at my hands, produces excellent results: I was called to see Mrs. M., November 4th; found she had been delivered of a dead child by a midwife on the second day of the month. I was informed that on the morning of the 3d she was taken with a chill, followed by fever and pain. On examination, I found pulse 120, temperature 104·5°, lochia extremely offensive, great tenderness over the right broad ligament, accompanied with severe pelvic pain, nausea, and extreme restlessness. I immediately gave her ten grains of calomel, and followed it in three hours with two ounces of castor-oil; over the abdomen was applied a turpentine stupe. On calling ten hours afterward, I found that her bowels had been very freely moved, the pain greatly lessened, and her general condition much improved. I then ordered her to take one eighth of a grain of morphine and two grains of quinine every three hours. This was continued for three days; then five grains of calomel were given, followed in the evening by a bottle of citrate of magnesium. Free movement of the bowels took place. Bisulphate of quinine was given for a day or two, when the patient was dismissed cured.

Having had a number of cases that I have treated in this way to the exclusion of injections, and the early use of morphine, I can but feel that calomel plays an important part in modifying and arresting this form of sickness; that it also has sedative properties seems to be amply proved.

Very respectfully,

S. B. Childs, M. D.

ELECTROLYSIS IN UTERINE FIBROIDS.

20 West Forty-fifth Street, *March 7, 1885.*

To the Editor of the New York Medical Journal:

Sir: Permit me to correct an omission in Dr. J. N. Freeman's report of my remarks to him on electrolysis as a cure for uterine fibroids, published, with the discussion before the Kings County Medical Society, in your issue of to-day. This omission consists of only one word, and was, of course, unintentional on the part of Dr. Freeman; but it gave one of the members of the society, who opened the discussion on Dr. Freeman's paper, the opportunity to make some unnecessary criticisms on my memory or editorial customs, and, I think, calls for rectification.

Dr. Freeman quotes me as having said to him, when asked what I thought of electrolysis in the case of fibroid tumor he brought to me: "I have never heard of a successful case." He accidentally omitted the word "authentic" before "successful." I remember saying that I had little faith in the method, as I knew of no absolutely authentic cases on record. Those published by Carter, in 1876, had appeared in abstract in the "Journal of Obstetrics," and were therefore perfectly familiar to me; but I was under the impression that the permanency of the cure in these cases lacked confirmation.

I have notes of the case of the lady whom Dr. Freeman brought to me on April 28, 1884, and feel that, if a tumor of that size can be entirely dispersed by electrolytic puncture, the method deserves trial in many cases which now are either not treated or benefited at all, or are subjected to laparotomy. I have two cases in the hospital now in which I propose to try it, and will report results in due time.

Yours truly,

Paul F. Mundé.

Proceedings of Societies.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of March 3, 1885.

The President, Dr. F. W. Bartlett, in the Chair;
Dr. Frank H. Potter, Secretary.

Extra-uterine Pregnancy.—Dr. Matthew D. Mann read a paper on this subject, reporting four cases, with the treatment and results. He prefaced these cases with a brief *résumé* of the symptoms leading to the diagnosis of this condition. These were, of course, the symptoms of an ordinary pregnancy, including the mammary and gastric signs. Particular importance must be given to the changes in the mammæ, as in the majority of cases they were among the most reliable symptoms, if the pregnancy had advanced far enough. Besides these, as was mentioned by other writers, there were irregular gushes of blood, accompanied by portions of membranes, or, as he himself had seen, a complete uterine decidua, much hypertrophied and thickened. With the microscope we could distinguish this from the menstrual decidua. Then there was pain, either fixed and grinding in the iliac fossæ, or of a sudden, paroxysmal character, of the severest kind and accompanied by symptoms of shock. Quite rarely there were symptoms of abortion without the expulsion of a fœtus. Again, in a small proportion of cases, there were no premonitory symptoms, the first indication of anything wrong being shock, collapse, and sudden death. The physical signs were, commonly: 1. Increased size of the uterus, but not in proportion to the supposed stage of the pregnancy. This increase in size was thought by some to be proportionate to the nearness of the sac to the uterus, the increase being greater in the tubal than in the abdominal variety. 2. Evidence of the emptiness of the uterus by the passage of the sound or a finger. 3. The presence on one side of or behind the uterus of a cystic tumor, generally smooth in outline, somewhat tender, and obscurely fluctuating. With these signs and symptoms clearly in mind, a diagnosis, in the majority of cases, could be made with certainty. And, moreover, when the diagnosis could be made early, treatment could be applied with a reasonable assurance of success. He then reported in detail three cases of extra-uterine pregnancy which had been successfully treated by the application of the electric current. The diagnosis in each case was made early, in accordance with the above-mentioned principles. The faradaic current was used. This was passed through the tumor daily, and was continued for a week or more, according to indications. Each patient made a satisfactory and complete recovery.

The fourth case, not having had so favorable a termination, was reported more at length. It occurred in the practice of Dr. Diehl, of Buffalo. The patient was forty-two years of age. She had had one child eighteen years before, but no miscarriages. Dr. Diehl first saw her on October 7, 1883, on account of excessive bleeding from the uterus. This was controlled after a

time with ergot. On January 4, 1884, he was compelled to use a catheter on account of retention of urine. In the mean time she had menstruated, but at irregular intervals, and had occasionally complained of severe pain in the lower extremities and in the bowels. On April 1st a tumor was discovered in the left lower portion of the abdomen. Dr. Mann saw her on the 10th, when the tumor was found extending nearly to the umbilicus and situated entirely to the left of the median line. Fœtal life was easily detected. Extra-uterine pregnancy was considered probable, but, as she insisted that she had carried her first child in the same situation, it was doubtful whether it might not be a pregnancy in the left horn of a uterus unicornis or bicornis. For this reason the uterine cavity was not explored. From this time until the 1st of August she continued to do well, only suffering occasional pain, not severe. On the latter date, as the end of pregnancy was so near, and as but little harm would result from a premature labor, it was determined to examine the uterine cavity. This was found to be enlarged but empty. Pregnancy was now so far advanced that it seemed best to await the false labor, which usually occurs in these cases, and the death of the child before operating. Fœtal life ceased to manifest itself about the latter part of August, the cessation being preceded by pains simulating those of labor. She continued to do very well, however, no urgency occurring in the symptoms until the night of the 24th of September, when, as she was straining at stool, she was taken with severe pain, accompanied with the sensation of something giving way. When Dr. Diehl saw her, early in the morning, she was in a state of collapse. Dr. Mann was hastily summoned and operated at 10 A. M., assisted by Dr. Diehl, Dr. Rochester, Dr. Philips, and Dr. Bartow. Before the operation the patient was conscious and hopeful. The peritoneal cavity was found filled with a thin purulent fluid, which was first removed. The fœtus was then removed, the cavity washed out thoroughly with antiseptic solutions, and the wound closed. The patient failed rapidly during the operation, and died soon after it was completed. The autopsy revealed a large sac external to the uterus and attached to it and to the rectum. The appearances indicated that the sac was the enlarged and hypertrophied oviduct of the left side. The uterus contained a decidua somewhat thicker than normal. From the study of these cases and those reported by other writers, Dr. Mann then formulated the following considerations for the treatment of extra-uterine pregnancy: 1. If the case was not seen until the alarming symptoms attending rupture of the sac have been developed, laparotomy must be performed without delay. Mr. Lawson Tait's four successes out of five cases must encourage us to follow his example. 2. If the pregnancy was discovered before the fourth month, the indication was to destroy the fœtus and trust to nature for its absorption. All other plans for accomplishing this purpose must be laid aside in view of the safe and easy method offered in the application of the electric current. This might be in the form of the interrupted galvanic or the faradaic current, the latter being considered the most reliable. It should be used daily, as strong as could be borne, and continued until there was evidence of the death of the fœtus. 3. Opinions differed as to the proper plan to pursue after the fourth month. If the fœtus was alive, it should be destroyed by electricity, no matter at what stage the pregnancy might be. If it was dead and in the earlier months, nothing should be done until some clear indication for operating occurred. In the latter months, after its death, it was better to wait a few weeks before operating. By this plan the danger from hæmorrhage would be lessened, as well as all the difficulties surrounding the removal of the placenta. On the other hand, if the fœtus was left to be absorbed by nature, there was great danger of suppuration and septicæmia.

NEW YORK SURGICAL SOCIETY.

Meeting of February 24, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Fibro-Myxo-Sarcoma of the Tendons of the Wrist.—The President presented a patient, Marie D., eighteen years of age, who four years ago first noticed a tumor on the posterior surface of the left wrist. In 1882 she came under Dr. George A. Peters's care, who removed the tumor, and about three months afterward, while the patient was yet in the hospital, he extirpated some cervical lymphatic glands which had undergone cheesy degeneration. The growth at that time was examined microscopically, and pronounced a myxo-sarcoma. It recurred within a year and a half, when the patient came temporarily under Dr. Weir's observation. Last autumn she entered the New York Hospital. A tumor was then found lying over the wrist joint on the dorsal surface, about two inches in length, oblong in shape, which had somewhat the feel of a compound ganglion. Pressure at the lower part of the tumor gave a sense of fluctuation, and at the upper portion the sensation of the presence of rice-bodies could be detected to a slight extent. Dr. Weir resolved to remove the growth, and did so by making a long incision. When he had reached the tumor he found that it was adherent closely to the tendons of the extensor communis digitorum, and dipped down into the tissues below, so that in removing it one of the tendons (the thumb's inner extensor) was divided and the wrist joint opened. From the extent and general appearance, a question arose as to its exact nature. It presented thickened tissue with a number of small growths from its inner surface, and a certain amount of gelatinous fluid in its substance. No free rice-bodies were found. From the gross appearance it was thought possible, since Koenig had shown that the tubercle bacillus might give rise to ganglionic formations, that this was one of those varieties of tumor, and the growth was subsequently examined with reference to this particular point.

The interest of the case centered not only upon the rarity of the lesion, namely, sarcomatous disease of the tendons, but also upon the somewhat apparent conflict of opinion with reference to the nature of the tumor. Dr. Peabody, the pathologist of the hospital, who had examined both the first growth removed and the present one, reported that it was a myxo-sarcoma. Two other pathologists had examined the tumor and reported that they found only granulation tissue. Dr. Hall, who had been much interested in surgical diseases of tubercular origin, had taken special pains in the examination of the neoplasm, and had presented the following report:

Specimen, received from Dr. Weir, from Tumor of the Sheaths of the Tendons of the Hand, October 8, 1884.—The gross appearance is that of gray gelatinous granulation tissue, closely resembling so-called fungoid granulations.

Microscopic examination shows large bundles of white fibrous tissue, wavy, and containing large spindle cells. The bundles cross each other in different directions, so that some are cut transversely, some longitudinally, and some obliquely. Between these are masses of tissue consisting of small round and spindle cells, with abundant granular intercellular substance. Here and there throughout the section are small masses of adipose tissue. The tissue is moderately vascular, some of the vessels having well developed walls, and others having a very thin, or no true, wall, resembling those usually found in sarcoma. *Diagnosis:* Fibro-sarcoma.

October 8, 1884.—Inoculated two Guinea-pigs with the fresh material in the left inguinal region subcutaneously. A similar wound without inoculation was made just previously on a third Guinea-pig as a check experiment. All the wounds were closed with catgut sutures and healed *per primam*.

January 2, 1885.—One of the inoculated Guinea-pigs found dead in the box. *Examination.*—Body well nourished, lymphatic glands not enlarged; no trace of tubercle in the internal organs or elsewhere. The two other Guinea-pigs are well nourished, and show no glandular enlargements.

The patient herself shows no recurrence of the growth, and has full use of her hand. The function of the thumb is also perfect.

Dr. G. A. Peters remarked that the tumor which he removed was connected with the sheath of the tendon, and presented the appearances described by the president.

Secondary Nerve Suture.—Dr. T. M. Markoe read a paper with this title. [See page 295.]

Dr. C. K. Briddon referred to a paper which he read before the society two years ago, in which he reported a case of secondary suture of the ulnar nerve performed several months after an injury which was produced by the patient falling and striking upon a broken glass tumbler. At the operation a small piece of glass was found between the severed ends of the nerve, and the proximal end was bulbous. No benefit whatever was derived from the operation. The man died a year afterward from phthisis, and at the time of his death there had been no return of either sensibility or motion. He was unable to obtain an autopsy.

Dr. L. A. Stimson thought that the long-delayed return of function was a point to be borne in mind constantly. In one of his own cases injury of the musculo-spiral nerve was followed by complete motor-paralysis, which lasted for more than three years, and then was succeeded by complete recovery of function by the muscles supplied by this nerve.

Dr. Markoe thought that the question of the possibility of natural restoration should be always borne in mind, and it was quite possible that many patients operated upon would have recovered after a long period. It was this fact which had induced him to wait one hundred and thirty days in one of his cases before operating. There were not, so far as he was aware, any statistical statements of the results of section of nerves in which no operation was performed.

Dr. C. T. Poore asked with regard to the longest time that had elapsed after an injury in which an operation had been performed with any success.

Dr. Markoe replied that in Dr. Weir's case the operation was performed nine years after the injury, and in another case six years. Certain it was that some of these sections produced paralysis which was permanent. How we were to ascertain whether any given section would terminate in recovery or not he was unable to say, and he thought, therefore, that, granting the possibility that the nerve might recover its power, the operation should be performed after waiting a reasonable length of time to see what nature could accomplish.

Dr. Poore remarked that about one year ago he saw a child, eight years of age, who five years previously sustained a fracture of the head of the radius, and the bone had united at an angle. At the time of the injury pulsation of the radial was lost, which was shortly followed by ulceration of the hand and arm, accompanied with total paralysis of the extensors, which had remained. At the time of the examination the muscles on the dorsal aspect of the forearm were atrophied.

Dr. Peters asked if additional damage had been done in any case by the operation.

Dr. Markoe replied that no further impairment of function had resulted from the operation, and in no instance had death occurred as a result of it.

The President would call attention to two points in the *technique* of the operation. In his case he found great difficulty in overcoming the gap between the divided ends of the sciatic nerve, which, after they had been trimmed off, were separated to the distance of two inches and a half. The separation could only be overcome by liberating the nerve to a considerable extent and strongly flexing the limb, but, in addition to the sutures applied to the nerve itself, extraneous sutures in the soft parts outside were used, and were especially serviceable. From the difficulty in approximating the ends of the nerve in that case he was all the more disposed to follow a suggestion that had been made, namely, to make a bayonet section in one of the nerves, splitting the nerve not quite to its free extremity, and turning it over, and thus effecting the desired elongation. This had since been tried, and had been found to require the additional precaution in its employment that, when the nerve was so stretched, a suture should be inserted into the free end to prevent it from tearing completely through.

Chopart's Operation.—Dr. Stimson presented a cast of a stump left by a medio-tarsal amputation, together with the dissected member. They were taken from a cadaver found in the dissecting-room. There was no history, but the stump was evidently an old one. The body was that of a man fifty or sixty years old. The cicatrix was horizontal, and fully half an inch above the line of pressure in walking. The face of the stump was covered with a thick, well-padded layer formed of the flesh of the sole. It had a thick layer of epidermis, and showed no signs of present or previous ulceration. On dissection, the tibialis anticus was found much more wasted than the other anterior muscles, and its tendon was reduced to a small cord adherent to the soft parts of the upper flap. The other anterior tendons were adherent to the cicatrix. The heel was drawn upward, so that the anterior face of the os calcis was directed downward and forward, lying in a plane inclined about midway between the vertical and longitudinal planes when the limb was erect. The astragalus showed a corresponding degree of plantar flexion, and the range of motion in the ankle joint was about 10°. Its scaphoid articular surface was firmly attached to the flap. There was a small osteophyte on the upper outer anterior border of the os calcis. The stump appeared to have been a thoroughly useful one, notwithstanding the well-marked plantar flexion.

Dr. Markoe remarked that the specimen illustrated in a striking manner one of the objections which had been urged against the operation, namely, change in the position of the heel.

Dr. H. B. Sands said that the cicatrix did not seem to have been presented to the ground.

Dr. Stimson remarked that the point of pressure was well protected.

Dr. Sands asked if the specimen did not rather refute than sustain the objection urged against Chopart's operation, by showing that the retraction had not been such as to cause the cicatrix to come in contact with the ground in walking.

Dr. Charles McBurney remarked that some time ago he presented to the society a patient upon whom he had performed Chopart's operation, and the result did not exhibit any of the defects said to accompany the operation necessarily; the patient had complete control over the bones of the foot that were left, and was able to flex and extend the stump. He could also present the original plantar aspect of the foot to the ground. At that time the speaker made a statement which he still felt like adhering to, namely, that the greatest importance was to be attached to the manner of treating the stump immediately after the operation, not allowing the limb to rest with the muscles at the back of the leg having entire control. The stump should be firmly flexed throughout the healing process, so that the anterior tendons would become attached at as low a point as possible.

Dr. Peters asked how the flexion was secured.

Dr. McBURNEY replied that it was secured by the application of a posterior splint, the part presented to the sole of the foot being turned upward to the ankle and fixed it in that position. The immediate splint was made of pasteboard and secured with plaster of Paris. Even upon the dead subject, when Chopart's operation was performed, if the limb was held free, there would be a noticeable dropping of the os calcis, with a bending downward of the anterior portion of the stump.

Dr. MARKOE remarked that he understood that the objection to the operation was not that the original stump presented a badly situated cicatrix, but that, by the contraction of the gastrocnemius, and also from the irregular face of the os calcis, it was gradually pushed back and came finally to press upon the ground in an unfavorable position.

Dr. McBURNEY said that Dr. Sabine, in one of his recent visits to the West Indies, had found that the operation was performed there very frequently for the relief of a certain disease which affected the toes of the negroes, making amputation of the anterior part of the foot necessary. He was told by the surgeons that the results were good, and that they had never seen twisting of the os calcis upon itself. The patient whom he (the speaker) had presented to the society could run upon his stump, and had never had any artificial support.

Dr. STIMSON called attention to the fact that the preservation of motion at the ankle joint diminished the friction of the face of the stump against the ground in walking.

Hydatids of the Liver and Mesentery; Laparotomy.—The PRESIDENT presented a specimen, and gave the following history:

Richard H., a native of England, twenty-six years of age, living in New Jersey, was admitted into the New York Hospital January 21, 1885. His personal history was negative. There was no special history with regard to diet, although he preferred rare meat to that which was well cooked. In June last he became aware that his abdomen was beginning to increase in size, and the fullness was first noticed over the region of the liver. There was no pain in the enlargement, and it inconvenienced him only by its weight and dragging. Whether he had had more than the ordinary association with animals (dogs and sheep) said to be infested with the parasite which gave rise to hydatids, the president had been unable to make out.

At the time of his admission the patient was a rather thin but healthy-looking man, weighing 158 pounds. His abdomen and the lower part of his thorax were much distended. The circumference of the abdomen at the umbilicus was 36¼ inches, at the lower border of the ribs 39 inches, and the right lower ribs bulged outward very much more than the left. On palpation, a large tumor, of the size of a man's head, was felt in the right upper part of the abdomen, another nearly as large occupying the lower part of the abdomen, and between these tumors another of about the size of an egg could be distinctly felt which was freely movable over an area of several inches. The larger tumors extended over beyond the median line toward the left side for several inches. On palpation, a sensation of fluctuation could be detected, but apparently it was not transmitted from one tumor to the other. No hydatid fremitus was detected. A hypodermic needle was introduced and perfectly clear fluid withdrawn, which showed nothing on microscopic examination. Examination of the urine was negative.

A diagnosis of cystic tumor of the abdominal cavity was made, probably hydatid and involving the liver. Whether the tumors were independent or united was a matter of some doubt. The question arose mainly with reference to the treatment, whether puncture or incision should be made. After considering the matter, the president resolved to resort to incision, and, on the 24th of January, he made an opening through the abdominal wall, 2½ inches in length, in the epigastric region, and, when the tumor was reached, it showed itself as a thickened white mass. The peritonæum was first secured to the edges of the abdominal wound by sutures all round, and then a large-sized trocar was plunged into the cyst, but only a few drops of clear fluid escaped. Had he succeeded in obtaining fluid with the trocar, he had intended to draw the tumor up as much as possible, open it freely and evacuate it, and sew its walls to the peritoneal surface of the abdominal wound. After the cannula was removed, the edges of the opening were seized with a forceps and lifted up out of the incision, and the opening in the cyst was then enlarged to the size of the abdominal wound. Hundreds of amber-colored and transparent cysts escaped, varying in size from that of a pea to that of an orange. The quantity was not noted, as considerable escaped, so that it could not be measured, but the entire quantity was estimated at from four to five quarts. The edges of the sac were then sutured to the external wound, and two large-sized rubber drainage-tubes inserted. Peat dressing was applied. The operation was begun with full antiseptic precautions, but had not proceeded far before the steam atomizer gave out, and it was continued without the further use of spray.

On the 25th the patient complained of much pain in the head, and required to be catheterized. On the 26th the pain in the head continued, but the patient passed his urine. There was no peritonitis. The temperature rose that afternoon to 103·4° F. The wound discharged hydatid cysts. The dressings were changed under spray when necessary. On the 27th the urine contained about ten per cent. of albumin. The wound was dressed under spray, and more hydatid cysts were discharged. On the third day there was suppression of urine with elevation of temperature. From this time the case progressed unfavorably, and the patient died ten days after the operation. On the eighth day after the operation the cyst-cavity was washed out thoroughly with a bichloride solution, 1 to 5,000. At that time it was discovered that the lower tumor was diminished in size. Until this time it had been considered a separate tumor.

The autopsy showed that the tumor was a large bi-lobed formation, with a separate tumor in the mesentery, and that in the walls of this large mass, which had invaded completely the substance of the right lobe of the liver, quite a large number of hydatid cysts were projecting into the abdominal cavity, so that if the patient had recovered it would have been only temporarily. The liver was forced downward, so that its upper surface looked forward, and was adherent to the lower surface of the diaphragm, and to the upper surface of the diaphragm the lower lobe of the right lung was adherent, a fact which pointed somewhat toward an effort of nature to effect evacuation of the tumor in that direction.

There were two points in the operation which the president regretted not having observed. First, in not having made a more liberal incision in the abdominal walls for exploration, and into the tumor, by which it could have been evacuated more thoroughly, and which also would have enabled him to lift out more of the cyst-wall and remove it. He believed that the patient's death was caused primarily by the noxious influence which all abdominal operations were apt to exert upon the kidney secretion, and, secondarily, by the septic process in the sac contents, and that this latter could have been diminished by the removal of a large portion of the cyst. This would also lessen the chances of recurrence of such growths.

In the second place, it had been stated that kidney complications were more liable to occur in operations done under the spray of carbolic acid than when carbolic acid was not used.

He did not think that the carbolic spray in this instance was a factor in the production of the fatal result, as it gave out early in the operation, and, moreover, only a space of two and a half inches of the cyst-wall was exposed to its influence for even this short time. The renal symptoms occurred prior to the use of the spray employed when the dressings were changed.

Dr. Peters remarked that he was able to observe a pulsation between the two large tumors, and regarded them as a single cyst.

Bursal Swelling at the Back of the Wrist.—Dr. A. C. Post narrated the case of a boy nine years of age, who was brought to his clinic with a swelling of this sort, and in which he made an effort to rupture the sac by striking it sharply with a wooden bat. The first blow did not rupture the swelling, and he repeated it several times, and found that a dangerous degree of force would be required to rupture it in that way. He then punctured the cyst, and pressed out exceedingly viscid contents —much more viscid than the vitreous humor. After squeezing out the contents through a small opening, he applied an antiseptic lotion, and afterward a compress made of cork which he bound over the swelling with a bandage. This was allowed to remain for a week, when the patient returned, and, on removing the dressing, he found that the cork had made a marked depression of the surface where it had been applied, but that there had not been the slightest inflammation, and the case was progressing favorably.

Note.—The patient was seen again after the lapse of another week, and there was nothing to indicate a return of the swelling.

Dr. Sands inquired how frequently the members of the society had performed cutting operations for the cure of this disease, for it seemed to be a question of considerable interest at the present time. The treatment by rupture, as described by Dr. Post, had doubtless often yielded good results, but not infrequently the relief afforded proved to be temporary. Another method of evacuating the cyst was to open it subcutaneously with a broad needle. His own experience with this method had been generally favorable, yet he had known it to fail to accomplish a permanent cure. He had lately seen a patient who had been treated in this manner by an eminent surgeon in New Haven. The operation being followed by a recurrence of the swelling, the surgeon again emptied the cyst in the same way, and, as the contents flowed out through the puncture, he inserted a hypodermic needle into the opposite wall of the sac, and injected it with a strong solution of carbolic acid. This procedure was also unsuccessful, and when Dr. Sands saw the case the tumor was of irregular shape and nearly as large as an English walnut, constituting a very conspicuous deformity. Dr. Sands advised a trial of iodine injection, and had since heard that this had been successfully employed. His knowledge of extirpation of such ganglia was limited to two cases. The first one he himself treated by excision a good many years ago, and was able to dissect out the cyst without opening the sheath of the tendon. The patient made a good recovery.

The other case occurred in the practice of a medical friend before the days of antiseptics. Excision was performed, the parts being rendered insensible by ether spray. Violent inflammation followed the operation and rendered the hand nearly useless. Dr. Sands saw the patient several years afterward, when she was unable to flex the fingers, and there was but little motion of the hand. In that case the sheath of one of the extensor tendons of the thumb was opened, and it was feared at the time of the operation that mischief would follow. Probably at the present day there would be but little risk of phlegmonous inflammation following such an accident, and in some instances an operation for the complete removal of the swelling might be indicated as the only effectual means of accomplishing a cure.

The President referred to the fact that Dr. Abbe, in the Out-Patient Department of the New York Hospital, had shown him three cases, in two of which he had resorted to puncture, and in the third to an incision, packing the sac with iodoform. In each instance the case had done perfectly well. The operation of incision and packing with iodoform had struck him as one worthy of trial.

Dr. Stimson said that he had recently made subcutaneous puncture by means of a flat needle in two cases, both of which did well.

Dr. Sands thought that the subcutaneous puncture was always safe.

Dr. Post remarked that he attempted subcutaneous puncture in his case, but the cyst was so thick that the fluid was oozing out before it was complete.

The President referred to one case in which injection of a ganglion with carbolic acid was followed by severe reaction, for which he was called upon to dissect the tumor out. The wound thus made healed promptly.

Dr. Peters remarked that one of the earliest operations he performed was subcutaneous puncture of one of these swellings upon the wrist of a very old gentleman, and the result was good.

Removal of a Thickened Bursa from over the Trochanter Major.—The President presented a specimen removed from over the trochanter major of a married woman, which appeared shortly after her confinement with her last child, two years ago. It did not seem to be associated with labor, and was not noticed until after she was up and about. The swelling was treated by counter-irritation without relief. Increase in size steadily took place, and finally a tumor of about the size of an egg was formed. He then thought it was probably a fibro-sarcoma, and, from its not being quite certain whether or not it was movable on the femur, that it might be of periosteal origin. At the operation, performed three weeks since, it was found to be a bursa over the trochanter major under the gluteus maximus muscle, with walls nearly an inch in thickness and constituting a mass as large as a goose-egg. The central cavity was of about the size of an almond. Recovery was prompt.

Lithotrity under Cocaine Anæsthesia.—The President referred to a case in which he had performed lithotrity within the last ten days under the influence of cocaine. The patient was a man, seventy-two years of age, with marked cardiac lesions, and his condition was such as to preclude general anæsthesia. He had long suffered from prostatic trouble, and a number of years ago submitted to an operation of prostatotomy by Dr. Gouley, with marked benefit. The calculus was about three quarters of an inch in diameter and phosphatic in character. Lithotrity, practiced after the old-fashioned method, was tried, with considerable suffering to the patient, but his condition was so poor that further efforts in this way could not be entertained. The patient's vesical sufferings were so great that the president finally determined to see whether cocaine would be of sufficient service to enable him to remove the remainder of the calculus. He therefore, February 5th, injected into the bladder, previously washed out with warm water, three drachms of a four-per-cent. solution, and allowed it to remain fifteen minutes, when an additional quantity of water was thrown in and the lithotrite was introduced. Although the urethra was still somewhat sensitive, the pain in this part was very much lessened, the bladder was entered without distress, the stone seized, from five to eight crushings were rapidly made, Bigelow's apparatus with a No. 20 curved catheter was introduced, and the aspiration effected. The entire operation occupied not more

than eight to ten minutes. While the procedure was not absolutely painless, the cocaine reduced the sensibility of the invaded urinary tract to such a marked degree that the patient endured the operation without special difficulty. In the "Lancet" of January 17th, received the day of the operation, there was a report of a similar operation, in which cocaine had been used with much more satisfactory results. The patient was operated upon at St. Peter's Hospital, and the stone was crushed and withdrawn in less than fifteen minutes in a painless manner. In this case four drachms of a four-per-cent. solution were injected into the bladder.

Dr. MARKOE inquired if there were any cases on record where unfavorable effects had been produced by cocaine when applied to the unbroken mucous membrane.

The PRESIDENT replied that he knew of none.

Dr. R. J. HALL remarked that he had seen constitutional symptoms produced by an injection of two drachms of a four-per-cent. solution of cocaine into the urethra. He had discovered also, what did not appear to have been noticed, that, while small quantities produced vaso-motor spasm, and, consequently, anæmia of the part, large quantities produced vaso-motor paralysis and congestion. In the same way, when a dose just large enough to cause constitutional symptoms was given, the patient had dilated pupils, with pallor of the face, nausea, and a small, hard pulse, while after much larger doses the pupils were not more dilated, nausea and pallor were absent, the pulse was full and soft, and a dreamy mental condition was produced.

The PRESIDENT remarked that, had he been compelled to consider the subject of lithotomy in his case, he should have attempted to perform the operation by the aid of the local anæsthetic effect of cocaine. His experience in the removal of superficial tumors, and in several deep incisions for pus, had satisfied him that such an operation as lithotomy might be accomplished by the use of cocaine.

Dr. BRIDDON had seen considerable relief follow the injection of one drachm of a two-per-cent. solution into the bladder for the relief of vesical tenesmus associated with prostatic trouble. He had one patient under observation in the Presbyterian Hospital who had used it every night with the result of obtaining about two hours and a half of rest, while no opiate or any other treatment afforded more than half an hour of relief.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 17, 1885.

(*Concluded from page 288*).

Diabetes.—In the further discussion of this subject, Dr. C. H. BROWN said that he had used ergot and bromide of sodium chiefly in the treatment. He had found severe mental strain to be a condition preceding the disease in two cases, and insomnia accompanying it.

Dr. HAMMOND did not think that the theory of an hepatic lesion would cover all the cases, but that the trouble often dated from some derangement of the vaso motor system, originating, however, in the medulla. He had had no experience with the iodoform treatment.

Dr. S. J. MCNUTT cited statistics showing the rarity of the disease, especially in children. In the latter, however, incontinence of urine was to be looked upon as a suspicious symptom. It was common in diabetes, and it was due in part to irritation of the bladder by the saccharine urine. Notwithstanding the rapid fatality of diabetes in children as a general thing, one child ten years old had recovered under the use of the skim-milk diet.

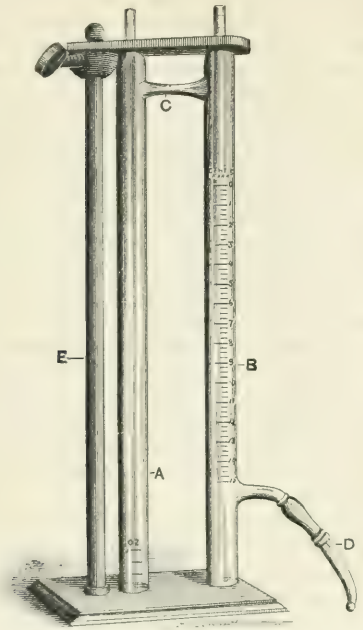
Dr. LLOYD had noticed, in a series of examinations of diabetic urine by Trommer's test, that, when no precipitate had occurred during the boiling, a flocculent white deposit took place during the cooling if the specimen contained little sugar, but an excess of urates or phosphates. This had led him to make a number of experiments to determine the accuracy of the test. Specimens containing urates, phosphates, and sugar only were each submitted to the test according to the usual method, a small quantity of the urine being poured into a test-tube, and then a drop or two of the sulphate-of-copper solution and an excess of the soda or potash solution. The result was the same with the specimens containing the phosphates and the urates, but with the sugar solution the characteristic color was observed. Solutions were then prepared which contained large quantities of the two other ingredients, but very little sugar, and it was then found that the color imparted to the supernatant fluid by this one substance was sufficient to seem to color the entire precipitate, and thus lead to the erroneous conclusion that the whole heavy deposit was suboxide of copper, due to the presence of sugar, and that the patient must necessarily be well advanced in the disease. He had finally concluded that, if this test was used, the phosphates should first be precipitated by heat, and the urates neutralized by adding the soda before the copper; but, when all this was done, the test took quite as much time, and was just as troublesome, as Fehling's, over which, even then, it had no advantages. He had, therefore, been forced to conclude that the only sure and quick test was Fehling's, but he could not see the necessity of having it complicated with the three bottles. He had two solutions prepared, and had never found any difficulty in keeping them if the bottles were kept properly stopped and no foreign matter was carried into them with the pipette. In his experience, Squibb's two-bottle solution was very convenient as well as accurate.

He had also analyzed a number of specimens of diabetic bread said to be free from glucose, but, with a single exception, he had found that they all either contained it in large amounts or were unpalatable. The exception was in the case of the bread made by Hecker, of New York, which contained only 1·53 per cent. of glucose. Unfortunately, this bread was not made regularly, and only an occasional sample could be obtained.

An Apparatus for determining the Amount of Sugar in Diabetic Urine was presented by Dr. JOHN E. BAILEY. It was founded on the fact that, when forty-five grains of glucose were decomposed by yeast, forty-seven cubic inches of carbon dioxide were evolved. It was evident, therefore, that, for all practical purposes, one grain of glucose, when it had undergone complete vinous fermentation, had given off one cubic inch of gas. The apparatus consisted of two glass cylinders, A and B, closed at the bottom, and fitted with rubber stoppers at the top, connected at their upper extremities by a small tube, C. E was a frame which supported the tubes upright. The tube B was graduated in cubic inches and quarters, and had an outlet-pipe, D, near the bottom. An ounce and three quarters completed the scale marked on the tube A.

In using this device, an ounce of the urine was poured into A, a little yeast was added, and the stopper was replaced. B was then filled with water up to a little above the top of the scale, the outlet being closed. The stopper was then replaced, and the outlet opened, when the level of the water would fall to zero. As fermentation proceeded, and gas was evolved, the water was pressed out at D, and the exact number of cubic inches was registered on the scale B. He had found the results very accurate. If the specimen was supposed to contain more than fifteen grains to the ounce, only half the quantity should be

used, and the amount of gas multiplied by two. About twenty-four hours were required to complete the experiment, and the



temperature of the room should be kept equable, to guard against accidental fluctuations. The outlet should always be kept immersed.

In the use of Febling's test, he would advise the following modification of Dr. Austin Flint, Jr.'s, formulæ:

Solution No. 1.	Pure sulphate of copper	47·43 grains;
	Distilled water	1 ounce.
	Filter.	
Solution No. 2.	Pure neutral tartrate of sodium	236·88 grains;
	Distilled water	1 ounce.
	Filter.	
Solution No. 3.	Pure caustic soda	80·65 grains;
	Distilled water	1 ounce.
	Filter.	

If only one ounce of the solutions was to be made, the fractions of a grain could be disregarded, but for larger quantities it was essential to take them into account. In testing for glucose, it was only necessary to use equal quantities of the solutions, boil, and, while the mixture was still quite hot, allow a drop or two of the urine to run down the side of the test-tube. If after the same quantity of the suspected fluid had been added as there was of the test, and the mixture had again been boiled and allowed to cool, no precipitation of suboxide of copper was observed, it could safely be said that there was no sugar in the specimen. These solutions had been in use in the college laboratory for more than a year past, and had never been known to fail, even when albumin was present in large amount; and the students had never had any trouble in obtaining the proper results.

Compound Backward Dislocation of the Lower End of the Femur.—Dr. H. M. Green, of Vermont, reported a case. The patient caught his foot in the wheel of a carriage, and, when the doctor reached him, the limb was shortened about six inches, and there was a wound in the popliteal region six inches and a half in length. Through this opening the lower end of the femur protruded, but no fracture could be made out. The dislocation was reduced and the wound sewed up; the motions of the joint were then perfect. The after-treatment consisted simply in keeping the limb in a straight position, with complete rest, by means of anterior and lateral supports and moderate extension. The wound was treated antiseptically. Although the patient had several attacks of synovitis, his recovery was fairly rapid, leaving him with complete ankylosis. In less than one year from the time of the injury he was doing considerable manual labor, and was now able to go about without the aid of either crutch or cane.

Reports on the Progress of Medicine.

PHYSIOLOGY.

By GRÆME M. HAMMOND, M. D.

The Proteids of Serum.—Halliburton ("Journal of Physiology," v. iii) recognizes two varieties: serum globulin and serum albumin. Their chemical constitutions are unknown, but they are well distinguished by their physical characters. The serum used in the experiments was chiefly blood serum of mammalian animals and the varieties of human serum which are generally known as pathological exudations. The experiments were arranged in two chief categories: first, those relating to the temperature of heat-coagulation of the proteids; and, secondly, those relating to the action of certain salts upon them. The temperature of heat-coagulation of serum albumin is put down by Hoppe-Seyler as 70° to 73° C. Halliburton found that, after heating serum to the higher of these two temperatures, and filtering off the resulting coagulum, the fluid still contained coagulable proteids which became a flocculent precipitate at a higher temperature. A process of fractional heating was therefore adopted. A sample of serum is heated until a flocculent precipitate appears; this is filtered off; the filtrate is then heated to a higher temperature until another similar precipitate appears; this is then filtered off; the process is repeated till the filtrate is free from proteids. To render the serum acid, a two-per-cent. solution of acetic acid was used. The process was applied first to serum pure and simple. The proteids of serum were afterward separated into their two classes, and each was subjected to the same treatment. The results of a great number of experiments show that the albumin of serum is not a single proteid, but consists of three separate proteids, coagulating respectively at the temperatures of about 73°, 77°, and 84° C.

The Physiological Relation between the Thyroid Gland and the Spleen.—Tauber ("Arch. f. path. Anat. u. Phys. u. f. klin. Med.," cvi, 1) removed the spleen from a patient, in the autumn of 1882, for cystic degeneration. Fearing that the loss of the spleen would entail great suffering, he made a number of experiments upon different animals, which satisfied him that the healthy spleen could be removed from animals of middle age without injury to the organism. Fifteen operations were performed on different animals of various ages. The animal was first confined in a cage for a considerable length of time, and was regularly fed. Once a week the blood was examined under the microscope, and, by means of Malassez's apparatus, the number of white and red blood corpuscles was definitely determined. The incision was made in the left hypochondriac region, the spleen found and excised, a ligature applied to the gastro-lienteric ligament, and the wound dressed with iodoform and antiseptic coverings. The subjects of the experiments were divided into three groups: 1. Those upon which the operation previously described was performed and the wound allowed to unite freely. 2. Those from which the thyroid gland was removed after recovering from the excision of the spleen. 3. Those from which the thyroid gland and the spleen were removed at the same time. Out of the fifteen animals operated upon, six died. One fact noted was

the frequent absence of the thyroid gland in domestic animals. Out of the fifteen operated upon, ten either had none at all or only a trace.

Tauber arrives at the following conclusions: 1. The spleen must be considered as one of the principal reservoirs of the blood. By its removal a great current of the circulation is retarded. In the first moments after its removal repeated arrest of the circulation of both the blood and lymph occurs in the liver and kidneys. 2. Between the thyroid gland and the spleen there is no physiological similarity, as Credé and Zisas maintain. 3. A middle-aged animal bears splenotomy better than an older one. 4. Animals without spleens are capable of becoming impregnated and giving birth to living progeny, in which the spleen is not absent. 5. The removal of the spleen has no influence upon the function of digestion. The weight of the animal decreases somewhat in the first week after the operation, but soon increases considerably. 6. After removal of the spleen the animal becomes anæmic; the relative number of the white blood corpuscles increases considerably, while the size and number of the red corpuscles diminish.

Alterations of Cortical Excitability by Cold Applied to the Surface of the Brain.—"It is known in a general manner," says De Varigny ("Brain," July, 1884), "that all tissues die rapidly when submitted to the influence of a certain degree of cold or of heat. But we do not know positively whether cold applied to the surface of the brain in the way in which M. Marcacci applies it does really kill the brain-elements; in fact, I do not believe it does; nor do I believe I killed them in my own experiments conducted in the same manner as Marcacci conducted his. This author says that by pulverizing ether one may obtain twenty, thirty, or even forty degrees below zero (Centigrade)." De Varigny believes this to be true if the liquid is pulverized upon a thermometer, but he does not believe that the same process can freeze the brain-surface. He has pulverized ether upon this surface for ten or twelve minutes continuously, and has never found the gray matter frozen. The blood does not cease to flow in the vessels, and the temperature always comes back to its normal degree in a few minutes. His experiments were performed upon dogs in the following manner: The animal was narcotized with chloral (by intra-venous injection), and, the brain being exposed, he ascertained exactly what strength of current was necessary to obtain a motor-reaction of the foreleg, for instance, and also the time required for the occurrence of this reaction; in short, the latent time of reaction. When these two points had been accurately ascertained, he began pulverizing ether on the brain-surface, doing all he could to refrigerate the motor center of one leg only without injuring that of the other. When refrigeration had been going on for five, ten, or fifteen minutes, he ascertained whether the motor center could be excited, with what strength of current, and with what latent time.

As a result of his experiments, he concludes that, generally speaking, after five or ten minutes' pulverization, excitability disappears or only diminishes. It can always be made to disappear if the spray is kept on long enough. After some time, if the cold has not been too intense, it reappears slowly, and may become greater than it was before. He can not say anything definite as to the length of the latent time after the return of excitability. It was generally found to be about the same.

The Temperature Sense.—Not satisfied with the methods employed by Weber and Nothnagel for testing the relative sensibility of different areas of the skin to heat, Pollitzer ("Jour. of Physiol.," v, 3) has invented a new instrument for determining the smallest amount of heat which different parts of the skin can appreciate. The instrument consists of a frame-work mounted upon a platform made of strata of mica, asbestos, and wood, and perforated by a circular opening fifteen millimetres in diameter. Within the frame-work, and immediately over the opening in the platform, there is an apparatus similar to the Paquelin cautery, except that the whole interior of the button is lined with platinum. This apparatus can be raised or lowered at pleasure, the distance being registered on a scale divided into millimetres. The whole instrument rests upon a large stand, from beneath which currents of air are excluded by means of cloth curtains.

Pollitzer maintains that by using this instrument: 1. The temperature of the source of heat is practically constant. 2. The parts examined and the heated parts themselves are sheltered from accidental currents of air by the use of suitable screens. 3. The effects of convection currents of heated air are entirely eliminated by having the heated surface always vertical over the part examined. 4. The thermal sensations are uncomplicated by any sensations of touch. 5. The parts of the skin examined are always of exactly the same extent of surface.

Six persons, all males, of different ages and occupations, were experimented on. Determinations were made for the middle of the back of the hand, the middle of the palm of the hand, the palmar surface of the third phalanx of the index-finger, the middle of the anterior surface of the forearm, the middle of the back, and the middle of the posterior surface of the calf of the leg.

The following conclusions are stated: 1. The relative sensitiveness to heat in different parts of the body is not the same in different individuals. 2. It differs much less in different parts of the same individual than the sensitiveness to pressure or the power of localization, the greatest difference for heat being three to one, while for pressure it is at least five to one, and for localization sixty to one. 3. The parts in which the other cutaneous senses are most acute are not the same as those in which there is the greatest sensitiveness to heat. 4. Of the parts examined, the tip of the index-finger is the least sensitive; in other parts, where the sense of locality is from five to thirty times as dull, the thermal sense is two or three times as acute. 5. The thermal sensitiveness bears no definite relation to the thickness of the epidermis.

Miscellany.

Lithotrity in Infants.—Ducarre (Thèse de Paris, 1884; "Bull. gén. de thérap."), after discussing this subject at length, draws the following conclusions: Lithotrity in infants is a comparatively mild procedure, the hardness rather than the size of a calculus being a contra-indication to operation. A catarrhal condition of the bladder does not affect the result of the operation.

Dr. Emmet's New Operation for Laceration of the Perinæum was lately made the subject of a paper read before the Paris *Société de chirurgie* by M. Kirmisson, who reported two successful cases.

The Health of the State of New York.—The "Monthly Bulletin" of the State Board of Health for the month of January contains the following summary: "The total reported mortality for the month is 6,571, the percentage of infant mortality being 32·95. From croup and diphtheria the percentage of mortality is 6·8; from consumption, 15·8; from other respiratory diseases, 16·4; from typhoid fever, 1·4; from all zymotic diseases, 11·12." The returns are still incomplete, but it is announced that improvement has been noticed since the publication of the "Bulletin" was begun.

The Health of the State of Michigan.—For the four weeks ending February 28th, the secretary of the State Board of Health, Dr. Henry B. Baker, reported that, as compared with the preceding month, there had been an increase of pneumonia and inflammation of the kidney, and a decrease of intermittent fever and amygdalitis; and that, as compared with the same month for the years since 1879, erysipelas and neuralgia had been more prevalent, and intermittent fever, diphtheria, remittent fever, measles, and scarlet fever less prevalent.

The Death of Professor Lucal, of Frankfort on the Main, is announced in a recent number of the "Deutsche Medizinal-Zeitung."

THERAPEUTICAL NOTES.

Anisic Acid.—Curci ("Rivista Ital. di Terap. ed Igiene"; "Bull. gén. de thérap.") describes this drug as formed by the oxidation of essence of anise. It occurs in the form of colorless prismatic crystals, soluble in alcohol and in ether. The most powerful of its salts is the anisate of sodium. The acid has decided antiseptic properties, and in its antipyretic effects it resembles salicylic acid. Curci affirms that there is a noticeable increase of the blood-pressure after the administration of the drug. It has a feeble toxic action, causing epileptoid convulsions in animals when it is injected into the veins in large quan-

tity. Applied in its pure state, it forms a good dressing for open wounds. It is a valuable antipyretic in acute inflammatory affections, and its use is not followed by the unpleasant after-effects sometimes observed after the use of salicylate of sodium.

Inhalations of Nitrogen.—In our issue of July 12, 1884, we gave a summary of an elaborate paper on this subject, by Sieffermann. Valenzuela ("Revista de Med. y Cir. Práct."; "Bull. gén de thérap.") reports the results of a series of experiments performed with the view of determining the therapeutical value of these inhalations. Ten subjects were allowed to inhale air charged with an equal volume of nitrogen for two hours daily, and their urine and the air expired by them were carefully analyzed. At first, the respirations were increased in number and in amplitude, the veins became dilated, the pulse was more frequent and full, and the temperature rose slightly. After the lapse of several minutes the respirations became slower, and the patient returned to his normal condition. Reflex nervous excitability was diminished, and drowsiness was experienced. The analysis of the expired air showed that there was a marked diminution in the amount of oxygen consumed, as well as in the quantity of carbolic acid excreted. The writer has observed valuable clinical results, especially in the treatment of phthisis, in which, by the use of the inhalations, he caused an amelioration of the local trouble and an improvement in the general condition. The treatment is recommended for asthma and anæmia also.

The Physiological Effects of Cinchonamine.—Sée and Bochefontaine ("Gaz. hebd. de méd. et de chir.") have experimented with the sulphate of this alkaloid, which is obtained from the *Remijia purdiana*. They attribute to it the following properties: 1. Gradual enfeeblement of the nervous system, followed by convulsions. 2. Slowing and weakening of the heart-beat, and, after large doses, the complete arrest of the heart in systole. They infer that the sulphate of cinchonamine is six times as powerful as the sulphate of quinine.

The Treatment of Enlarged Bursæ by Injections of Carbolic Acid.—Courtade ("Bull. gén. de thérap.") favors treating these cases by aspiration and injecting a solution of carbolic acid, 1 to 20. Firm compression is then applied, and the limb is kept quiet for several days. Symptoms of local inflammation may be noticed, but they soon disappear. This treatment is designed to take the place of incision of the bursa.

Trichloracetic Acid as a Nervous Sedative.—Bodländer ("Centralbl. f. klin. Med.") replies to a criticism made by Hermann of the statements put forward in behalf of this compound; insists on its activity, especially as a nervous sedative; and denies that it simply produces motor disturbance without any narcotic effect. The discussion is warm, but rather unprofitable.

Naphthalin in the Treatment of Intestinal Affections.—Rossbach, whose observations in regard to the use of this drug for diarrhœa we summarized in our issue of September 6, 1884, suggests ("Centralbl. f. d. ges. Therap."; "Bull. gén. de thérap.") the following formula for its administration:

Naphthalin,	each	75 grains;
White sugar,		
Essence of bergamot		½ grain.

Divide into twenty powders. From five to twenty powders are to be taken daily in cases of diarrhœa. The drug is especially recommended in the treatment of tuberculosis of the intestine.

Phormium Tenax as a Vulnerary.—Monckton ("Australasian Med. Gaz.") speaks highly of the use of a decoction of the root of the *Phormium tenax* (New Zealand flax) as a surgical dressing. It should be prepared fresh every second day, and a moderate amount of carbolic acid may be added. Wounds are syringed out with the decoction, and are afterward dressed with cotton-wool or lint soaked in the same. The writer adds that he has employed the preparation in wounds of every description, and always with a good result; the granulations are cultivated healthy, and healing takes place rapidly.

Bicarbonate of Sodium as an Antidote to Iodoform.—Behring ("Centralbl. f. klin. Med.", "Rev. méd.") maintains that bicarbonate of sodium acts with iodoform in the body to form an iodide, in which state it is found in the urine; and that, by the regular administration of the bicarbonate, a condition of toleration of iodoform is brought about in the system.

The Poisonous Properties of Chlorate of Potassium.—Hirschwald ("Centralbl. f. klin. Med.") has written a monograph on this subject, wherein he details the results of careful observations with regard to the toxical and therapeutical properties of the drug. He thinks that the fatal consequences that are sometimes observed after the administration of moderate doses are due to diminished alkalinity of the blood, with consequent decomposition of the hæmoglobin. The practical inference is that, in poisoning with chlorate of potassium, large doses of carbonate of sodium should be given, in order to increase the alkalinity of the blood.

Tincture of Anemone in the Treatment of Orchitis.—Martel, in a letter to Dujardin-Beaumetz ("Bull. gén. de thérap."), mentions several cases in which he has observed improvement after the use of this drug. He discusses the question of its specific action, but is unable to decide it. He remarks that, in its sedative properties, anemone resembles aconite and adonis.

A Laxative and Diuretic Powder.—The following formula is given by Peter ("Union méd."):

Powdered squill, Powdered digitalis, Calomel,	each	1 grain.

Divide into three powders, of which one is to be given every hour in cases of dropsy, whether of cardiac, renal, or hepatic origin. The three powders may be repeated after two or three days.

A Lotion for Syphilitic Spots.—Mauriac (*Ibid.*) recommends the following:

Bichloride of mercury	3 grains;
Chloride of ammonium	10 "
Cologne-water	10 drachms;
Distilled water	3 ounces.

An Ointment for Scabies.—The same journal gives Hardy's formula as follows:

Naphthol	5 drachms;
Vaseline	6 ounces.

Dissolve the powdered naphthol in half its weight of ether. Mix with a part of the vaseline, heat until the ether has evaporated, and then add the rest of the vaseline. The ointment is to be applied daily for ten or fifteen days.

An Application for Ozæna.—The following is Vidal's formula, as employed at the Hôpital St. Louis ("Jour. de méd. et de chir. prat."; "Practitioner"):

Solution of chloride of zinc, 5 per cent.	1 ounce;
Boric acid	14 grains;
Water	28 ounces;
Ammonia-water, enough to neutralize the solution.	

To be sniffed up into the nose several times daily.

An Ointment for Sycosis.—Hans Hebra proposes the following formula ("Wiener med. Blätter;" "Practitioner"), which is a modification of one proposed by Wilkinson:

Sublimed sulphur, Oil of cade,	each	8 drachms;
Soft soap, Fat,	each	2 ounces;
Prepared chalk		5 drachms.

After the hair over the diseased spot has been cut short, and the crusts have been taken away, rub in the ointment thoroughly, and apply a flannel bandage. The ointment should be applied daily, the affected hairs being carefully pulled out and the pustules emptied. The cure is said to be complete in about ten days.

An Ointment for Ecthyma.—Besnier ("Rev. méd.") employs the following:

Carbolic acid		30 grains;
Vaseline, Starch,	each	3 ounces.

This preparation is especially recommended for eruptions of a parasitic origin.

Original Communications.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.

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(*Continued from page 295.*)

Treatment.—The object in treating these injuries should be to restore the lacerated muscles by securing union of their severed fibers. In the ordinary or most commonly recognized injury, laceration in the median line down to, but not through, the sphincter, the immediate treatment usually employed is to close the wound with sutures at once, or to cleanse the wound from blood-clots and adapt the parts, carefully bind the patient's limbs together, and trust that union may follow. The treatment by the immediate use of the suture will be made plain by the following:

Primary Operation.—The wound, if seen when it occurs, is triangular, the base running parallel to the rectum and the apex at the posterior part of the vulva. The sides of the wound come together quite easily, and only require well-adjusted sutures to keep them in position. Much care is necessary in using the sutures. If they are imperfectly introduced they do harm by preventing the union which often takes place without surgical aid. If one is not used to this simple operation of closing the wound with sutures, it would be infinitely better for the patient to trust to nature than to employ sutures in a bungling way. The sutures should be introduced as follows: The needle, held in the groove at right angles to the forceps, should be entered in the skin exactly at the edge of the wound, and as far down as the deepest part; it is then carried into the tissues and made to describe the arc of a circle and emerge at the margin of the mucous membrane of the vagina. The needle is again introduced on the opposite side and carried through as before, and brought out at the point in the skin opposite where it was first entered. If this is properly done, the position of the suture in the tissue will be as represented in Fig. 6.

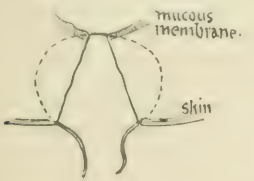


FIG. 6.

The center lines represent the sides of the wound and the dotted line shows the suture, which describes a circle, the point at which the suture is tied and the opposite point of its circumference being at the upper and lower angles of the wound. There are three advantages in using the suture in this way: First, the ends of the suture coming out at the edges of the wound hold the parts exactly together without the aid of superficial sutures; second, the curve which the suture takes deep under the tissues brings the central portions of the wound together, whereas, if the suture is passed straight through the tissues, the edges of the wound would curve inward, while the central parts would not meet. Fig. 7 shows the parts adjusted by a proper suture, while Fig. 8



FIG. 7.



FIG. 8.

shows the effect of the imperfect one. Again, the suture running deep into the tissues gives additional surety of catching the ends of the muscles so as to reunite them, which is the chief object of the operation. In the primary operation—i. e., the introduction of sutures immediately after the injury occurs—Peasles's needle is easier to use than the ordinary perineal needle. Fig. 9 shows the instrument. This needle, with a handle, and an eye near the point, is armed with a thread and passed through the tissues as already described, and the end of the suture is passed under the thread in the needle; this is then withdrawn and brings one end of the suture into the tissues. The operation is repeated on the other side, which completes the introduction of the suture. The only advantage of this needle is that it is easier to manage than the ordinary needle. It can only be used, however, in the primary operation. The silk suture properly prepared is by far the best for the immediate operation. Silver wire, which at one time was the only suture which could be relied upon, has been superseded by others that are vastly superior for this purpose. It is impossible to keep the parts clean after confinement without causing pain while the ends of silver-wire sutures are projecting from the parts. The silk sutures save the patient much discomfort, and are not in the way of the means necessary to keep the parts clean.



FIG. 9.

This constitutes the whole primary treatment of injuries of the pelvic floor, as given in our text-books—a kind of management generally sufficient in central lacerations, but that can have little influence in restoring the other forms of injury. To secure the reunion of the muscles that have been lacerated subcutaneously, especially the levator ani, the parts should be well supported and kept at rest. If the pelvic floor is permitted to remain in its relaxed and displaced position there is but little chance of the lacerated muscles uniting, nor, in case they are simply overtaxed by distension, will they regain their tonicity promptly if left unaided by support. Especially is restoration likely to be prevented if the patient is permitted to assume the erect position too soon, and if, to increase the injurious effects of this unwise liberty, the uterus is crowded down into the pelvis by a compress and tight bandage ap-

plied around the body. In all cases of injury in which concealed laceration of the muscles is suspected, the pelvic floor should be supported well with a compress and bandage fastened to the abdominal binder. By these means the severed ends of the muscular fibers are brought nearer together, so that they have a better chance to unite. An objection would naturally be raised to this treatment in the fact that it would obstruct the free flow of the lochia. This can be overcome by making the compress of absorbent cotton, antiseptic gauze, or marine lint, and draining the vagina with a drainage-tube or a strip of gauze or lint. I believe that in this way the vagina can be drained and kept as clean as it can by occasional douching. In fact, I am inclined to think that the very frequent use of vaginal injections so generally employed in this age of antiseptic obstetrical practice often tends to retard the restoration of injuries of the pelvic floor. It is well, also, to let the patient rest upon either side after the first twelve or twenty-four hours. This position takes off all pressure from above and favors the upward inclination of the pelvic floor. Great care should be taken to avoid distension of the bladder and rectum. Constipation after confinement is almost sure to prevent or, at least, retard recovery. By attending to these simple means much can be done toward preventing that incurable condition, permanent paralysis from atrophy.

After convalescence from confinement, in case it is found that, although there is no complete loss of muscular action in any part of the pelvic floor, there is a muscular weakness shown by the impaired power of resistance to pressure, the supporting treatment, with judicious rest and exercise well regulated, should be kept up until strength is restored.

The restoration of the function of the muscles, as already stated in speaking of general treatment, is also the great object of all surgical operations for the relief of these injuries of the pelvic floor. It matters not how much tissue may be gathered together and united in the region of the perineal body, it will have no functional action if destitute of muscular tissue. The success of all surgical procedures depends upon the restoration of the muscles, elastic tissue, and fascia, and not the mere uniting of the tegumentary and areolar tissue.

In this plastic operation, known as perineorrhaphy, or restoration of the perinæum, much surgical skill is necessary in order to succeed. This is true of all operative surgery, and yet special care is necessary in this operation, because union by first intention must be secured or else the operation will fail. In many operations in surgery, if the wound does not heal by first intention, union may be secured by granulations and a perfect result obtained; but in the operation under consideration, if the whole or any part fails to unite promptly, partial or complete failure is the result. This calls for the employment of all known surgical means most favorable to prompt healing. On this account, then, some general considerations regarding plastic operations in gynæcology will be in place before describing the methods of operating. What will follow on this subject will apply equally to all operations about the pelvic floor and pelvic organs, especially lacerations of the cervix uteri.

The following may be given as the conditions necessary for the healing of the wounds in question.

1st. A condition of the wound and of the general system favorable to the repair of injuries.

2d. Perfect coaptation and retention of the parts to be united, and protection of the parts from extrinsic and offending agents during and after coaptation.

If these conditions are all secured, success must of necessity follow. The management of wounds is not a matter of blind chance. The process of repair in living tissues is governed by definite laws which are always the same under identical circumstances. To obtain the conditions necessary to the fulfillment of these laws is often difficult and sometimes impossible; still, the nearer we come to all the requirements the more surely will the desired ends be accomplished.

The first of these conditions, viz., good general health, may be found wanting in many ways and degrees which are too familiar to require notice, but there are some of these which may be mentioned because they are very often overlooked—preoccupation of the system by some highly taxing function, like lactation, for example, and certain deranged states of the nervous system. These certainly have an important bearing upon the healing of wounds, although little if anything is said in our works on surgery regarding them. In fact, there is good reason for believing that enfeebled states of the nervous system have much to do with retarding the healing of wounds, even when the general nutrition appears to be normal. We frequently hear surgeons say that patients recover from injuries much more promptly when they have courage and hope without fear; but exhausted and irritable states of the nervous system retard the process of repair, although the patient may be indifferent or perfectly satisfied in regard to recovery.

Regarding the unfavorable conditions of the tissues generally met with, the following are the most important: First, contusions accompanying wounds caused by parturition.

Lacerated wounds of the pelvic organs often heal promptly if well coaptated immediately after they occur, but no such union should be expected in case the tissues are greatly contused. While this is true of the immediate treatment of wounds sustained during labor, it is pretty definitely settled that operation wounds made during the process of involution—that is, within four or six weeks after confinement—often fail to unite. From this we learn that while tissues are undergoing involution they are not in the best condition to heal; and also that, when involution is delayed beyond the usual time, treatment should be employed to complete the process before undertaking plastic operations.

Scrupulous care is also required in preparing the tissues by making clean, accurate incisions which will give smooth surfaces to the parts to be united. Old scar tissue should also be removed from all wounds where union by first intention is desired. These are rules in surgery which are well known, but they are sometimes overlooked in practice.

Hæmorrhage.—Hæmorrhage in these operations is often a source of difficulty and delay to the operator, but, worse than that, it is sometimes the cause of failure. In the vast

majority of surgical operations all that is required of the surgeon is to arrest the hæmorrhage, by any of the ordinary means, in order to secure a good result; but in the operations in question, if some kinds of styptics have to be used, they prevent union. Cases differ so very much in regard to hæmorrhage that I have given much thought to the predisposing causes of this bleeding tendency, so marked in some patients. The hæmorrhagic diathesis in its most typical form is generally found in men, but a less marked hæmorrhagic tendency is common to many women, who are very unpleasant subjects to operate upon. During the past few years it has been my misfortune to meet with quite a number of cases in which the bleeding tendency was noticeable. The cause of this in most of them, I think, was impaired general health, due to exhausting conditions of life rather than to any congenital imperfection of the blood itself. Another very important element I have found to be mechanical interruption of the circulation, the pelvic organs becoming congested from retardation of the portal circulation, induced by hepatic disorders, sedentary habits, tight lacing, and so forth. The products of former pelvic inflammations, such as pelvic cellulitis, also tend to maintain a hyperæmic state of the pelvic organs; this we often find long after all evidence of active inflammation has subsided. The condition at the time also is often favorable for bleeding; the well-defined vascularity which exists in conditions such as imperfect involution insures hæmorrhage in all operations undertaken during such unfavorable states. The possible hæmorrhage from such causes can be avoided by the proper selection and preparation of cases before operating.

The rule which should be followed in this matter is to secure the best possible state of the general health of the patient, and to reduce all hyperæmic states of the pelvic organs as far as possible. This is generally possible to a great extent, because the object of plastic operations is to restore the organs to their original form and structure, differing in this regard from many other operations in surgery which have for their object the removal of diseased parts.

In carrying out this plan of treatment, however, there is one difficulty encountered in practice; when the patients are ill and suffering they will gladly accept an operation which promises them relief, but, when they are relieved from pain and have gained in health, they hesitate about undergoing any surgical treatment which is designed to keep them from suffering in the future. This, however, does not prevent the surgeon from doing otherwise than that which is best. There are patients—fortunately very few—who have the hæmorrhagic diathesis sufficiently marked to debar them from operations, and it is doubtful if any preparatory treatment will change this constitutional peculiarity. Such subjects should be let alone; to operate in these cases is dangerous, and almost always ends in failure. I have had three such cases in the past five years; two of them were operated upon before discovering their peculiarity, the results being depletion of the patients without any benefit from the operation, and the development of extreme caution on the part of the operator in selecting cases in future. The third case was diagnosticated earlier, and I declined to operate.

The management of bleeding vessels in these operation wounds is of great importance. All hæmorrhage should be arrested before bringing the parts together, because a slight oozing, which would do no harm in a wound to be treated by open dressing, may prevent union in wounds in which drainage should not be employed, or, at least, should not necessarily be required. This often requires an amount of time which the surgeon reluctantly bestows, but success in treating this class of wounds depends largely upon attention to this matter. Still more, the means used to arrest hæmorrhage should be such as will not interfere with the process of healing. Hitherto the means used have been ligation or torsion of the large vessels, and for minor bleedings the use of ice or cold water. More recent experience has pointed out objections to these means. Chilling the tissues by cold is injurious, it is said, and no doubt the statement is true. It has, fortunately, been found that hot water is more efficient in controlling hæmorrhage, and its effects upon the tissues are not unfavorable—hence its use as a styptic in these operation wounds is strongly commended. Torsion is objectionable, because it is less certain to control bleeding than the ligature, and quite as liable to give rise to suppuration. In view of this fact, it may be said without doubt that the antiseptic ligature is the best means of controlling the vessels in these wounds. Regarding the material to be used as a ligature, it may be said that that which can be inclosed in the wound without giving subsequent trouble is the thing required. The properly prepared catgut ligature fulfills the indications. Some recent experience indicates that the Japanese ligature, made of whale-sinew, is the best, owing to its being absorbed with great facility. Occasionally, in deep lacerations, a small artery on each side may require to be ligated; the chief arterial bleeding, however, comes from the upper portion, the small vessels coming apparently from above downward in the areolar tissue, between the rectum and vagina. These sometimes bleed quite freely, and they are not controlled by tightening the sutures, which arrest the hæmorrhage at points lower down. Such vessels I control by passing a needle through the vaginal mucous membrane above the denuded surfaces, and thus carry a ligature under the bleeding vessels, tying it over the free surface, checking the bleeding on the principle of acupressure. The sutures can be left in position until the perinæum has completely healed; they can then be removed with the aid of the speculum. Occasionally it becomes necessary to ligate some of these vessels which bleed persistently and can not be controlled in the way I have previously described; it is then well to ligate them with a fine catgut ligature, the ends being cut off short and inclosed in the wound.

In spite, however, of all precautions, secondary hæmorrhage will occasionally occur after this operation. I have met with four such cases in my practice; in one of them it occurred on the seventh day after the operation. In all of them the bleeding took place from the upper or vaginal portion of the wound, the blood flowing into and widely distending the vagina before appearing externally.

In my first case I was obliged to remove the sutures, empty the vagina of blood-clots, and ligate the bleeding vessels. This resulted in spoiling my operation, for, although I reintroduced the sutures, union did not take place. This hæmorrhage occurred on the second day.

In my three subsequent cases I secured much better results. Introducing a Sims's speculum on the *anterior* side of the vagina, I removed the clots and blood by sponging, and then, throwing light into the vagina by means of a concave reflector, I was able to see that the blood welled up from the upper portion of the wound. In place of pulling the edges of the wound apart and searching for the bleeding vessels, I passed a curved needle and ligature down and around the place where the bleeding came from, and was able, by tightening my ligature moderately, to control the bleeding entirely. These cases subsequently did well, and the result of the operation was good.

Sutures.—The coaptation of the tissues by means of sutures requires more than a passing notice.

The success which J. Marion Sims obtained with the silver-wire suture led at once to its general use in gynæcological operations. There is, however, good reason for believing that the results obtained by that great surgeon depended as much upon his skill in using sutures as upon the material which he used.

To-day we know that it matters little whether silver-wire or well-prepared silk sutures are used, provided they are properly introduced. The parts to be united should be brought together and held there without any straining upon the sutures. It is equally important to introduce the sutures so that they will prevent the incurving of the undenuded edges of the parts to be united, and, finally, a sufficient number of sutures should be employed to secure uniform retaining pressure at all parts of the wound.

These are facts which every one is supposed to know before engaging in surgery, but in practice a large number of failures are seen because of neglect in regard to them.

The management of these wounds during the healing process differs somewhat from the modern treatment of wounds in general.

Dressings.—The antiseptic dressings which surgeons use in some form or other are difficult of application in the operations for restoring the cervix uteri and perinæum. So fully is this the case that some of our highest authorities on gynæcology make no pretensions to using antiseptic treatment in such wounds, unless frequent bathing of the parts with water and carbolic acid may be called such. No doubt some of our best operators get good results with this kind of after-treatment, but it is more than probable that still better results can be obtained by treatment more in accordance with the rules of antiseptic surgery. Viewed in the light of modern investigation, it appears that the frequent douching of wounds with carbolized water is a practice at least ten years behind the surgery of to-day.

In treating wounds of the perinæum there are many perplexing difficulties in the way of obtaining a proper antiseptic dressing. Here, also, the vaginal douche has been freely used for the purpose, it is said, of removing vaginal secretions which might irritate the wound and prevent its healing. Such treatment is generally unnecessary, if not injurious. In all operations for repairing old injuries of the perinæum it is better to first cure all uterine and vaginal diseases which give rise to abnormal discharges. That is the only sure way of protecting the operation wound from that source of disturbance. This, of course, can not be accomplished in the treatment of lacerations immediately after confinement. Then it becomes a very important question how to protect the perineal wound from the lochia. Various means have been suggested for this purpose, such as coating the vaginal surface of the wound with collodion, placing carbolized lint or borated cotton upon the inner portion of the wound, and, the most common of all, the frequent use of vaginal injections. It is hardly possible to say, at the present time, which is best. The collodion has not been tried often enough to speak positively regarding it. In using the lint or cotton there is danger of separating the edges of the wound, the very thing of all others to be avoided. Perhaps the best treatment, after carefully cleansing the parts and bringing them accurately together, is to let the wound alone for about two days, trusting that during this time it may become sufficiently protected, by a coating of fresh lymph, to resist the subsequent discharges. After the lochia begin to decompose, the frequent use of the vaginal douche is advisable, and should be continued until the union is completed.

In the secondary operation for restoring the perinæum, the vaginal portion of the wound may generally be left alone. It is protected from the air by the anterior vaginal wall, which makes a suitable dressing provided the uterus and vagina are in a normal condition, as they should be, before the operation is done. If suppuration takes place and pus is discharged into the vagina, it should be disposed of by injections. The outer portion of the wound may also be left without dressing, but it is better to apply lint or cotton upon each side of the sutures; if silver wire is used, or if silk is employed, the lint can be placed over the wound and retained in place by keeping the limbs together. The advantage of this kind of dressing is that it absorbs any discharge that there may be.

Perhaps the most important point of all in the management of such cases is to keep from spilling urine upon the wound. The most scrupulous care should be taken to close the end of the catheter in withdrawing it. If this is neglected, a few drops of urine will escape from the eye of the instrument, and, falling upon the wound, will cause trouble. The nurse should be carefully instructed to use the catheter in this way, and, to make doubly sure of cleanliness, a little absorbent cotton should be placed between the meatus urinarius and the wound every time the instrument is used.

Notwithstanding all this care, suppuration will sometimes occur, and then the question arises how to manage this complication. If the suppuration is limited to the track of one suture, that one may be removed and the remaining ones trusted to keep the parts together. It sometimes happens that a cellulitis which begins in the region of the sutures extends outward and ends in suppuration. This should be treated by a free incision and drainage,

which may save the operation. On the other hand, if suppuration takes place between the surfaces to be united, there is very little hope of obtaining union at all by any kind of treatment. A partial or even complete success may be obtained in such cases if the suppurative process is detected early, and drainage from the lower edge of the wound is established. This can be effected by loosening one or more of the sutures, and then introducing carbolized silk thread or catgut to secure the free escape of the inflammatory products.

(To be continued.)

EPILEPSY

CONSIDERED AS A CAUSE OF DEATH.*

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The literature upon this subject is rather limited, owing, in many instances, either to the indifference or neglect of physicians to watch and record the phenomena of epilepsy at its closing period. The disease being recognized as chronic, and so largely unamenable to treatment, the vast majority of cases are practically lost sight of in the way of observation after being well established. Asylum experience furnishes some facts of importance in elucidation of this subject, and my object in presenting this contribution *is for the purpose of establishing corroborative evidence in regard to death during the epileptic paroxysm, or as an immediate result of the convulsions.* Few, perhaps, are aware how largely epileptics figure in asylum statistics; but in these may be found most of the many failures in the treatment of this disease by the general physician.

In the various State and county asylums and poor-houses in New York State there are about 12,231 insane persons, among whom are to be found nearly 800 epileptics.

In an article published in 1868, by Dr. G. Mackenzie Bacon, of the Cambridge County Asylum, England, he writes: "The immediate cause of death in epilepsy is a matter which is not always easily solved, and one which is not often discussed in works on medicine, most probably from lack of information. This silence on the part of writers is not to be wondered at when one considers how few epileptics die in hospitals, or under the observation of the more learned teachers of medicine; for, as such patients are generally incurable, and also unpleasant companions, they seldom figure long as in-patients. But there is another cause far more active, and connected with the nature of the disease, viz., that, inasmuch as the mind always suffers from prolonged epilepsy, in a certain time the victims of this disease, or at all events a large proportion of them, disappear from society, and require seclusion in an asylum, where they are lost to the world." †

According to the views expressed by numerous authors in reference to the prognosis in cases of epilepsy, death, as the direct effect of the convulsion, seems to have been a rare occurrence in the experience of the majority, although some writers refer to such cases as occurring in the experience of others.

Dr. J. Russel Reynolds writes: "The danger to life is somewhat remote, and need scarcely be entertained. It is excessively rare for an epileptic to be killed by or die in one of his attacks. . . . I have never yet known a case in which the attack proved fatal." *

In his practical treatise on "Diseases of the Nervous System" Dr. W. A. Hammond states: "I have never, in my own experience, known death to take place during a paroxysm of true epilepsy; such cases, however, do occur. . . . So far as regards the occurrence of death during the paroxysm, the convulsive form is more fatal." †

Ross, in his exhaustive work on nervous diseases, says: "Epilepsy is essentially chronic, and may last for years, and, although death occasionally occurs during a paroxysm, this is exceedingly rare. . . . The danger to life is remote, since it is rare for an epileptic to die in one of the attacks." ‡

Bristowe writes that "very rarely the fit itself proves fatal without extraneous aid; when it does, the patient dies from asphyxia during its first stage, or from exhaustion or coma during the continuance of the *status epilepticus.*" ¤

In Niemeyer's text-book of "Practical Medicine" we find the following remarks: "But, although epileptics seldom recover fully from their disease, and although they are not often long-lived, yet they rarely die during an epileptic fit in consequence of suspended respiration, or of extravasation of blood into the brain, or of general paralysis during the comatose state which follows the fit. Their death is much more frequently due to the progress of cerebral disease which has given rise to the epilepsy, or to the effects of injuries which the patient has received during his paroxysms, and, oftener still, he dies of some acute or chronic affection which is in nowise connected with the epileptic disease." ‖

In his article on Epilepsy in Quain's "Dictionary of Medicine," Brown-Séquard says: "In some epileptics who have a series of fits in rapid succession, there is a more or less prolonged period of coma after each attack. Sometimes in such cases death terminates the scene after a more or less considerable number of attacks."

The fact that patients die while in the epileptic paroxysm can not be questioned, but is not so generally accepted.

In some cases the patient has no sooner come out of one convulsion than another one begins, until finally they follow one another in such rapid succession that consciousness is not restored between the attacks. This constitutes the condition known as the *status epilepticus* (état de mal épileptique), and is of extremely serious import.

In 1873 Bourneville published a monograph in which

* Read before the New York Neurological Society, February 3, 1885.

† "Lancet," 1868, vol. i, p. 555.

* Reynolds's "System of Med.," vol. i, p. 779.

† "Dis. of the Nerv. Sys.," p. 705.

‡ Ross, "Dis. of the Nerv. Syst.," vol. ii, pp. 282 and 311.

¤ Bristowe's "Practice of Medicine," p. 1010.

‖ Niemeyer, "Practice of Med.," vol. ii, p. 448.

he describes this condition, and it is probably the best treatise on the subject extant.

According to this author, the *status epilepticus* is characterized: 1. By the frequent repetitions of the fits, which may even become almost continuous with one another. 2. By a variable degree of collapse, which may deepen into the most profound coma, unattended by any return of consciousness. 3. By a more or less complete hemiplegia, developing after a variable duration of the symptoms. 4. By increased frequency of the pulse and respiration. 5. By a considerable elevation of the temperature, which persists in the brief intervals of the fits.

Bourneville divides the affection into two periods—viz., a convulsive and a secondary meningitic stage.

The prodromes do not differ in any respect from those which are usually experienced by the patient prior to his ordinary attacks of convulsions. But the fits, instead of ceasing, follow one another rapidly, and before the epileptic coma has entirely disappeared another convulsion makes its appearance.

The intervals between the fits become shorter and shorter, until they run into one another, and finally the patient appears to be in one long-continued convulsion. The pulse is regular but usually small; the respirations become frequent and labored. The temperature begins to rise from the very beginning, and may rapidly reach a height of 104,° 105,° or 107° F., and upward.

The skin feels hot and scorching; the face is covered with an abundant viscid sweat. Marked nystagmus is present, and the face and neck may be drawn to one side. The pupils are dilated either equally or unequally on the two sides, and do not react normally to light.

After the convulsions have lasted for some time, hemiplegia develops in a large number of cases, the face and limbs being affected as in ordinary cerebral hemiplegia.

When the limbs on the paralyzed side are lifted up and then allowed to fall, they drop like inert masses. The sensorial and intellectual functions are totally abolished, and the patients lie in a profound stupor which often deepens into coma. Contracture sometimes occurs, and involves the muscles of either the jaw, neck, or limbs.

These contractures are especially produced after the cessation of the fits, or when they are becoming more infrequent. Death may occur in this stage in a condition of extreme cyanosis, due to the violence and frequent repetition of the convulsions. The number of the fits varies. In one of Bourneville's fatal cases the patient had twenty fits on the first day, forty-five on the second day, twenty-two on the third day, twenty-seven on the fourth day, and twelve on the fifth. Recovery may also occur in the convulsive period, and in such cases, of course, the second stage is absent.

Secondary or Meningitic Stage.—At the close of the first stage the convulsions become more infrequent, and then cease, but another series of symptoms develops. The intelligence is more or less affected, and the patient is in a state of hebetude or coma. At intervals this condition may be replaced for a few moments by maniacal delirium, which is often very violent, and is sometimes accompanied by hallucinations.

The tongue is dry and coated, sordes are found upon the teeth, and nutrition is profoundly disturbed, the whole body becoming rapidly emaciated. At this time bed-sores may make their appearance, varying from a simple erythematous patch to a more or less extensive necrosis of the skin. The situation of these bed-sores is not by any means so fixed as in cerebral hæmorrhage or softening. They may involve: 1, The sacral region; 2, the buttocks; 3, the fold between the buttocks; 4, the skin covering the great trochanters. In addition to these symptoms, the temperature, which had begun to fall after the subsidence of the convulsions, again rises. The entire group of symptoms may now increase in severity, the vital forces rapidly fail, and the disease progresses to a fatal termination. Or, on the other hand, the collapse diminishes, the functions of the skin become more normal, the tongue clears, the temperature again sinks, and in a few days the patient is restored to his ordinary condition of health.*

In asylum practice the deaths recorded as being due to "epilepsy" occur under four different conditions, viz.:

1. During or immediately succeeding the fit, either by asphyxia, apoplexy, or in some cases explained only by profound shock to the visceral centers.

2. By or during the *status epilepticus*, either in profound coma during one of the convulsions, or from rapidly supervening exhaustion after coma has subsided.

3. Gradually or suddenly from exhaustion ensuing upon an unusual or abrupt increase in the number and severity of the convulsions. (This condition I shall describe as "a succession of fits followed by stupor.")

4. From accidental extraneous causes occurring during the fit, such as suffocation while in bed, fracture of the skull, or other severe injuries.

Bucknill and Tuke,† in their exhaustive treatise on insanity, cite the following instructive case:

"At the Devon Asylum we tried Marshall Hall's remedy for epilepsy—namely, tracheotomy. Marshall Hall maintained that the *grand mal* was occasioned by spasm of the glottis, producing temporary suffocation and coma from undecarbonized blood. And in one instance, at least, we fondly thought that we had established the truth of his theory.

"A robust young woman, subject to severe epilepsy and maniacal excitement following the attack, wore a silver tube in her trachea for many months—we think it was for more than a year—and during this time the fits became exceedingly slight and were followed by no mental excitement; but, alas! the end of it was that a great accession of epilepsy took place, fit succeeding fit, in what has been called the *status epilepticus*, and we had to watch her, as she died comatose with the tracheal tube in position.

"She was suffocated by spasm of the pectoral muscles of respiration and of the diaphragm, although the tracheal opening into the lungs was absolutely free."

The following twenty cases of "death from epilepsy,"

* Putzel on "Functional Nervous Diseases," 1880, p. 51.

† "Psychological Medicine," p. 749.

some of which were observed by the writer, were in inmates of the New York City Lunatic Asylum, and through the courtesy of my friend, Dr. Thomas M. Franklin, the medical superintendent, I am enabled to present the accompanying abstract histories.

This asylum, which is under the supervision of the Commissioners of Public Charities and Correction, is situated near the northern extremity of Blackwell's Island, and is exclusively for the care and treatment of females.

There are 1,521 patients in this institution, among whom are 90 epileptics.

Those affected with epilepsy are confined in one large ward, or pavilion, as it is called, which contains upward of seventy patients. All of these unfortunates are hopelessly insane, and are either maniacal or demented. It seems to be a wise provision of Providence that so many should die during the seizure.

Any one who has watched the progress of cases of this nature would ultimately conclude that the most fortunate event that could take place in regard to the relief of these epileptics would be, that they should all be simultaneously attacked and terminate their career in the *status epilepticus*.

This gregarious method of caring for epileptics has no deleterious effect upon them, as it might have in cases where chronic insanity is absent. This is the most unfavorable class of patients, and the most difficult to manage of any to be found in the asylum. Certainly, it is to be understood that, in the classification of patients, there is some discrimination made in reference to epileptics who have recently become insane and have only occasional epileptic attacks.

These are treated in other wards of the asylum, and not allowed to associate with those who are similarly affected. During the year 1879 I had personal charge of the "epileptic ward" above mentioned. All of the patients were females whose ages varied from sixteen to sixty years, and numbered in the neighborhood of seventy-eight. One of the duties of the attendant was to record the name of each patient and the number of fits experienced during the twenty-four hours, also the total number of fits occurring in the ward during the same period. The aggregate number would vary from ten to sixty fits during the twenty-four hours. At this time the patients had received no special treatment for several months. As a matter of experiment and observation, every patient in the ward was given the "bromide mixture" two or three times a day (in conjunction with tonic treatment where indicated), in doses regulated in accordance with the severity of the case, with the result, after ten days' treatment, of reducing the number of convulsions in the ward to one fit daily, and at the end of two weeks from the time that the systematic administration of the medicine was first instituted there were no attacks in the pavilion for three days. The use of the drug was continued without interruption for nearly six weeks, only an occasional paroxysm occurring to disturb the equanimity of the attendants or to indicate that an abortive attempt had been made to sustain the reputation of the pavilion. The patients themselves manifested no activity to speak of, as they had been quite apathetic and oblivious for some time, when, through some accidental delay in the delivery of the "drug supplies," the use of the medicine was abruptly discontinued, and, horrible to relate, on the following day nearly sixty fits occurred in the ward.

In the greater number of these cases large doses became necessary before the convulsions were controlled.

Although in almost every case either the number of attacks decreased in frequency, or those which did occur were diminished in severity, and in most instances entirely ceased while the patient was taking the bromide, still the largeness of the dose required to produce the desired effect proved incompatible with the general health of the individual, and, after various approved methods, both in the gradual diminution of the quantity and the changes in the combinations, the treatment was, after a fair trial of nearly nine months, abandoned as unsatisfactory. The amount of the bromide administered was regulated according to the condition of the women, some receiving forty-five grains a day, while the dose required for others ranged between sixty and one hundred and eighty grains daily.

Case I.—Harriet M., born in United States, aged thirty-three, widow, occupation embroiderer, habits temperate. Admitted May 21, 1875. Patient comes from Epileptic Hospital. Epilepsy first manifested itself after parturition, twelve years ago. Intelligence and memory are much impaired. Has numerous delusions; hallucinations of sight and hearing. Is violent, noisy, and destructive. Has severe epileptic convulsions frequently. Some days she will have six or seven fits. There are irregular intervals of a few weeks, but she averages one or two attacks daily. This is a description of her condition during the past three years. On the morning of the 24th of December, 1878, she arose as usual, ate her breakfast in the dining-room in company with the other inmates of the ward, and was seen by the attendant at 10 A. M., but nothing unusual was noticed. At 10.30 A. M. she was found dead in her bedroom, lying on her back upon the floor, her face, neck, and upper extremities being markedly cyanosed.

Autopsy, twenty-four hours after death.—Body well nourished. Rigor mortis marked. Face and neck livid. Hypostatic congestion of all dependent parts. Heart, lungs, liver, and kidneys normal. Larynx showed no abnormity. Blood, fluid and of a very dark color. Veins markedly congested. *Brain*, large quantity of subarachnoid fluid. Arteries normal and empty. Brain substance œdematous and anæmic, otherwise normal.

Case II.—Caroline E., Germany, aged thirty, married, saleswoman, temperate. Admitted November 6, 1877. She is very emotional, continually praying and crying on account of her many sins, depressed, and apprehensive. Has delusion of persecution, etc. Attacks other patients without provocation.

June 8, 1878.—Mild epileptic convulsion, followed by hemianæsthesia.

August 24th.—Suicidal.

December 28th.—Violent and quarrelsome, and has fits at irregular intervals.

January 11, 1879.—At 2 P. M. she had an epileptic convulsion which lasted nearly twenty-five minutes. She then lapsed into a semi-comatose state, occasionally vomiting, and remained in this condition for three hours. At 5 P. M. she had another fit, which was rapidly succeeded by others—6 all about six or seven by 8 P. M., when the fits recurred regularly at the rate of ten minutes, and in a few hours they became almost continuous. By this time she was in profound coma, and remained

unconscious until death supervened at 10 A. M., January 12th. Time from attack till death was twenty hours.

Autopsy, twenty-eight hours after death.—All of the viscera showed intense venous congestion. *Brain*, meningeal injection. Brain substance intensely congested, but otherwise normal.

Case III.—Eliza B., United States, aged nineteen, single, no occupation, temperate. Admitted March, 1868. Patient is an epileptic, with right hemiplegia and contracture, with atrophy of upper extremity. Epilepsy was first manifested after a fright which occurred when she was about sixteen years of age. She has frequent maniacal attacks after the convulsion, and these paroxysms generally take place at the menstrual period. She was discharged from the asylum as unimproved May 1, 1868, and was readmitted August 25, 1879, with the statement that her condition had not improved, and that the epileptic and maniacal attacks had become more frequent.

November 20th.—Had ten fits since last admission.

January 30, 1880, 12 M.—In protracted and violent convulsions during the past hour, and is comatose. Face markedly cyanotic. Breathing stertorous. Dysphagia. Nystagmus. Temperature elevated. Pulmonary congestion and œdema. Six ounces of blood taken from arm; ice-cap to head, and counter-irritation over nucha. Cyanosis was rapidly relieved by the depletion from venesection, and convulsions ceased at 2 P. M.

31st.—Conscious this morning, and recovering. Pulmonary œdema subsiding.

February 4th.—Physically much improved; mentally unchanged.

21st.—Several violent convulsions during the last twenty-four hours, and is now suffering from exhaustion.

May 6th.—Seven fits in two hours.

July 13th, P. M.—Succession of fits lasting nearly two hours. Comatose. Pulse 80 and feeble. Respirations 48, shallow and jerky in character. Temperature 99·5° F. Pupils dilated and reactions lost. Face extremely pale.

14th.—This A. M. coma more profound. Has an occasional slight convulsion. Face flushed. Strong pulsation in carotids. Temperature 100·5° F. Toward evening the pulse was almost imperceptible. Respiration 60, temperature 100° F. Physical signs of pulmonary congestion and œdema. Died at 11 P. M. Duration of attack about twelve hours.

Autopsy, fourteen hours after death.—Calvaria three quarters of an inch thick anteriorly, and near occipital portion one half inch in thickness. Dura mater very much injected. Pia mater over convexity intensely congested, being more marked on left side. The left ascending frontal convolution atrophied and somewhat indurated, corresponding with the position of the more thickened portion of calvaria. Vessels at the base normal. Ventricles distended with fluid. Brain substance œdematous and pale. Pulmonary congestion and œdema. All other organs the seat of passive congestion.

Case IV.—Julia G., United States, aged twenty, single, temperate. Admitted April 12, 1878. Epilepsy commenced in childhood, and an interval of three years elapsed before the attacks recurred. She is maniacal and violent after the convulsions, and increases during menstruation.

April 21, 1878. Fits almost continually during the last four days. In semi-coma.

22d. Emerged from comatose condition and has returned to her usual state.

January, 1880. Occasionally maniacal, being violent and destructive. Has frequent epileptic seizures. Most of the time she is demented.

1881. Unchanged since last note.

May 1st. Succession of fits during the last four days. Profoundly comatose, and died this at 8:30 P. M. No autopsy.

Case V.—Minnie C., Germany, aged twenty, single, temperate. Admitted January 5, 1872, from Epileptic Hospital. In poor physical condition. Has visual hallucinations.

January 7th.—Is maniacal, noisy, violent, etc. Smeared her face and body with fæces, and also decorated the walls of her room with the same material.

February.—Has frequent epileptic seizures which are occasionally preceded, but generally followed, by a maniacal paroxysm. Demented in interval.

1877.—Unchanged since last note. Fits have become more frequent.

November 6th.—Arose during the night and, without provocation, attempted to strangle another patient.

December.—Thirty-one fits this month.

1879.—Physical condition good. Mentally unchanged. Convulsions occur frequently, and are very severe.

March 20, 1881, A. M.—Thirteen violent fits since last night

21st.—Last night fits continued at intervals of one hour. At 2 A. M. convulsions ceased, and she was in such an exhausted state that she did not have sufficient strength to get up another fit.

March 22d, A. M.—Has been comatose since last note. Pupils contracted. Pulse 120 and feeble, temperature 99° F. Signs of pulmonary œdema.

P. M.—Still comatose. Pulse 128, temperature 99° F. Slight dysphagia. Under stimulating and restorative treatment, the stupor gradually subsided until she returned to her usual condition of consciousness.

23d.—This A. M. temperature and respirations normal. Pulse 100 and stronger. Pupils normal. Seems to be improving.

24th.—Died suddenly at 3 P. M. Time from attack till death, eighty-eight hours. No autopsy.

Case VI.—Bridget C., Ireland, aged thirty-four, single, temperate. Admitted June 7, 1877, from Charity Hospital. Patient has been epileptic for twenty years. She attempted suicide by drowning, and is suffering from an attack of epileptic mania.

June 10th.—Has experienced a large number of convulsions since her admission.

September 30th.—Twenty-four fits in as many hours.

October 19th.—Frequent maniacal paroxysms. Stupid and depressed in interval.

December 30th.—Only six fits in twenty-four days.

February 15, 1878.—One fit in last thirty-one days.

May 30th.—Maniacal paroxysm, seeming to take the place of the convulsion, in which she became very violent and attacked patients and attendants indiscriminately.

February 22, 1879.—Thirty convulsions during last twenty-four hours.

June 25, 1880.—Succession of fits for several days. Semi-comatose. Pulse 80 and feeble, temperature 99·5° F. She gradually recovered from this attack.

October 30th.—Of late she has been quite rational in conversation and manner, excepting the time after a fit, when she invariably becomes violently maniacal.

April 7, 1881.—Succession of fits since midnight. This A. M. convulsions still continue, but at longer intervals. Semi-comatose. Pupils regular and react normally. Pulse rapid, but not very weak. Respirations 24, temperature 99° F.

P. M.—After inhalation of chloroform, fits ceased until two o'clock, when they returned with increased violence and resisted all efforts to control them. She became profoundly comatose, and died during a convulsion at 4 P. M. Time from attack till death, sixteen hours. No autopsy.

(To be concluded.)

ENCEPHALIC NOMENCLATURE.*

I. CŒLIAN TERMINOLOGY: THE NAMES OF THE CAVITIES OF THE BRAIN AND MYELON.

By BURT G. WILDER, M. D.

As based upon the condition of things in the adult human brain, the current nomenclature of its cavities has some justification; but, in the light of better methods and wider biological knowledge, it is cumbersome, incongruous and misleading.

Let the learned anatomist lay aside for the moment his familiar (yet how hardly earned!) acquaintance with the parts and their names, and put himself in the place of the beginner who, after gaining a general idea of the arrangement of the vertebrate brain from a frog or *Necturus*, is trying to master the complexities of the mammalian organ from the brain of a cat, dog, sheep, or man.

Leaving the myelon, he finds the "*central canal*" (the name of which in no way suggests association with the nervous axis) expanding into a cavity which, although the first of the series, is called the "*fourth* ventricle." The more or less distinct cavities corresponding to the cerebellum and the *lobi optici* are not called ventricles at all, and the "*third*" is between the thalami. The two "lateral" ventricles are rarely mentioned as the *first* and *second*, but, since these numbers must be understood in order to account for the third and fourth, the student desires, in vain, to know which is the first and which the second. In point of fact, if the enumeration is begun at the cephalic end of the series, the lateral ventricles might be called *third* and *fourth*, since in many vertebrates there are well-developed cavities in the *lobi olfactorii*. Finally, a "*fifth* ventricle" is mentioned, which is not only at the greatest distance from the fourth, but has no normal connection with the others, and is, in fact, no part of the series.†

The entire brain was injected from the basilar artery by the modification of Pansch's "starch method" described by Gage (*19*). It was hemisected just to the left of the meson, so as to leave the falx upon the right, and throw the mesal cavities of that side into stronger relief. The cut surfaces are dotted, with no distinction between *alba*, *cinerea*, *commissurales*, etc. The continuity of the *endyma*, or lining epithelium of the cœliæ, is indicated by the heavy black line, interrupted only at the caudal end of the metatele, at the margin of the *Foramen of Magendie*. The *metacœle* includes the cavity roofed by the metatele, and extending to the syringocœle or central canal. The region of the diacœle (third ventricle) is shown on a larger scale in Fig. 3. The transverse thickening of the dicœlian roof, called by me *Commissura habenarum* in the cat (*14*, Pl. 2, Fig. 4, *cs. h.*), is here named *supracommissura*, in accordance with the sugges-

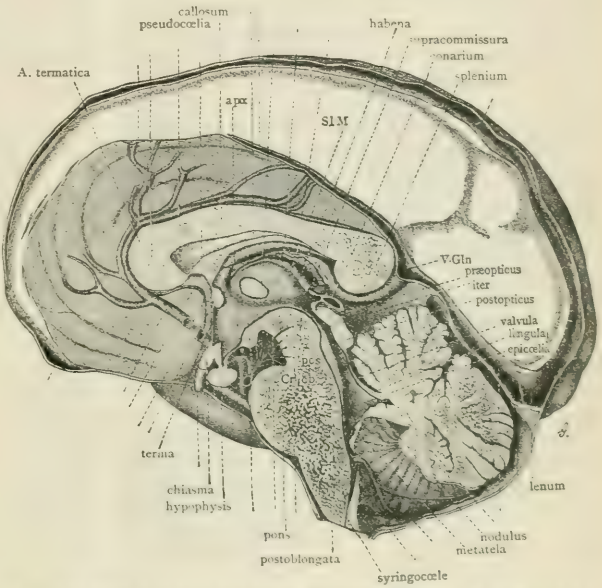


FIG. 1.—Mesal aspect of an adult, male, human, right hemiencephalon: × ⅙. Drawn by Mrs. S. S. P. Gage. Accession No. 377, Mus. of Cornell Univ.

tion with respect to the corresponding part in the Amphibia made by me to Professor Osborn, and adopted by him (*2*). The abbreviations signify as follows: *apx.*, auliplexus; *cr. cb.*, crus cerebri; *pcs.*, postcommissure; *sl. m.*, sulcus Monroi; *v. Gln.*, vena Galeni. The "torcular Herophili" is designated by its monomial synonym, *lenum*. The description of the apparently unnamed *Arteria termatica* must be reserved for another occasion.

In view of all this, the task of describing to students the highways and by-ways of the brain—which should be most attractive because therein is most clearly manifested the ideal arrangement of the organ—is one from which I used to shrink as from any other kind of solemn nonsense. I was even disposed to adopt the simple vocal device employed by Straus-Durckheim in the designation of the metatarsalia—"*pedum, pedum, pedum, pedum, pedum*"—and to re-christen the ventricles by, for instance, the names *prum, prum, prum, prum*, and *prum*. Monosyllabic and governed by a conventional sequence, such meaningless terms would at least be incapable of misleading.

Nearly four years ago (March 19, 1881), with the special object of simplifying the names of the encephalic cavities, and in accordance with the general plan of replacing poly-

* Under this head I propose to present certain facts and considerations as to the names of parts of the brain. Most of them were included in the third of the "Cartwright Lectures" for 1884 on "Methods of Studying the Brain," but were not delivered for lack of time. Some of them were discussed in my papers (*35*, *39*, *40*) before the American Neurological Association (June, 1884), and the Biological Section of the American Association for the Advancement of Science, September, 1884. The mode of reference to publications is explained in the List at the close of this paper.

† Notwithstanding the surprising relations ascribed to it by Wiedersheim (Fig. 240).

nomial by monomial terms,* I proposed (***9,*** 125) to (1) substitute for the Latin *ventriculus* the word *cœlia*, from the Greek κοιλία,† and to (2) correlate the appellations of the several divisions of the brain cavity with one another and with those of the segments by prefixing to the generic word the distinctive prefixes of the technical segmental names, which—for the most part following Quain's Anatomy—had seemed to me most appropriate.‡

This gave the following names for the "ventricles" (beginning with the "fourth," which was regarded as consisting of two parts): *metacœlia*, *epicœlia*, *mesocœlia*, *diacœlia*, and *procœlia*,# with *rhinocœlia* for each "olfactory ventricle" and *pseudocœlia* for the "fifth" or "false ventricle."

These terms were readily understood by my students, both general and special, and were employed in subsequent publications (***14, 32***), without, so far as I know, exciting any marked comment, favorable or otherwise.

Late in October or early in November, 1883, I received from the author the abstract of a paper by Professor T. Jeffery Parker, "Notes on the Anatomy and Embryology of *Scymnus lichia*" (***2***), which was read before the Otago Institute, August 15, 1882.‖

In both the paper and the abstract,^ compounds of κοιλία with segmental prefixes are consistently employed, and one of the terms is virtually identical with mine, namely, *mesocœle*.◊

Upon receipt of the Abstract, I wrote to Professor Parker, expressing my gratification at the coincidence (since he evidently was not aware of my previous publications on the subject), asked if he had formulated any scheme for the designation of all the cavities, and submitted that which I had been using for three years. I think it is no breach of confidence to state that his prompt reply contained not only a tabular arrangement of the names practically coinciding with mine, but also an extension of the system to the entire cerebro-spinal axis, which I have accepted.

More recently this modification of encephalic nomenclature—thus almost coincidently introduced on opposite sides of the globe—has been more or less fully adopted by Spitzka ("Am. Jour. Neurology and Psychiatry," iii, 620), Ramsay Wright (***1,*** 362), and H. F. Osborn (***1*** and ***2***), and I feel encouraged to submit to the consideration of neurologists a few additional terms and certain questions involving the general subject of encephalic nomenclature.

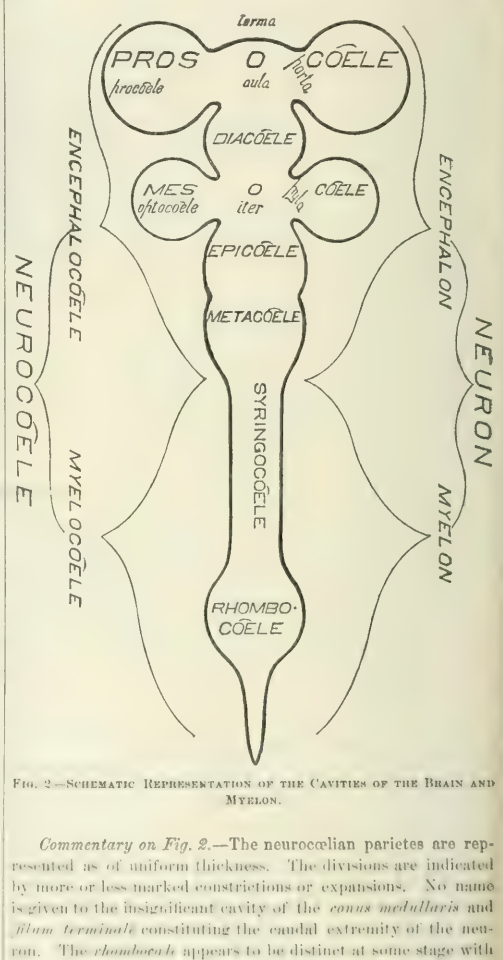


Fig. 2.—Schematic Representation of the Cavities of the Brain and Myelon.

Commentary on Fig. 2.—The neurocœlian parietes are represented as of uniform thickness. The divisions are indicated by more or less marked constrictions or expansions. No name is given to the insignificant cavity of the *conus medullaris* and *filum terminale* constituting the caudal extremity of the neuron. The *rhombocœle* appears to be distinct at some stage with most vertebrates, and to persist with birds. The slight contraction between the metacœle and the epicœle seems to be warranted by some representations of the development of this region, but it is elsewhere suggested that those who admit only one segment between the mesencephalon and the myelon may apply thereto the comprehensive name *metencephalon*, and to

* The advantages of monomial terms were stated in my paper (***40***) as (1) brevity; (2) flexibility; (3) assimilability; (4) abbreviative uniformity.

† As stated in the Greek lexicons, this word was applied to various cavities, including those of the heart and brain; the phrase κοιλία ἐγκεφάλου is ascribed to Rufus Ephesius, *medicus*. At the time this suggestion was made I was not aware that, according to Burdach (ii, 301, 378, 380), Galen had designated the "fourth ventricle" as κοιλία ὀπίσθιου ἐγκεφάλου, τετάρτη κοιλία, and ὀπίσθια κοιλία ("De usu partium," lib. viii, c. xii, p. 170), the "third" as μεσὴ τριτὴ κοιλία ("De usu partium," lib. ix, c. iii, p. 172), and the "lateral ventricles" as πρόσθιαι κοιλίαι ("De odoratus instrumento," c. ii, p. 110).

‡ The appended Tabular Arrangement of the names of the encephalic segments, corrected and enlarged from the similar table on p. 405 of Wilder and Gage's "Anatomical Technology" shows that, as in 1881, my only departure from the names in Quain has been in replacing *thalamencephalon* by the much briefer *dicencephalon* which was used by Rolleston in 1870 (p. xxxvi), and is given as a synonym by Quain. I have not been able to ascertain who first introduced the word.

With special reference to the "lateral ventricles;" the proper name for the *entire* prosencephalic cavity is *pronocœlia*.

‖ It forms Art. xxix of "Transactions of the New Zealand Institute," vol. xv, which reached me in May, 1884.

[illegible] in position of the same author: "Zootomy," noticed in "The Nature," August 14, 1884.

‡ [illegible] is merely the genuine form of *mesocœlia*. In the separate [illegible] (***36***) the vernacular form of the [illegible] *oule* but the diphthong is necessary [illegible] terms from the derivatives of κοίλη (cole, a cavity).

its cavity *metepicœle*. The lateral recesses of this cavity, opening, in man at least, as foramina,* are omitted on account of my doubts (1) as to whether they are metacœlian or epicœlian, and (2) as to their serial representation of the lateral divisions of the mesocœle and prosocœle. A doubt similar to the second has also deterred me from repeating a feature of Fig. 9 of the first "Cartwright" (this journal, March 9, 1884, p. 28), namely, the representation of the diacœlian lateral diverticula by the optic vesicles, which, although obliterated in the adult, are widely open in the embryo. The procœles, or lateral prosocœlian divisions, are purposely made simple in form, and extending caudad as much as cephalad, in accordance with the comparison made in connection with the figure just referred to, between the hemispheres and the legs of the human body in respect to their natural attitude and their normal position. The width of the terma is exaggerated for the sake of distinguishing fully the *aula* or mesal division of the prosocœle, and in accordance with the representations of Balfour (ii, Fig. 257) and Kölliker (Fig. 311, 312). Even, however, were no width assigned to the terma, the aula would merely be reduced from a quadrangle to a triangle, and still have an appreciable extent.†

Briefly stated, the questions are as follows:

1. Shall the entire cavity of the neuron or nervous axis be designated by the word *cœlia* (Ang. *cœle*)?

2. Shall this word be restricted to this application?

3. Shall the more or less distinct regions of this continuous cavity be designated by prefixing to the word *cœlia* the stem or some part of the regional name?

4. Shall we follow the majority of neurological writers in recognizing, provisionally at least, *five* definite encephalic segments or encephalomeres?

5. Shall we adopt the segmental names *met-*, *ep-*, *mes-*, *di-*, and *prosencephalon*?

6. Shall the encephalomeres be regarded as constituting a single series (with or without lateral diverticula) rather than two series, *mesal* or azygous, and *lateral* or paired?

7. Where lateral diverticula exist, shall they and the orifices by which they communicate with the mesal portion be designated by names distinct from the name of the entire cavity?

8. May we not conveniently employ such metameral and cœlian names without thereby implying the determination of subordinate problems like the following: *a*, Are not the cerebral hemispheres primarily appendages of the olfactory lobes rather than the reverse? *b*, Is there a true serial homology between the præchordal prosecenphalon and the rest of the brain? *c*, Do the parts known as cerebellum, oblongata, and pons represent two encephalomeres, or several, or only one? *d*, If two, shall the plane of division be regarded as vertical or horizontal? *e*, Where is the plane of division between the myelon and the brain?

The abbreviation *dc.* is repeated in three parts of the diacœle. The removal of the hypophysis leaves the orifice which

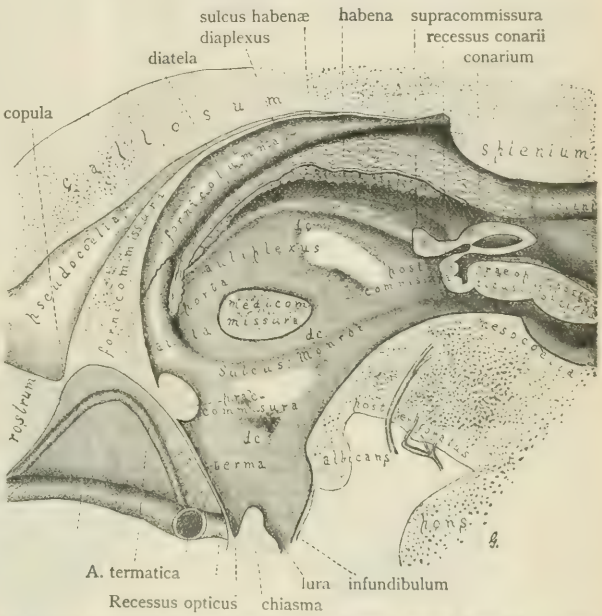


FIG. 3.—THE DIACŒLIAN PARIETES AND ADJOINING PARTS. Enlarged from Fig. 1. Drawn by MRS. GAGE. (The light areas near the words *post-commissura* and *præcommissura* are too sharply defined.)

I have called *lura*. The oblique line just ventrad of the word *fornicolumna* represents the cut edge of the endyma in its course from the fornicommissure to the point of its reflection upon the auliplexus. The surface ventrad of the line is endymal or *entocœlian*, dorsad of it, *ectocœlian*, and in relation with the pia. The postcommissure is seen to be not a rounded cord, as commonly described, but flattened, and corrugated on its ectocœlian surface. The postoptic portion of the mesocœle shows the trace of the tripartite constitution mentioned in the text, the lighter shading representing the narrower, mesal part; the deeper, the lateral extension. The cavity of the conarium contained a mass of "brain sand."

From the Schema (Fig. 2) and Tabular Arrangement it will be seen that I have adopted an affirmative view of the eight general questions, and that the difficulty referred to under the eighth (*c* and *d*) is met by the suggestion of a compromise whereby the entire region between the optic lobes and the myelon proper may be called *metepencephalon*, and its cavity *metepicœlia*.

New Names.—Of the names upon the Tabular Arrangement which have not been published hitherto, *neurocœle* and

* According to Figs. 338 and 340 in Kölliker's "Entwicklungsgeschichte," these recesses are closed by membrane in the fœtus. Perhaps even in the adult their apparent orifices are due to a rupture such as usually occurs with the *roma* or "great transverse fissure"; see this journal, April 5th, p. 376.

† In an adult, human brain hardened in alcohol, the distance between the convexities of the fornicolumns is 4 mm., and the lateral extent of the terma 6 mm. Either of these might be taken as representing the extent of the modified primitive terma.

encephalocœle were suggested in a letter by Professor T. J. Parker, dated January 4, 1884, and received by me February 9th. *Prosocœle* had been published by him, and is now adopted by me as a suitable designation of the *entire* prosencephalic cavity; *procœle*—which I had employed both for the entire cavity and for the lateral diverticula ("ventriculi laterales")—being now restricted to the latter. *Syringocœle*, *rhombocœle*, *metepencephalon*, *metepicœle*, *prœoblongata*, and *postoblongata* are now first published. The two last named are proposed in view of the confusion resulting from the various senses in which the term *medulla oblongata* is used by writers.

Even if there proves to be no true, serial homology between the præchordal and the epichordal regions of the brain, the fact is indisputable that in Birds and Anurous Amphibia the mesocœle, like the prosocœle, comprises two lateral cavities connected through orifices with a mesal cavity (Figs. 4, 5, 6). Even the contracted human "aquæductus Sylvii" presents, in its T-shaped transection, what may be regarded as traces of this triple constitution of the mesencephalic cavity. Hence I propose to designate the three divisions of the mesocœle as *iter* and *optocœles*, and the constricted communications as *pylæ* (from the Greek πύλη), as the similar prosocœlian orifices, commonly known as "foramina Monroi," have been, since early in 1881, named from the Latin *porta*.*

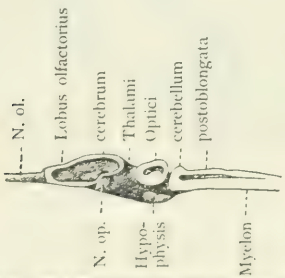


Fig. 4.—Brain of a Frog seen from the left, after removal of the lateral parts so as to expose the metacœle, and the left procœle (lateral ventricle) and optocœle (optic ventricle). The preparation is A 654, Museum of Cornell University, and the cœlia were *alinjected* (filled with alcohol), as described by me (*36*, 56). Drawn by Professor Cleaves.

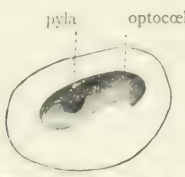


Fig. 5.—Enlargement of the part marked *optici* in Fig. 2, so as to show more distinctly the optic optocœle of the left optic lobe, and the orifice (pyla) by which it communicates with the mesal portion (iter) of the meso cœle.

* The term *Mesocœlia Oellbaumi* occurs in Burdach iii, 161, 3799, and *foramen Monroi* in the index of the work. If any reader of this paper is aware of the use of the terms prior to 1822 and 1826 (the dates of publication of vols. ii and iii), I hope to be informed. That the orifice was named in honor of A. Monro *secundus* (not *primus*, as sometimes stated) is shown in my paper (*51*).

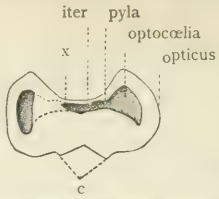


Fig. 6.—Transection of the Mesencephalon of an Emu (A 375), showing the triple constitution of the mesocœle which exists with birds and frogs. On the left the parts are as left by the section; on the right the continuity of the cavities is shown by the removal of the part corresponding to what is between the dotted lines. *x*, the unnamed lamina between the optici forming the roof of the iter. *c*, the outlines between the dotted lines represent cut surfaces.

Table showing the Correspondence between the Prosencephalic and Mesencephalic Cavities where the latter is triple, as in frogs and birds.

Encephalomere.	**Prosencephalon.**	**Mesencephalon.**
Entire cavity.	**Prosocœle.**	**Mesocœle.**
Mesal cavity.	**Aula.**	**Iter.**
Orifices.	**Portæ.**	**Pylæ.**
Lateral cavities.	**Procœles.**	**Optocœles.**

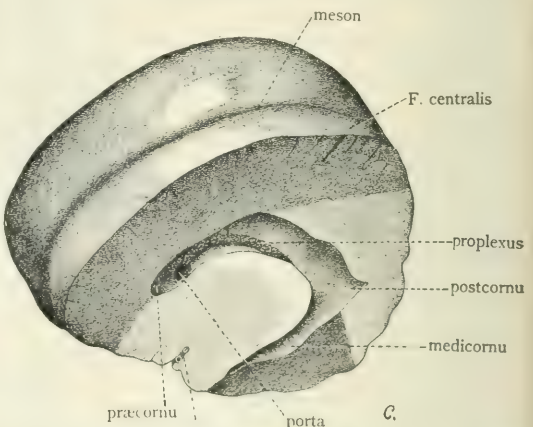


Fig. 7.—Adult Human Brain, dissected so as to expose the left procœle (lateral ventricle), and viewed obliquely; × about ·5. Drawn by Professor Cleaves.

The cœlia were alinjected *per luram*, as described by me in this journal (*36*, 56). The dura is retained, and only the central fissure is named. The postcornu is shorter than usual, and foreshortened in the figure. The specimen is A 385, Mus. of Cornell Univ.

(*To be concluded.*)

NOTES ON PEAT AS A SURGICAL DRESSING.*

By W. G. TREMAINE, M. D., Surgeon, U. S. Army,
BUFFALO.

The history of the treatment of wounds is, for the most part, a sad record of human folly and of the most absurd fantasies of the human mind. All kinds of materials have from time to time been accredited with healing virtue, and

* Read by title before the New York State Medical Association, November 19, 1884.

have been used empirically by those practicing the healing art, with a blind faith in the efficacy of the application itself. Amid these absurdities, it is refreshing to find that there were those who thought for themselves and observed carefully the processes of nature. For instance, said Galen: "The first thing the surgeon has to do is to see to it that he may not inflict injury, and not interfere with Nature in her attempts to heal."

Wortz, a master-surgeon of the sixteenth century, said: "Many a wound, if only kept clean and dressed correctly, will heal better than if you apply all your pastes and herbs." With the more accurate knowledge of pathology in modern times, the whole philosophy of the treatment of wounds may be summed up in the term, physiological rest; or, in other words, the prevention of all disturbing influences, either from within or from without, that may interfere with or retard the reparative process. All intelligent surgeons now recognize the value of non-interference with a wound except for the purpose of removing one or another of these disturbing influences. It is, therefore, clearly the duty of the surgeon to employ that form of dressing which will best carry out these principles. The essentials, consequently, of a good dressing are: First, sufficient absorbing power to rapidly remove excessive wound-exudates; second, to prevent decomposition of these exudates; and third, to accomplish the preceding requirements with as little mechanical disturbance of the wound as possible. There are several substances now in use that carry out these indications in a more or less satisfactory manner.

About four years ago a laborer, working in the neighborhood of Kiel, hurt himself badly in the hand and forearm. In the absence of any dressing material, the injured limb was surrounded with black peat obtained from a peat-moor where the man had been at work. The pain soon ceased. The dressing was not disturbed for eight or ten days, when the patient presented himself at the surgical clinic in Kiel. The condition of the man is thus described by Dr. Neuber: "A thick layer of dried black peat covered the forearm. After the arm had been cleaned in several baths, and the parts sponged off, we saw, to our great astonishment, a wound partly filled with beautiful granulations; partly there was primary union. The surroundings of the wound were perfectly without reaction. Until now no suppuration had started. Later the patient had the full functions of his hand."

Suggested by this incident, peat was extensively used as a surgical dressing in the clinic at Kiel by Dr. Neuber, a full account of which is given by him in "Anleitung zur Technik der antiseptischen Wundbehandlung und des Dauerverbandes."

According to a chemical analysis, peat contains: moisture, 20·98; ash, 5·07; organic matter, 73·95; nitrogen, 0·46. Its absorbing power is remarkable. It takes up nine times its own weight of water. It has no irritating quality when applied to wounded surfaces. Some extraordinary stories are told of its preservative qualities.

In Germany, Moorish corpses have been discovered imbedded in the black peat, which have been preserved for centuries. A resident pupil in the hospital informs me he has seen, in Ireland, bodies of animals dug out of peat-bogs in a perfect state of preservation, where they must have lain for years. He also says he has seen butter, perfectly fresh and palatable, packed in a crude form of tub, supposed to have been placed in the peat by the Danes.

About a year ago I began the use of peat at the Buffalo Hospital of the Sisters of Charity, a hospital of one hundred and eighty beds, and also at the Emergency Hospital. From the large number of surgical cases received and treated during the year, nearly two hundred of them being cases of accident (railway and other), ample opportunity has been afforded to test the value of this dressing. The peat used was obtained in packages containing one hundred pounds, imported from Germany by M. Lienau & Co., No. 2 Jones Lane, New York. The manner of using it is as follows: Bags of different sizes, made of hygroscopic gauze, or the fabric known as cheese-cloth rendered hygroscopic by boiling in an alkaline solution, are filled with the peat, and, after being moistened with a solution of mercuric bichloride, 1 to 1,000 parts, are applied directly to the wound, after it has been thoroughly cleansed and irrigated with the mercuric-bichloride solution. This dressing is not disturbed until completely saturated with the discharges, unless pain or rise of temperature should indicate the necessity of removing it. Frequently one dressing will suffice. Possibly the best method of illustrating our results will be to relate a few cases taken from the records of the hospitals.

Case I.—E. G., aged twenty-eight years, native of Germany. Admitted March 15, 1884. While coupling cars this morning, his right elbow was caught between the buffers, producing a compound comminuted fracture of the elbow joint, with a lacerated wound on the anterior aspect of the joint, laying bare the brachial artery for three inches. The elbow joint was resected, the internal and part of the external condyle being removed, with the coronoid and part of the olecranon. A drainage-tube was inserted. The wound was thoroughly irrigated with mercuric-bichloride solution, 1 to 1,000. The wound was united with catgut sutures and wrapped in gauze-bags containing sublimated peat. In five days the dressing was removed. There was no suppuration. The wound was free from inflammation and fresh peat-bags were applied. The dressings were not removed for ten days, when the wound was found completely healed. Three weeks after the operation there were fair flexion and extension.

Case II.—George L., aged twenty-five, native of England. Admitted June 14th, with compound fracture of the tibia and fibula in the upper third. The wound was thoroughly irrigated with mercuric-bichloride solution. The limb was enveloped in sublimated peat-bags and placed in a fracture-box. No surgical fever and no suppuration followed. Recovery was complete, with a useful limb, in six weeks.

Many other cases might be cited from our records, but these will sufficiently illustrate the method of using the peat and the results obtained.

Finally, we have found it a valuable surgical dressing, particularly in lacerated wounds and compound fractures. In comparison with peat, we are now using wood-flour, charged with mercuric bichloride and naphthalin, with some advantages in favor of the latter; viz., greater absorbent power, the wood-flour taking up twelve times its weight of water, and, in addition, the stain of the discharges being more readily seen than in the darker peat.

INTESTINAL OBSTRUCTION.*

By AVERY SEGUR, M. D.,
BROOKLYN.

A person in ordinary health is seized with pain, more or less severe, in some part of the abdomen. The pain continues, nausea supervenes, and, perhaps, vomiting. Soon tenderness is developed, with moderate distension of the bowels. There may have been previously constipation, or indigestible food may have been taken, or there may have been exposure to cold, fatigue, etc. Ordinary remedies are taken, and pretty certainly a domestic cathartic. This may excite more pain and vomiting, or quite possibly one or two stools may follow. No relief, however, is obtained, and a physician is called to the case.

A diagnosis is felt to be a necessary precedent to good practice. The patient is examined with due care. No hernia is recognized. No local signs of inflammation are discovered. The evidences of any anatomical or mechanical obstruction are wanting. The previous history of the individual is carefully elicited. It may be that the patient has had similar seizures before, which have, after a doubtful progress, happily passed away, but have left no certain clew to the nature of the past or present attack. The physician finds himself unable to make a diagnosis at this stage of the case, and he is forced to treat the symptoms.

Pain requires an anodyne, and morphine is injected under the skin. The bowels require both sedation and evacuation, and ten grains of calomel are administered once and again, or even cathartic pills are prescribed. The bowels do not respond to the intention; but, instead of a normal peristalsis, an antiperistaltic action is produced, and the contents and secretions of the intestines are forced into the stomach, which rejects these as well as the ingesta. Nutrition fails; the kidneys yield a scanty secretion; failing depuration burdens the nervous system exhausted by pain; and inflammatory processes are established.

The patient succumbs to the combination of adverse conditions. Then come a post-mortem and a diagnosis.

It was the instruction afforded by two such post-mortems, made by the writer several years ago, which led him to consider with much interest the treatment of cases in which the symptoms of intestinal obstruction occur, and in which, after careful and competent examination first made, no indications can be obtained for surgical procedures.

The opinions formed have been followed in the hospital service of the writer for several years, where a considerable number of cases, some fatal, more recoveries, have seemed to justify—the fatal equally with the successful cases—the plan of treatment adopted.

It is the object of this paper in a few words to state this treatment, that the limited experience of one observer may be corrected, and so made valuable by many: and that the experience of other physicians who, as evidenced by the previous treatment of patients admitted to the hospital, adopt a different, and it is believed injurious, course may be induced to reconsider their early treatment of symptoms of intestinal obstruction. No questions of diagnosis will be discussed, because, if the case is surgical, it is not a question of medical treatment at all, and, if medical, in a majority of cases a treatment must be decided upon in advance of a diagnosis; and perhaps the progress of the case will show more of the good or bad effects of the physician's interference than of the real seat and nature of the original trouble. No space will be given to details of cases, because it is believed that the principles involved and the results obtained may be as clearly illustrated and as faithfully rendered by a general statement.

First.—The indications in cases of intestinal obstruction, where the obstruction can not be removed by surgical interference, are: *a.* To allay pain and intestinal spasm, and to subdue all irregular intestinal muscular action. *b.* To give rest to the stomach. *c.* To sustain nutrition, and to maintain the functions of the kidneys, liver, skin, lungs, etc. *d.* To prevent and limit inflammation. *e.* To overcome the obstruction.

Second.—Treatment.—The last indication, the overcoming of the obstruction (not necessarily its removal, as in cases of growths in the substance of or attached to the inner wall of the intestines, inflammatory adhesions, inclusion of the bowels, incomplete hernia, etc., in which the loss of caliber of the intestine, although permanent, permits ordinarily a passage, but at times from congestion, spasm, or other accidental condition, a more or less obstinate obstruction occurs), is first in importance. All direct means of moving the bowels are avoided from the first. No laxatives or purgatives are employed. It is believed that this should be an invariable rule of practice.

Morphine and atropine, in the proportion of twenty of the former to one of the latter, are steadily employed hypodermically; the amount to be determined by the relief from pain afforded. An enema of four ounces of flaxseed tea is administered every two hours, and care is taken that it is retained.

Nutrient enemata of Valentine's extract of beef, with pepsin, or of defibrinated blood, take the place of every third enema of flaxseed tea. Flaxseed poultices are applied to the abdomen.

The horizontal position is strictly maintained, and sleep and quiet are secured. The stomach has nothing forced upon it, and to that extent it is saved the necessity of irregular action.

This plan is steadily pursued, day after day, until pain is relieved, inflammation, if it has supervened, has terminated, and the bowels act spontaneously.

Third.—The favorable effects, observed by the writer, of this treatment, most marked in some cases admitted to hospital, after some days of progress under plans of treatment to which cathartics were admitted, have been:

1. Pain is much more under control and with less medicine.
2. Vomiting is less frequent.
3. Spasm and irregular action are prevented.
4. Strength and nutrition are markedly well supported.
5. The following physiological observations are believed to be established: *a.* Respiration is fully maintained by the

* Read before the New York State Medical Association, November 18, 1884.

atropine, the patients showing, in this respect, a most striking contrast to those in whom morphine is permitted to produce its usual effect on this important vital act. *b.* The rectal enemata at once increase the action of the kidneys and the quantity of urine voided. In this, again, it is very interesting to see the clearer intelligence and improved nervous condition of the patient, who before was passing very little water, with consequent blood-poisoning. The action of the kidneys is steadily promoted by the liquids thus introduced and absorbed. *c.* "Intestinal injections of water have a very great influence over the secretion of bile." (See Wood's "Materia Medica and Therapeutics," Philadelphia, 1880, third edition, p. 448.)

6. The writer has observed, in post-mortem examinations, inflammation and general peritonitis, as he believes, excited by the cathartic treatment adopted to overcome obstructions; for he has seen, in several instances, post-mortem examinations where the anatomical causes of obstruction were identical and irremediable, and where the foregoing plan of treatment was followed, and there was an entire absence of inflammation.

Finally, in general, the observations of this treatment have included cases of intestinal obstruction due to occlusion, where only a segment of the wall of the intestine was incarcerated in an obturator hernia, to annular growths (malignant) in the wall of the intestine, to intussusception, to perityphlitis, and to various unrecognized causes. The general vital condition has been apparently better, the progress less exhausting, and the return to evacuations of the bowels, even where large accumulations have been finally passed, easy, spontaneous, and natural.

A CASE OF NEGLECTED INJURY OF THE HAND.*

By CHARLES N. D. JONES, B. S., M. D.,
BROOKLYN.

George D., aged forty-five, four weeks before coming under my care at the Brooklyn Hospital, had been run over by a truck, the wheel passing over his hand, causing a compound comminuted fracture of the thumb and two fingers. He had been seen by a physician, but apparently no effort had been made at replacement of the distorted fingers, and no antiseptic precautions had been taken.

When the patient came under my observation, February 11, 1884, the fingers were in a sloughing and septic condition, and the fragments of bone were displaced, the shattered portions protruding from the soft tissues and in a state of necrosis. The whole hand and part of the forearm were swollen and œdematous, and altogether presented an unfavorable condition. The patient, who had been a healthy laboring man, looked pale and exhausted; his temperature was 100° F., and his pulse 98. The hand was thoroughly washed with an antiseptic solution and enveloped in a carbolized charcoal poultice.

By the 14th his condition had somewhat improved. At the suggestion of Dr. Bushnore, the attending surgeon on duty at that time, I proceeded to remove the injured members. The amputation was done under a continuous irrigation of corrosive sublimate solution, 1 to 1,000. The thumb was removed at the carpo-metacarpal joint, fairly good flaps being secured from the palmar and dorsal surfaces of the hand. The index-finger was amputated in the continuity of the first phalanx. The middle finger was disarticulated at the junction of the first and second phalanges. There was considerable venous and capillary hæmorrhage, but the tissues were so soft and œdematous that it was impossible to tie any of the bleeding vessels. The stumps were treated by the "open method," as practiced by the late Professor James R. Wood and recommended by Professor Gross in his work on surgery. The stumps were packed with marine lint saturated with balsam of Peru, and bandaged; the packing served to arrest the hæmorrhage, at the same time absorbing the discharges, and thus securing good drainage. This dressing was renewed every twenty-four hours.

A slight reactionary rise of temperature occurred, but by the third day the temperature and pulse were normal. On the 19th, five days after operation, suppuration had nearly ceased and the stumps were in a healthy granulating condition, so that the flaps were gradually molded into position and approximated with adhesive plaster, drainage being secured by horse-hair at the bottom of the wound. After this the case progressed uninterruptedly. By March 5th, nineteen days after the operation, union had taken place, and the patient was discharged with a very useful hand.

Of the method of dressing used in this case, the late Professor Gross, in his excellent work on surgery, says: "My conviction is that, as a rule, it is preferable to every other plan that has ever been devised." I am inclined to believe that this treatment is preferable to strict antisepsis when, as in the case described, the tissues are in a septic condition. In these cases the wound is made in tissues that are infiltrated, and already to a certain distance invaded by an army of germs, so that there is no probability of primary union.

It will be observed in the history of this case that three of the most important indications in the treatment of such an injury were apparently not observed: 1. Primary antiseptic dressing of the injured member. 2. Replacement and retention of the displaced fragments. 3. Removal of disorganized portions at such a time as nature should indicate her inability to provide for their nutrition.

From the fact that inflammation situated in the subcutaneous tissue was liable to extend through the sheaths of the tendons and cause an extensive suppuration, which might extend from the hand up into the forearm, after which it would be almost impossible to limit its advance, an early operation should have been performed.

As, in all injuries of the hand, it is a cardinal principle to preserve as much of the member as possible, primary amputation is to be avoided. At the time of injury it is very difficult, if not impossible, to tell how much of the limb is destroyed beyond recovery. Professor Wyeth says that he feels mortified at being obliged to do a primary amputation for an injury. In a recent address on the "Guiding Principles of Operative Surgery," Mr. Thomas Bryant makes use of the following language: "In the treatment of disease or injury the surgeon should employ his art to help, guide, and utilize natural physiological processes, and to remove all such obstacles as may interfere with their steady evolution. To this end medical treatment, position, and mechanical appliances may be required, and when these

* Read before the Brooklyn Pathological Society, with the presentation of the specimen, December 11, 1884.

fail or are insufficient, operative surgery comes into requisition."

This principle of treatment was clearly illustrated in two cases which recently came under my observation at one of the New York dispensaries.

Case I.—A young man while out shooting had the thumb and two of his fingers severely wounded by the accidental discharge of his gun. He was seen shortly after by a country surgeon, who, in order to arrest the hæmorrhage, amputated a part of the hand. The patient eventually recovered, but with the usefulness of his hand much impaired.

Case II.—The patient received the whole charge of a gun into the metacarpal portion of the hand, a large opening being made through the hand and several fingers lacerated. The hand was seen shortly after by a metropolitan surgeon, who simply dressed the wound antiseptically and carefully watched the healing process. The patient recovered with a very useful hand and with very little loss of substance.

During the past year, in my service as *interne* of the Brooklyn Hospital, I have had an unusually large experience in the treatment of injuries of the hand, largely consisting of what we have denominated "tin-factory cases." It has occurred to me that some remarks based upon personal experience in the treatment of these and other cases might, under present circumstances, be of interest.

My experience has taught me that primary removal of injured portions is to be avoided. The wound should be cleansed, hæmorrhage arrested, loose fragments of bone removed, bruised soft tissues placed in apposition, and Nature given an opportunity to carry out the reparative process. When it is clearly evident that she has failed, it is time to assist her in the removal of disorganized tissue by the use of the knife. The dressing which I have found most efficient in the treatment of these cases is as follows: The wounded surface is dusted with powdered iodoform, covered with iodoformized gauze; then over this are placed several layers of sublimate gauze; the whole is snugly bandaged, and a splint is applied. The dressing is removed in twenty-four hours, and re-applied. At the end of a week it is clearly evident in what portions nature has failed to bring about a cure, and then these should be removed.

The case first related seems of interest in the following respects:

1. The rapid recovery of a hand that seemed to have been irretrievably disorganized.

2. The method of dressing used.

3. The rapid improvement in the patient's condition after operation.

Book Notices.

Hand-book of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M. D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With Two Colored Plates. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. xii–282.

This is one of the best of the smaller hand-books of dermatology that we have seen. As it was written for general practitioners, pathology has been omitted, and the main stress is laid on symptomatology, diagnosis, and treatment. The commoner affections are treated of at some length, especially eczema. The descriptions are concise and generally good, and the subject of differential diagnosis is intelligibly presented. In the matter of treatment, too, the author is judicious, but we miss some therapeutic procedures of well-attested efficacy, such as the use of multiple punctures, linear scarifications, and hot water in the treatment of acne rosacea; salicylic acid for the removal of corns; and the local use of carbolic acid for lupus erythematosus. Many useful directions are given as to the preparation of topical applications, and a good dietary table is appended. The alphabetical arrangement of the subjects makes the book easy of reference.

The Pedigree of Disease; being Six Lectures on Temperament, Idiosyncrasy, and Diathesis, delivered in the Theatre of the Royal College of Surgeons, in the Session of 1881. By Jonathan Hutchinson, F. R. S., late Professor of Surgery in the College, etc. London: J. & A. Churchill, 1884. Pp. 142.

The questions of temperament and idiosyncrasy, which so much occupied the physician of a hundred years ago, have almost ceased to meet with attention. This is mainly attributable to the concentration of thought upon the details of disease. As a consequence, we are too much disposed to devote our energies to the elucidation of individual forms of disease, ignoring the broad groundwork of pathology. The result of this state of things is not altogether to the advantage of medicine. In these lectures Mr. Hutchinson has treated each of his themes in a broad, original, and philosophical spirit, and we commend the little book to the profession.

Diagnosis and Treatment of Diseases of the Heart. By Constantin Paul, Member of the Academy of Medicine, Physician to the Lariboisière Hospital. Translated from the French. New York: William Wood & Co., 1884. Pp. vii–335. [Wood's Library of Standard Medical Authors.]

The name of the translator of M. Paul's work is modestly withheld, but his task has been so well performed as to entitle him to commendation. The scheme of the book is simple, embracing cardiac topography, the diseases of the heart and its membranes, and a review of the subject of treatment. About all that can be looked for in a book on such a subject is a restatement of what has already been said, and this the author has done in a way that was to be expected from a writer and teacher of M. Paul's prominence. The anatomical descriptions are particularly valuable for their clearness and succinctness. The illustrations, many of which are taken from the works of Cruveilhier and Sée, are of a very intelligible character.

Books and Pamphlets Received.

Manual of Diseases of the Ear, for the Use of Students and Practitioners of Medicine. By Thomas Barr, M. D., Surgeon to Glasgow Hospital for Diseases of the Ear, etc. Glasgow: James Maclehose & Sons; London and New York: Macmillan & Co., 1884. Pp. xxvii–529. [Price, $3.50.]

Kirkes's Hand-Book of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Harris, M. D. Lond., Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh Edition, with nearly 500 Illustrations. Vol. II. New York: William Wood & Co., 1885. Pp. vii–378. [Wood's Library of Standard Medical Authors.]

Report of Proceedings of the Illinois State Board of Health. Adjourned meeting, Springfield, February 5–7, 1885.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 21, 1885.

THE PREMATURE DELIVERY OF IDEAS.

AMONG the many signs of progress in our American civilization is the growing disposition of young men to make themselves prominent. This is a particular characteristic of the medical profession, a profession, we must admit, of which humility is not always the most pronounced virtue. Whether the anxiety to rush into print displayed by some of the young men—and this we say not as in any sense a withdrawal of the encouragement we tried to give to youthful writers in our last issue, but rather as a tempering caution—is to be looked upon as an evidence of actual increase in their intellectual activity or as a feverish desire to see their names in type, may admit of question. Certain it is that there is an ever-growing tendency among medical graduates of a few years' standing to publish their first interesting case, instead of waiting until they have had another to go with it. That this little failing is eventually outgrown, is also true.

We do not wish to convey the impression that we sympathize with Carlyle's dyspeptic view of young men, whom he desired to hide under a barrel until they had attained to years of discretion; we aim rather at urging the truth which Mr. Bryant so aptly put, in his recent address before the London Clinical Society, as we find it reported in the "British Medical Journal." "Let us," he says, "in our anxiety to be discoverers, guard against announcing as a novelty some thought or observation which, though new to us, may not be so fresh to others; remembering, in the pursuit of knowledge, that our own observations are so mixed up with those of others, that our thoughts are so often merely the outcome of others' thoughts, our ideas are so constantly no more than the assimilation of the thoughts and observations of other men, that to be original is almost impossible."

Doubtless the highest aim of a writer should be to contribute something, however little, to the sum of existing knowledge; and in proportion as he loses sight of this lofty ideal, and thinks only of his own personal reputation, his work will lose in quality, whatever it may gain in quantity. There are men who are old in years and in experience, who write very seldom, but when they do their words carry weight; *per contra*, there are many extremely prolific writers whose articles are literally "read by title" only. To restrain the fierce *ardor scribendi*, to keep an article back for months or years, if need be, until it has been "worked into shape"—this requires more self-control than the average man is capable of. And, yet, most truths have been evolved by this patient waiting.

There is no reason why a young man who has an idea should not express it, but let him turn it over in his mind until it has been molded into a presentable form and lost a little of its crudity. We do not refer to the mere improvement of literary style, although there is occasion enough for that, but to the desirability of fostering in our younger men such a scientific spirit that it will be impossible for them to publish matter until it has been most carefully elaborated. The criticism which we have endeavored to make, in a just and kindly spirit, is one that is heard daily from the lips of the older and maturer members of the profession, but their laugh at youthful folly is often tinged with a certain sadness, for they recall a time when they, too, thought to impress the world with their learning and originality, and their dreams are still unrealized.

DILATATION OF THE ORIFICES OF THE STOMACH.

PROFESSOR LORETA, of Bologna, has recently published two monographs upon this subject, containing reports of several successful cases. The boldness and novelty of the procedure could not fail to arrest the attention of surgeons, especially those who were interested in the new operation of resection of the pylorus. Mr. Holmes has summarized the two papers in an article contributed to a recent number of the "British Medical Journal." Not to enter into details with which the reader may be more or less familiar already, it may be stated that dilatation of the pylorus is proposed as an improvement upon resection, while a similar procedure applied to the cardia is suggested instead of gastrostomy. The stomach having been exposed by an incision through the abdominal wall a little to one side of the median line, an opening is made into it anteriorly, near the pylorus, the right forefinger is introduced through the stricture, the left is passed in beside it, and divulsion is practiced by slowly separating the fingers. The gastric and abdominal wounds are then closed.

In the two reported cases, not only were the urgent symptoms relieved, but there was every evidence, months after the operation, that the stricture had been permanently overcome. The dilatation of the œsophageal strictures was performed in the same manner, although, from the position of the cardiac orifice, it was necessary to use a steel dilator instead of the fingers. Professor Loreta does not expect such permanent results from instrumental dilatation, since he can not be so certain that the muscular fibers have been completely overstretched. He suggests that perhaps electrolysis may be employed instead of dilatation.

The success which has attended this ingenious procedure will certainly give it favor in the eyes of American surgeons, who, while admiring the daring spirit of their foreign *confrères*, are deterred by a certain conservatism, arising, we are glad to say, from a spirit of humanity, rather than of fear, from following their example. Any operation which will take the place of that formidable and, as we think, unjustifiable measure—resection of the pylorus—is to be regarded as a most valuable contribution to peritoneal surgery.

MINOR PARAGRAPHS.

INTRAFUSION.

As bearing on a matter which we mentioned last week, we would call attention to a letter by Mr. Charles Jennings, published in a recent number of the "British Medical Journal." He observes that there are two classes of cases in which intrafusion may be employed—one in which the amount of blood lost has not exceeded a certain definite ratio of the body weight, and the other in which the loss has been more excessive. Intravenous injections of salt solution are indicated, he says, in the former case, but transfusion of blood alone will restore the patient in the latter. In other words, merely adding to the supply of fluid will not answer in cases of excessive loss of blood.

EXITUS ACTA PROBAT.

Those who may imagine that the inadequacy of Dr. Milton Josiah Roberts's previous attempts to give due publicity to the electro-osteotome, embracing as they did an elaborate description of the contrivance in the columns of one of our contemporaries and a demonstration of its capabilities at a meeting of the Academy of Medicine, was the consideration that led him to indulge in the feats that were so glowingly set forth in last Sunday's newspapers—those who entertain that fancy must, we are persuaded, be to a certain extent mistaken. While persons who are sensitive in the matter of buncombe may feel convinced that the affair was intended *ad majoram Robertesii gloriam*, we think we see in the occurrence one of those mysterious workings of Providence that sometimes, for the ultimate accomplishment of a great end, lead men to do what would ordinarily be repugnant to their sense of the fitness of things. In the dreary *non poss.* which Mr. Henry Bergh is reported to have framed concerning the matter he said: "Let them practice vivisection on men, women, and children"—a sentiment that will go far, we trust, to take the wind out of that gentleman's sails in any attempt to secure the passage of an anti-vivisection law in this State. This is the good that is to come out of the affair, and it is not too much to take it for granted that the sheep which suffered on the occasion will become famous quite apart from the minor matter of the electro-osteotome.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 17, 1885:

Diseases	Week ending Mar. 10		Week ending Mar. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	2	0
Typhoid Fever	7	2	5	1
Scarlet Fever	86	21	85	14
Cerebro-spinal meningitis	4	2	8	8
Measles	191	24	147	22
Diphtheria	16	21	80	47

Typhus in New York.—A fresh importation of typhus from Hamburg came to light on Monday, two persons just arrived from that city having been found by the officials of the Health Department to be suffering from the disease.

The "Index Medicus."—We are glad to learn, from an announcement issued by the editors, that Mr. George S. Davis, of Detroit, has undertaken to continue the publication of the "Index Medicus" on the same general plan, and with the same regard to typographical accuracy, as in its former publication. The first number for the current year will contain the references to the literature of January, February, and March, after which it will appear monthly, as heretofore.

The Medical Society of the County of New York will hold its next meeting at the Academy of Medicine, on Monday evening, the 23d inst., and the meetings will be held at that place hereafter.

The College of Physicians and Surgeons.—The Assembly has passed a bill enabling the college to make the desired use of Mr. Vanderbilt's gift of half a million dollars.

The Indiana State Medical Society will hold its next meeting in Indianapolis on Tuesday, Wednesday, and Thursday, May 12th, 13th, and 14th.

The Order "pour le merite," lately conferred upon Sir Joseph Lister by the Emperor of Germany, has, as we learn from the "Medical Times and Gazette," been given to only two other surgeons, Dieffenbach and Schönlein.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 8, 1885, to March 14, 1885:*

Army Medical Board to meet in New York city, April 6, 1885. Detail for board: Lieutenant-Colonel Joseph B. Brown, Surgeon; Major Anthony Heger, Surgeon; Major John H. Janeway, Surgeon. Surgeon Heger to be relieved from duty in the Department of the East, and Surgeon Janeway to perform duties on the board in addition to his present duties. S. O. 56, A. G. O., March 11, 1885.

Brown, H. E., Major and Surgeon. Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 48, Department of the East, March 6, 1885.

Taylor, Blair D., Captain and Assistant Surgeon. Leave of absence extended two months. S. O. 54, A. G. O., March 9, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending March 14, 1885.*

Bailhache, P. H., Surgeon. Detailed as President, Board of Examiners, March 10, 1885.

Purviance, George, Surgeon. Detailed as member, Board of Examiners, March 10, 1885.

Austin, H. W., Surgeon. Detailed as recorder, Board of Examiners, March 10, 1885.

Society Meetings for the Coming Week:

Monday, *March 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *March 24th:* New York Surgical Society; New York Dermatological Society (private); Buffalo Obstetrical Society; Medical Society of the County of Lewis, N. Y.

Wednesday, *March 25th:* American Microscopical Society of the City of New York; New York Pathological Society; Auburn, N. Y., City Medical Association; Cumberland County, Me., Medical Society (Portland); Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *March 26th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *March 27th:* New York Clinical Society (private); New York Society of German Physicians (private); Yorkville Medical Association, New York (private).

Saturday, *March 28th:* New York Medical and Surgical Society (private).

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of March 2, 1885.

The President, Dr. D. A. K. Steele, in the Chair;
Dr. Liston H. Montgomery, Secretary.

Mollities Ossium.—Dr. W. J. Webb read a paper on this disease, embodying an elaborate account of the case of a man, a native of Pennsylvania, some of whose brothers and sisters had had symptoms more or less like his own, so that an hereditary element might have entered into the causation of the disease. He had led a life of vicissitudes, having been at different times a wood-chopper and a miner; had been a masturbator from the age of eight years; had at times been a hard drinker; was supposed to have had syphilis; and had perhaps been poisoned by drinking arsenical water while engaged in mining. He had also suffered from tape-worm. Toward the close of his life his body became very much distorted, he was at one time unable to move any part of his person except his right hand, he was cyanosed, and on several occasions his temperature was subnormal.

At the post-mortem examination the body was found so shortened and flattened as to resemble that of a frog; yet it was six or seven inches longer than it had been before death. It was excessively emaciated, and the skeleton was distorted in various ways. After being subjected to a stretching process, the entire length of the cadaver was fifty-five inches. The left femur measured eleven inches, the right one eleven and three quarters; the left tibia fourteen inches, and the right one thirteen and a quarter; the sternum six and a half; each humerus eleven; and the left ulna nine, and the right one ten. The heart was situated in the median line, and the pericardium extended up to the second rib. The head was at least an inch and a quarter smaller in circumference than it had formerly been. The vault of the cranium was nearly as flexible as a moderately distended foot-ball. The bones of the face had suffered least of all, but they had been tender to the touch before death, and some of the teeth had become loose. The clavicles were enlarged, elongated, and curved decidedly upward. The sternum was but little affected; the manubrium, together with the sternal ends of the clavicles, extended upward and forward, while the gladiolus pointed upward and slightly backward, which made a decided curve posteriorly. In the anterior third of the shafts of the ribs nearly or quite all the proper bone substance was wanting, and the periosteum was folded upon itself. Altogether, the condition of the chest-wall was such as to have caused great compression of the organs within, and for at least six months before the man's death his breathing had been largely diaphragmatic. The vertebral column was enlarged, and, while its natural curves were increased, there was also a decidedly sharp lateral curvature to the right in the dorsal portion, together with a slight curve to the left in the lumbar portion. The innominate bones were nearly at right angles with the horizontal plane of the pelvis. The ilia were crowded inward, while the ischia were directed outward and the sacrum was turned forward, and the pubes slightly backward and downward. This position of the pelvis, together with the eversion and outward curvature of the femora, was suggestive of the ancient lyre. The upper limbs presented nothing of special importance, except that they were small and so soft and flexible that they might easily have been tied in a knot. On section of the femur, only a trace of bone substance was seen adhering to the inner surface of the periosteum; as the head of the bone was approached, the cancellated structure was more characteristic, but even here it could easily be cut with an ordinary scalpel. When the periosteum was cut into, a considerable quantity of sero-sanguineous fluid escaped that completely enveloped and seemed to permeate the liver-like substance which had taken the place of the medullary canal and the greater part of the shaft of the bone. In the trochanters there was an augmentation of soft cancellated substance containing a large deposit of fat. The neck of the bone was shortened, and the great trochanter extended above the articulation with the acetabulum.

The reader then gave a summary of the treatment to which the man had been subjected, and suggested that, when practicable, a water-bed should be used for such patients, while something might perhaps be done with an apparatus for making extension and preserving the proper shape of the thorax—possibly with plaster of Paris. According to an old author (who was quoted at length), cases of osteomalacia might be divided into three classes: 1. Those due to carcinomatous or sarcomatous disease of the medulla. 2. Those due to an affection of the medulla allied to lymphoma. 3. Those due to some peculiar condition of the medulla, or perhaps of the blood, dependent on the pregnant state. The reader thought that hereafter the nervous system would receive more attention than it had received hitherto in connection with this disease.

Dr. C. E. Webster asked if the reader, in his study of the disease, had been able to distinguish it sharply from fragilitas ossium. It seemed to him that the two were often confounded. He doubted if any form of support could have been devised that would prevent the deformity of the thorax.

Typhoid Fever and its Hygienic and Specific Treatment was the subject of a paper by Dr. David O'Shea, which was illustrated by the histories of a number of cases. Foul air and contaminated drinking-water were not always the cause of the disease, but he believed that there was a specific enteric bacillus yet to be discovered. Klebs had already professed to have identified the bacillus, and to have found it in the blood, in the lymphatics, and in the tissues, but this needed confirmation. It was very rare for the disease to occur in a person far advanced in years, but the individuals of certain families were prone to suffer from it in a severe form, so that there was reason to apprehend a formidable attack when a parent had died of it. When we were called to a suspected case, therefore, we should first consider the patient's family history, then his personal history, and finally his actual condition, with regard to their bearing on the prognosis.

The principles of treatment were generally accepted and well understood, and success would depend greatly on their intelligent application to individual cases and on careful attention to details in every stage of the disease. Whenever it was possible, he had the patient's bed placed so that, occupying a large, airy room, with the doors or windows open more or less continuously, according to the state of the weather, it could be approached from either side. The bed should be firm and comfortable, and, if practicable, one should be occupied during the day and another at night. The covering should be light, but sufficient to protect the patient against changes of temperature. The body should be sponged night and morning with tepid alcohol and water, and during the height of the fever the face and hands should be sponged frequently through the day. If the temperature rose above 103° F. in the morning, and above 104° in the evening, the wet pack should be applied to the chest and an ice-bag to the head, and a mustard foot-bath three times in the twenty-four hours would prove very grateful and efficacious. The bed-pan should always contain about one third its capacity of water with a teaspoonful of a twenty five-per cent. solution of carbolic acid added to it, and this should be renewed every time the vessel was used. In summer the evacuations should

be buried, but in winter they could be thrown into a water-closet. No one should occupy the same bed with the patient, nor, if it could be avoided, the same room, and only those who were advanced in years should act as nurses. In all the cases related this hygienic treatment had been followed, together with the specific treatment laid down by Liebermeister, Traube, Wunderlich, and others, consisting in the administration of ten grains of calomel at a single dose the first day the fever was recognized, and eight grains a day for three or four days afterward, or according to the condition of the bowels. It was a fact that these large doses of calomel had an antipyretic effect in every case, and, with this remedy, the writer could bear testimony to the efficiency of the specific treatment in cutting the disease short and lessening its mortality. The longest duration of the disease in any of his cases was twenty-six days, and the shortest fifteen days. The complications were few and of short duration; only one of the patients became delirious, and in that case the disease had not been recognized until the beginning of the second week, so that several days had elapsed before any calomel was given. Whether or not this fact was the cause of the delirium, he would not undertake to say—he merely mentioned it. The same patient was sick the longest time, and had the most copious evacuations. The true value of this specific plan of treatment could not be arrived at from such a limited number of cases, but he could recommend its further trial.

Dr. G. C. Paoli thought we could rely on nature in light cases, and that such cases served to explain the temporary popularity of the various specific plans of treatment that had sprung up at one time and another and been abandoned. He had seen cases run their course in eight, nine, or ten days, and he had seen others continue for twenty, twenty-five, thirty, or forty days; again, he had seen the disease in a malignant form go on to a fatal termination speedily. He relied a good deal on nourishment and careful nursing. He thought there was danger in the plan of using two beds, as suggested by the author, for, when Peyer's glands were inflamed, or when their cicatrization was incomplete, moving the patient from one bed to another might lead to trouble. The diarrhœa of typhoid fever could not be stopped, but we could control it within certain limits. He did not believe that there was such a thing as a typhoid-fever bacillus, or that one would ever be discovered. He gave but little quinine in the disease, and had seen two patients die from the administration of forty grains of the drug during an attack.

Dr. C. G. Davis was glad to see prominence given to the hygienic plan of treatment; formerly, under the notion of scourging the disease out of the system, too much medicine had doubtless been given. His observation had been that the mortality varied in different years and in different localities; he had seen it as high as twenty per cent. and as low as four per cent. A favorite piece of medication with him was to give a [illegible] of a drop of tincture of nux vomica and a sixth of a drop of tincture of aconite-root every four hours; this lessened the tendency to irritation of the gastro-intestinal mucous membrane, and he did not regard it as homœopathic.

Dr. C. E. Wendell usually followed the expectant plan. He sometimes ordered brandy in teaspoonful doses as occasion required.

Dr. E. Peckham gave a minute description of his method of applying cold sponges. An oil-cloth was placed under the patient, and the night-shirt had been pulled up over his head, and [illegible] water was poured out of a sponge over the surface of the body. The oil-cloth was easily removed when the process was over. He had never seen a case reduce the temperature, on the contrary, he believed that it acted as a cardiac depressant.

Dr. G. W. Webster could speak of cold baths from personal experience, having had typhoid fever himself. The baths that he was subjected to produced very severe shock, so that, after having had two or three of them, he had refused to submit to any more. Moreover, they did not reduce his temperature more than a tenth of a degree. Sponging with tepid water, however, was such a pleasure that he looked forward to it eagerly. He was given large doses of quinine, which so weakened his heart that he did not recover from the effects for as much as a year. He had seen salicylate of bismuth used very successfully in a number of cases.

Dr. Randolph remarked that more attention was now given to the temperature than to the pulse, and that the observation of the pulse was getting to be one of the lost arts.

Dr. G. W. Webster called attention to the secondary dilating action of cold upon the superficial capillaries, and instanced the burning sensation felt in the hands soon after handling snow or ice.

Dr. Angear doubted if this observation would apply to the moderate cold that was used in the treatment of fevers.

Dr. G. Newkirk did not think it necessary to apply cold to reduce the temperature. The warm pack imparted a pleasant sensation of quiet and rest, and kept the skin active, which was an essential point in the treatment.

The paper was further discussed by Dr. R. E. Starkweather, the President, and Dr. O'Shea.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of December 11, 1884.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Great Hypertrophy of the Heart.—Dr. L. E. Tieste read the history of the case of a cook, thirty-eight years old, who, ten years before his admission into St. Mary's Hospital, had a severe attack of rheumatism, which was followed by frequent attacks of dyspnœa. For the past eight years he had had rheumatism often, but not severely, and he had never regained his original health. He had become addicted to the excessive use of malt liquors, suffered from ascites and œdema of the limbs, and for some time had passed too little urine. When he was admitted, his abdomen was greatly distended with fluid, his limbs were swollen, and he had the characteristic appearance of chronic Bright's disease. The urine contained about one fourth its bulk of albumin. Four months before his admission he had contracted syphilis. He was given the "mixed treatment," also infusion of digitalis and acetate of potassium, and his bowels were kept free by the frequent administration of pulvis purgans. This treatment improved his general condition and mitigated the symptoms. There were very loud murmurs, indicative of both mitral and aortic stenosis and regurgitation, and the cardiac pulsations could be felt with the hand on any part of the chest. He continued to improve for over three months; then the abdomen began to enlarge again, and in September it was necessary to draw off the fluid. After about three weeks of comfort he was suddenly seized with violent dyspnœa, which was relieved in a short time, so that he passed a quiet night, but a second attack, the next day, ended in his death. Œdema of the lungs, enlargement of the liver, and interstitial change in the kidneys were found, and the heart was enormously hypertrophied, weighing over two pounds.

Acute Dysentery.—Dr. Bernard J. Hammill related the case of a woman, forty-five years old, who was admitted into St. Mary's Hospital, August 21, 1883, in the service of Dr. George R. Kuhn. She was in a dying condition at the time,

and the only history that could be got was that she had been sick for about a week with some abdominal complaint. She died the next day. An autopsy was made by Dr. Leuf, who reported that the lungs were healthy, except for slight senile emphysema; that the heart was flaccid and contained very little blood; that the stomach was normal; that the liver was small, but otherwise normal; that the small intestine was slightly injected, especially its peritoneal coat; that the mucous membrane of the large intestine was thickened, ecchymotic, and ulcerated throughout, but especially in the sigmoid flexure and the rectum; that the kidneys were small, with their connective tissue slightly increased, and moderately contracted; that the spleen was small and pale; and that the pancreas was very yellow.

Neglected Injury of the Hand.—Dr. C. N. D. Jones presented a specimen and read the history of the case. [See p. 331.]

Perityphlitis.—Dr. David Myerle related the case of a patient eighty-three years old who, on the 25th of October, complained of impaired appetite and of cold sensations across the abdomen. The tongue was slightly coated. A mild aloin laxative was given. On the 28th the dose was repeated. On the 29th, at noon, nausea and vomiting suddenly came on, and there was tenderness at about the lower margin of the liver. Temporary relief was given with sinapisms. The tongue was slightly reddened at the margins and thickly coated at the base, but moist; the temperature was 101° F. Dr. Olcott was called in consultation, and thirty grains of sulphate of magnesium were given, to be repeated in six hours if no movement had resulted in that time. There was no pain, but there was occasional nausea. On the 30th, repeated injections were used, but failed to produce a movement. There was slight tympanites; the tongue was brown at the base and drier. Stimulating injections, containing turpentine, were finally successful in producing free fæcal evacuations. The temperature was now 100°, the heart was weaker, and stimulants were ordered. On the 31st there was considerable tympanites, bile was vomited several times during the day, and the patient was rapidly lapsing into a typhoid condition, rousing only when spoken to loudly, but having no pain. On the 1st of November the temperature was 99°. The patient died at 2 A. M.

The autopsy, made by Dr. J. H. Hunt, showed the absence of general peritonitis, but the presence of localized inflammatory products binding the cæcum to the adjacent viscera, with fæcal impaction above the ileo-cæcal valve, the appendix vermiformis being softened and distended with the results of inflammation. No tangible evidence could be found of the origin of the perityphlitis. There was also cystic degeneration of both kidneys. The points of interest were: the sudden invasion; the impossibility of inducing evacuations of the bowels; the absence of decided pain; the low temperature (never exceeding 101°); and the absence of all trace of the primary exciting cause, which, however, might reasonably be assumed to have been a grape-seed, for the patient had indulged freely in grapes within a day or two of first complaining.

In answer to a question by the President, Dr. Hunt stated that but little fæces had been found in the rectum post mortem.

The First Stage of Typhoid Fever.—Dr. Isaac H. Platt read the history of the case of a school-teacher, twenty years old, who was admitted into St. Mary's Hospital on the 2d of September. About the middle of August, while wheeling a child's carriage along Rockaway Beach, she was overpowered by the heat, as she believed, and was confined to bed for a few days. She then improved, however, and was able to go about again, but did not recover her strength completely. She had chilly sensations at times, pain in the back, headache, and general malaise; but, so far as her friends knew, she had no diarrhœa or epistaxis. This state of things continued until the night of August 31st, when she became slightly delirious. The delirium was more marked the next night, and it was that that led her friends to send her to the hospital. A sister of hers, who had been sick for about five weeks, and was then recovering, had had somewhat similar symptoms, and her physician had diagnosticated typho-malarial fever.

On her admission, the patient seemed very sick, and the dull and listless expression of her face corresponded with her mental condition. Her pupils were dilated; her tongue was coated with a whitish fur; her pulse was 120 and dicrotic; her temperature was 103°; and she had a slight cough. Examination of the chest showed only moderate subacute bronchitis. She was given five grains of quinine every three hours, and milk-punch at frequent intervals. At 7 P. M. her temperature was 103·5°, and her pulse 118; about that time violent delirium set in and lasted all night, in spite of the use of bromide of potassium and chloral, so that at times it took four persons to restrain her.

On the morning of September 3d the delirium became low and muttering, the temperature was 103·5°, and the pulse was 125, small and feeble. The diagnosis was reserved, and the treatment continued. There was no material change during the day, except that she grew weaker. In the evening she was sinking fast; her temperature was 105°; her pulse was 140 and very weak; and her tongue had become quite dry and brown. She died at 3 A. M., thirty-six hours after her admission.

At no time, so far as any trustworthy history could be obtained, had there been any diarrhœa, tympanites, iliac tenderness or gurgling, eruption, or epistaxis. She was not under observation long enough to show any characteristic temperature changes. The autopsy, made by Dr. Leuf, showed the intestinal lesions of the first stage of typhoid fever well marked, in some places passing into the stage of ulceration. The case seemed interesting from the opportunity of seeing the lesions at an unusually early period, and because there were typical evidences of typhoid fever with a total absence of anything specially characteristic of that disease in the clinical history.

Dr. Leuf's Notes of the Autopsy, made eight hours after death.—The body was emaciated, and the rigor mortis moderate. The lungs were hypostatically congested. The heart was soft and flaccid, and contained a little fluid blood in all its cavities. There was no clotted blood found anywhere. The spleen was of twice the usual size, but otherwise healthy. All the other organs were normal in appearance except the small intestine, the agminated and solitary follicles of which were in the first or congestive stage of typhoid fever. The Peyerian patches of the lower metre of the ileum were raised quite a sixth of an inch above the surface of the mucous membrane, and were highest at the center; they had a dark-red appearance. The solitary follicles were affected in like manner, and each was surrounded by a red areola, making it look like a dark-red circular patch about a third of an inch across. They were suggestive of pictures of a small-pox eruption. The upper part of the ileum and the jejunum contained a quantity of the ochre-colored and offensive material peculiar to typhoid fever, but there was none of it situated lower.

Dr. Hunt thought that the disease must have advanced beyond the first stage, to judge from the lesions, and therefore he could not help doubting the primary condition of the intestinal follicles.

Dr. Leuf replied that seeing was believing. He was willing to admit that the patient was at the end of the third stage, but it was certain that the intestinal lesions were in the main those of the first stage—that of engorgement and tumefaction. It was true that many of the follicles, both solitary and agminated,

were more or less ulcerated, but it was also a fact that the vast majority of them were simply reddened and swollen.

Dr. Noah Tittemore presented a specimen of strangulated hernia resulting in death from intestinal obstruction and peritonitis; also a specimen of multiple intestinal invagination, from the body of a child.

Strangulation of the Ileum.—Dr. Hunt then presented a specimen of intestines, which showed how a band of inflammatory lymph had extended across the gut and, by contracting, eventually so strangled it as to cause death. The case showed the advantage of early abdominal section, for it was fair to assume that, had the abdomen been opened early, and the band severed, the patient would have recovered.

Dr. Josephine A. Dupré related the history of a case that showed the importance of an early diagnosis. A middle-aged man had marked constipation, and, under medical advice, took two doses of castor-oil, some calomel, some citrate of magnesium, and a four-ounce rectal injection, and had hot fomentations applied to the abdomen. The speaker was then called in, and found him with hiccough and marked exhaustion, but with no vomiting, and with a pulse normal in frequency but poor in character. Stercoraceous vomiting afterward occurred, and he soon died. At the autopsy eighteen inches of the ileum were found twisted and re-twisted upon themselves, causing the strangulation. Probably the man's life could have been saved if an early diagnosis had been made.

Dr. Hunt stated that both these cases had been treated by men of conservative, "let-alone" principles. It was probable that early surgical interference would have saved both lives.

Dr. George R. Fowler thought that too many men were in the habit of waiting for something to "turn up" before they were willing to do anything, so that it usually happened that the patient's toes were the things to "turn up." The "let-alone" principle was the outcome of fear and prejudice in regard to abdominal section. The comparative innocence of the procedure should oftener be held up to view.

Dr. A. Ross Matheson presented a cancerous stomach, and related the history of the case.

Stricture of the Cæcum.—Dr. Leuf showed a specimen of this lesion, which had caused death. The constriction was at the ileo-cæcal valve and a little above and below it, and the case had taken the course usually followed under such circumstances when the termination was the same.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 19, 1885.

The President, Dr. A. Jacobi, in the Chair.

Electricity as a Stimulant in Cardiac and Respiratory Failure was the title of a paper read by Dr. Gaspar Griswold. [It will be published in full hereafter.]

Dr. A. D. Rockwell thought electricity more valuable in restoring respiration than in stimulating the heart. It acted powerfully, according to whether it was applied to the pneumogastric nerves on the right or on the left side. Some years ago he had observed that the primary effect upon the heart was to [illegible] action, whereas the secondary effect was increased rapidity of action. Theoretically, the precautions urged by the [illegible] were well founded; but practically electricity could be used with much greater impunity than he would have supposed.

Dr. Edward Barrie remarked that the author had called attention to the [illegible] action of ether and chloroform on the heart. Notwithstanding the depressing influence of chloroform anæsthesia upon the heart, he had for years advocated chloroform for the pains of labor in preference to ether. In surgical operations, where anæsthesia was brought on before the existence of pain, and of the increased nervous and cardiac activity to which pain gave rise, ether was much safer. In the pains of labor matters were reversed, and chloroform was indicated. This was true, notwithstanding there might be organic heart disease.

Dr. R. W. Amidon regretted that the author had not told what he would use in place of electricity in conditions contra-indicating the employment of that agent. He thought the precautions in regard to the use of electricity in cardiac failure were none too strongly stated, because in most instances patients were under the care of the general practitioner, who probably would not be sufficiently experienced to employ electricity with any degree of safety. As had been pointed out by the author, electricity was not so simple an agent as some seemed to suppose; on the contrary, it might prove a very dangerous remedy.

Dr. L. Putzel did not think the clinical points made in the paper were in accordance with facts. It was impossible to speak, with any definite meaning, of galvanizing the pneumogastric nerve in the human subject. As to a strong current applied in this situation causing heart failure, he had not witnessed it. He had employed electricity over the region of the pneumogastric in a number of cases of exophthalmic goître, and had never seen any immediate distinct effect upon the heart.

Dr. J. L. Corning took exception to the statement by Dr. Putzel, that electrization of the pneumogastric or phrenic nerves was impossible in the human subject. In a case of exophthalmic goître his instrument had been used by Dr. Chichester, with the result of reducing the pulse-rate from 140 to 80 in a short time.

Dr. A. H. Smith remarked that the object in using electricity in opium poisoning was to stimulate the respiration, and this could best be done by applying the poles to the surface briefly, avoiding cardiac depression by long-continued applications. He thought that under excitement the physician was liable to overrate the slowness of respiration, and carry flagellation to a depressing extent.

Dr. Putzel said, in reply to the remarks of Dr. Corning, that he did not mean to convey the impression that galvanization of the neck never produced slowing of the pulse, nor did he mean to say that galvanization of this region might not affect the pneumogastric; further, he did not mean that galvanization was not useful in exophthalmic goître.

The President had used electricity in former years a good deal, more especially in asphyxia of the newly born. There it certainly came in as a valuable remedy in many instances. It was about ten or twelve years ago that he made a communication on the subject to the New York Obstetrical Society, in which he reported that electricity applied for any length of time, as from four to six seconds, at first caused a lowering of the pulse and improvement in the respiration, which condition within a few seconds gave place to paralysis. This effect was produced more speedily by applying the electrodes in the region of the phrenic and pneumogastric nerves. He found the most practical way of getting benefit from electricity was not to confine the applications over the lines of nerves at all, but to touch the surface here and there over the muscles; and, as Dr. Smith had said, the poles should be applied for but a moment at a time. This was followed by a deep inspiration, and was of benefit.

Dr. Griswold thought the reason more patients were not killed in opium poisoning by the use of the strong electrical current was that the pneumogastric nerve had become paralyzed by the action of the poison. He did not mean to condemn the

use of electricity, but to caution against its dangers. Artificial respiration was safe and efficient, whereas stimulation of the phrenic nerve to produce the same result might be inefficient and dangerous, and it was better that the physician should devote his whole attention to the former than resort to an uncertain means which might cause the death of the patient. He spoke of the local anæsthetic effect of chloroform, and stated that the best means to resuscitate a patient from heart failure due to the influence of chloroform was to substitute ether.

The Electro-osteotome and several other appliances were shown by Dr. M. J. Roberts.

Meeting of March 5, 1885.

The President, Dr. A. Jacobi, in the Chair.

Dr. Alfred C. Post and Dr. John T. Metcalfe were unanimously elected honorary fellows.

The Ætiology and Treatment of Nasal Catarrh, with Special Reference to the Deviated Septum.—Dr. William C. Jarvis, the author of the paper, said that for several years he had employed the following classification as denoting different forms of deviation of the nasal septum: Osseous, cartilaginous, osseo-cartilaginous, and hypertrophic. By far the most common form was the cartilaginous; next in frequency was the osseo-cartilaginous. The causes of nasal catarrh depending upon these forms of deviation of the septum were, first, pressure irritation, and, second, defective drainage. Deviation of the septum was either hereditary, traumatic, or acquired. The inherited form often co-existed with, and was dependent upon, a peculiar formation of the hard palate. The palate being abnormally high and irregular, caused the nasal septum to be deflected to one side, and the higher the elevation of the palatine arch the greater the deviation of the septum. But a palatine arch of considerable depth, if regular, need not necessarily be attended by deviation of the septum. A peculiar conformation of the parts over the upper jaw often existed in cases of deviated nasal septum which could be recognized at once, and thus the physician was often enabled to say that the person was subject to chronic nasal catarrh. The author opposed with some warmth the custom of looking to a diathesis or specific constitutional taint as a determining factor in nasal catarrh. Remarkable intellectual faculties were likely to be accompanied by nasal catarrh, the encroachment of the cranium upon the skeleton of the face causing deviation of the nasal septum and thereby catarrh. Traumatic deviation of the septum and catarrh were frequently met with in pugilists and persons of low life.

Dr. Jarvis then exhibited a variety of instruments employed in the correction of deviation of the septum, and said he employed a ten-per-cent. solution of cocaine as an anæsthetic, or, in cases of great sensitiveness, rhigolene could be used. The explosion of rhigolene was pretty effectually guarded against by the employment of the electric light inclosed in a small glass chamber. Foster's improved battery was exhibited.

Dr. F. H. Bosworth took issue with the author on several points. He would drop the word catarrh, as it had too wide a signification; it covered the whole area of nasal diseases. The diagnosis of diseases of the nose could easily be made since the introduction of cocaine. As to pressure irritation being an ætiological factor, this idea was not new, having been raised in a paper by Harrison Allen, published in the "American Journal of the Medical Sciences" for January, 1876. The theory was that two mucous surfaces permanently in contact within the nasal cavity would cause catarrh. If this were true, the nasal cavity differed from other mucous cavities in the body. Pressure was an adventitious circumstance in hypertrophy of the nasal mucous membrane, and had, he believed, nothing to do with the cause of catarrh. Dr. Bosworth did not think defective drainage had anything to do with the ætiology of nasal troubles. The mucus of the nose was harmless, and it mattered little in what direction it went. He regarded the deflected septum as the most frequent cause of nasal catarrh, but not on account of the pressure irritation or the defective drainage to which it gave rise; but because of narrowing of the air passages, interfering with the normal function of the nose as a breathing organ, and causing rarefaction of the respired air, and thereby dilatation of the venous sinuses. Dr. Jarvis had discountenanced the idea of the influence of diathesis, but had unfortunately referred to a condition which illustrated his ideas, as it was a case of pretty well recognized mollities ossium. Dr. Bosworth had seen two cases of the peculiar malformation of the palatine arch with deviation of the septum referred to by the author. The indications for treatment he thought were clear, being to remove the obstruction to the nasal passage; and this could be done by any instruments which the operator found best adapted to his use. As to cocaine, he had found a two-per-cent. solution sufficiently strong, and also costly enough.

Dr. S. O. Van der Poel, Jr., had practiced a method recommended by Dr. Roberts, of Philadelphia, for correcting deviation of the nasal septum, in five cases, the result in two cases being quite satisfactory, and in the others more or less satisfactory. It consisted in retaining the deviated septum in its corrected position by means of a pin. The pin, being small, scarcely acted as a foreign body, and constituted no deformity while it was worn.

Dr. D. B. Delavan said that one would be astonished, on examining a number of skulls, to find how many showed deviation of the nasal septum. But it was also true that the nostril on the concave side of the septum might be less patent than the other, due to an enlargement of the turbinated bone on that side. Therefore removal of the mucous membrane and underlying tissues on the convex side of the septum did not always relieve the patient of his trouble; because it did not touch the abnormal condition on the opposite side. He thought that the enlargement of the middle turbinated bone on the concave side of the septum should first receive treatment, and, if the patient was not then relieved, the deviation of the septum might be corrected.

Dr. Jarvis had used the word catarrh as the one most commonly employed. He had distinctly stated that the normal mucous secretion of the nose was harmless; but when in diseased states it became thick, it certainly possessed irritating and harmful properties. He agreed with Dr. Delavan that the malformation mentioned by him might exist, but it occurred only seldom. With regard to the use of pins, he could not get his patients to submit to that mode of treatment.

Recurrent Fibroma of the Breast at Seven and Eleven Years of Age.—Dr. George G. Hopkins, of Brooklyn, presented a microscopical section of a fibroma of the breast which was first removed by a physician in the West when the little girl was seven years of age. The tumor recurred, and was, together with enlarged axillary glands, excised by Dr. Hopkins when the child was eleven years of age.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of February 11, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Hydrosalpinx.—Dr. P. F. Chambers presented the right ovary and Fallopian tube, removed, for hydrosalpinx and a cyst of the ovary of the size of a hen's egg, in January. The patient had suffered for eight years with severe pain in the right side of the pelvis, and from repeated attacks of localized

peritonitis. The left ovary was small and so firmly adherent that no attempt was made to remove it. The patient was relieved of pain, and recovered from the operation without accident.

The Coccus of Acute Lobar Pneumonia.—Dr. T. M. Prudden presented microscopic sections showing the coccus which Friedländer maintained was always present in acute lobar pneumonia. Dr. Prudden had not failed to find it in a number of specimens which he had examined, and had also found it in ten cases of broncho-pneumonia in children. Whether the relation between the coccus and the disease was one of cause and effect had not been positively determined.

Laparo-hysterectomy.—Dr. H. Marion-Sims presented a uterus, the seat of eight fibroid tumors, together with the appendages, which he had removed five weeks before for the relief of long-continued pelvic pain and frequent and excessive menstrual flow. The patient was now enabled to be about the room.

Epithelioma beginning in the Soft Parts and finally involving the Tibia.—Dr. G. F. Shrady presented a leg which he had recently removed for malignant disease by supracondylar amputation of the thigh. The patient had suffered for forty years with a sore on the leg, probably originating in an injury. A year after its appearance a piece of the tibia exfoliated. About two years ago pain was so severe that he had to resort to crutches, and about seven months ago a false point of motion was observed, showing that the tibia was breaking down. Dr. Shrady saw the patient a week ago, when it was evident there was malignant disease of some form, but a positive diagnosis was not made until after the amputation, when Dr. W. H. Porter found it to be epithelioma. The infiltration with cancerous cells did not extend as high as the point of amputation, nor down to the foot. It would seem that no treatment had been employed during the long continuance of the disease. Dr. Shrady had no knowledge of another case in which epithelioma had progressed and involved the bone secondarily.

Dr. Porter said Billroth spoke of epithelioma developing in the integument, gradually extending, and involving the bone secondarily.

Dr. Ripley was not sure that had an operation been done earlier the patient might have escaped epithelioma. Many men had sores for forty years and did not get epithelioma; many men had epithelioma without having had a sore for forty years; and it was possible for a man to have epithelioma for forty years.

Dr. Shrady agreed with Dr. Ripley, but, while it was possible, it was not probable that his doubts would be confirmed in practice. The clinical history seemed to show very plainly that until a comparatively recent time there had been a benign sore which had become malignant.

The President thought malignant disease often resulted from irritation, with or without an hereditary tendency.

Dr. Porter said that when he and Dr. Satterthwaite were preparing their report upon cancer the conclusion to which they came was that in the majority of cases its origin was in long-continued irritation of some kind.

Cardiac Disease; Erysipelas following Cutaneous Puncture for Anasarca. Dr. J. B. Ripley presented the heart of a man, Lewis's seven years old, who died in St. Francis's Hospital February 6th. He had been in the hospital in June, 1884, with acute Bright's disease and mitral insufficiency. He was discharged improved, but returned in January, complaining of pain over the heart, and swollen feet at night. There was general anasarca with hydrothorax and cough. There were four cardiac murmurs: 1. Systolic, heard with greatest distinctness at the apex, conveyed posteriorly, loud and blowing in character. 2. Systolic, heard with greatest intensity at the base, transmitted into the large vessel. 3. Diastolic, heard with greatest intensity at the xiphoid cartilage, circumscribed. 4. A slight superficial friction sound at the junction of the second rib with the sternum on the left side. Several punctures were made about the malleoli, the inner aspect of the thighs, and the scrotum, also on the left hand, which was much more œdematous than the right. A large amount of fluid dribbled away through the punctures, and the symptoms improved greatly. About a week after the punctures in the back of the left hand had healed, erysipelas developed in the extremity, and was one of the factors in causing death. The points of interest in the case were: *First.* The development of erysipelas after puncture for œdema. While in this case the inflammation could not have been excited by the punctures, which had healed, in another case which had come under his observation since Dr. Carpenter brought the question before the society, two or three years ago, the erysipelatous inflammation had evidently been due to the punctures. These were the only two cases in which he had known punctures for œdema to be followed by erysipelas. But it should not be forgotten that erysipelas was liable to develop in some cases whether puncture was made or not, and that the relief which the draining away of the fluid gave more than compensated for any slightly increased risk of its development. *Second.* At the autopsy the pericardium was found adherent to the heart throughout the entire extent except near the base, and it was there that a slight friction sound had been heard. He had noticed in several cases of chronic pericarditis œdema of the left arm particularly. *Third.* The heart was found to be immensely hypertrophied and greatly dilated; the mitral valve was the seat of stenosis, thickening, and insufficiency, and this led him to say with regard to the so-called pre-systolic murmur occurring with stenosis of the mitral valve that he thought it very rare. He had examined this patient repeatedly and with great care, but no pre-systolic murmur was to be heard. *Fourth.* Dr. Loomis had stated that when there was adhesion of the pericardium to the heart and to the chest walls, the apex-beat would be found above its normal position and not displaced to the left. In this case it was displaced downward and to the left, showing that no general rule on this subject could be made.

Dr. Van Santvoord thought it was too much to say that the pre-systolic murmur of mitral stenosis was infrequent. During quietude the murmur frequently existed as simply a prolongation of the first sound of the heart, but under excitement it could be recognized as a distinct murmur.

Dr. Porter had confirmed the diagnosis of mitral stenosis, based upon the existence of a pre-systolic murmur, by post-mortem examination of two cases. He thought there could be no question that the murmur was produced by obstruction to the flow of blood from the auricle into the ventricle.

Dr. Ripley did not doubt that the murmur sometimes occurred, but that it was infrequent was a belief founded upon his own observations and those of Dr. Leaming and others. The pre-systolic murmur was sometimes said to indicate mitral stenosis when the autopsy showed no such lesion.

Dr. W. M. Carpenter had found that it was unusual for erysipelas to follow punctures for the relief of œdema.

Dr. Gerster said it was a well-known fact that in cases of chronic œdema of an extremity caused by a local disturbance in the circulation, inflammation of the skin occurred from time to time without any known external lesion—a form of dermatitis which resembled erysipelas in some respects.

Tuberculosis of the Larynx in a Child.—Dr. Van Santvoord presented the larynx of a child two years and seven

months old which contained small tumors supposed to be tubercular in character. The history seemed to be against the idea of its being syphilitic. Tubercle of the larynx in so young a subject was a very rare affection. The specimen was referred to the Committee on Microscopy.

Destruction of the Lung in a Child.—Dr. S. J. McNutt presented specimens removed from the body of a child four years and a half old, whose clinical history was unknown. The left lung was completely destroyed, and only a comparatively small portion of the right lung remained useful. There were tubercular masses throughout other portions of the body.

Dr. Carpenter had recently made an autopsy on the body of an adult, and found one lung destroyed and the other emphysematous.

Meeting of February 25, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Sarcoma of the Kidney, with Secondary Involvement of the Mesenteric Glands.—Dr. A. Jacobi presented for a candidate the specimens obtained from the body of a girl six years of age.

Old Bullet-Wound of the Chest.—Dr. R. C. M. Page presented a man who, in 1864, received a bullet-wound in the shoulder. The ball went from behind forward, downward, and to one side, and was not found. The patient finally recovered his usual health, but of late had complained more or less of pain in the left breast, a short distance below the clavicle. In July last he spat up blood for the first time, and in November entered the Roosevelt Hospital, suffering from an irritating cough, and occasionally spitting up blood. When the patient visited the Northwestern Dispensary, recently, Dr. Page found a spot of consolidation in the lung at the seat of pain. It was his impression that the bullet had lodged at this spot and become encapsulated, and had recently become dislodged and given rise to the pulmonary hæmorrhage. A number of cases were on record in which a bullet had lain quiescent in the lung for some years, finally becoming dislodged and giving rise to symptoms.

Dr. W. H. Porter presented three specimens illustrating different lesions of the genito-urinary tract.

Hydrocephalus in the Adult.—Dr. T. M. Prudden exhibited a brain with distension of the lateral ventricles, which had been removed from the body of an Italian. Distension of the lateral ventricles was the only abnormal condition found in the brain at the autopsy. There was broncho-pneumonia.

Congenital Craniotabes.—Dr. Prudden also showed the brain of a child, hardened in its natural form. The child died at the age of twenty-eight days. The central cavities of the brain took up about half the space within the cranium. Another hydrocephalic brain was presented, removed from a child which died at the ninth month. For the second specimen he was indebted to Dr. W. P. Northrup.

Dr. A. Jacobi had seen but one case of congenital craniotabes. The affection was very rare.

Dr. Northrup said that this was the only case he had seen.

The Ætiology of Cancer.—Dr. Shrady presented a specimen bearing upon a question raised at the last meeting regarding the influence of long-continued irritation of a benign ulcer in the development of malignant disease. The specimen was one of epithelioma of the breast, removed from a man forty-five years of age, who had had an ulcer, due to a burn, on the breast for some years before the malignant disease developed.

Uterine Fibroids and Hydrosalpinx; Death from Chloroform.—Dr. H. J. Boldt presented specimens of fibroids of the uterus and one of hydrosalpinx with an extremely thin sac. The latter condition showed the necessity of operating early to prevent rupture into the abdominal cavity and the development of peritonitis. The patient had suffered for two years from symptoms probably due to a uterine polypus which was removed. She was subsequently put under the influence of chloroform for diagnostic purposes, and died from the influence of the anæsthetic. Chloroform was used only at the beginning, ether being substituted afterward. Although he had been in the habit of using chloroform as an anæsthetic for diagnostic purposes, this lesson would teach him to give it up.

Dr. Northrup said there were physicians who made it a custom to begin anæsthetization with chloroform, afterward substituting ether, and he asked if this was not as dangerous as to give chloroform throughout.

The President thought it might be even more dangerous. He had but twice employed any of the mixtures for anæsthetic purposes, and on those occasions had come near losing his patients. He thought the use of chloroform in general anæsthesia should be condemned most severely, except perhaps in children under twelve years of age. It was to be regretted that physicians would not cease the use of chloroform anæsthesia until they learned a lesson taught by the death of a patient. Dr. Boldt deserved credit for making his case known, a thing which many physicians probably did not do.

Dr. Porter understood that Dr. Lusk had recently written a paper in which he called attention to the danger of using chloroform even during labor.

Cysts of the Ovary.—Dr. H. Marion-Sims presented two cystic ovaries, from different patients, which had caused much suffering. Their removal relieved the suffering, and the patients made a prompt recovery from the operation.

Ovarian Carcinoma.—Dr. Northrup exhibited a large cancerous mass which had developed in the ovary and caused death by exhaustion and peritonitis. The specimen was interesting chiefly from the peculiar shape which the cancerous mass had assumed.

Spindle-cell Sarcoma of the Brain.—Dr. Frank Ferguson presented a large tumor of the brain, removed from the body of a man thirty years of age. Two years before his death he was said to have been suddenly attacked with paralysis of the right side. He so far recovered that he was able to go around with difficulty. During the last two weeks he complained of severe headache and pain in the left parietal region. He became unconscious before death, and the temperature rose to 105° F. The tumor which was found at the autopsy weighed four ounces and a half, and measured nine inches in its greatest circumference and six in its smallest; it had developed from the dura mater, pressed upon the convolutions, and largely destroyed the ganglia at the base of the brain on the left side.

Spindle-cell Sarcoma of the Spinal Cord.—Dr. Ferguson also presented the spinal cord of a man who had died with symptoms of myelitis with ascending and descending degeneration. The tumor was of about the size of an almond, cystic, and developed from the pia mater. The cord had not yet been examined microscopically, but the tumor was a spindle-cell sarcoma.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

BY CHARLES STEDMAN BULL, M.D.

Total Synechophthalmia or Ankylophthalmia.—Cuignet ("Rec. d'ophth.," May, 1881) speaks of a case of this disease characterized by a wrinkled, contracted cicatrix adherent to the union of the inner third

with the outer two thirds of the lids and eyeball, in the vertical direction. There were complete inferior symblepharon, partial symblepharon of the upper lid, and a phthisical atrophied globe from destruction of the anterior segment of the eyeball on the right side. Cuignet advised and performed the following operation: He grasped the central scar of the atrophied globe and made an incision around it; he then dissected up the remains of the mucous membrane as far as the insertions of the recti muscles. The latter were slowly separated by careful dissection close to the sclerotic, and then, still carefully advancing and dividing with the scissors, he reached and divided the optic nerve. The ultimate result of such a dissection and enucleation will be a notable reduction and, perhaps, an obliteration of the conjunctival cavity, with a more or less extensive adhesion of the eyelids to the bottom of the hollow inversion of the ciliary margins, and immobility of the eyelids.

Anthrax of the Upper Lid; Double Facial Phlebitis; Purulent Inflammation of both Orbits; Partial Necrosis of both Corneæ.—Boucher (*Ibid.*) reports the case of a man, aged twenty-one, which began as a furuncle of the wing of the nose, and this was followed by a small anthrax of the upper lid. The face soon became red and œdematous, and the eyes protruded markedly from the orbits. The upper lids resembled the condition of purulent ophthalmia. The lower lids were everted. There was considerable chemosis. The vision was reduced to perception of light. The case proved very obstinate and painful, and was complicated by the occurrence of very unpleasant head symptoms. Four months and a half after the onset of the disease there were anterior staphyloma of both eyes, involving the iris and cornea, diffuse corneal opacities, and but a trace of vision.

Temporal Hemianopia.—Berry ("Ophth. Rev.," June, 1884) publishes two cases of this rare disease, in one of which the hemianopia had existed for two years in much the same condition as at first, while in the other there was a steady improvement from the beginning, though the characteristic blindness remains. The first case was that of a man, aged twenty-eight, in whom the typical temporal blindness was slowly developed, remained for a considerable time unaltered, and then proceeded to almost total blindness. The second case was that of a woman, aged thirty-two, in whom the lesion was not a spreading one, and must have produced the maximum destruction or pressure antero-posteriorly along the chiasm. Both patients recovered their general health completely.

Graves's Disease, with Proptosis.—Russell (*Ibid.*) reports a case of this nature in an ill-developed, ill-nourished girl, aged sixteen, who had never menstruated. She presented well-marked exophthalmus on the left side only. In both eyes the upper lids were quite retracted. Von Graefe's symptom was developed in both eyes imperfectly, if at all. There was a small goitre alike on the two sides of the neck. The proptosis was originally present in both eyes, and subsequently declined in the right. Though cardiac symptoms were not entirely absent, the character of the pulse stood in direct contrast with that belonging to the immense majority of cases of Graves's disease. The number of the pulse-beats was only once above ninety. Palpitation had been complained of, but the first complaint of this symptom preceded by six months the earliest sign of Graves's disease. The persistence in the right eye of Stellwag's sign, after the disappearance of the proptosis, was worthy of notice. The patient had also had repeated attacks of chorea during the preceding six years, which had been most severe on the left side of the body.

The Determination of the Degree of Latent and Manifest Squint in Meter-Angles.—Berry (*Ibid.*, July, 1884) calls attention to the possibility of practically measuring, with sufficient accuracy for all purposes, the abnormal deviation of one eye, either manifest or latent, by means of the meter-angle notation of Nagel, which the latter employed for the measurement of convergence. After a number of trials, he finds that the number of meter-angles of deviation varies directly as the distance from the point of fixation of the living eye to the point where the visual axis of the other eye meets the plane, and indirectly as the product of half the distance between the eyes and the perpendicular distance between the parallel planes through the centers of rotation and of fixation. By this method of examination and notation a great number of cases connected with muscular defects might be readily studied.

Syphilitic Periostitis or Gumma of the Orbit.—Hunnicke ("Amer. Jour. of Ophth.," i, 4) reports a very interesting case of this nature, in the person of a woman, aged twenty-nine, who had suffered for two years from intense headache and pain in the region of the right infra-orbital nerve. Eight months before she was seen, she was unable to close her right eye, and there was ectropium of the lower lid. The facial paralysis came on gradually, and disappeared again after two months' duration. Then a swelling appeared on the center of the forehead and grew slowly until it acquired the size of an ordinary hazel-nut. It was round, hard, somewhat red, and painful. After a few weeks this tumor diminished gradually, but during all this time there was intense pain in the right orbit, and she began to have diplopia. On examination, there was found a circumscribed roughness, as large as a dime, on the os frontis, with exophthalmus of the right side, the eye being turned outward as well as pushed forward, and the diplopia crossed. There was but little motion to the eyeball. There was almost complete ptosis. The upper and inner portion of the orbit was occupied by a round, semi-hard tumor, as large as a cherry, immovable, broader at the base than at the apex, with a smooth surface and of uniform consistence. The optic disc was pale. The patient was placed under the influence of iodide of potassium internally and mercury by inunction, as rapidly as possible, and in six weeks all signs of the tumor had disappeared, the exophthalmus had subsided, and single vision was re-established.

Dermo-epithelioma of the Cornea.—Parinaud, in a short paper upon this kind of growth ("Arch. d'ophthal.," July–Aug., 1884), which he regards as new and undescribed, gives the clinical characteristics of the neoplasm as follows: Of a reddish-yellow color, semi-translucent aspect, surface sometimes lobulated, situated close to the margin of the cornea, generally the external, tends to spread superficially and to extend around the greater part of the margin of the cornea; there is no deep ulceration; and the growth is freely movable over the sclerotic. Most of the patients affected by this growth are quite young.

The Treatment of Ulcus Serpens Corneæ by Erasion and the Application of Iodoform.—Meyhöfer ("Kl. Mon. f. Aug.," May, 1884), in a long article upon corneal ulcers in general and the ulcus serpens in particular, finds that the purely medical treatment gives very unfavorable results, even when iodoform is used locally. But, when the surface of the ulcer and its cavity have been carefully scraped or scooped out clean, the application of iodoform gave much better results. In many cases, however, the iodoform failed in producing any benefit until the cornea had been split according to the directions of Saemisch, but modified by Meyhöfer, in that the incision is not carried through the ulcer, but merely through the healthy tissue on each side of it. In many cases where recourse has been had to the corneal incision, the daily application of iodoform to the ulcer hastens the recovery very decidedly.

Astigmatic Keratitis.—Martin, in a third article ("Ann. d'ocul.," May–June, 1884), mentions some observations of Prouff made by methodical inspection of the sclera, which he terms scleratoscopy. The results of his observations are as follows: 1. If the eyeball, toward the equator, appears sensibly round, in the sense that an equatorial section of the sclera would present the figure of a circle, the cornea belongs almost exactly to the spherical form, and hence there is no congenital astigmatism of the cornea. 2. If the eyeball toward the equator seems flattened and folded in the opposite direction, the cornea belongs to the form of an ellipsoid with three unequal axes, and there is here an irregular astigmatism of the cornea. 3. The long axis of the elliptical corneal image is parallel with the long axis of the elliptical figure presented by an equatorial section of the sclerotic. The same is true for the short axes. The more the eyeball seems flattened, the more pronounced is the corneal astigmatism. 4. Scarcely any congenital corneal astigmatism exists in which there is no flattening of the equator of the sclerotic.

Astigmatic Blepharospasm.—Martin (*Ibid.*) gives the result of his examination of five cases of clonic spasm of the eyelids of astigmatic origin. In all there was asymmetry of the meridians, with the greater spasm on the side of the greatest anomaly. The cure was effected promptly with atropine and cylindrical glasses. He assumes that blepharospasm due to astigmatism is more frequent than that due to any other form of ametropia. Hence every case of blepharospasm should first be examined as to the refraction of the eye in its various meri-

dians, and the patient should then be placed under the influence of atropine. At the same time the state of the branches of the fifth nerve should be examined, so as to exclude all possibilities of reflex action from this side through the medium of the facial nerve.

Retinal Hæmorrhages in the Course of General Arterio-Sclerosis.—Artigalas, in a contribution to the semeiology of hæmorrhages of the fundus (*Ibid.*), draws the following conclusions: 1. Retinal hæmorrhage without traumatism is always the result of a lesion common to the cerebral arteries. 2. Retinal hæmorrhage is always followed by cerebral hæmorrhage if the degenerative process continues. 3. Retinal hæmorrhage is observed in parenchymatous epithelial albuminous nephritis, as well as in interstitial nephritis. 4. Retinal hæmorrhage is always one of a group of symptoms in which are associated one or more lesions of the heart, kidneys, lungs, and brain. 5. With whatever symptoms retinal hæmorrhage may be associated, it is always dependent upon the fibrous degeneration of the arteries.

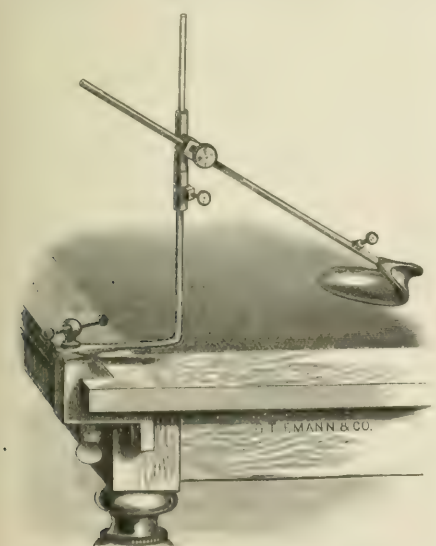
Melanotic Sarcoma of the Conjunctiva.—Lagrange ("Arch. d'ophthal.," July–Aug., 1884), from his own experience and from the published reports of cases of melanotic sarcoma of the conjunctiva, draws the following conclusions: 1. The external melanotic sarcomata of the eye are developed exclusively in the conjunctiva. 2. These tumors are developed especially at the expense of the limbus or union of the sclerotic and cornea. 3. They extend over the eyeball, covering the sclerotic and cornea, which, however, take no part in their development, and are but little affected by the growth of the neoplasm. 4. Though the development of these tumors is remarkably slow and their nature apparently benign, their structure is that of malignant melanotic growths; hence they should be removed at once and completely.

New Inventions, etc.

A HOLDER FOR SIMS'S SPECULUM.

By Frank P. Foster, M. D.

The profession is more or less familiar with a number of devices to enable Sims's speculum to be used without an assistant. For the most part they have not been found satisfactory by any but their inventors. The contrivance shown in the accompanying cut has not only done good service in my hands for several years past, but, so far as I am aware, is well thought of by those of my friends who have made use of it.



It consists of a clamp to be fastened to the edge of the table, which serves as a support for an upright rod jointed to it by a short horizontal arm. The sweep of this arm is sufficient to admit of any necessary adjustment of the lateral direction of the traction, and a short tube sliding on the upright, capable of being fixed at any desirable height, sustains the traction rod. The tractile force is supplied by the elasticity of the upright rod. The speculum itself is simply a Sims's blade with a cylindrical shank to engage in the tubular traction rod.

Miscellany.

Civil Service Reform and the Marine-Hospital Service.—In its March issue, the "Medical Chronicle," of Baltimore, edited by Dr. George H. Rohé, the author of an excellent work on hygiene, says: "In a recent issue of the Washington 'Star' it is stated that efforts are being made to secure the appointment of Supervising Surgeon-General of the Marine-Hospital Service for Dr. A. N. Bell, of New York. We hope President Cleveland's administration, with which we are in thorough sympathy, will not make such an unwise appointment. The present head of the Marine-Hospital Service has administered the duties of his position with energy and zeal, and, although the extra duties imposed upon the service by Congress and the President could, in our opinion, have been more efficiently and satisfactorily performed by the National Board of Health, we are not disposed to censure Surgeon-General Hamilton for carrying out the instructions of his official superiors. We think the medical services of the Government should be especially secure against partisan inroads, and we trust that Dr. Hamilton will not be removed to make a place for an outsider. Such action would completely set aside the principles of civil service reform and violate the pledges upon which Mr. Cleveland was elected to the Presidency. Even if it is regarded by the Treasury Department as advisable to remove Dr. Hamilton, we think a far better selection could be made among the officers of the service than that above named. The late Surgeon-General Woodworth, under a Republican administration, took the Marine-Hospital Service out of politics. It would be a serious blunder to restore the spoils system under a democratic reform government. We invite the attention of Secretary Manning to these considerations."

The College of Physicians and Surgeons, of Chicago, held its third annual commencement at the Grand Opera House on Tuesday, the 10th inst., when the degree in medicine was conferred on sixty candidates. The Hutton prize, for the best examination in diseases of the mind and nervous system, was divided between Dr. W. E. Allen, of the graduating class, and Mr. W. W. Kane, of the class of 1886; and honorable mention was made of Dr. J. B. Eagleson in connection with the same examination.

The Indiana State Board of Health.—Dr. W. A. Fritsch, of Evansville, has been appointed to fill the vacancy caused by the resignation of Dr. Compton, of the same city.

The University of Vermont.—Dr. Ambrose L. Ranney, of New York, has been appointed to the chair of nervous diseases in the Medical Department, in place of Dr. W. J. Morton, resigned. It is announced that Professor Ranney will give a course of lectures in this department every year, in addition to his course on anatomy.

The Eastern District Dispensary and Hospital, of Brooklyn.—We learn that Dr. Susan R. Pray has been appointed on the staff.

Murdock's Liquid Food.—Dr. B. N. Towle, of Boston, who, in his essay entitled "Raw Food Extracts and their Value," read at the last meeting of the American Medical Association, omitted to specify the preparations that he referred to, writes as follows to the Murdock Liquid Food Company: "In answer to your inquiry as to what form of raw food I used in obtaining the results reported in my paper, read before the American Medical Association at Washington, D. C., I reply

that I used several forms, but the one I relied upon was your Liquid Food."

The Hydrangea Arborescens.—The "Medical and Surgical Reporter," of Philadelphia, says: "The value of this native plant in renal affections was first made known to the medical public by the former editor of this journal, Dr. S. W. Butler. Recently Lambert & Co., of St. Louis, have combined the active elements of the plant with lithia in a preparation called 'Lithiated Hydrangea,' which unites the virtues of both these remedies. In the 'Chicago Weekly Review' two cases of rheumatic gout with renal complications are reported by Dr. F. S. Senier, of Waukesha, Wis., where this preparation in doses of a drachm, thrice daily, largely diluted, acted with prompt and satisfactory effect. The combination seems to us a happy one."

A Memorial Medal.—We learn from the "Lancet" that £100 are to be offered to the London University toward the foundation of a medal in memory of Dr. Rabbeth, who perished from diphtheria contracted by sucking the membrane out of a child's trachea through the opening made in tracheotomy.

The Medical Department of Howard University, Washington, held its sixteenth annual commencement on Monday evening, the 9th inst., when the degree in medicine was conferred on twenty-five candidates.

Robert Koch and his Achievements.—The April number of the "Journal of Comparative Medicine and Surgery," to the editor of which we are indebted for advance sheets, will contain a remarkable article, by Professor Albert Johne, of the Royal Veterinary Institute at Dresden, embodying a sketch of Dr. Koch's career and a very satisfactory exposition of the main features in his methods of studying bacteriology. It seems that Koch was born at Clausthal, in the Hartz Mountains, in 1843, and studied medicine in Göttingen and Berlin from 1862 to 1866. In the summer of the latter year he acted as an assistant in the General Hospital of the city of Hamburg, and soon afterward he began the career of a general practitioner, which he followed in several small places in the vicinity of Hanover and in Posen. In 1872 he was appointed *Kreis-Physikus* for the city of Wallstein, in Posen, and it was there, we are told, that he laid the foundation of his course of researches, while busily engaged in a practice that was constantly increasing and was largely surgical. At that time he made his remarkable studies of the ætiology of anthrax and the life-history of the *Bacillus anthracis*. He next turned his attention to the study of the morbid states due to infection from wounds, as recorded in the work entitled "Die Aetiologie der Wundinfectionskrankheiten," published in Leipsic in 1876, in which he confirmed the observations made by Klebs, von Recklinghausen, Waldeyer, and Birch-Hirschfeld with reference to micrococci in connection with pyæmia and puerperal fever, pyæmia in the rabbit, and other diseases of traumatic origin in the lower animals, including an affection that became somewhat noted as the result of his researches, septicæmia in the mouse. He proved by direct experiment, says Professor Johne, that all these diseases were due to the introduction of micrococci into the organism, thus furnishing positive scientific proof of the conclusions that Lister had already drawn from and supported by practical experience. The attention of the Government, and of the medical profession throughout the world, having now been drawn to the humble *Kreis-Physikus* of Wallstein, he was promoted, in 1879, to the dignity of *Physikus*, and he then removed to Breslau. But he does not seem to have been suited at Breslau, for he soon went back to Wallstein, to remain for only a short time, however. In 1880 he was made a member of the Imperial Board of Health, and with his labors in that station the "Mittheilungen des kaiserlichen Gesundheitsamtes" have made the world familiar.

The Fourth German Medical Congress (*Congress für innere Medicin*, as it is known in the "St. Petersburger medicinische Wochenschrift," will be held at Wiesbaden from the 8th to the 11th of April. The following subjects will come before the meeting: The Treatment of Corpulence, by Ebstein and Henneberg, of Göttingen; Bronchial Asthma, by Curschmann, of Hamburg, and Riegel, of Giessen; Antipyresis, by Fabricius, of Erlangen, and Liebermeister, of Tübingen; Hypnotics, by Lewin, of Berlin; New Remedies, by Binz, of Bonn; The Surgical Treatment of Asthmatic Conditions, by Hack, of Freiburg; The Statistics and Ætiology of Acute Articular Rheumatism, by Edlefsen, of Kiel; The Movements of the Stomach, the Pylorus, and the Duodenum, by Rossbach, of Jena; Uræmia, by Fleischer, of Erlangen; Pseudomotor Nervous Action, by Heidenhain, of Breslau; and The Behavior of the Chlorates in the System, by Edlefsen, of Kiel.

THERAPEUTICAL NOTES.

Jacaranda Lancifoliata.—In a recent issue we noted the results that had followed the use of this South American plant in the treatment of venereal affections, in the hands of a contributor to the "British Medical Journal." Mr. Alfred Wright ("Lancet") calls attention again to the drug as a remedy for gonorrhœa. He gives from twenty to thirty minims of a fluid extract of the leaves three or four times a day. It acts promptly in the acute stage, diminishing both the pain and the discharge, and the writer states that he has cured gleet with it that had resisted all other treatment. Jacaranda is said not to give rise to any of the unpleasant after-effects that attend the use of most of the anti-blennorrhagic remedies.

Antiseptic Silk.—Freeman (*Ibid.*) uses Chinese twist which has been rendered aseptic by boiling for ten minutes in a two-per-cent. solution of chromic acid, and then soaking for twelve hours in a one-per-cent. solution of the same. He states that the sutures may be left *in situ* for three weeks without the occurrence of either suppuration or softening of the silk. Silk thus prepared is especially useful in operations about the genital organs in women, as well as in laparotomy.

Cocaine in Acute Coryza.—Dr. W. S. Paget ("British Medical Journal") has produced gratifying results by the application of a four-per-cent. solution to the interior of the nostrils by means of pledgets of cotton. Permanent relief was experienced after a single application. The solution may also be injected into the nose. The writer believes that cocaine will become the remedy *par excellence* in hay fever.

Burnt Alum as a Topical Application.—Goldfeld ("St. Petersburg med. Woch.") recommends burnt alum, either as a substitute for iodoform or in a mixture containing four parts of alum to one part of iodoform. The cheapness of the former substance is the great argument in its favor. The writer maintains that the mixture that he suggests possesses all the advantages of iodoform. It should not be applied to a suppurating wound, he says, because of its irritating action.

Tincture of Benzoin in Nasal Catarrh.—Mr. Alfred Kebbell ("British Medical Journal") recommends the inhalation of the vapor of this preparation for the relief of catarrh of the nasal passages. It is to be inhaled from a bottle, without artificial vaporization.

Codeine in Pruritus Vulvæ.—Bullock ("Lancet") states that he has used codeine in one-grain doses for three months without relieving his patient from an obstinate diabetic pruritus. He found that fomentations of hot water gave prompt and satisfactory relief.

Caffeine in Bright's Disease.—Gubb (*Ibid.*) states that he has employed this drug, in doses of five grains three times a day, in Bright's disease, in cases in which the urine was very scanty and loaded with albumin, and ascites and general œdema were marked. After four days of treatment, the amount of urine was increased sixfold, and threatening uræmic symptoms disappeared. Under a persistent use of the drug, the albumin was reduced to a trace, cerebral and ocular disturbances vanished, and the patient was practically cured.

Quinine as a Parturient.—Dr. Andrew Mullan ("British Medical Journal") professes to have produced contractions of the uterus by means of quinine under circumstances in which ergot had failed. After citing several illustrative cases, he draws the following inferences: 1. Quinine (or quinetum, which he also recommends), when administered in doses of four grains, will occasion uterine contractions in the course of half an hour. 2. Cinchonism and other unpleasant after-effects are not produced. 3. The pains are intermittent in character, and thus resemble the normal uterine contractions. The condition of tetanic contraction does not occur. 4. Post-partum hæmorrhages are not likely to result after the use of quinine, because the uterus is not left in a state of exhaustion after delivery.

The Cauterization of Buboes.—Martineau, says the "Lancet," has succeeded in rapidly curing suppurating buboes by touching them with Paquelin's cautery.

Original Communications.

A SUCCESSFUL OPERATION FOR THE EXTRACTION OF A PISTOL-BALL FROM THE BRAIN

THROUGH A COUNTER-OPENING IN THE SKULL.

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ABOUT three years before I performed the operation which I am about to describe there was admitted into the Ninety-ninth Street Hospital, of which I was then in charge, a young man suffering from a pistol-shot wound of the brain. The bullet had penetrated the center of the forehead, and at the time of my visit the patient was unconscious. To give exit to the pent-up discharges from the wound, and to relieve the brain from pressure, I freely incised the wound in the soft parts and chipped away bone from the margin of the bullet-hole. There was a marked but transient improvement of the symptoms. At the post-mortem examination, two or three days later, I observed that the bullet entering the skull had taken a straight course through the brain to the opposite side of the skull, striking which, it had rebounded into the brain and was deflected downward about an inch, where it lodged at a slight depth beneath the membranes. I further observed that the wound through the brain had begun to granulate and acquire a distinct wall that opposed a considerable resistance when felt with the probe.

The course of the ball appeared to me what might have been expected; it seemed reasonable that the missile, moving through a medium of uniform resistance like the brain-substance, would take a straight course to the opposite wall of the skull, where it should rebound and be deflected at an angle proportionate to the inclination of the inner surface of the skull, and, from its greatly lessened velocity, lodge not far from the surface of the brain. Impressed by the conditions found at the post-mortem examination, I resolved that in another instance of similar injury I would try to track the bullet, and, after extracting it, drain the wound. This resolution was confirmed by reflecting upon the instances of brain injury within my experience, wherein, on the one hand, good drainage had contributed to a favorable result, while, on the other hand, faulty drainage had sometimes led to disastrous consequences.

On the 24th of January, 1884, I was informed by my house surgeon that Bruno Knorr, a healthy young man, nineteen years old, had, on the morning of that day, been admitted into one of my wards at Bellevue Hospital, suffering from a pistol-shot wound penetrating the brain through the center of the forehead. On my visit at 3 P. M. I found the patient semi-unconscious. When aroused he was irritable, and in answer to all questions grunted "ja." There was complete loss of motion without loss of sensation on the right side of the body below the head. The left side of the body was hyperæsthetic. This increased sensitiveness was very marked upon the left side of the scalp near the ear. The pupils were of equal size and rather widely dilated. His pulse was 100, temperature 101·4°. There was no history of the circumstances of the occurrence of the injury. It has, however, since been learned from the patient that, at about half-past four o'clock on the morning of the day of admission to the hospital, while lying upon his back he shot himself with a pistol held in contact with the forehead. Instantaneously he became unconscious, and remained so for about three quarters of an hour, after which he awoke, and with much difficulty, on account of weakness from loss of blood, arose and left the house. He walked about an eighth of a mile, and then got upon a horse-car while in motion and took a seat inside. When called upon by the conductor to explain the nature of his injury, he could not speak, although he knew what he wanted to say. After riding about three quarters of a mile he was put off the car by the conductor. He distinctly remembered having swung himself from the car with the aid of his right hand. After walking about an eighth of a mile farther, he stood upon the corner of the street till a policeman came and conducted him about one third of a mile to the station-house. There he was questioned by the officer in command, but was unable to speak. Not long after he became unconscious. He was admitted into the hospital at about 8 A. M., when his wound, from which brain-matter was oozing, was dressed antiseptically.

Preparatory to the operation the patient's scalp was shaven. He was then etherized. A flap of gutta-percha tissue was fastened to his forehead to protect his eyes from the antiseptic solution of bichloride of mercury, 1 part to 1,000 of water, with which the parts were to be irrigated during the operation. The bullet-hole, of small size, was very nearly in the center of the forehead. The skin at the right margin of the opening was more ragged than at the left side. The epidermis was blistered off for a little distance from the opening. There were no powder grains in the skin. The soft parts were puffy.

To ascertain the direction of the wound through the soft parts and bone beneath, a silver probe with a large knob was passed into the wound perpendicularly to the surface of the skull. To pass the probe through the opening in the bone I found it necessary to direct its course outward at an angle slightly divergent from the median plane of the head. In passing the probe thus far, the right margin of the opening in the skull was felt to have a depressed shelving edge. An incision an inch and three quarters long was then made from below upward to the center of the bullet-hole. This incision was parallel to the median line and just to the left of it.

From the center of the bullet-hole two other incisions of equal length were made divergent from the first one in a direction upward and outward. These incisions liberated some brain-matter that had collected between the scalp and pericranium. The flaps formed by the incisions were rapidly dissected back. The bleeding, which was quite profuse, was in great measure stopped by catgut ligatures applied

to the larger vessels. The persistent bleeding from very small vessels was checked by traction upon the everted flaps by means of loops of catgut.

While the incisions were being made, and throughout the subsequent steps of the operation, the wounds were kept constantly wet by frequently repeated irrigations with the antiseptic solution. The bullet-hole in the skull was about half an inch in diameter; its left margin was sharply cut and formed by the external table, which slightly overhung the inner table; its right margin was shelving and depressed, the external table being fractured in concentric curves for a short distance from the margin of the opening. The shape of the hole in its depth through the bone indicated, what had already been ascertained by probing, that the ball, in its backward course, had diverged at an acute angle from the median plane of the head. The pericranium was cut along lines corresponding to the external incisions, and gently pushed back from the bone in the vicinity of the bullet-hole. The bullet-opening was then enlarged—brain-substance meanwhile escaping—by gnawing away with a *rongeur* forceps the bone at the left and overhanging margin. A small rim of lead weighing one grain, stripped from the bullet as it passed through the bone, was picked from the skull at the right margin of the bullet-hole. A small piece of bone, which at first, from its discoloration, was supposed to be a part of the bullet, was found lying upon the brain and removed. While enlarging the opening in the skull a small clot was disturbed, which gave rise to a slight but persistent arterial bleeding from beneath the depressed fragment at the right margin of the bullet-hole. The portion of the external table holding this fragment was cut away. Upon the removal of this fragment from the inner table, whose sharp convex edge had been driven into the brain, the arterial hæmorrhage became alarmingly profuse. To this arterial bleeding was now added a considerable venous flow from the superior longitudinal sinus, which had been cut across by the bullet. While the wound was cleared of blood by the stream from the irrigator, the arterial blood was seen to come from a vessel in a small flap of pia mater on the inner side of the first frontal convolution at the border of the cerebral hemisphere. No sponges were used upon the lacerated brain during the operation. The bleeding point, constantly in motion, only imperfectly seen under the irrigating stream, and with a soft backing of contused and lacerated brain-structure, was only after considerable difficulty seized with a Langenbeck's artery-forceps. The opening in the skull was three quarters of an inch by an inch and three quarters. While I held the forceps, the ligation of the thin-walled vessel in its grasp was intrusted to an assistant, who, in his attempt to tie the vessel, tore it. The shortened artery now bled alarmingly. The wound could not be so cleared of blood as to yield a view of the vessel and permit its seizure. I found that the bleeding could be restrained, though not completely stopped, by pressing with the ball of the thumb through the opening in the skull back upon the brain. The bleeding point could then be felt forcibly striking against the thumb. While compression was thus exerted by an assistant, the primary incision upon the left side was rapidly extended, the soft parts were reflected, the bone was uncovered of its pericranium, and a disc of bone five eighths of an inch in diameter removed with the trephine at a spot above and to the outer side of the existing opening in the skull. The thin bridge of bone separating the trephine-hole from the main opening was cut away and the opening enlarged laterally. Upon the withdrawal of the assistant's thumb about three quarters of an ounce of mixed clot and brain-matter was forcibly extruded by the brain pulsations. While the wound was flushed by the stream of antiseptic solution, the vessel was seized with a Péan's forceps.

I saw that it was in a delicate flap of the loosened pia mater. It was caught close to a bifurcation, a large branch being plainly seen curving along the inner face of the hemisphere. While the Péan's forceps, moved by each brain-pulsation, was sustained upon the finger of an assistant, with the aid of two pairs of dissecting forceps I passed a carbolized silk ligature around the vessel and tied it. Upon removal of the Péan's forceps the pulsations of the vessel loosened and threw off the ligature, and the bleeding became as profuse as ever. After several flushings of the wound, I seized the vessel for the third time. It was caught, somewhat deeper than before, upon the trunk below the point of its bifurcation. I saw clearly that the vessel could not be tied.

Fearing that the slightest movement of the patient's head might tear the delicate vessel from the forceps and cause an inevitably fatal hæmorrhage, I decided to transfer the vessel to the grasp of the short and light clamp, shown in Fig. 1, that could lie in the wound without such risk of



Fig. 1.—Small artery clamp, actual size.

detachment. While I held the Péan's forceps in the left hand, with the right hand I passed the small clamp into the depth of the wound so that its opened jaws just encroached upon the end of the Péan's forceps holding the vessel; simultaneously, as the Péan's forceps was unlocked and its grasp loosened, the jaws of the smaller clamp were allowed to close upon the vessel. This critical manœuvre was accomplished without tearing the delicate artery, or the loss of a drop of blood. The hæmorrhage from the superior longitudinal sinus had already stopped spontaneously. Two hours and a half had been spent in reaching this stage of the operation.

Having cleared away the formidable complication of hæmorrhage that had threatened the patient with speedy death, and his general condition being good, I proceeded with the attempt to follow the course of the ball with the probe. After having reflected much upon the subject of probing wounds of the brain, I had come to the conclusion to adopt the same method, so far as applicable, in their exploration that had been the outcome of my experience in the probing of other wounds.

In probing a wound, it is essential that the end of the exploring instrument shall be of such a size as not easily itself to wound the tissues and make a false passage. The

end should therefore be large. Not only does a large extremity to the probe save the tissues from injury and diminish the chance of making a false passage without the exercise of an undue amount of force, but the large end, even when it is deep beneath the surface of the body, is easily discoverable by palpation or dissection. In probing a wound to learn its course, depth, and other features, we should be able to follow or infer with exactness, from the exposed portion of the instrument, the varying positions of its buried end. It is further essential, therefore, that the end shall hold a fixed relation to the shaft, or, in other words, that the probe must have sufficient rigidity to retain a given shape. This rigidity is requisite to the practice of another procedure to determine the location of the exploring extremity—namely, conjoined manipulation through the medium of the probe. The shaft of the probe should not only be rigid, but should also have a considerable bulk, that a large surface may be in contact with the fingers and subject to the informing touch. Finally, the probe fulfilling these requirements should be as light as possible in order that the delicacy of touch should not be lessened in the exertion to move a heavy mass, and that vibrations that would otherwise be lost in the probe itself may be communicated to the hand. The probe combining these properties has the shape shown in Fig. 2, and is made of tempered



Fig. 2.—Design for a probe; actual size, except the length, which is twelve inches.

aluminium. The large end will generally pass along the sinuses connected with the wound, and, from its size and shape, it is often possible to tell the nature of the structures with which it comes in contact. It is only exceptionally that the smaller end need be used.

In probing, to curve the instrument is to complicate it and increase the chances of error in interpreting the position of the exploring extremity.

When the probe is curved near the exploring end, the other end of the shaft should be bent in the same plane in the opposite direction.

In case the sinus is tortuous, rather than complicate the exploring instrument, I am in the habit of simplifying the wound. Thus, in following such a sinus, the end of the instrument, after it has passed along one curve, should, if practicable, be brought toward the surface and exposed by careful dissection. The first curve having been eliminated, the re-bent probe can be introduced through the new opening at the commencement of the second curve, and the latter explored.

In a thirteen years' active hospital service, I can not recall that I have ever used, in the probing of wounds, the fallacious means of exploration afforded by a flexible mechanical instrument.

The patient's head was now placed in such a position that the presumed track of the ball to be probed was perpendicular to the horizon. This was done that the delicacy of touch might not be obscured by the effort to direct the probe out of a perpendicular. The ragged opening of the entrance of the ball was seen to be just at the inner edge of the hemisphere, in the first frontal convolution. The large end of a copper probe, shaped as shown in Fig. 2, was passed perpendicularly into the brain past the clamp holding the artery. In passing the probe into the brain I feared, in lessening my grasp to increase the delicacy of my touch, that the heavy instrument would slip through my fingers, plow a false passage through the brain, and thus render futile all further search for the ball. Accordingly, after the probe had been passed to a depth of three inches, it was withdrawn, and a perfectly straight, common Nélaton's probe selected as a substitute. This lighter instrument was passed to a depth of about six inches, where a soft resistance was felt, but which no effort was made to overcome. The depth to which the probe was passed established my inference that the bullet had passed through the hemisphere and struck the opposite side of the skull. The probe was left standing in the brain, and, from the direction of the portion protruding from the forehead, viewing the head at the side and vertex, the point upon the scalp was noted at which the probe would emerge if projected through the head. Having observed the shape of the skull at this place, a cross was marked upon the scalp with the scalpel at a point three quarters of an inch lower down toward the base of the skull, in the supposed plane of the path of the ball. The probe was withdrawn. The wound was dusted with iodoform and the flaps were temporarily drawn together, due regard being paid to the protruding handle of the little clamp that held the offending artery.

The point of the scalpel was then thrust to the bone through the center of the cross marked upon the scalp. Three incisions, diverging from a common center, were made in the same manner as in exposing the bone at the bullet-hole anteriorly. The flaps were rapidly dissected back from the pericranium and retracted. All bleeding vessels were ligated. The pericranium was incised and pushed back over a space large enough to admit the crown of a trephine, and a disc of bone five eighths of an inch in diameter removed. The dura mater was healthy. The brain did not seem to beat with normal force, but this was doubtful. The dura mater seemed to cover a dark background. Catching the membrane with a uterine tenaculum, and lifting it from the surface of the brain, I slit it for a quarter of an inch in a direction toward the supposed point of emergence of the bullet. A small quantity of dark fluid blood oozed from the opening when the brain was pressed upon. Two large veins in the pia mater appeared at the opening in the dura mater. I at first thought that one of these veins had been wounded, but careful scrutiny of the wound, under repeated flushings from the irrigator, convinced me that these vessels were intact, and that the opening had been made upon effused blood beneath the dura mater, in the vicinity of the brain injury. The trephine-hole was enlarged with a *rongeur* forceps toward the assumed opening of emergence of the bullet. A grooved director was passed beneath the dura mater, and the slit in that structure lengthened in the same direction. More dark

blood, of a syrupy consistence, issued when pressure was made through the opening upon the brain. The bone was still further gnawed away, and the opening in the dura mater was made large enough to admit the end of the index-finger. Although the light for the operation was a bad one, being that reflected from three or four candles by a tin wash-basin, I discovered two or three specks of brain-matter of about the size of pin-heads floating in the blood as it came from the wound. With the point of the index-finger I felt a resistance in the brain at the depth of about half an inch. Rather than explore this resistance with a needle, I thought it better to follow the trail of brain-matter. By cutting away more of the skull in the same direction, and enlarging the opening in the dura mater, more brain-matter appeared, together with a semi-fluid clot. By still further exposing the brain in the same direction, at last there came quite a gush of brain-matter, and the opening torn in the pia mater by the bullet, as it struck the skull and rebounded, became visible. This opening in the pia mater was about half an inch in length, and about three quarters of an inch above the center of the trephine-hole. The probe was introduced through the opening in the pia-mater in a direction toward the resistance felt with the finger. After passing about one inch, it came in contact with the bullet at a depth of about half an inch below the pia mater. By the aid of a slender-bladed anatomical forceps, the battered bullet, weighing forty-two grains, was extracted. Thus was the bullet tracked by means of the probe throughout its whole course to its place of lodgment and removed.

The patient's head having been placed in the same position as during the first trial, the Nélaton's probe was again gently passed through the wound through the brain. At a depth of about six inches it met with a resistance. Leaving the probe standing in the brain, by gentle pressure with the tip of the finger in the posterior wound I could stir the probe and felt that the obstruction to its passage was the dura mater alone. After slitting this membrane for a quarter of an inch farther, the end of the probe passed readily into view. At a depth of about five inches from the anterior opening I thought I detected a foreign body in the wound. But there might have been contact of the handle of the probe with the little clamp in the anterior wound, for when this was held aside I failed to again feel any extraneous substance. However, this introduced a doubt as to the freedom of the wound from foreign matter, and led me to use a small sized rubber tube instead of catgut for a drain. This tube had been made aseptic in a two-and-a-half-per-cent. solution of carbolic acid, and was further washed in the bichloride solution. One end of the tube was slipped over the handle of the probe and tied in place with carbolized silk. The probe was then drawn through the brain in the direction taken by the bullet. The tube, as it was drawn through the wound, became filled with brain-detritus and blood. No effort was made to clean its calibre by injecting the antiseptic solution through it. The blood in the tube could be seen pulsating. The projecting ends were cut off to within an inch and a half of the skull and transfixed with safety-pins.

At both the anterior and posterior wounds the flaps were brought partly together by sutures at their bases, room being left for the ends of the tube and the artery-clamp. The wounds were dusted with iodoform, covered with Lister's protective silk, which was in turn dusted with iodoform. Over the protective, iodoform gauze was loosely packed, and over all a combined dressing of borated cotton held between layers of carbolized gauze was applied. The space beneath the brows having been filled with borated cotton, the eyes were covered in by the bandages which secured the dressings.

The operation was completed in about four hours from its commencement, the greater portion of the time having been spent in stopping the cerebral hæmorrhage. The following-named members of the house staff were present at the operation: Dr. R. T. Morris, Dr. J. R. Conway, Jr., Dr. W. W. French, Dr. J. H. Woodward, Dr. H. N. Williams, Dr. P. Oppenheimer, Dr. H. S. Wildman, Dr. H. Herman, Dr. H. Biggs, Dr. E. Hurd, Dr. C. F. Roberts, and Dr. W. G. Rutherford.

The patient's general condition after the operation was about the same as when it was undertaken. He was transferred to the Sturgis Pavilion, special orders being given that he should not be allowed to suffer from retention of urine, and that pain should be relieved by sufficient doses of morphine.

At nine o'clock P. M. the patient's temperature was 101° F., his pulse 120, and respiration 32. A hypodermic of Magendie's solution of morphine, ♏vii, was given; his urine was drawn by gum-elastic catheter.

One of the imminent dangers that threatened the patient's life was hæmorrhage from the clamped cerebral vessel. In such a contingency I considered it almost impossible to secure the vessel by ligature or clamp. I thought the best course to stop the hæmorrhage, though a forlorn hope, would be by the use of the actual cautery. To overcome the difficulty of cauterizing a bleeding vessel at the bottom of a pool of blood, I made different-sized and -shaped loops of stiff wire, as shown in Fig. 3. These loops were covered

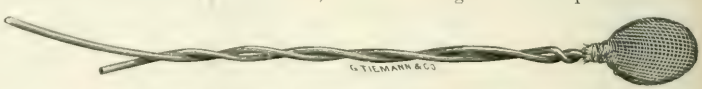


Fig. 3.—Design for a compressor, two thirds actual size.

tensely with a layer of cloth. It was my intention, should hæmorrhage recur, to compress the bleeding vessel by means of one of these loops, and, while the bleeding was thus temporarily checked and its source defined, to burn with the Paquelin cautery through the cloth directly upon the vessel. The different loops were kept in carbolized water ready for use, but, fortunately, the utility of this device was not put to the test.

January 25th.—The patient is in about the same condition as before the operation. He is semi-comatose, still hyperæsthetic upon the left side of the body, and irritable when aroused. He drinks milk with an apparent relish, and puts out his tongue when told to do so. His urine is drawn by catheter.

Hypodermics of Magendie's solution, ℥v at 5 A. M.; ℥v at 9 P. M.

A. M., temperature 100·5°, pulse 100, respiration 18; P. M., temperature 100·75°, pulse 76, respiration 24.

26th.—The patient's general condition is the same as yesterday. He drinks an ample quantity of milk. Urine is passed involuntarily.

Hypodermics of Magendie's solution, ℥v at 1 A. M.; ℥iv at 4 P. M.; ℥ij at 12 P. M.

A. M., temperature 100°, pulse 100, respiration 14; P. M., temperature 100·8°, pulse 74, respiration 21.

27th.—The dressings have been pushed upward from the eyes, and there has been a little oozing of blood from beneath them. At 5.30 A. M. the anterior portion of the dressings was removed. There was no hæmorrhage. The artery-clamp was lying in position. It and the end of the drainage-tube were surrounded with brain-substance. At 12.30 P. M. the dressings were removed from the posterior wound. The deeper portions of the dressings were soaked with discharges. The scalp near the wound was œdematous. To make sure that there were no discharges pent up within the wound, the adherent edges of the flaps around the drainage-tube were torn open down to the pia mater. The end of a grooved director was insinuated between the drainage-tube and the margin of the opening in the membrane, and the drainage of the wound found to be good. Bleeding from a vein in the pia mater was checked by a small compress of iodoform gauze. This dressing was done under constant irrigation with the bichloride solution. The wound was redressed in the same way as previously. The patient is becoming more conscious.

One ounce of castor-oil was given, and produced an evacuation. Urine in part passed involuntarily and in part drawn by catheter.

Hypodermics of Magendie's solution, ℥iij at 6.30 A. M.; ℥iij at 5 P. M.; ℥iij at 10 P. M.

The patient is very sensitive to the influence of morphine, three minims hypodermically given being usually sufficient to allay pain or quiet restlessness.

A. M., temperature 100°, pulse 74, respiration 15; P. M., temperature 100·8°, pulse 100, respiration 17.

28th.—The patient can move his right toes when urged. When questioned he answers in short sentences, but he is still very stupid. The discharge from the posterior wound appeared through the dressings. These were wetted with the bichloride solution, 1 to 1,000, then dusted with iodoform, and finally covered with the combined dressing of borated cotton between layers of carbolized gauze. Urine passed partly involuntarily and partly by catheter.

Hypodermics of Magendie's solution, ℥ iij at 3 A. M.; ℥ iij at 11 P. M.

A. M., temperature 101·2°, pulse 90, respiration 17; P. M., temperature 100°, pulse 82, respiration 20.

29th.—The patient says he is feeling very well. Discharges having again soaked through the dressings, iodoform and combined dressings were applied over the existing dressings. At 4.30 P. M. all dressings were removed, and the wounds inspected under continuous irrigation with the bichloride solution. The anterior wound is healthy; the scalp and exposed brain are beginning to granulate. The artery-clamp seems still to grasp tissue, and is pushed toward the surface of the brain. It is not disturbed. Under moderate efforts to start it, the drainage-tube seems immovable, and further traction is desisted from for fear of provoking hæmorrhage. The œdema near the posterior wound has disappeared from the scalp. The compress that was applied to the bleeding vein in the pia mater at the last dressing is removed without recurrence of hæmorrhage. The wounds are redressed as heretofore with iodoform protective, iodoform gauze, and combined dressing, all being carefully bandaged on with gauze bandage, the eyes being covered by the dressings. The patient continues to drink a large quantity of milk. Urine passed partly voluntarily and partly involuntarily.

Hypodermics of Magendie's solution, ℥ iij at 7.15 P. M.; ℥ iij at 10.35 P. M.

A. M., temperature 100°, pulse 86, respiration 15; P. M., temperature 100·4°, pulse 120, respiration 22.

30th.—The patient was very restless during the night. The paralysis remains the same as when last noted. He is more intelligent. Urine passed voluntarily.

Hypodermics of Magendie's solution, ℥ iij at 3 A. M.; ℥ iij at 10 P. M. Fæcal evacuation by enema.

A. M., temperature 100°, pulse 100, respiration 14; P. M., temperature 101·2°, pulse 104, respiration 18.

31st.—The patient seems to understand all that is said to him, and answers in short sentences intelligently.

At 4.30 P. M. the wounds were dressed under irrigation with a bichloride-of-mercury solution, one part of the salt to fifteen hundred of water. A composite drain, to replace the rubber drainage-tube, was made of two loops of medium-sized catgut and five loops of horse-hair, all of which had been rendered aseptic. This combined drain of four strands of catgut and ten of horse-hair was tied by a loop of catgut to the end of the drainage-tube projecting from the anterior wound. As a precautionary measure, in case mishap should befall the drain in trying to draw it into position, a single horse-hair was threaded by means of a needle transversely through the walls of the projecting end of the drainage-tube, next to the skin. With careful traction upon the end of the drainage-tube projecting from the posterior wound, the tube was started, and as it was withdrawn the combined drain following it was lodged in its place in the wound. Some brownish-red serous discharge came with the tube upon its withdrawal. With scissors the wall of the tube was cut down to the hair threaded through its substance, and the hair released without severing it. A long piece of catgut, to serve as a retaining string, was tied to each of the projecting ends of the combined drain. At both wounds the brain was commencing to protrude. The usual dressings were reapplied. The patient complained of some pain in the head after the dressing had been completed, but the pain was not severe enough to call for a dose of morphine. Patient had a fæcal movement.

A. M., temperature 99·6°, pulse 98, respiration 15; P. M., temperature 100°, pulse 88, respiration 17.

Some flakes of brain-matter adhered to the surface of the drainage-tube. These, upon examination by Professor William H. Welch, were found to be composed of neuroglia, nerve-fibers, and small round cells. As the latter were more abundant than in normal brain-tissue, Dr. Welch inferred that some inflammation was present.

In constructing the composite drain, I desired to insure the sound healing of the wound through the brain by filling it with a drain whose bulk would gradually diminish. I designed, after the catgut was absorbed, to withdraw the horse-hairs at intervals till only a single loop was left as a guide along which to explore, in case a complication should arise along the wound. It will be seen that with reason I varied from this intended procedure.

February 1st.—The patient is able to move his whole right lower limb. His arm remains paralyzed. The dressings have slipped back, uncovering his eyes. His left pupil is slightly dilated. The fault in the dressings is remedied by the applica-

tion of supplementary pieces of combined dressing. Urine drawn by catheter.

Hypodermics of Magendie's solution, ℥iij at 1 A. M.; ℥iij at 11 P. M.

A. M., temperature 100°, pulse 88, respiration 15; P. M., temperature 99·8°, pulse 81, respiration 16.

2d.—The patient is in about the same condition as yesterday. Since his admission into the hospital he has grown very thin.

At 4 P. M. the dressings were removed under irrigation. The artery-clamp is lying imbedded in the growing anterior hernia cerebri. The granulations are very gently pushed from the clamp with a grooved director till it is seen lying free upon the brain, and then it is picked off with forceps without the loss of a drop of blood. The usual dressings are reapplied. Urine was drawn by catheter. Fæcal evacuation by enema.

Hypodermic of Magendie's solution, ℥iij at 10 P. M.

A. M., temperature 100·4°, pulse 74, respiration 16; P. M., temperature 98·8°, pulse 80, respiration 20.

3d.—The patient's general condition is the same as yesterday. Urine by catheter.

Hypodermic of Magendie's solution, ℥iij at 11 P. M.

A. M., temperature 99°, pulse 80, respiration 16; P. M., temperature 98·6°, pulse 76, respiration 22.

4th.—The patient complains of some pain in the frontal region. He passed a restless night, due to pain in the bladder. His tongue is coated. His pulse is full and irregular. The paralysis of the arm continues. His urine, drawn by catheter, is strongly alkaline, and contains pus and mucus. The pain in the bladder annoys the patient. He was ordered a powder of bicarbonate of sodium, gr. v, calomel, gr. x, at 8 P. M.

Hypodermic of Magendie's solution, ℥iij at 4.30 A. M.

A. M., temperature 98·6°, pulse 90, respiration 17; P. M., temperature 98·8°, pulse 72, respiration 18.

5th.—The patient can move the thumb and index-finger of his right hand, and also the other fingers, very slightly. He complains of some pain in the frontal region. The left pupil is somewhat dilated. The cystitis is troublesome. The urine is passed voluntarily. He had a fæcal evacuation at 3·30 A. M.

Hypodermic of Magendie's solution, ℥iij at 11 P. M.

A. M., temperature 98·6°, pulse 74, respiration 17; P. M., temperature 98·2°, pulse 70, respiration 24.

6th.—The patient's condition is about the same as yesterday. In addition to his usual diet of milk, rice, and oatmeal, he eats chop or steak. Urine is passed voluntarily. No hypodermic of morphine.

A. M., temperature 98·5°, pulse 76, respiration 16; P. M., temperature 98·2°, pulse 78, respiration 17.

7th.—The patient's general condition is good. The paralysis remains about the same. His tongue is cleaner. He has no headache. Both pupils are dilated, the left one more than the right. There is a slight convergent squint.

At 4 P. M. the dressings were removed under irrigation. There was very little discharge upon the dressings. The anterior wound is covered with healthy granulations. A pellicle of epithelium is beginning to form at the margins of the wound. The strands of catgut are apparently absorbed; the ends that were projecting are lying free upon the scalp. Four strands of horse-hair are slowly withdrawn by traction upon the ends projecting from the posterior wound. The wounds are redressed in the usual manner. The urine is passed voluntarily, with considerable pain, about every five hours. Fæcal evacuations by enema.

A. M. temperature 98°, pulse 80, respiration 20; P. M., temperature 99°, pulse 88, respiration 20.

8th.—The patient is not so bright as yesterday. His memory is poorer. His pupils are rather widely dilated, the left one more than the right. He suffers a great deal from his cystitis. His urine is in part passed voluntarily and in part is withdrawn by catheter. As a diluent drink he is ordered an infusion of hops.

A. M., temperature 99·8°, pulse 80, respiration 20; P. M., temperature 99·5°, pulse 96, respiration 18.

It was now evident to me that the withdrawal of the four horse-hairs had produced considerable cerebral irritation, and that the presence of the remaining hairs was exciting further disturbance. I therefore determined to aban don any remote advantage that the retention of a single hair through the brain might offer as a guide, and promote the immediate welfare of the patient by the removal of this persistent cause of irritation.

9th.—The patient is brighter than yesterday, and ate a good breakfast with relish. The movement of the fingers of the right hand is a little stronger. His pupils are widely dilated, the left one being the larger. The slight convergent squint continues.

At 3 P. M., to relieve the pain in his bladder, a hypodermic injection of ℥iij of Magendie's solution was given.

At 3.45 P. M. the wounds were dressed in the presence of my colleagues, Dr. Charles Phelps, Dr. L. A. Stimson, and Dr. F. S. Dennis. The wounds were exposed, as usual, under irrigation. One of the horse-hairs was isolated by traction upon the end projecting posteriorly, its anterior end was cut close to the surface of the wound, and then the hair was slowly withdrawn. In this way five hairs were removed singly. The last three hairs were taken away together, thereby striving to diminish the risk of cutting the brain-tissue. The brain protrusions have grown, and are now fully half an inch above the surrounding surface. The wounds were dressed in the usual way.

Hypodermics of Magendie's solution were given, ℥iij at 5 P. M., ℥v at 10 P. M.

A. M., temperature 99°, pulse 80, respiration 18; P. M., temperature 99·4°, pulse 97, respiration 18.

10th.—The patient passed a very restless night, being somewhat delirious. His general condition is worse than yesterday. He has lost his appetite. The urine is passed in part voluntarily, and in part is drawn by catheter.

Hypodermics of Magendie's solution, ℥iv at 1 A. M.; ℥iv at 11 P. M.

A. M., temperature 102°, pulse 90, respiration 16; P. M., temperature 100°, pulse 74, respiration 19.

11th.—The patient was restless and somewhat delirious during the night. He complains of pain in the frontal region and also in the hypogastrium. The cystitis is quite troublesome. The convergent squint is very slight, and the difference in the size of the pupils is scarcely perceptible. He can not move the fingers of his right hand so well as he could a few days ago.

At 3.45 P. M. the dressings were removed. There was some serous discharge from the anterior wound. The herniæ cerebri were dressed in the following manner: The wounds and surrounding surface were first washed with the bichloride solution, 1 part to 2,000. The herniæ were then covered with a protective of a film of collodion made by painting flexible collodion upon glass to a thickness of six layers. Over the collodion protective were applied pads of borated cotton about four inches square and three quarters of an inch thick.

Into the deepest pad, especially at its edges, was dusted some iodoform. These pads were so arranged that no pressure should be exerted upon the herniæ. In the deepest pad a hole was cut to receive the brain protrusion. The next pad had several cuts made in it, radiating for a short distance from the center. This,

in turn, was covered with a whole pad, and the completed dressing held in place by an elastic flannel bandage. The patient passed his urine in part voluntarily, and it was in part drawn by catheter; he passed with great pain a clot of mucus from the bladder.

Hypodermic of Magendie's solution, ♏iv at 3.30 A. M.

A. M., temperature 100·2°, pulse 78, respiration 17; P. M., temperature 98·6°, pulse 84, respiration 19.

12th.—The patient's general condition is better. The urine is drawn by catheter.

Hypodermics of Magendie's solution, ♏iv at 12.30 A. M; ♏iij at 11 P. M.

A. M., temperature 99°, pulse 72, respiration 14; P. M., temperature, 98·4°, pulse 69, respiration 15.

13th.—The patient slept quietly last night. His urine is in part drawn by catheter, and in part passed voluntarily with less pain than yesterday. No morphine was given.

A. M., temperature 98°, pulse 74, respiration 15; P. M., temperature 98·4°, pulse 80, respiration 18.

14th.—The patient passed a quiet night, and his general condition is improving.

At 4 P. M. his wounds were dressed. The films of collodion protective were not removed. The wounds were seen through the protective to be healthy. The wounds were redressed as described at the last dressing. Urine drawn by catheter, and partly passed voluntarily.

A. M., temperature 98°, pulse 74, respiration 18; P. M., temperature 98°, pulse 72, respiration 18.

15th.—The patient can flex and extend all of the fingers of his right hand, but can not move his wrist or arm. He does not squint, and his pupils are very nearly equal in size. Urine was in part drawn by catheter, and in part passed voluntarily without pain.

A. M., temperature 98°, pulse 74, respiration 20; P. M., temperature 98°, pulse 84, respiration 17.

16th.—At 5.45 P. M. the wounds were dressed. The anterior wound is healthy; epithelium has extended toward the center of the wound. A small flap of granulation-tissue, overlapping the edge of the wound, is cut away with scissors. The posterior hernia is somewhat smaller. The patient passes his urine without pain.

A. M., temperature 98°, pulse 74, respiration 17; P. M., temperature 97·6°, pulse 73, respiration 16.

17th.—The patient has slight pain in the region of the anterior wound. He urinates without pain.

A. M., temperature, 97·8°, pulse 80, respiration 16; P. M., temperature 98°, pulse 88, respiration 18.

18th.—The patient has slight pain in the frontal region. The paralysis of the arm continues as last noted.

A. M., temperature 98°, pulse 76, respiration 18; P. M., temperature 97·8°, pulse 65, respiration 18.

19th.—The patient is entirely free from pain. He can move the fingers of his right hand with more strength. The wounds were dressed at 11.40 A. M. The tissues at the anterior wound are flabbier. The hernia is covered with a delicate membrane, in which vessels are seen ramifying in all directions. This membrane is continuous with the epithelium growing from the edges of the wound. The pulsations are obscure, and the hernia feels as if liquid had collected just beneath its surface. The posterior hernia is the same as at the last dressing. The patient's temperature, respiration, and pulse are normal.

The temperature, pulse, and respiration were observed and recorded by his efficient nurse, Miss Mary L. Wadley, for a further period of three months. During that time the temperature ranged between 97° and 99·4°. All temperatures were taken in the axilla. The pulse ranged between 62 and 112. It was affected by the most trivial causes; simply turning in bed would at times raise the number of beats from 80 to 120.

20th.—The patient does not remember recent events well. Shortly afterward, he can not remember what he ate for breakfast.

21st.—At 3 P. M. the wounds were dressed. The delicate membrane covering the anterior hernia that was present at last dressing has disappeared. The surfaces of both herniæ are granulating and secreting pus.

25th.—The patient can move his hand at the wrist joint for the first time. The wounds were dressed. The anterior hernia is growing smaller, and is pulsating strongly again. The surface of the posterior hernia is secreting very little pus, and is rapidly cicatrizing. The pads of borated cotton covering the herniæ are now fastened in position by strips of rubber plaster, which converge above and behind the ears. The whole dressing, as usual, is covered with the flannel bandage.

26th.—The patient can flex his forearm at the elbow joint.

27th.—The patient can bring his right hand to within two inches of his mouth.

28th.—The patient can carry his right hand to his mouth. The wounds were dressed. The ends of the strips of rubber plaster adherent to the skin were not removed, only the portions over the pads of cotton being cut away. The rubber straps were reapplied over those portions left sticking to the skin. The anterior hernia is about one inch above the level of the surrounding surface of the skin; the posterior hernia protrudes about half an inch.

At this and subsequent dressings slight pressure was made upon the herniæ.

29th.—The patient can move his arm three inches from his side, and can flex and extend his forearm.

March 1st.—The patient can move his arm six inches from his side. He has all the normal movements of the forearm.

The anterior wound was dressed. A double ligature was threaded through the base of a flap of granulations overhanging an angle of the wound and the tissue tied off. The pad of borated cotton about three quarters of an inch thick, applied next to the hernia, was simply nicked radially from the center instead of having a hole cut in it as heretofore. It was in turn covered by other pads which were whole. By means of this arrangement and the straps of rubber plaster and flannel bandage, a gentle and even pressure was made upon the hernia. The posterior hernia was not dressed.

2d.—The patient has had no pain or cerebral symptoms whatever in consequence of the pressure upon the hernia.

3d.—The patient has more motion in the right arm. The wounds were dressed. The anterior hernia has noticeably diminished in size. It now protrudes only about three quarters of an inch above the surrounding surface. The posterior hernia protrudes only half an inch, and has cicatrized with the exception of one quarter of a square inch at its summit. In reapplying the dressing, as much pressure was exerted as the patient could stand without discomfort.

5th.—The anterior wound is dressed. The hernia is growing smaller. Cicatrization is progressing.

8th.—The paralysis has almost wholly disappeared from the arm. The patient's mental condition has so far improved that he can remember the name of his attending doctor.

9th.—The wounds were dressed. The anterior hernia has shrunk and flattened considerably. A process of epithelium has grown across the lower half of the hernia. Before compres-

sion was exerted, the collodion film of protective had to be plaited in folds at the base of the hernia; now it lies smoothly, without a wrinkle, over the hernia. The posterior hernia has nearly cicatrized over.

10th.—The patient sits up in bed at his pleasure.

14th.—The patient has no pain, and begs to be allowed to get out of bed. His appetite is good. The arm that was paralyzed is nearly as strong as its fellow, as tested by the grasp of his hand. His memory has improved very much.

15th.—The patient sat up out of bed for twenty-five minutes.

17th.—The wounds were dressed, and the herniæ found to be on a level with the surrounding surface of the scalp.

18th.—The patient sat up for an hour.

19th.—The patient walked across the ward, and declares he feels all right.

21st.—The patient thinks his memory is not quite as good as it was before he was injured. He is out of bed two hours in the forenoon and two hours in the afternoon.

25th.—The patient sits up, and is about the ward almost all day. The wounds were dressed. The anterior hernia is almost wholly cicatrized, and pulsates visibly. The posterior hernia is entirely covered with a cicatrix. It does not visibly pulsate, but the pulsations can be felt. The usual dressings were applied.

27th.—The patient enjoyed playing a game of dominos today.

31st.—The wounds were dressed. The tissues at the openings in the skull are slightly depressed below the level of the surrounding scalp. Cicatrization of the anterior wound is rapidly becoming complete. The patient walks about the hospital grounds on pleasant days.

April 15th.—The anterior wound is completely cicatrized. Since the last note the patient has steadily gained in strength and flesh. His memory, so far as he can judge, is as good as it ever was.

In treating the herniæ cerebri it was my aim to deal gently with them, at the same time keeping the wounds aseptic. In the period of their formation no pressure was made upon the brain protrusions. I looked upon their production as in part due to swelling of the cerebral tissue as a result of its injury, and based my non-interference upon the intolerance to pressure of acutely swollen or inflamed wounded tissues. From this point of view the openings, of considerable size, in the skull were a benefit in the treatment of the deep brain injury in its early stage rather than a disadvantage. In a later stage, however, when the brain protrusions had reached their greatest size and the course of the wounds had become chronic, I thought it advisable to aid the recession of the herniæ by gentle and evenly applied pressure.

On May 22, 1884, I exhibited Knorr at Bellevue Hospital to a number of physicians. He was then, so far as could be judged, in perfect health. Apart from the scars upon the patient, the only abnormality discoverable was a limitation of the visual field for green and red observed by Dr. W. J. Mittendorf. Inasmuch as this feature was common to both eyes, it is questionable whether it was caused by the injury.

The engraving, Fig. 4, is from a photograph of the patient taken at that time. The light line marks the position of the fissure of Rolando. The bullet entered at the center of the forehead, an inch and a quarter above the upper level of the eyebrows; it passed in a straight line through the brain from *a* to *b*, and was deflected to *c*, where it lodged.



Fig. 4.

Its place of lodgment was an inch and a half to the left of the posterior median line. The course of the ball is shown by the dotted line. The probe having been passed from *a* to *b*, that portion of the wound was eliminated in the further search for the bullet. The probe was then passed from *b* to *c*, after the same method as described for the exploration of a tortuous wound. The bullet could have been followed about three inches farther upon its deflected course till arrested by the tentorium, the end of the probe being exposed by a second counter-opening in the skull.

The bullet cut open the superior longitudinal sinus and penetrated the brain in the first frontal convolution, just at the edge of the hemisphere, where the convex surface joins the inner surface; traversing the brain-substance of the hemisphere, it emerged and lodged in the superior parietal convolution. The distance between the two openings in the brain, in a straight line, was six inches and a quarter.

In order to locate the injured cerebral artery with reference to the course of the ball, I carefully marked upon a cadaver the points of entrance and emergence of the bullet. I then removed a section of the skull to enable me to pass a straight-edged, long knife through the brain, in a straight line between these points. Upon removal of the brain, it was found that the cut in the first frontal convolution was down to a large branch of the anterior cerebral artery, lying about half an inch from the surface of the brain.

The patient left the hospital, where he had for a long time been retained simply for observation, on June 30, 1884.

About the 1st of August the patient went back to work at his old employment in a butcher's shop. He remained at work during the exceptionally hot weather in the early part of September.

On September 12th, between twelve and one o'clock in the morning, Knorr received a heavy blow in the anterior scar from the elbow of the man with whom he was sleep-

ing. Knorr states that he suffered intense pain in the head for half an hour, when it died away, and he fell asleep again. He awoke at about four o'clock and noticed, with wonder, his right forearm beginning to flex upon the arm. He tried to hold it down with his left hand, but failed. Then his right leg was drawn up. Then his left upper and lower extremities, respectively, became affected in the same manner. He remembered being asked what was the matter, and that he could not speak, but screamed, and then lost consciousness. The convulsive movements were so energetic that the patient was thrown from his bed upon the floor.

The same day he went to work, but did not feel well. The physician who attended him during my absence from the city prescribed twenty grains of bromide of potassium with fifteen grains of bromide of sodium, in a wine-glass of water, every four hours. The medicine acting as a cathartic, Knorr took it rather irregularly, and for ten days prior to October 1st had abstained from its use altogether.

On October 1st, while delivering a parcel at the house of a customer, he was seized with a slight rigidity, followed by a short convulsive movement of the limbs and a momentary loss of consciousness, but did not fall. He walked away and continued to work all that day, but he "felt sick all over." He consulted me upon my arrival home that day. I immediately impressed upon him the importance of persistently continuing to take his medicine. I prescribed fifteen grains of bromide of sodium with thirty grains of bromide of potassium, to be taken, largely diluted, every morning and evening.

He soon came under the influence of the medicine, as shown by the eruption of acne, insensibility of the fauces, and diminished excitability of the genital organs.

He has continued to take the bromide in doses of twenty grains in the morning and thirty grains in the evening, and has had no recurrence of convulsions or other epileptic symptoms whatever for a period of nearly six months. When he began working after his discharge from the hospital, he noticed, in trying to keep in mind the orders for deliveries to customers, that his memory was not so good as before the injury. He now follows the same occupation, and performs the same duties in it, as before he was shot. He feels perfectly well, and, by the test mentioned above, is sure that his memory is constantly growing more retentive.

The openings in the skull are closed simply by the soft parts. The posterior scar is depressed about three eighths of an inch and pulsates to the touch. The anterior scar, which for a long time was very thin in two spots, is constantly growing firmer. It is depressed one quarter of an inch and visibly pulsates. Each scar bulges about one quarter of an inch above the surrounding surface when that portion of the head is made dependent.

The advisability of extracting from the brain a deeply lodged projectile follows, necessarily, from the case of Knorr.

In my lecture of May 22d I said that, had I found the bullet imbedded near the center of the hemisphere, it was my intention to push the ball on and to extract it through a posterior opening in the skull. In such a contingency as supposed, I advise the adoption of the following procedure:

The patient's head having been placed so that the path of the ball is perpendicular to the horizon, the probe should be passed down to the ball. Contact having been made with the bullet, the probe should be pushed on in the direction of the existing wound till it is arrested by the opposite wall of the skull. The end of the probe is then exposed by trephining and made to emerge. Two strands of disinfected silk are then tied to the end of the probe protruding from the opening of entrance. The probe is then drawn through the head, leaving the threads reaching through the wound. The probe is then reintroduced through the opening of entrance, and the exact depth of the bullet from that opening determined; but no attempt should be made to push it on, lest its relation to the existing wound through the brain be disturbed. The probe is then withdrawn. The distance of the ball from the opening of emergence is thus ascertained. A long probe or wire is so bent that its ends reach the two openings in the brain as a pair of calipers, and from the total length of the brain-wound, as shown by measurement between the ends of the probe or wire, is subtracted the already determined measurement of the depth of the ball from the opening of entrance. It is premised from the foregoing procedure that the bullet lies in the wound through the brain, or in immediate connection with it. In the effort to extract the ball there must be no groping outside of the existing path in the brain. While such action would inflict most serious injury to the brain, the increased difficulty would render the finding of the bullet, even if successful, mere chance-work. The path through the brain, and which leads directly to the ball, should be preserved by a suitable guide. This guide should not be of metal, for then it could not be distinguished from the ball in the search for the latter. A gum-elastic English catheter (No. 3 English, No. 9 French scale) upon its wire stylet should be carefully straightened to serve the purpose of a guide. A catheter of this small size, while it has sufficient bulk and rigidity, does not completely fill the wound, but leaves some room for exploration without passing outside the already established path. One of the threads at the opening of entrance is, with a needle, carried through the center of the end of the catheter and out at its eye, and tied fast. By means of the conducting thread the catheter upon its stylet is carefully lodged in the wound through the brain, its ends projecting from the skull. This having been successfully done, the reserve thread through the wound should be withdrawn. The head should now be turned so that the guide lies nearly in a horizontal plane, easy for manipulation. The instrument for extracting the bullet is a pair of long, slender-bladed, double-toothed, self-closing cervix forceps. The teeth should be short and set pointing forward and outward. The action of the forceps should have been tested with a view to avoid displacement of the bullet in an attempt to seize it. The forceps is prevented from straying from the single and correct path leading to the ball by tying it to the guide. The end of one of the blades just behind the teeth is notched on one side with a file. A delicate but strong silk thread is tied to the blade at this place, and is thus prevented from slipping; the thread is then tied in a loop a little larger than the size of the guide, the ends being cut short to the

knot. The loop is passed over the guide and the closed forceps introduced alongside of, and parallel to, the guide into the wound in the brain. If the loop fails to slip upon the guide, the guide should be allowed to move with and as a part of the forceps. If the end of the guide is likely to be carried within the skull, it can be easily pushed back while the forceps is held immovable. With the lightest and most sensitive touch, search is made on one side of the guide to the known depth of the ball. Failing to find the bullet there, the forceps is withdrawn and the bullet is sought for on the other side of the guide, and then above and below. When the bullet is felt, care should be taken to make an effectual seizure. The bullet and guide should be withdrawn together.

To verify the practicability of this procedure, I implanted a small conical ball, weighing twenty-seven grains, through the forehead, three inches deep in the left hemisphere of the brain of a cadaver. The pointed end of a long, small-sized, stiff wire was screwed obliquely into the bullet. Over the wire was slid a tube whose end next to the bullet had been filed into three points of unequal length. The bullet thus mounted was thrust into the brain, and, while it was steadied against the points at the end of the tube, the wire was unscrewed and the bullet deposited. The tube and wire were withdrawn, and the head was moved about in different directions.*

All previous steps of the procedure having been successfully carried out, and it having been learned that the ball had been pushed half an inch toward the counter-opening, I introduced the forceps and explored along one side of the guide, but failed to find the ball. I withdrew the forceps and introduced it upon the opposite side of the guide, and at once detected and extracted the bullet. The bullet was removed within three minutes from the beginning of the search with the forceps. The brain was then examined and found uninjured outside of the straight and smooth path through its substance. All the steps of this procedure were carried out and the brain examined in the presence of my clinical assistant, Dr. John R. Conway, Jr., and my house surgeon at Bellevue Hospital, Dr. Willis W. French.

A fragment of bone deeply lodged in the brain could be removed by the same procedure.

Assuming that the attempt to extract the ball according to the advised method of procedure should fail, there has been established a path leading to the ball for drainage, through which a horse-hair drain or rubber tube can be passed. It may be assumed that the ball, passing along the line of least resistance, would tend toward this path, and there would remain the possibility that a second search, four or five days later, might be successful.

If a missile penetrating the brain strikes any of the bony projections at the base of the cranium, or if it changes its course at any point below the surface of the brain, it can not be tracked with the probe and removed by the procedure practiced in the case of Knorr.

* This same bullet I extracted before the class from beneath the optic nerve next to the tumor, in a hospital patient. In that instance I detected the bullet with the probe eight days after the patient was shot, although he had been subjected to frantic probing just after the accident.

ENCEPHALIC NOMENCLATURE.

I. CŒLIAN TERMINOLOGY: THE NAMES OF THE CAVITIES OF THE BRAIN AND MYELON.

By BURT G. WILDER, M. D.

(*Concluded from page 328.*)

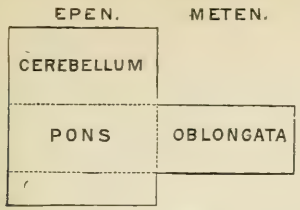
Encephal and its compounds.—In 1881, I suggested (**9**, 125) that, for the sake of brevity, the segmental names might be written *dien.*, *mesen.*, etc., without danger of being misunderstood, and these abbreviations are employed in the Table on page 356. In 1884 (**36**) I went so far as to employ these *verba decaudata* as entire words, like *consols*, and the less well-established *dynamo*, *photo*, *stereo*, *cantab*, *wedge*, *grog*, *quad*, *undergrad*, *dyne*, etc. Since these terms were objected to in the course of the discussions on Nomenclature at the meetings last year of the American Neurological Associations and the Biological Section of the American Association for the Advancement of Science, I shall hereafter employ them only as abbreviations. With the view, however, of supplying true English forms of the Greek *encephalon* and its compounds, and rendering them more acceptable to the layman, I here propose to follow the analogy of *acephal* and of all the French forms of *encephalon*, and omit the final syllable.* This retains the entire stem of the word, but gets rid of a syllable and of two letters. The English adjective *encephalic* is even more appropriate than before. By curtailing *myelon* in like manner, we have *myel* (the stem of *myelitis*, *myelalgia*, etc.), which is now more likely to supplant the binomial *spinal cord* and the ambiguous *cord*. The almost unpronounceable adjective *myelonal* may then be replaced by *myelic*, which no one need confound with *myelinic*. Finally, following the analogy of *complex*, there seems to be no objection to shortening as well as Anglicizing *plexus* and its derivatives into *plex*, *diaplex*, *proplex*, *metaplex*, with their plurals, *diaplexes*, etc.

Arteria termatica.—In Figs. 1 and 3 is represented an apparently unnamed artery which, from its relation to the terma, may be called the *termatic*. The isthmus which unites the callosal rostrum with the fornicommissure, so as to complete the circumscription of the pseudocœle, I propose to call the *copula*.

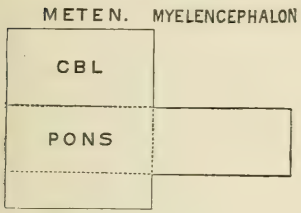
The only other new word in this article is *protocerebrum*, a monomial and sufficiently significant equivalent for the phrases "cerebral rudiment, unpaired vesicle of the hemispheres, prosencephalon primitivum, secundäres Vorderhirnbläschen, definitive, anterior (first) encephalic vesicle," etc. The cavity of this protocerebrum represents not only the aula of the subsequently triple prosocœle, but also the procœles, or lateral ventricles. The aula is to be regarded as limited laterally by two lines from the points of constriction between the definitive first and second vesicles, extending cephalad or meso-cephalad, and thus, with the terma, inclosing a quadrangular or triangular area. The

* In the "Cyclopædia of Anatomy and Physiology" (III, 650) *mesocephale* occurs at least once as if an English word.

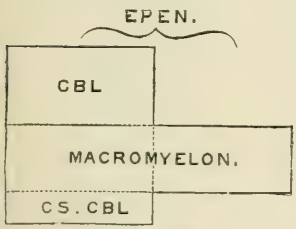
segment of a circle outside of these lines, on either side, is the rudiment of the corresponding procœle, or "lateral ventricle."



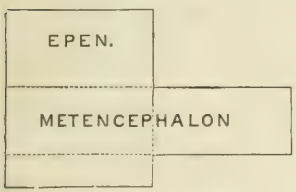
I. Quain, 1876.



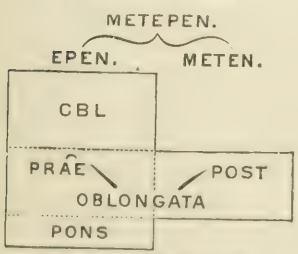
II. Huxley, 1871.



III. Owen, 1868.



IV. Horizontal Division.



V. Provisional Compromise.

Fig. 8. Diagrams representing various interpretations and nomenclatures of the parts developed from the third (posterior) primary encephalic vesicle.

Commentary on Fig. 8.—The square outlines represent in the simplest way the four principal masses which, with man and other mammals, are developed from the third or posterior, encephalic vesicle. The cavities are not indicated. Although Quain and Huxley seem to include under *pons* the entire thickness of the floor of the cephalic part of the "fourth ventricle," yet, as there is no true pons outside the mammalia, and a "floor" nevertheless exists, its primary independence is indicated by the dotted line. Quain and Huxley, like most (Schwalbe, 396) anatomists, recognize two *vertically* separated segments, but under different names. Owen recognizes a single segment, and divides it *horizontally* into *macromyelon* and *cerebellum*, with its commissure, the *pons* (*cs. cbl.*). Some anatomists seem disposed to apply segmental names to the two horizontal divisions of the mass, as indicated in iv. In view of this diversity, the arrangement and nomenclature represented in v are suggested as furnishing a common basis of agreement. If Owen will withdraw *macromyelon* (which has not been employed by others), and if Huxley will withdraw *myelencephalon* (which had been previously applied by Owen to the entire neuron), and join with the large majority of anatomists in the use of *metencephalon* and *epencephalon*, then all can agree, at least, in designating the entire region as the *metepencephalon*, pending the determination of the questions as to whether (1) it embraces two segments or only one,* and (2), if two, whether the plane of division is horizontal, or vertical as between the others.

Commentary on the Tabular Arrangement of the Names of the Encephalic Segments (see next page).—The order of the columns is not chronological, and is determined by various considerations. In vi–x, the compounds of *encephalon*, where they occur, are abridged by the dropping of the last three syllables.

I. No originality is claimed for these terms. Aside from their terminations (which were discussed above), they are identical with those of Quain, excepting that *diencephalon* was preferred by me (**9**) to *thalamencephalon*, both because it is shorter and because the prefix is readily compounded with words giving *diacœle*, *diaplexus*,† *diatela*, *diaterma*, etc. In the similar table in Wilder and Gage's "Technology" (p. 405) the olfactory lobes were regarded (I now think incorrectly) as representing another segment.

III. These terms occur first, so far as I know, in von Baer (ii, 303–311).

IV. I do not know who first introduced these English equivalents of von Baer's names. In both cases it will be understood that the adult forebrain and afterbrain represent secondary divisions of the primitive parts, so called.

V. *Diencephalon* is given (Quain, ii, 828) as a synonym of *thalamencephalon*.

VI. Owen seems to be alone in regarding the mesen. as including the thalami (i, 277, iii, 97, 103).

VIII. I am unable to see the applicability of the Greek *πρόσθεν* (Spitzka, **6**, 27) to the caudal (hinder) region of the brain.

IX. Fol's *entencephale* and *postencephalon* (**1**, 369) present no advantages over the terms here employed.

X. Rabl-Rückhard (**2**, 502) does not actually use the term *protencephalon primarium*, but it seems to be the legitimate correlative of *proton. secundarium*.

XI. Aside from the undesirable substitution of a metaphysical term for the anatomical one, Haeckel has caused needless confusion by transposing the commonly accepted Greek equivalent for *hinter* and *nach*.

* The arguments against such division are strongly presented by Spitzka (**16**), my own paper (**39**) stated some facts and considerations in favor of the division, but did not pretend to be conclusive.

† Would not Rabl-Rückhard accept *diaplexus* in lieu of his recently employed polynomial, *plexus chorioideus protencephali posterior*?

TABLE OF THE NAMES OF THE ENCEPHALIC SEGMENTS, WITH THEIR PRINCIPAL SYNONYMS.

I Technical English.	II Characteristic Parts.	III Von Baer (1837).	IV English Vernacular.	V Quain (1875).	VI Owen (1868).	VII Huxley (1871).	VIII Spitzka (1878).	IX Fol (1884).	X Rabl-Rückhard (1884).	XI Haeckel (1878).
Prosencephal.	Cerebrum.	Vorderhirn.	Forebrain.	Prosencephalon.	Prosen.	Prosen.	Prosen. (in part).	Prosen.	Proten. sec.	Protopsyche.
Diencephal.	Thalami.	Zwischenhirn.	'Tweenbrain.	Thalamencephalon.	Mesen (in part).	Thalamen.	Prosen. (in part).	Entren.	Proten. prim.	Deutopsyche.
Mesencephal.	Optici.	Mittelhirn.	Midbrain.	Mesencephalon.	Mesen (in part).	Mesen.	Mesen.	Mesen.	Mesen.	Mesopsyche.
Epencephal.	Cerebellum.	Hinterhirn.	Hindbrain.	Epencephalon.	Epen. (in part).	Meten.	Prosthen. (in part).	Epen.	Epen. definitivum.	Metapysche.
Metencephal.	Postoblongata.	Nachhirn.	Afterbrain.	Metencephalon.	Epen. (in part).	Myelen.	Prosthen. (in part).	Posten.	Meten.	Epipsyche.

On the following Tabular Arrangement it would have been more consistent to either give the classical form of the cœlian names (*mesocœlia*, etc.), or present the English form of the other terms, *encephal*, *mesencephal*, *myel*, etc.

TABULAR ARRANGEMENT OF THE NAMES OF THE NEUROMERES AND THEIR CAVITIES.

NEURON,
myelencephalon, cerebro-spinal axis, brain, and spinal cord.

NEUROCŒLE,
myelencephalic cavity,
central canal and ventricles.

ENCEPHALON,
brain.

ENCEPHALOCŒLE,
ventriculi encephalici, brain cavities.

PROSENCEPHALON,
cerebrum, etc., secondary fore-brain.

PROSOCŒLE,
prosencephalic cavity, including aula, portæ, procœles, and rhinocœles.

DIENCEPHALON,
thalami, etc., 'tween-brain.

DIACŒLE,
third ventricle, in part.

MESENCEPHALON,
lobi optici, etc., mid-brain.

MESOCŒLE,
mesencephalic cavity, including iter, pylæ, and optocœles.

EPENCEPHALON,
cerebellum and præoblongata, hind-brain.

EPICŒLE,
fourth ventricle, in part, and cerebellar ventricle.

METENCEPHALON,
postoblongata, etc., after-brain.

METACŒLE,
fourth ventricle, in part.

METENCEPHALON, **METEPICŒLE.**

MYELON,
medulla spinalis, spinal cord.

MYELOCŒLE,
canalis centralis, central canal.

LONGER PORTION,
myelon proper.

SYRINGOCŒLE,
canalis centralis proper.

INTUMESCENTIA LUMBALIS,
lumbar enlargement.

RHOMBOCŒLE,
sinus rhomboidalis.

Note on Hippocampus. In view of the consideration so ably presented by Spitzka (**20**), I hereby withdraw the term *hippocampa*, together with its derivatives, *hypocampi* and *hippocampales*.* In so doing I venture to express the hope that the word *hippocampus* may be restricted hereafter to the elevation in the medicornu commonly known as *hippocampus major*, and that the elevation in the postcornu be called *calcar* rather than *hippocampus minor*.

* Spitzka's suggestion that the frequent occurrence of *hippocampa* in Vesp of Aretæus is due to the ease with which the syllable *hipp*, having written once, may be mistaken by a printer for *hipp*, is confirmed by my finding *hippocampus* in Bell's Anatomy (II, 432), *Gyrus hippocampi* in Meynert's article on the Brain ("Stricker," explanation of Fig. 230), and *Gyrus hippocampa* in the American translation.

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EPILEPSY

CONSIDERED AS A CAUSE OF DEATH.

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(*Concluded from page 324.*)

Case VII.—Bridget M., Ireland, aged twenty-three, single, domestic. Admitted from work-house October 2, 1874. She has been subject to epileptic fits for three years, mostly at night.

October 3d.—Had several fits since her admission, after which she was violent, and attacked those about her. Noisy all night.

1875.—Convulsions have been more frequent of late, and alternate with attacks of mania.

May 22, 1876.—No fit in three months.

February 15, 1878.—Occasional fits in last two years. Eight fits in last thirty-one days.

1879.—Epileptic seizures becoming more frequent and severe, and, during past few months, have been followed by excessive vomiting.

October 16th.—Six violent fits within twelve hours, succeeded by great exhaustion, from which she gradually recovered and returned to her former condition.

August 6, 1881.—Several severe convulsions this morning, followed by profound coma, with feeble pulse and normal temperature, and died at 3.25 P.M. No autopsy.

Case VIII.—Ann S., Ireland, aged twenty-three, married, intemperate. Admitted from work-house April 2, 1877, with the history of her being subject to epileptic convulsions, and that she has had numerous attacks of delirium tremens. In 1871 she was prostrated from an attack of meningitis, and also had left hemiplegia, from which she recovered in a few months.

September 28th.—Succession of fits, followed by stupor, from which she slowly recovered. Has had frequent paroxysms of mania since her admission.

January 27, 1882.—Had sixteen fits during the night. Comatose this morning, with cyanosis and passive pulmonary congestion and œdema.

She died from exhaustion at 3.10 P. M., January 29th, about forty hours after beginning of attack. No autopsy.

Case IX.—Ellen H., Ireland, aged forty-five, married, intemperate. Admitted January 16, 1882, the subject of dementia. Filthy in habits and occasionally violent.

29th.—Was very much excited, and had an epileptic convulsion.

March 5th.—Succession of convulsions day and night. Comatose.

7th.—Fits have continued. Bed-sore forming over sacrum.

8th.—Died comatose at 2 P. M. Time of attack about four days. No autopsy.

Case X.—Catherine McG., United States, aged twenty-one, single. Admitted June 5, 1878. Epileptic since thirteen years of age. Now is in condition of epileptic dementia, with occasional paroxysms of violence.

1880.—Suicidal. Violent and maniacal after fits.

June 3, 1882.—Had twenty-six fits during the night, and died in *status* at 8.25 this morning. Duration of attack about nine hours. No autopsy.

Case XI.—Laura C., Germany, aged thirty, married, intemperate. Admitted from penitentiary January 24, 1882. Has occasional maniacal attacks. Her brother was insane. She had an epileptic convulsion to-day while being examined.

30th.—Five fits since her admission.

March 31st.—Fits have been more frequent at menstrual period. Twenty-five fits in last twenty-four hours. This A. M., pulse 84, respirations 24, temperature 103° F. She is semi-comatose.

April 1st.—At 10 A. M. pulse 100, temperature 101° F. Pupils contracted to the size of a pin-head. In the evening the pupils became dilated, and temperature was 101° F.

2d.—This morning she notices those about her, but does not speak. Pupils react well. Pulse 104, temperature 101° F. At 10.30 P. M. temperature had increased to 102° F., and she was quite noisy during the night.

3d.—This A. M. she is beating the air with left hand and arm, and will not answer when spoken to, although she seems to understand what is said to her. Pulse 92, temperature 100° F. She was noisy all night.

5th.—Quite noisy last night. This morning she is noisy, abusive, and violent, but speaks distinctly and without any difficulty.

6th.—To-day she has returned to her former condition.

July 29th.—Twenty-three fits last night, followed by seven this morning, making thirty fits in all. Comatose. After another succession of severe fits she died in the *epileptic state* at 11.15 P. M. No autopsy.

Case XII.—Susanna W., Germany, aged forty-six, married, emperate. Admitted March 15, 1882, suffering from melan-
[illegible] two epileptic attacks.

June 30th.—Had a severe epileptic convulsion yesterday.

July 5th.—Occasional fits at night.

October 4th.—Fifteen fits last night and eight this morning. Comatose.

5th.—Fits continue. One hundred and forty since yesterday morning. Pulse 115 and feeble. No note of temperature. Coma more profound.

6th.—Three hundred and fifteen fits in last twenty-four hours. Fits returned at 5 o'clock this morning, having ceased for four hours.

7th.—Fits continued day and night—two hundred in all—and terminated in a convulsion at 3.30 this A. M., after having six hundred and eighty-eight fits in seventy-five hours. No autopsy.

Case XIII.—Ellen M., United States, aged fifteen, single, temperate. Admitted April 20, 1877, from City Prison. Patient has been an epileptic since childhood. Is now suffering from epileptic dementia, and has just had a severe fit.

August 14th.—Eighteen fits since her admission. Had a succession of fits to-day.

October 15th.—Eight fits since last note. Succession of fits to-day.

March 19, 1880.—During the last two years she has been subject to frequent convulsions. Within the last ten days she has had from five to nine fits every twenty-four hours. Is now menstruating. To-day she experienced ten successive convulsions, which were very violent, producing cyanosis and cerebral and pulmonary congestion. In profound coma, with rapid and feeble pulse and elevated temperature. She was rapidly relieved by venesection, in conjunction with ice-cap to head and chloral *per anum.* She gradually recovered from this attack, and returned to her former condition.

May.—Succession of fits, followed by exhaustion.

January 13, 1883.—Thirty fits in last twenty-four hours. Comatose. Died at 3 P. M.

16th.—Duration of attack, three days and fifteen hours.

Autopsy, forty-six hours after death.—Brain and meninges intensely congested. Commencing meningitis on convexity. Pulmonary œdema with passive congestion.

Case XIV.—Kate B., U. S., aged thirty-two, single, temperate. Admitted April 30, 1881. Has been epileptic since she was ten years of age.

May 5th.—Convulsions frequent and severe, and preceded by maniacal excitement. After the seizures she becomes quite stupid.

September 12th.—Fits increasing in frequency.

April 5, 1883.—During the last few days the fits have followed one another in rapid succession. She is suffering from exhaustion to-day.

7th.—While she seemed to be getting stronger, she died suddenly at 9.30 P. M. No autopsy.

Case XV.—Margaret B., Ireland, aged twenty-four, single, domestic. Admitted June 8, 1878. Transferred from Asylum for Insane Emigrants, with the statement that epilepsy is the exciting cause of her insanity. She has five or six fits a week, accompanied by maniacal attacks in which she becomes violent. She is incoherent in conversation, and has depressing delusions.

January, 1882.—Mental condition the same as when admitted; fits occur more frequently. At intervals she is noisy day and night.

April 12, 1883.—Had a great number of fits in last two days, attended with maniacal excitement in which she has been very violent.

18th.—Since last note she has had repeated convulsive attacks, and to-day a great accession of fits took place in which she became comatose, and, with elevated temperature, died in *status* at 10.30 A. M., nearly six days after onset of attack.

Autopsy, twenty-two hours after death.—Calvaria normal. Pachymeningitis hæmorrhagica over left hemisphere, covering the third temporal convolution. Brain-substance intensely congested. Abdominal and thoracic viscera congested and œdematous.

Case XVI.—Clara V., Germany, aged twenty-three, married. Admitted July 1, 1879. Patient has been an epileptic for years. Her mental state is that of epileptic dementia, with occasional outbreaks of violence.

1881.—Fits occur mostly at menstrual periods, when she be-

comes very violent. These attacks generally last for three or four days.

May 3, 1883.—Succession of fits followed by stupor, from which she recovered.

July 19th.—Fits have been more frequent since last note. She had a succession of very severe convulsions this morning, followed by stupor, from which she slowly emerged, and on the 24th a similar attack was repeated, and followed by *status*.

She died in profound coma at 5.30 A. M., about six hours after beginning of attack. No autopsy.

CASE XVII.—Ellen W., Ireland, aged twenty-seven, single, intemperate; prostitute. Admitted December 9, 1882, from Bellevue Hospital, with certificates stating that "patient has syphilis; is incoherent and rambling in her ideas, etc."

December 10th.—Has delusions of being drugged, and thinks that she is obnoxious to everybody. Syphilitic eruption over surface of body, and ulceration on the posterior vaginal wall, with a profuse leucorrhœa.

17th.—In poor physical condition. Still has delusions of a melancholy nature. She refuses food, and has to be fed by force.

March 15, 1883.—Physically improved. Quarrelsome, excitable, and obstinate, and refuses to leave her bed.

April 30th.—Six epileptic fits in two hours, followed by stupor, from which she emerged in a few hours.

May 7th.—Filthy in habits. Soils her bed at night.

27th.—Had four fits yesterday.

28th.—Excited and violent, attacking others without cause.

September 23d.—Occasional fits since last note. She had two severe convulsions this morning, and remained very stupid for an hour, and then became very much excited, violent, and abusive. After continuing in this state for two hours, she was again attacked by an unusually violent convulsive paroxysm, fit succeeding fit, and numbering sixteen in all. By this time she was in profound coma, and remained in this condition until the time of her death, which took place at 1.30 P. M., September 24th, about fifteen hours after onset of attack.

Autopsy, twenty-two hours after death, revealed congestion of brain-substance and meninges, but brain was otherwise apparently normal. Gummatous deposits found in lungs and kidneys.

CASE XVIII.—Eliza G., U. S., aged sixteen, single, temperate. Admitted April 11, 1878. Has been an epileptic for nine years. Now has hallucinations of hearing. Frequent maniacal attacks and an epileptic convulsion almost every night.

1880.—No improvement since her admission.

November 10, 1883.—Of late, fits have been increasing in frequency and severity. She had ten fits last night, and is quite stupid this morning.

11th.—Twenty-two fits in two hours; comatose.

15th.—Since last note she gradually emerged from the coma. Bed-sore forming over nates. Very much exhausted. Sleeps most of the time, but seems to be getting stronger.

20th.—She died from exhaustion at 6.55 A. M., nine days and seven hours after beginning of attack. No autopsy.

CASE XIX.—Sarah B., U. S., aged sixteen, single, temperate. Admitted November 4, 1876. She has been subject to epileptic fits since she was six years of age. The attacks were quite frequent at first. Sometimes she would have three fits daily. After menses appeared (at the age of thirteen years) a remission took place, and no fits occurred for two years. Since then she has had one or more convulsions daily, followed by maniacal excitement, in which she becomes violent and almost unmanageable. Memory and intelligence very much impaired.

1877.—No change since admission, her condition being well described in her history soon after being admitted to the asylum.

February 28th.—Attempted to drown herself in the bath-tub. Has frequent fits.

March 25th.—Maniacal; screaming and running about the ward in a reckless manner.

July 3d.—Series of fits during the night. This morning she is quite stupid.

28th.—Had another series of fits, followed by stupor, from which she gradually emerged.

February 15, 1878.—Five fits in last thirty-one days.

May 17th.—Convulsions occur mostly at night, and are very severe.

November 4, 1881.—Had fourteen fits last night. In stupor this morning, and in an exhausted state.

October 5, 1883.—Frequently maniacal and violent of late. Had eight fits last night.

26th.—Eighteen fits within last twenty-four hours.

January 26, 1884.—Great accession of fits during the night, and convulsions continue this morning. She rapidly passed into the comatose state, and died in a convulsion at 6.40 A. M. Duration of attack about seven hours. No autopsy.

CASE XX.—Bridget K., Ireland, aged thirty-three, married, temperate. Admitted May 10, 1872. "She has been subject to epileptic convulsions for a great many years. Has frequent maniacal paroxysms, in which she becomes violent."

1875.—Since her admission to the asylum her condition has remained the same as described in the certificates of commitment.

September 28th.—Had a succession of severe fits, followed by coma, from which she recovered in a few days.

1882.—Fits have been more frequent and more severe during the last few years.

March 24, 1884.—After a paroxysm of mania, in which she was unusually violent, she was seized with a severe convulsion, which was soon followed by others in rapid succession; and, with marked cyanosis, she became comatose, and remained in this condition until the time of her death, which occurred at 2 A. M., March 29th, nearly five days after onset of attack. No autopsy.

From an analysis of these twenty cases it will be observed that in twelve cases the patients had been the subjects of epilepsy from three to twenty-two years.

In the remaining eight the duration was unknown.

Eight of the patients had had previous attacks of "succession of fits," followed by stupor without the supervention of coma, while in six others previous attacks of *status* are noted, three of these being also subject to "successions."

The ages at time of death ranged between twenty-one and forty-six years.

In eighteen cases the duration of the fatal attack varied from six hours to four days. In one case death occurred within thirty minutes, while in another the time from the beginning of the attack till death was nine days and seven hours.

CONDITION IN WHICH DEATH OCCURRED.

In single seizure			1
In *status*	comatose,	8	16
	from exhaustion,	5	
	in convulsion,	3	
From exhaustion after succession of convulsions			3
Total			20

In cases III, V, and VI, respectively, the highest recorded temperature during the condition of *status* was

100·5°, 99°, and 99° F. In case XI, in a previous attack of *status*, the temperature was 103° F. No note of temperature was recorded in the other histories.

I will briefly recapitulate the post-mortem results in six cases, particularly in reference to the condition of the brain and meninges.

Case I.—Brain-substance œdematous and anæmic; otherwise normal.

Case II.—Meningeal injection. Brain substance intensely congested, but otherwise normal.

Case III.—Meningeal injection. Brain-substance œdematous and pale. Atrophy of left ascending frontal convolution from pressure of thickened calvaria.

Case XIII.—Brain-substance and meninges intensely congested. Commencing meningitis on convexity.

Case XV.—Brain-substance intensely congested. Pachymeningitis hæmorrhagica over left third temporal convolution.

Case XVII.—Congestion of brain-substance and meninges.

I would like to direct your attention to the great number of fits which occurred in Case XII, there having been no fewer than 688 convulsions within the seventy-five hours preceding death. In regard to the frequency of the seizures Nothnagel* says: "These groups of seizures themselves may be composed of from four to one hundred single seizures, or more, in twenty-four hours. Delasiauve saw in a boy of fifteen, within one month, a 'collective seizure' which was composed of the incredible number of 2,500 'fragmentary seizures.'"

Through the kindness of Dr. John C. Shaw, Medical Superintendent of the Kings County Asylum for the Insane, I submit the histories of the following additional cases:

Lizzie M., United States, colored, aged twenty-six. Admitted November 2, 1882. Brought from police-station. Nothing known of her. On admission, is noisy and excited, removing her clothing and exposing her person.

April 5th.—Epileptic convulsion at 9 A. M., with several following of great severity (number not noted).

8th.—Convulsions have continued at intervals ever since last entry. They are all of a severe character. Treatment by bromide has had no influence. Chloral has done no special good. Temperature to-day in axilla is 104° F., respirations 50, pulse 250.

10th.—Convulsions have continued up to her death, on this day.

Autopsy shows marked venous congestion of membranes of brain. Serous effusions into pia. Pia cloudy and thickened. Brain firm. Small cerebral vessels stand out from brain-substance when cut through. Puncta vasculosa numerous. Granulations in ventricles. Small, yellowish, gelatinous spot in right lenticular nucleus.

Mary S., aged sixty. Epileptic fifteen years.

December 15, 1882.—Epileptic fit yesterday.

16th.—Convulsion last night, and four during this day.

17th.—Had two fits last night.

18th.—No fit since yesterday. Breathing stertorous. Unconscious. Pupils normal. Pulse 98, temperature, axilla, 102 F. At 4 P. M., temperature 105°. No difference in temperature on either side. Pulse feeble and rapid. Died at 6 P. M. to-day. (The patient had had attacks of *status* previous to this one.)

* Von Ziemssen's "Cyclopædia," vol. xiv, p. 249.

Autopsy.—Glioma of right second and third frontal convolutions found in this case.

Nellie M., aged eighteen. Epileptic all her life.

January 30, 1884.—Series of fits, from which she recovered.

31st.—Another series of fits to-day (number not noted).

August 3d.—Had several convulsions to-day, and died in one of them.

No autopsy allowed. Patient had attacks of *status* before this one.

A very interesting history of a case of epileptic insanity is reported by Dr. Charles W. Pilgrim, of the Utica Asylum, in the "American Journal of Insanity" for April, 1884, in which the patient, a man, thirty-four years of age, who had been admitted to the asylum eight years previously, died in *status epilepticus*.

"The first positive evidence of epilepsy was observed a little over seven years after he first came under observation, and about nine years after the beginning of the insanity, when, on the morning of the 19th of July, he was seized with an epileptic convulsion while working in the field, and had fifteen seizures within the next twenty-four hours. He then passed into a comatose condition, and so remained for three days, during which time he could not even swallow fluids. From this state he gradually emerged, but he never afterward reached the mental condition which he was in before the attack. On the 14th of September he had another attack, which was similar, though less severe.

"On the 11th of October he again had another series of convulsions, which was severe. For twenty-four hours he was in *status epilepticus*, and had from a dozen to fifteen different convulsions, after which he became profoundly comatose. He lay in this condition for nearly seventy-two hours, without taking nourishment of any kind, and then gradually emerged from it, after which he was dull and stupid for several days.

"He had another similar attack on the 19th of January, and a few days after emerging from the coma he was up and around the ward as usual, although quite dull.

"On the 9th of the following April he was again similarly attacked, and died. No autopsy was made, as the friends objected."

Obersteiner* has also reported three very instructive cases of *status epilepticus* occurring in his practice, one being a girl of eight years, who recovered after nine days, the other two being fatal cases in adults, one of whom was a syphilitic subject.

In conclusion, a few remarks in regard to treatment during the *status epilepticus* may prove of interest.

We have no data in reference to the exciting cause of this condition; therefore there are no indications for treatment other than to meet the dangers as they arise. In some cases the convulsions may be controlled by the administration of large doses of chloral *per anum;* but, after the attack has fairly started, chloral seems to have very little influence, excepting to intensify the exhaustion.

Where marked cyanosis is present, I have found venesection of the greatest benefit, relieving the passive cerebral and pulmonary congestion after a few ounces of blood have been removed. At the same time the ice-cap and counter-irritation to the mucha have been used with apparent advantage.

* "Wiener med. Woch.," 1873, 23.

The inhalation of chloroform controls the convulsions during its application, but they return with renewed vigor shortly after the inhalation is discontinued.

The use of morphine subcutaneously seems to possess some power in controlling the paroxysms, but it has to be injected in such large doses that it appears to me to have hastened the death of the patient from exhaustion.

Nitrite of amyl, in my experience, has proved ineffectual, if not injurious.

In some cases pressure over the carotid arteries seems to have checked the convulsions temporarily at their onset.

The pulmonary congestion and œdema must be treated upon general principles. Owing to the frequency of dysphagia, and occasionally the complication of severe vomiting, the nutrition and stimulation of the patient, when death from exhaustion becomes imminent, are very difficult. Our only hope then remains in the administration of nutritive and stimulating enemata.

636 Lexington Avenue.

SOMETHING ABOUT THE PREVENTION OF CHOLERA.

By A. BRADFORD FARNHAM, M. D.,
MILWAUKEE, WIS.

To discuss intelligently the prevention, the limitation of a disease, one must know its cause and method of propagation—its common carriers. My present purpose being to present a few practical suggestions, it is unnecessary to consider the relation of the comma bacillus to cholera. It is agreed that the disease is spread by a specific cause, a contagium. The intestinal dejecta are probably its chief carrier, but claims are made for the breath, blood, and vomit. Specifically poisoned water, or milk diluted with such water, are very common carriers. Testimony is somewhat various as to the length of time that the secretions continue virulent. Decomposition is nature's method of oxidizing, burning up, completely destroying, and certainly, if this process is far advanced, the specific germ can not survive. Occasionally, and here lies one difficulty in stamping out the disease, the cause may exist for an undetermined length of time in secretions attached to clothing or otherwise. There is substantial unanimity that the germ is not conveyed far through the air, but does half-arm work like the poison of typhus. The cholera germ or poison demands, as essentials to its existence, an elevated temperature, moisture, and the presence of decaying vegetable matter. All these conditions are present in the delta of the Ganges, and cholera is always present there, and thence all epidemics are said to start. That irruptions into other countries are not more frequent is because the germ is short-lived and not easily transported, or, when carried, does not find congenial soil.

The first agent needful in our fight against cholera is a competent local board of health or health commissioner. However thorough and satisfying the precautions may be in theory, they will be futile unless carried into practice with system and intelligence. It would be well if every physician in the country should carefully consider the *personnel* of the local board, or the competency of the health officer. Let the smaller towns and hamlets which have no such officer appoint one, or let all physicians remember that they are the proper guardians of the people's health. The executive officer must be unhampered by red tape, able to act promptly, supported by a sufficient number of inspectors, and with abundant pecuniary resources. Every reader with or without military experience knows that the success of any given movement is more dependent on the character of the officer in charge than upon any other single factor.

One need not be a prophet to predict that cholera will not deal its deadliest blows in the large cities, where an appreciation of the imminence of the danger has caused a proportionate watchfulness, but, rather, in smaller places, where vigilance has slept in fancied security, based upon fresh country air and distance from city slums, and where, notwithstanding, inspection may reveal conditions most favorable to disease. While the lake cities are exposed to cholera from the direct influx of immigrants from infected districts, their great danger lies in imperfect drainage. What are many of our sluggish rivers but huge uncovered sewers, running through the hearts of cities? Filth is present, moisture almost uniformly; add heat and the cholera germ, and the pot is brewed.

The fight against cholera must be by attack upon the germ, though the indirect method, or attack upon the conditions essential to the life of the contagium, may avail much. This latter method will consist chiefly in general sanitation, and is not to be discussed here, save to call attention to the need for one precaution in cleaning a suspected locality, the non-observance of which has increased the area of many a pestilence. Disinfect all filth to be carted away before it is moved, if not finally, at least temporarily. Quarantine is not to be considered, save to say that its value is limited.

My objective point is, What shall we do in any given instance of the disease to prevent its further spread? Some years ago Fordyce Barker taught me that a ready man is one who has anticipated the occurrence of an emergency, and thoughtfully determined beforehand exactly what to do. Then, when there is need for action, there is no delay. The best thing is promptly done, and in the best way. May every health officer take time this winter to make himself a "ready" man. He may, by so doing, save himself and his community much anxiety, and prevent the loss of many lives. When all precautions have been taken there is a grim satisfaction in awaiting the final measuring of your strength against the enemy. The greater number of people must depend on the local physician for protection, and it is well for him, too, to be "ready."

What disinfectants must be used, and how? First among all stands fire. From ashes no phœnix germ can arise. Apply heat wherever possible. Prolonged boiling with or without a disinfectant will prove efficient, but a blaze is quicker. Burn up all bedding that has been used in the sick-room. That poverty may not hide the germs of disease in concealed clothing, the municipality should pay liberally for the articles destroyed. Against cholera the remedy must be as active as the disease, and human lives

must not be weighed against the value of a few articles of cotton and wool. Dry heat is effective, and can be relied on when attainable promptly. In practice it is seldom convenient or possible to use it. Small outside collections of suspicious filth can be quickly made aseptic by covering with dry wood, and saturating wood and filth with kerosene or tar before igniting. If fire can not be used with safety, cover completely with bleaching powder, or saturate with a solution of bichloride, or both. The effectiveness of this salt in weak solutions makes its free use comparatively inexpensive. It can be used to wash floors and wood-work, and to sprinkle cellars, open drains, and out-door "cultures" generally. I use it in a common garden watering-pot. Half a drachm to a pail of water makes a solution of sufficient strength. Privies are best treated with bleaching powder, covering the contents completely. The wood-work should not be neglected. A pail of the bichloride solution and a mop would soon do all that was needed. Bleaching powder and this salt are not incompatible, and could be used conjointly.

The use of water from a suspected source should be forbidden, and sufficient permanganate of potassium thrown into the well or cistern in question to color the water. Better to use a concentrated solution than the undissolved crystals. The amount needed is thus more easily and accurately determined. If the only supply is suspected, let all water used be boiled and filtered through charcoal.

The dejecta and vomit of the patient should be rendered harmless by immediate disinfection with bleaching powder or solution of the bichloride. The vital principle of disinfection here is to prevent the throwing of the vomit and dejecta into sewers, privies, sinks, or at random. Rather keep them in the room in a closed earthen vessel, or any receptacle, covered or uncovered, till complete disinfection is assured. If the patient dies, let the body be wrapped in sheets wet with solution of bichloride, and buried speedily —no wakes or public funerals. The logical disposition of the remains would be cremation.

When the patient has died or been removed to a special hospital—very often impossible on account of the speedy action of the disease—we come to the final disinfection of the room and premises. Rapidity of action is needful. Do not waste time with soap and water, but flood the room or rooms with chlorine gas. This gas is best liberated by adding equal parts of either hydrochloric or sulphuric acid to chlorinated lime, diluting the acid one half before using. The amount of chlorine in chlorinated lime is variable, and the surest proof of competent disinfection is the destruction in whole or part of some bit of cloth left in the room. If sulphurous-acid gas is chosen, let the room be measured in every instance, and not less than three pounds to the thousand cubic feet be used. First, close the avenues of ventilation as completely as possible, and preferably sprinkle the floors, or fill the room with steam, as this gas acts best in a moist medium. This is not the place to discuss this mode of disinfection. Many have found it untrustworthy, and my experience with it has been unfortunate. However, Baxter and Dujardin-Beaumetz have shown that an effective use can be made of it. I hope to offer something on this subject hereafter. When there is need for disinfection against cholera, promptness is of primary importance. Act with almost as much energy as firemen show at a fire.

It is probable that cholera is spread by the intestinal discharges of those having choleraic diarrhœa during the prevalence of a pestilence. Urge the importance of disinfection in such cases.

These considerations are of more interest to physicians outside of large cities provided with efficient boards of health. It is right and proper to fear the coming of cholera next summer. If it does not come, the general health will be benefited in many ways by our precautions.

UTERINE IRRIGATION.

By J. W. LONG, M. D.,
RANDLEMAN, N. C.

Injections into the cavity of the uterus were employed more than two thousand years ago; for we learn that Hippocrates practiced intra-uterine injections, to wash out bits of retained placenta and medicate the endometrium when affected by catarrh, 400 years B. C. Since his day the operation has always been more or less in vogue. At this time it has many friends, but more opponents. And I do not wonder that so many eminent authorities have arrayed themselves against the operation when I consider the imperfect manner in which it is usually performed. I do not say this to the discredit of those who have tried and rejected the operation, for I take it that the fault does not lie in the (intelligent) operator, but in the *means* employed. Now, the objections urged against this measure may be briefly stated as follows: Escape of the injected fluid through the Fallopian tubes, causing peritonitis; absorption of retained fluid, causing phlebitis; shock; uterine colic; and sudden entrance of air into a vein. The first of these is most apt to occur, and perhaps constitutes the chief danger, and the reason why this *ever* happens is because *the injected fluid does not find free exit at the os internum.* And I believe that a large part of all other accidents occurring with this operation—when performed under the proper circumstances—are due to the same cause.

Heretofore the profession have depended on a single-tube cannula, or a double-tube cannula. Now, both of these are defective in the highest degree, for in one there is no mode of egress, unless the os happens to be dilated, which is by no means always the case; and in the other the egress can be very little, if any, greater than the ingress. And how can retained pieces of placenta, loose morbid growths, blood-clots, shreds of mucous membrane, etc., pass out through a cannula? Much less efficient is the *uncertain* dilatation of the os.

Therefore it is *imperative* that the internal os (of course the cervical canal also) be dilated. To this end I have designed an instrument which has for its first and leading principle *dilatation of the internal os.*

The instrument, as it appears in the accompanying cut, has been manufactured by Messrs. G. Tiemann & Co., who kindly gave me many valuable suggestions. It is an elegant

specimen of workmanship, made of the very best material, and beautifully finished.

It is sufficiently long and small to be used through a bivalve speculum. The handle and middle part are straight.



The part which enters the cervix is curved to suit that canal, and, when the blades are closed—as seen above—represents three sizes of the American scale—13, 14, and 15. The bulbous tip is acorn-shaped, and full of holes, with reversible current; there is no hole in the immediate end. The blades, when closed, fit snugly around the tube or cannula, and, when opened, expand equally in four directions. They are elastic and highly polished, being made of tempered steel and plated with nickel. They are controlled by the thumb-screw near the handle, and can be opened or closed at the will of the operator. The place for attaching a syringe is also near the handle.

THE OPERATION.—The woman should be placed upon her back, with her hips brought to the edge of the bed, her legs flexed, and shoulders slightly raised. Now introduce a speculum, gently hook down the anterior lip of the external os with a tenaculum, and, after carefully ascertaining the direction of the cervical canal by means of a blunt-pointed sound, cautiously pass the instrument in until the tips of the blades pass through the os internum. Now, while the womb is steadied by the tenaculum, slowly turn the thumb-screw till the blades are half open, or fully open, as may be desired. At this point the tenaculum may be removed, and the speculum also if necessary. Of course, before the instrument is introduced it is well warmed and oiled, the fluid to be injected is prepared, and the syringe is attached. Everything is now ready for the second step in the operation. Now slowly inject the fluid, taking good care to see that the fluid returns freely into the vagina.

When the irrigation has continued long enough, simply reverse the thumb-screw and gently withdraw the instrument.

As to the kind of syringe used, the *fountain-syringe* seems best adapted to this purpose—because the force of the stream can be regulated by simply raising or lowering the syringe, and there is less danger of the fluid being thrown or forced through the Fallopian tubes.

The *elasticity* of the dilating blades is a point which may be objectionable, and I at first thought of having them perfectly stiff; but the instrument *as it is* was presented to a convention of New York physicians, and *they specially commended the elasticity of the blades*, and said that there being *four* blades was all the better, as it insured equal dilatation in four directions.

At any rate, I am willing to let it go on trial as it now stands, and, if those who try it think it would operate better with stiff blades than elastic ones, it will be a small matter to have them changed.

In conclusion, I wish to say that I offer this instrument—upon which I have spent so much time and labor—to the medical profession, and all I ask is that my professional brethren give it an impartial trial. If they find any merit in it, I am sure they will say so; if it has no such thing as merit, they will confer a favor on the humble inventor by so stating.

Note.—I notice that Professor Goodell has been washing out the womb by dilating the os with an Ellinger's dilator and passing the nozzle of a syringe between the blades of the dilator; but I did not see this till *after* I had invented the above-described instrument and it had been manufactured.

Book Notices.

The Science and Art of Surgery. A Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERIC ERICHSEN, F. R. S., LL. D., F. R. C. S., Surgeon Extraordinary to Her Majesty the Queen, etc. Eighth Edition, revised and edited by MARCUS BECK, M. S. and M. B. Lond., F. R. C. S., Surgeon to University College Hospital, etc. With Nine Hundred and Eighty-four Engravings on Wood. Vol. I. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 1124.

THE changes in this edition are chiefly two: the author has seen the impossibility of doing justice to the diseases of the eye, and has omitted mention of them altogether; and, with the aid of the editor, Mr. Beck, he has brought the matter of surgical pathology more nearly up to date than ever before. The modern operations have also been given their share of attention. The American edition is in two volumes, of convenient size and good appearance, and the amount of matter contained in this, the first one, shows that the book has been considerably increased in size. It appears simultaneously in England, America, Spain, and Italy, and is too well known as a safe guide and familiar friend to need further comment.

A Manual for the Practice of Surgery. By THOMAS BRYANT, F. R. C. S., Member of the Council and Court of Examiners of the Royal College of Surgeons, etc. With Seven Hundred and Twenty-seven Illustrations. Fourth Edition, thoroughly revised. Philadelphia: Henry C. Lea's Son & Co., 1885. Pp. xx–17 to 1039, inclusive.

THE American publishers of this work have thought best this time to allow Mr. Bryant to write his own surgery without any assistance. We are glad of it; not because the additions to the last edition were not good, but because they were out of place. There is little other change from the last edition. The arrrangement is identical, and but very little new matter has been added.

BOOKS AND PAMPHLETS RECEIVED.

Special Report on the Hungerford Outbreak. Toronto, February 7, 1885.

Sixteenth Annual Report of the New York Physicians' Mutual Aid Association.

Medical Department of Niagara University, Buffalo, N. Y. Announcement of the Spring Term, 1885.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 28, 1885.

THE HYGIENE OF COLLEGES.

A recent number of the "Progrès médical" contains a vigorous article on this subject, in which a dismal picture is drawn of the dangers which threaten the health of the French youth during his college career. "It is at college," says the writer, "under the influence of its detestable physical and intellectual hygiene, that many children contract the germs of disease, which break out during youth or mature age." The writer is not very clear as to the exact character of these noxious influences, since he speaks in one sentence of bad water-closets, and in the next of excessive mental strain. We heartily agree with him in his strictures upon the improper ventilation of recitation-rooms. Many an American's reminiscences of his college days are not without certain memories of low, dark chambers, which were better adapted for coal-cellars than for class-rooms, in which thirty or forty young men were obliged to inhale one another's foul exhalations for an hour at a time. And then our medical schools—God save the mark! But here we "come too near home." We can readily imagine the impression produced upon a tender parent (such as our French *confrère* describes) who should visit some of our most venerable institutions, in order to decide as to which one offered the most favorable hygienic surroundings for his hopeful son. But, jesting aside, would it not be a good plan for our medical schools—we do not criticise the collegiate institutions, for they are improving—to make a few concessions to the growing want of fresh air? With their increasing means, several lecture-rooms might be provided, so that the students would not be obliged to breathe the same stifling atmosphere for two hours or more at a time. If the tradition in favor of ill-ventilated medical schools is too strong to be easily overcome, perhaps an alternation of miseries might render them more endurable. Even a dull lecture is enlivened by an occasional breath of the outer air.

A GRACEFUL CUSTOM.

Among the many time-honored observances of the Royal College of Surgeons, of London, is the Hunterian oration, a loving tribute which is regularly offered to the memory of the great man whose name it bears. While the college feels a pardonable pride in recalling the story of his life and achievements, the theme is one that never fails to awaken the interest of the medical profession throughout the world. Mr. Marshall's oration, published in a recent number of the "British Medical Journal," is an able exposition of the career of John Hunter—of the scope and suggestiveness, if we may be allowed the expression, of his work. It shows how readily we may infer the attitude which Hunter would have assumed toward the important scientific questions of the present day, since his active mind had already foreshadowed them. It is impossible for an American to feel all the enthusiasm which the name of Hunter awakens in the English breast, and yet we can appreciate it most thoroughly. We have no Hunter, as Dr. Jacobi said, in his inaugural address before the Academy of Medicine recently, neither have we a Virchow; and yet are there no names so august upon our memorial tablets that we can not occasionally recall them with pride?

It has sometimes seemed to us that, with all our iconoclastic ideas, it would be well if we had a Westminster Abbey in which to lay the pioneers of our profession, so that we might turn aside at times from the busy rush and remember those over whose graves we heedlessly walk. It would be no unworthy imitation if we, too, were to institute an annual memorial service dedicated to those whose names are becoming every year more shadowy, and whose contributions to science will soon be forgotten by younger generations, which appropriate their ideas, scarcely recognizing the source. It was a graceful and appropriate thing in the president of the Academy to name those of former years whom he had known and revered; but how rare are these reminiscences? The faces of the honored dead look down upon us from the walls of the Academy, but how soon their deeds will be forgotten! If "conservatism" is a tender and loving remembrance of the great and good who have gone before, if it is a reverence for old associations and memories, we approve of it, whether it appears in a cold and stately English dress or in the less precise garb of our younger civilization. Shall we not, instead of decently interring the memories of our distinguished predecessors under the set phrases of a single obituary notice, keep them ever alive by a constant and truthful recital of their deeds? It were meet for the Academy of Medicine to have its "Decoration Day," nor should the occasion be devoid of deep and touching interest. Not a few of us would be benefited mentally and morally by recalling the chivalrous traits of Sims or the broad and kindly charity of Wood.

MINOR PARAGRAPHS.

PRECISION IN MEDICAL NOMENCLATURE.

The recent inaugural address delivered by Mr. Bryant on assuming the presidency of the London Clinical Society, as reported in the "British Medical Journal," is a model in several respects. Although the speaker's remarks were directed against some of the prevailing errors among medical teachers, his criticism was so judicious and so temperate that offense can not have been taken. He inveighs principally against the want of precision in the use of scientific terms, a fault which not only introduces confusion into the discussions of learned bodies, but hopelessly perplexes the student. If, he asks, medical teachers are not sure of the exact meaning of certain expressions which they use, how can they expect to make these matters clear to their pupils? Even the classical terms "repair" and "inflammation" are "inextricably mixed," so that the student too often has the idea that these processes are identical. With regard to

the expression "antiseptic precautions," the most varied definitions are given, one surgeon speaking of antiseptic irrigation, and another of antiseptic dry dressings, while a third favors the spray. "Each one will apply it to his own system, and not to another, the former being in his own sight orthodox, and all others heterodox."

Upon the subject of "experimental surgery" Mr. Bryant displays a most commendable conservatism, while in his acknowledgment of the aid that the surgeon receives from the physician he shows a broad scientific spirit that does him honor. We have rarely met with an inaugural address that contained so much matter within such a limited space.

INJURIES BY DYNAMITE.

In the "British Medical Journal" for February 14th, Mr. Treves reports two cases of injury from the explosion of dynamite which are of great interest. After thoroughly analyzing the symptoms and the results of the physical examination, Mr. Treves concludes that some of the effects of these injuries are so striking as to warrant their assignment to a class by themselves. The nervous shock which follows the explosion, although somewhat similar to that of concussion resulting from a railway accident, is more general in character than the latter; as the writer aptly expresses it, the force is "diffused and finely divided." The entire nervous system seems to be suddenly overwhelmed by the violence of the explosion, as shown by the depressed action of the heart and the disturbance of the organs of sense. Such specific local effects as were observed, aside from bruising, seem to have been confined to the membrana tympani.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 24, 1885:

DISEASES.	Week ending Mar. 17.		Week ending Mar. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	4	0
Typhoid Fever	5	1	10	6
Scarlet Fever	85	14	97	14
Cerebro-spinal meningitis	8	8	7	7
Measles	147	22	138	21
Diphtheria	80	47	51	23

The Cartwright Prize.—Essays in competition for the prize must be handed in to some member of the committee on or before the 1st of April. The committee consists of R. W. Amidon, M. D., chairman, 18 West Twenty-first Street; Robert Abbe, M. D., 32 East Twentieth Street; and Walter Mendelson, M. D., 209 West Forty-sixth Street.

The Trade in Opium and Cinchona.—In his "Review of the Drug Trade of New York" for the year 1884, Mr. D. C. Robbins remarks that the importation of opium for purposes of morphine manufacture varies but little from year to year. Last year 264,746 pounds were imported, against 229,012 the year before. One circumstance mentioned by Mr. Robbins will go toward allaying to some extent the inference that has been drawn from the large total importation for the year 1883, that the vicious consumption of the drug was alarmingly on the increase among our people, and that is, that a great quantity was hurried in in order to escape the additional duty of $4 a pound which went into effect in July of that year. The author states that South American cinchona barks are deteriorating, while those of India are improving, and he does not look very hopefully upon the scheme of offsetting this state of things by increasing the cultivation of the trees in Bolivia, for labor is too expensive and too irregular in that country.

The Death of Dr. Joseph C. Snively, of Brooklyn, took place on Sunday, the 22d inst. Dr. Snively was a graduate of the Long Island College Hospital, in the class of 1867, and a member of the Medical Society of the County of Kings and of the New York Physicians' Mutual Aid Association.

A Spanish Diploma, which merely entitled the holder to practice as a chiropodist, was lately presented by the defense, says the "Union médicale," in the case of a man who, having been found guilty of the charge of practicing medicine illegally, was fined 1,000 f. and costs.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending March 21, 1885.*

Sawtelle, H. W., Surgeon. Detailed as chairman of Board for physical examination of officer of the Revenue Marine Service. March 17, 1885.

Armstrong, S. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. March 16, 1885.

Ames, R. P. M., Passed Assistant Surgeon. Detailed as recorder of Board for physical examination of officer of the Revenue Marine Service. March 17, 1885.

Society Meetings for the Coming Week:

Tuesday, *March 31st:* Boston Society of Medical Sciences (private).

Wednesday, *April 1st:* Medical Society of the County of Richmond, N. Y.; Penobscot County, Me., Medical Society (Bangor).

Thursday, *April 2d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Washington County, Vt., Medical Society.

Friday, *April 3d:* Practitioners' Society of New York (private).

Saturday, *April 4th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

POISONING WITH OIL OF TANSY.

Petersburg, Ind., *February 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: I was hastily summoned, January 1st, to Mrs. L. D., who, the messenger said, "had a fit," and was dying. Hastening to the patient, I found her unconscious, with her eyes staring, her pupils dilated, her pulse weak and almost imperceptible at the wrist, her breathing stertorous, labored, and spasmodic, with bloody froth at the mouth, and having convulsions lasting about three minutes, each beginning as a tonic and ending as a clonic convulsion. All the history I could obtain at the moment was that she had gone to bed at eleven o'clock, and that at about twelve she awoke her mother, with whom she was sleeping, by the violent motions into which the convulsions threw her.

Detecting a peculiar odor, and suspecting poison, I took up the pillow on which her head rested, which was wet with saliva, froth, and what the bystanders said she had vomited just before

my arrival. The strong and penetrating odor of oil of tansy was easily recognized at once, and I immediately gave the patient a hypodermic injection of a twelfth of a grain of apomorphine. In about five minutes she vomited, after which, in a short time, the breathing began to grow easier and the convulsions less violent. In about thirty minutes after she had vomited I administered *per os* thirty-five grains of chloral hydrate. The convulsions grew milder, the breathing easier, and the pulse stronger, until, at the end of an hour and a half, she was sleeping quietly. I left a mixture of chloral hydrate and bromide of potassium, with directions that it be given in doses containing fifteen grains each if any symptoms of convulsions re-appeared.

At seven o'clock the next morning I found that she had remained in a comatose condition during the remainder of the night, from which she could be roused with difficulty, but without a return of consciousness, until 6 A.M. By this time the bottle from which she had taken the poison had been found, and I discovered that she had swallowed a third of an ounce, or one hundred and sixty drops. Thinking herself pregnant, she had resorted to the drug to produce abortion. It afterward transpired that she was laboring under a mistake as to her condition. Whether it would have produced the desired effect, had she been *enceinte*, I can not say; but it is very much resorted to by women in this section of the country for that purpose. My patient had no further untoward symptoms, and in two days she was able to do her work as usual.

William H. Link, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 19, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Treatment of Patients in the Temples of Æsculapius.—Professor Merriam, of Columbia College, by special invitation, read a paper with this title. In his introductory remarks he said he thought we were too much inclined to judge of the views of the ancients concerning the means of healing the sick from the standpoint of the medicine of the nineteenth century, which, of course, was an injustice; nevertheless it was amusing now and then to read a passage in which it appeared that it pleased the ancient deity to cure the sick in a more than usually ridiculous manner. Certain facts concerning medicine from the sixth century B. C. down to the fifth century of the Christian era, already recorded in medical literature, were mentioned, but the author dealt chiefly with new discoveries made during excavations of the temples of Æsculapius at Athens, Epidaurus, and Cos. On one of the slabs recently unearthed was a long list of diseases said to have been cured by miraculous interposition, a complete translation of which was read. This belief in miracles in the cure of disease by the ancients of the Oriental countries existed among the inhabitants of the same countries at the present day, the difference being that the virgin and the saint had been substituted for the Temple of Æsculapius. There were some unbelievers then as there were also at the present time. Three hundred and twenty temples of Æsculapius were known to have existed in antiquity.

Dr. John C. Peters referred to the studies of ancient medicine by the late Dr. John Watson, and also by himself. He thought it had been shown that Hippocrates was not given to the tricks and deceptions practiced at the temples of Æsculapius. He referred to certain evil customs existing at present in Egypt and certain parts of Asia which were similar to those existing in the ancient temples of Æsculapius.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of March 16, 1885.

The President, Dr. Charles A. Leale, in the Chair.

The Causes of Still-birth.—Dr. John Shrady read a paper in which he referred to the difficulty of arriving at the facts because of incomplete or false statistics. Among the chief of the devitalizing causes was syphilis, and, in illustration of the different ways in which the disease affected the fœtus and the benefit to be derived from treatment, the details of several cases were given. From a consideration of the cases it appeared that the mother was more likely than the father to transmit syphilis to the progeny. There were certain other disturbances of the mother's health which might act as causes—such as malarial disease, uræmic poisoning, the eruptive fevers, inflammation of the vital organs, shock, etc. Of all these, uræmia seemed most dangerous to the fœtus as well as to the mother. Among the local causes was disease of the placenta, especially so-called fatty degeneration—a term often used because it offered the readiest explanation of many phenomena, or was adopted to conceal ignorance. It was a question whether fatty degeneration of the placenta was not the product of fœtal death. A certain amount of this change in the placenta, as well as in the uterus, might be seen toward the latter weeks of pregnancy, and did not necessarily indicate disease. Tuberculosis had been alleged by some and denied by others to be a cause of still-birth. Certain changes in the funis had been considered as a cause, also blows and falls, but many women who sustained blows and falls did not abort, and it might be that, in some cases in which such accidents had been asserted to have caused abortion, the real cause proceeded from an intention to produce miscarriage. He further mentioned prolapsus of the funis. The author then dwelt at greater length upon the reported post-mortem appearances of fœtuses born dead—such as changes in the heart, pleuritic adhesions, general fatty degeneration, suppuration of the thymus gland, meconium in the air-passages and stomach, atelectasis, umbilical hernia containing the liver and most of the intestine, etc. The condition of the brain had often been interesting, serous effusion, apoplectic clots, etc., having been found. Dr. Shrady purposely avoided a discussion of abnormal presentations, malformation of the pelvis or small pelvic diameters, in the discussion of the ætiology of still-births.

Dr. E. G. Janeway had seen cases of still-birth in which there had been hæmorrhage on the surface of the brain and into the brain, malformation of the heart, and other conditions alluded to by the author. One form of degeneration of the placenta which had not been mentioned, and which had come under his observation, was the myxomatous.

Dr. T. H. Manley thought the division of abortions into two classes, according to Churchill, the habitual and the accidental, a good one. He had found malaria a cause of abortion in New York, and had mentioned two cases in which large doses of quinine administered in this disease seemed to have a tendency to bring about expulsion of the fœtus. When administered in small doses, this drug had not such an effect. Regarding injury as a cause of abortion, he thought that many women voluntarily took too great exercise for the purpose of inducing miscarriage. He also referred to certain mental states as affecting the vitality of the fœtus and causing abortion.

Dr. Wood said, with regard to the effect of malaria and quinine upon pregnancy, that some years ago the physicians of

Sacramento, Cal., gave quinine in two-grain doses seven or eight times a day, thus avoiding any tendency to miscarriage. He had seen labor-pains excited by larger doses of quinine, but on diminishing the dose, while giving the same amount of the drug in the twenty-four hours, such effects upon the uterus were avoided.

Dr. MACGREGOR had seen no evil effects from quinine in pregnancy, although he had given it in doses of sixteen grains. He thought the larger doses were necessary in malarial affections, as smaller doses were eliminated from the system before influencing the symptoms.

Dr. MCLEOD had never hesitated to use quinine during pregnancy, and his opinion of its value was becoming strengthened rather than weakened by experience.

Dr. JANEWAY remarked that about two thirds of labors in this city were attended by midwives, and a large percentage of still-births was due to their incompetency and failure to call a physician sufficiently early in the case.

The PRESIDENT referred to a case in which the obesity of the mother made it necessary to induce premature labor, and he thought this condition might sometimes so interfere with the expulsion of the child at full term as to cause still-birth.

Dr. SHRADY closed the discussion.

A New and Simple Apparatus for the Determination of the Quantity of Urea in the Urine was shown by Dr. C. A. DOREMUS.

Peptic Perforating Ulcer of the Œsophagus.—Dr. JANEWAY presented specimens from the body of a child which, at the age of a year, had infantile paralysis; afterward whooping-cough, bronchitis, dysentery, pericarditis, and pleurisy on the left side. The point of interest in the case was the fact that at the autopsy a round perforating ulcer, about half an inch across, with beveled edges, was found on the left anterior wall of the œsophagus, about an inch from the stomach. It had doubtless occurred ante mortem, although some maintained that it could only occur post mortem.

A Rare Cause of Sudden Death.—Dr. JANEWAY also presented the lungs and trachea of a child, two years and a half of age, which died suddenly while walking with its father on the street. He was indebted for the specimen to Dr. Jenkins. A mass of glands existed behind the sternum on the right side, producing tracheal stenosis of moderate grade, and above the bifurcation of the trachea was an ulcer which had been the bed of a cheesy gland found loose in the trachea below, where it had acted as an obstruction to the entrance of air and thus caused death.

NEW YORK SURGICAL SOCIETY.

Meeting of March 10, 1885.

The President, Dr. ROBERT F. WEIR, in the Chair.

Carcinoma of the Tongue.—Dr. HENRY B. SANDS presented a man to show the result of an operation performed three weeks before for carcinoma of the tongue. The patient was fifty-eight years of age, formerly a colonel in the English army, of excellent constitution, and in robust health until six years ago, when he fell, and soon afterward had symptoms of spinal trouble, supposed to be locomotor ataxia. These consisted of shooting pains in the limbs, difficulty in passing the urine, and visual disturbances. Four years ago, the patient, who had been an immoderate smoker, noticed a crack on the left side of the tongue, near the tip, which afterward developed into an ulcer. Two years ago the ulcer began to extend rapidly, and some applications were made without arresting the progress of the disease. When Dr. Sands first saw the patient about a month ago, in consultation with Dr. R. A. Cauldwell, there was well-marked cancerous ulceration of the left side of the tongue. The disease extended from a point about three quarters of an inch behind the tip of the tongue on the left side, backward, to within an inch of the epiglottis. The ulceration did not extend beyond the median line, but hardened tissue could be felt beneath the surface on the right side. There was no enlargement of the submaxillary lymphatic glands. The man's general health seemed to be good, and, as he suffered from severe pain, profuse salivation, and difficulty in articulation and mastication, he was desirous that an operation should be performed. The result was very gratifying, and showed how quickly patients sometimes recovered from an operation usually regarded as formidable. The procedure followed in this case was the one which Dr. Sands believed to be best when the disease was confined to the tongue. Both lingual arteries were tied as a preliminary step; the tongue was then seized with a volsella and removed with a pair of scissors as far back as the epiglottis. The preliminary ligatures were applied to the lingual arteries in the usual way in the digastric triangle. On the left side a branch of the lingual artery was also tied—probably the dorsalis linguæ. The effect of tying these vessels was to render the operation nearly bloodless so far as the tongue itself was concerned. There was a little bleeding from small vessels at the floor of the mouth, but all oozing was pretty well checked by pressure within a short time after the operation. Iodoform gauze (Wölfler's), containing a little resin to make it adhere, was applied to the surface of the wound in the mouth. The wounds made for ligation of the lingual arteries were sutured except where a soluble drainage-tube was inserted, and healed by first intention. The patient was nourished by enemata during the first twenty-four hours, and was afterward fed through a stomach-tube introduced three times a day for a week. The mouth was irrigated every two hours during the day with a solution of permanganate of potassium, half a drachm to the quart. The temperature at no time rose above 99° F., and at the end of a week the external wounds were firmly united, and convalescence was established. At the present time, three weeks after the operation, the wound in the mouth was almost completely healed, the remaining granulating surface not exceeding half an inch in diameter. The patient was entirely relieved of pain and salivation, was able to swallow with ease, and, notwithstanding the loss of his tongue, could be understood in conversation.

Radical Cure of a Large Congenital Omental Hernia by Extirpation.—The PRESIDENT presented a man, aged thirty-three, from whom in May last he had removed a mass of omentum, weighing a pound and a half, which occupied the left side of the scrotum. The tumor had existed from early infancy, and its development had given rise to but little inconvenience. Its size, however, subjected the patient to great annoyance and mortification. Several years since an epididymitis from a urethral trouble occurred. With this a considerably acute hydrocele developed, and, as it was then thought that the hernia was of the usual variety, separate from the cavity of the tunica vaginalis, the scrotum was punctured and the fluid withdrawn. The relief was marked, and no reaction followed the operation. But it was evident, during the removal of the hernial mass last spring, that the trocar had invaded the sac of a congenital hernia. At the operation, under spray, in May, the ordinary longitudinal incision was made, and the omental mass was tied off in two sections close to the internal ring. One of the ligatures partially slipping, considerable hæmorrhage was threatened, but this was obviated by a firm grasp with the forceps and another ligature. After careful dissection from the cord, the peritoneal prolongation was tied *en masse* and divided, a drainage-tube was inserted, the wound was closed, and sublimate dressings were applied. The patient was about ten days

after the operation, and had no subsequent trouble whatever. As a precautionary measure, demanded by the companies in which he was insured, he for a time wore a truss. For some time, however, this had been abandoned. There was now no disposition to fresh protrusion and the parts were solidly closed. The hernial mass was the largest which the President had known to be removed in this manner.

The Descent of Femoral Hernia.—Dr. William S. Halsted then read a paper with this title. [It will be published in full hereafter.]

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of February 17, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

The Prevention of Opium Addiction, with special reference to the Value of Galvanism for the Relief of Neuralgic Pain, was the title of a paper read by Dr. J. B. Mattison.

In the discussion, Dr. Landon C. Gray remarked that the fact that galvanism was of extreme efficacy for the relief of pain was, as Dr. Mattison had said, well known. For all those who had been in the habit of using it the paper was of interest, because, to the mass of evidence that we already had in regard to the efficacy of the galvanic current for the relief of ordinary neuralgia, we could add the fact brought out by Dr. Mattison that it was also of value in the pain of opium habitués, and, to a certain extent, would take the place of opium for this purpose. So far as he knew, that was a new branch of the subject, and it was a source of gratification that Dr. Mattison had been able to bring forward cases to prove his proposition. The speaker was sorry that he could not say as much in regard to the directions as to the current. To speak indefinitely of "so many cells" would be equal to directing a man to go to a store and get an overcoat for the purpose of keeping out the cold, and not giving any specific directions as to the cloth, its quality, thickness, or quantity. There was just as much difference among cells as there was among cloths, and there were so many different kinds of cells used that it was impossible to speak accurately by saying that two or three or more cells were necessary, unless we specified the particular kind of cells, and he thought a larger experience would convince Dr. Mattison that he would be obliged to use a larger quantity of electricity than he had been using if he wished to relieve many cases of pain. The speaker's experience had been that when it was desired to relieve pain of a superficial nerve, a small current was necessary, whereas, if pain was seated in a deep nerve, a larger current would be required; for instance, pain in the sciatic nerve would call for a large amount of electricity to flood it. As a matter of fact, he had found that, in order to relieve the pain of sciatica, he was very apt to exhaust an ordinary battery in two or three days. Now, the great trouble encountered until recent times had been to get a battery which an ordinary practitioner could carry around with him. Gaiffe, of Paris, had made such a battery, containing chloride-of-silver cells, each little cell not larger than two fingers, and yet furnishing a constant current, and running muscle at a time. The difficulty with this battery, when made abroad, was that, if it was broken, it would be necessary to send it across the ocean for repairs. Within the last few weeks he had found in New York a manufacturer of a battery in which the cells were so small that thirty-two of them could be put into a very small space, so that it could be carried around with no greater trouble than an ordinary hand bag. Each one of these cells would furnish two hours' work a day for nine months without any necessity for replenishing, and at the end of this time the cells could be again put in order for about eight dollars. That was much less than the ordinary battery would cost. Now, two hours a day for nine months was more than most physicians would use a battery. Practically, this battery would last two years, and it would always be ready to work. Such a battery as that was destined to revolutionize the use of electricity by the general practitioner, because even those who were experts had been cursed with the batteries now on the market. With such an instrument, every practitioner could avail himself of the benefits of Dr. Mattison's studies in the relief of pain.

Dr. Freeman said the subject was of very great interest, and he was glad to have it brought before the society. The views expressed in the paper coincided very nearly with his own. There was no question but that galvanism was the best remedy we had in the larger proportion of cases of neuralgia. As to the passage of electricity through the head, he had known great trouble to follow such a procedure, and he had been careful of late not to pass the current directly from one side to the other through the head. If the general practitioner used electricity more frequently, the use of opium would be very greatly diminished. There was no question but that opium was becoming a bane to civilization. With all the good it did, it was doing so much evil that he was afraid to use it. When we had such an excellent substitute, it should be used. The faradaic current was of little use in ordinary neuralgia, but the galvanic current was in many cases a specific, or very nearly one, and in a very large proportion of cases he had found it so reliable that it had been almost the only remedy employed or needed.

Dr. Mattison, in reply to Dr. Gray, admitted the rather loose phraseology involved in the expression "two cells, four cells, etc.," but, unsatisfactory as it was, it could not well be avoided. De Watteville had said: "The usual method of prescribing a current of so many cells can not, unfortunately, be altogether eliminated from practice." Regarding Dr. Freeman's remarks about galvanizing the brain, it was, if using a strong current, somewhat ticklish business. Anstie had told of a case under his care in which the current had not been applied more than a few seconds when the patient fell to the floor and remained half unconscious for some time. With care to avoid too strong a current, the speaker thought there need be no solicitude. He had used it many times, but had never noted an unpleasant result.

The Eruptive Fevers in their Relation to Cerebral Tumor, and other Diseases of the Nervous System.—Dr. J. C. Shaw read a paper with this title. (It will be published hereafter.)

Dr. Gray thought that Dr. Shaw's observations upon the causation of cerebral tumors were certainly original. He had never heard of any other investigations in the same line. He was not prepared to discuss the paper in the light of clinical experience. He certainly had not observed the connection between cerebral tumors and measles, and he thought Dr. Shaw deserved great credit for his original research.

Dr. B. F. Westbrook would like to ask Dr. Shaw how, from a pathological standpoint, the idea would commend itself to his mind that tumors consequent upon measles—supposing measles to bear a causative relation to tumors—might be of the nature of strumous or scrofulous growths. It was a well-known fact that scrofulous growths followed measles when there was a scrofulous diathesis; and he thought that in one of the cases mentioned by the author there were tubercular appearances—as the tumor was said to contain giant cells and other tubercular features—such as masses of lymphatic tissue, etc. He would like to have the author's idea as to the tenability of the theory, or whether it would be worth considering at all.

Dr. Shaw replied that his idea was that in some way the irritating material of these fevers caused disturbance of the tissue surrounding the blood-vessels, and that this disturbance or irritation resulted in new formations. He could readily conceive that what we called tubercular tumors might be developed in consequence of this process, because we found tumors of this kind, and they were simply characterized by proliferation of cells; immense quantities of round cells were found around the blood-vessels in these tumors. He did not, of course, think that would alter his view of the case in any way. In one of the tumors that he had kept for further examination, he thought there were cells of that character—round cells similar to those that he had found in most tubercular tumors. He did not emphasize any particular form of growth, but maintained that a growth was set up by an irritation as above described.

Dr. Gray called attention to the fact that Dr. Shaw had given the results of two autopsies of his own and one other. He would like to ask him, therefore, whether in his own autopsies the blood-vessels outside the area of the tumor were examined; and, if so, whether the terminal arterioles running down from the surface of the cortex were examined, and the result. Were there any tubercular deposits on the vessels beyond the area of the tumors?

Dr. Shaw replied that the paper was largely suggestive, and the point to which Dr. Gray referred was not worked out. In the two cases alluded to he had not yet had an opportunity to examine the vessels at a great distance from the tumors. One of the cases did not appear to be one of true tubercle.

Dr. Gray said the question had arisen in his mind while Dr. Shaw was reading his paper. The first case, in which no autopsy followed, was spoken of as being one of choked disc. There was great swelling of the head. Now, it was well known that hydrocephalus might follow the exanthemata, and the question arose whether in cases of this kind there was not tubercular dropsy of the head. It was not infrequent to see children develop those semi-tuberculous dropsies in this way after an exanthem had run its course. The idea struck him that Dr. Shaw's case might be of a meningeal or tubercular nature, and perhaps all his cases were not of this nature, until his criticism was checked by the autopsies. Dr. Shaw was aware how difficult it was in children to make a differential diagnosis between brain disease and meningitis, because many of the symptoms in the two cases were the same, and, unless there was this retraction of the post-cervical muscles—as in meningitis—the diagnosis was difficult. The other symptoms were almost identical in the two diseases, so that some of the cases might be classed as meningitis.

Dr. Shaw said that was possible. He knew that sometimes there was great difficulty in the diagnosis of these cases, but the rather slow progress of the cases and the localized symptoms made it clear to his mind that it was a case of tumor. The first case was one of a great deal of interest, because it was one which he presented to the American Neurological Society in New York, under the head of "Ataxia in a Child." It was the subject of discussion as to what was the difficulty with the child. Dr. Miles, of Baltimore, took the ground that it was probably a tumor, and the subsequent progress of the case led Dr. Shaw to think that that opinion was undoubtedly correct. There was no tuberculosis in the family. He did not then recognize it as a tumor. He thought it was a case of sclerosis of the posterior column.

Dr. Sherwell thought that perhaps the author had proved too much, especially with regard to measles; but he did not see why measles should be followed any more than any other exanthem by such a tumor as had been described. When they were present it was, in his opinion, evidence of a dyscrasia or diathesis, either strumous, tubercular, or even venereal. He would like to hear the author's opinion upon this point.

Dr. Shaw replied that Dr. Sherwell seemed to think that the paper proved too much. He himself did not think he had proved anything. The paper was rather suggestive, as every one perhaps had noticed. It simply called attention to what appeared to him to be a factor in the ætiology of this condition. It did not follow that every child having measles must have a tumor. Dr. Sherwell maintained that these tumors were developed as the result of a dyscrasia; he (Dr. Shaw) maintained that they were due to some disturbance around the blood-vessels, and that this was an irritating disturbance. Of course, when we used the word "dyscrasia," we all knew that we did not know what we meant. No one could explain the term. It was a peculiar kind of condition. He did not think he could explain it any more than he had done. It was a fact that those who had seen tumors in children did not look out for their cause. In the past seven years he had found several cases of tumor following on measles. Tumor, he thought, might develop from any of these eruptive fevers. In almost all these cases there was a predisposition to nervous disturbance.

Dr. Sherwell asked why exanthematous diseases should more especially cause these tumors.

Dr. Shaw replied that he had emphasized the point taken because such had been his clinical experience. In conclusion, he thought the subject one really worth bringing forward. He had observed the fact for a number of years.

Reports on the Progress of Medicine.

OBSTETRICS AND GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

Hæmorrhage from the Umbilicus.—Fürth ("Arch. f. Kinderheilk.," v, 7, 8) remarks that this accident is so rare that in a service of four years at the Vienna Foundling Hospital, during which time fifty thousand infants were seen, it was met with only thirteen times. Vogel saw it once in ten thousand cases. Baginsky has seen it twice. Ritter reports one hundred and thirty-two cases, ninety-seven being uncomplicated, and the others complicated with hæmorrhage from other organs. Weiss observed it thirty-one times in one year, among seven hundred and forty-two infants at the Foundling Hospital in Prague. Grandidier has collected two hundred and two cases from all sources. Little can be said in regard to the causes of this accident. Some authors have suggested deficiency of fibrin in the blood, and others insecure ligation of the cord. Buhl affirms that the occurrence may accompany fatty degeneration. Other causes which have been mentioned are jaundice, hæmophilia, scorbutus, scrofula, syphilis, tuberculosis, and hydræmia, some of which may be peculiar to the mother. The blood exudes in drops from the end of the navel-stump, and it is difficult to determine the exact source whence it comes. Coughing or crying increases the flow, which is also more abundant in the early part of the morning. Colic, diarrhœa, cough, or other common disturbances may be associated with the bleeding. Most of the recorded cases have occurred between the fifth and tenth days from birth, and most of them have ended fatally. The bleeding may last an hour or two, or it may continue for days or weeks. As to treatment, if anything remains which should be ligated, ligation is, of course, the plan to be followed; otherwise pressure, the actual cautery, and various fluid hæmostatics may be used.

The Hygiene of the Mouth in the New-born.—Epstein (*Ibid.*) says that certain affections of the mouth which are peculiar to the earliest period of life can in most cases be avoided with proper care. They are simple erythema, catarrhal stomatitis, circumscribed necrosis of the edges of the palate, similar changes at other points in the oral mucous membrane, and thrush. In all of these diseases there is a catarrh of

the mucous membrane, and they may be considered, in general, as stomatitis. The catarrh may be caused by the irritating action of air, food, the act of swallowing, etc., upon a very sensitive surface. It may be simply a local phenomenon, a symptom of an affection which involves the entire intestinal tract, or an accompaniment of a general disease. With it may be associated a softening and destruction of the epithelium upon the postero-lateral portions of the hard palate, and this may develop into infiltration and necrosis of the mucous membrane throughout its entire thickness, in larger or smaller *aphthous* patches. Less frequently, the other portions of the hard palate, the soft palate, and the central portion of the dorsal surface of the tongue are affected. The disease may be without bad result, or it may lead to serious trouble of the entire organism. Pain, and interference with sucking, quickly tell upon a new-born infant, and there may result dyspepsia, gastro-enteritis, inflammation of the salivary glands and their ducts, nasal catarrh of a muco-purulent character, purulent inflammation of the middle ear, bronchitis, or lobular pneumonia. Locally, there may be ulceration or gangrene of the mucous membrane at various points, and this may be complicated by the formation of abscesses in the alveolar borders or on the floor of the mouth, deep ulcerations in the frænum of the tongue, purulent glossitis, retro-pharyngeal abscesses, and erysipelas. One of the most frequent causes of stomatitis is the mechanical irritation caused by habitual washing of a child's mouth, after each nursing, to remove the milk which has adhered to the mucous membrane. The epithelium is thus rubbed away from the mucous membrane, and hæmorrhage is excited in some cases. The true treatment of children with reference to troubles of this character is the prophylactic—abstaining from interference with the mouth until there is very good cause for attention. The success of this non-interfering plan was amply proved by the author in the Foundling Hospital at Prague in which those infants which were brought in from Breisky's clinic suffered scarcely at all from affections of the mouth, while among those which were brought in from the city at large, almost all were affected.

The Importance of Flexions and Displacements of the Uterus.—A paper by Graily Hewitt ("Lancet," June 7, 14, 21, 1884) is mainly a defence of the author's well-known views as to the very great importance of uterine displacements, and a criticism of the opposing views, especially those expressed by Vedeler, of Christiania, and Herman, of London. Vedeler's conclusion is that since the proportion of flexions and versions is nearly the same in diseased as in healthy women, the variety or change of shape and position is virtually of no particular consequence. The author meets this by stating Vedeler's distinction between a healthy and a diseased uterus, that being considered a healthy uterus in a given case in which no subjective or objective symptoms of disease are referable to it, while in case of a diseased uterus symptoms are evident which can be traced to the pelvic organs, or which point to organic changes. The absence of discoverable lesions is thought by Hewitt not to be, of necessity, an evidence of a perfectly healthy uterus, or to imply necessarily that the patient is *fanciful*, hysterical, or without any disease at all. The most important question in the consideration of this subject is concerning the "complaints" which are present in cases of uterine displacement, and their dependence upon uterine displacement. These "complaints" or symptoms, according to Hewitt's classification, are: (1) spontaneous pain; (2) pain produced by motion; (3) undue sensitiveness of the uterus to the touch; (4) leucorrhœa; (5) dysmenorrhœa; (6) menorrhagia; (7) amenorrhœa; (8) [in married women] uterine abortions; (9) reflex phenomena, including (*a*) nausea, (*b*) hysteria, (*c*) convulsions (*d*) cephalalgia, (*e*) melancholia; (10) bladder symptoms; (11) rectal symptoms; (12) dyspareunia. Vedeler evidently overlooked the fact of race and class distinction, the women upon whom his observations were made being of a very hardy race, and presumably of the working classes, with whom there is always less susceptibility to pain and inconvenience than among those who live more luxuriously. Thus a broad generalization such as he (Vedeler) made loses sight of a vital factor. Vedeler's conclusion is further criticised by the observation that it does not follow that a given variety of uterine flexion or version will always be attended with the same symptoms; indeed, it is readily conceded that in some cases no symptoms are present. As regards the presence of symptoms in the condition of anteflexion, Bandl's investigation shows that it is very often an abnormal condition, and might readily give rise to the unfavorable symptoms which have sometimes been attributed to it. Bandl observed that in cases in which the uterus was not anteflexed, and did not rest upon the bladder when the latter was empty, no complaint like those which it is believed are traceable to uterine flexion ever existed. Vedeler's table concerning the influence of flexions in producing dysmenorrhœa proves little for either side; for under the heading "all cases of flexion" it is shown that dysmenorrhœa was absent in sixty-four per cent. of a given series of cases, while it was present in seventy-six per cent. of the cases in a series half as large as the former one. In Herman's papers on the relation of dysmenorrhœa to flexions of the uterus, the ground is taken that flexion alone does not produce dysmenorrhœa. This statement is denied by Hewitt on the ground of personal experience, inasmuch as cases have been seen and treated by him for anteflexion, with emission of blood in clots or *gushes*, and severe pain, at the menstrual period; all of which symptoms have disappeared when the uterus was straightened. In some cases of anteflexion it is thought that the patients may feel better during menstruation than at other times, from the fact that the congested condition of the uterus tends, to a certain degree at least, to remedy the bending of the canal and thus permit free exit of the blood. In other cases, in which the uterine tissue is hard and unyielding, or, on the contrary, soft and flabby, it is thought that obstructive dysmenorrhœa would occur. The use of the cradle and stem pessaries is still approved by the author as proper in certain cases of anteflexion. Herman's statement that acute retroflexion may exist without any symptoms is denied, though it is not asserted by the author that *dysmenorrhœa* is necessarily present in such cases. Four propositions are enunciated by Hewitt which embody his belief with reference to the so-called mechanical system of uterine pathology, and they are as follows: 1. The uterus best performs its functions when its shape closely approximates to what has been termed the normal shape, and when it occupies its normal position in the pelvis. 2. Alterations to any material degree in the shape of the uterus are liable to give rise to complaints on the part of the patient, and may occasion severe symptoms. 3. These alterations, coupled, as they frequently are, with variations in the position of the uterus, are frequently associated with altered conditions of the tissues of the cervix or body of the uterus. 4. The symptoms of patients which present these conditions are relieved by adopting such measures as diminish the flexion and restore the uterus to its normal shape and position, and favorable tissue alterations are or may be effected by the same means.

Prolapse of the Pelvic Floor without Relative Displacement of the Uterus.—G. E. Herman ("Brit. Med. Jour.," July 12, 1884) observes that the chief difference between those who accept the "mechanical system of uterine pathology" and those who reject it consists in the fact that the former consider the bending of the uterus and correlative conditions as the most essential elements, and their rectification as the principal object in treatment, while the latter consider these conditions as, in most cases, unimportant. The object of the author's paper is to demonstrate that, though there may be yielding of the pelvic floor without any relative alteration in the position of the uterus, there can not be prolapse of that organ without some alteration in the pelvic diaphragm. The former statement is often sustained by the examination, in the lateral posture, of patients who complain vaguely of bearing-down pain, or of feeling that "the womb is coming down." Nothing abnormal is discovered at first, but when the patient makes a straining effort the perinæum is seen to bulge forward, which indicates a descent of the pelvic floor, and with it the uterus, though the mutual relations of both remain the same. To verify the statement, the author has made a large number of measurements, as well upon virgins, multiparous women, and others not presenting symptoms referable to prolapse, as upon those with whom the complaint of prolapse was made. These measurements followed the curve of the soft parts from the lower border of the symphysis pubis to the tip of the coccyx, or, when this was not appreciable, to the lowermost spine of the sacrum. The average of these measurements was four inches. The effort of straining increased this measurement by half an inch or less in the case of virgins, while with those who complained of prolapse it was sometimes increased by more than two inches. The increased measurement is especially noticeable soon after the completion of parturition, particularly if involution has

not taken place to a proper degree, but this is not a morbid condition among parturient women, unless it is prolonged beyond the time in which involution should be accomplished. It is also found among multiparæ of relaxed muscular tone. The symptoms are aching, dragging sensations in the back, hypogastrium, and thighs, and the left side is usually more troublesome than the right. The unpleasant feelings disappear when the patient lies down. If lying down does not relieve them, it is evident that the source of the trouble must be sought elsewhere. The pain is increased by exertion—e. g., by walking or defecation—and constipation is often an associated condition. Leucorrhœa and irritability of the bladder may also be present, and all the symptoms are apt to be more or less exaggerated during menstruation. As to treatment, vaginal pessaries are not indicated, for in these cases there is no prolapse of the vaginal wall. Support of the perinæum alone is required, and the means suggested for the accomplishment of this purpose is simply the firm and secure application of a napkin against the perinæum.

The Treatment of Extravasations of Blood behind the Uterus.—Zweifel ("Arch. f. Gynäk.," xxiii, 3) adds this paper to the contribution which he has already made to this subject. The basis of it was the case of a patient twenty-seven years of age who suffered for eight weeks with a retro-uterine hæmatoma, as large as the gravid uterus at the seventh month. At the end of this time, as the tumor had not diminished in size, operative procedures were adopted. The vagina was first disinfected, and the deepest and softest part of the tumor was carefully marked for the incision. The vaginal mucous membrane was then cut transversely, the edges of the wound were separated, and the connective tissue between the mucous membrane and the tumor was broken up with the finger. A fistula-knife, guarded by the finger, was then thrust into the tumor, after which, with Simpson's metrotome, the wound was enlarged to three fingers' breadth. After the loose clots were turned out of the cavity, the latter was thoroughly irrigated, and then, with the finger and the dull curette, as many more clots as could be easily separated were also removed. A rubber drainage-tube with a cross-piece was next introduced, and the cavity again thoroughly washed out. No severe reaction followed this procedure. Suitable irrigation with solutions of corrosive sublimate and carbolic acid was practiced at proper intervals. On the fifth day there was severe pain in the abdomen, together with vomiting, inability to sleep, and other unfavorable symptoms. Permanent irrigation was begun and continued ten hours. Iodoform in large quantities was then introduced into the cavity, from which detritus and clots came away from time to time. From the ninth day positive improvement began, and continued until recovery was established. This method of treating hæmatomata is more successful, less dangerous, and less difficult of performance, as shown by statistics, than the method by laparotomy which has been practiced and advocated by A. Martin, Düvelius, and others. It should therefore be preferred.

Infantile Leucorrhœa.—Descroizilles ("Arch. de tocol.," Aug., 1884) remarks upon the frequency with which a mucous or muco-purulent discharge from the genital organs of female children is found, sometimes even in new-born infants. This condition obtains most frequently among children five or six years of age, and less often in the second or third year of life. It is attributable to a variety of causes—want of cleanliness, habitual contact of urine or sebaceous matter, herpes, impetigo, and eczema; in other cases masturbation, pin-worms, rape, or attempted rape; likewise the action of certain general diseases, such as enteritis, diphtheritic affections, and the strumous diathesis. Conditions of alimentation, habitation, and clothing have an important bearing upon this disease, and the author has met with the greatest number of cases in the spring and early summer. The effect of this discharge upon the system at large is usually very slight, aside from the annoyance of its presence. Sometimes, however, one finds associated with it pains in the region of the sacrum or coccyx, general pallor, weakness, capricious appetite, and weak pulse. Pruritus is usually present in the parts which are bathed by the discharge, and this is sometimes intolerable. After this discharge has existed for a long time the mucous membrane of the vulva and the lower portion of the vagina becomes thickened and softened, its surface being eroded or ulcerated, and a unilateral or bilateral adenopathy may develop. The cutaneous surface contiguous to the external genitals may also participate in the pruritus, and also be the seat of a more or less intense inflammation. With very young children (of two years or under) the phenomena of the disease are apt to be less intense than with those who are older. The intensity is apt to increase as puberty is approached. In regard to treatment, the general condition should be made as favorable as possible by the use of vegetable tonics. Strict cleanliness of the affected parts must be insisted upon, and sulphur or alkaline baths are usually efficacious. In many cases it will not be possible to give vaginal douches, which is the most thorough and effective way to treat the condition, but irrigation can be freely practiced, an astringent action being sought for. Solutions of sulphate of zinc, acetate of lead, or nitrate of silver are appropriate for this purpose, and if the discharge has an offensive odor the irrigation may be made with a solution of permanganate of potassium. If ulcerations or erosions are present, the free use of the solid nitrate of silver is recommended. Of course, any co-existing disease, such as rheumatism, herpes, helminthiasis, etc., is to be treated. In many cases it will be found to be the source of the leucorrhœa.

Miscellany.

The New York State Medical Association.—The second special meeting of the Fifth District Branch will be held in Poughkeepsie on Tuesday, May 19th. The Secretary, Dr. E. H. Squibb, of No. 36 Doughty Street, Brooklyn, requests those Fellows of the Association who desire to contribute anything in the way of a paper, notes, or remarks on any subject of interest at the meeting, to kindly notify him as soon as convenient.

The Sanitary Council of the Mississippi Valley, at its recent meeting in New Orleans, ordered the following communication to be sent to the President of the United States:

"The Sanitary Council is gratified to learn that Congress has appropriated a sum of money to be placed in the hands of the President of the United States, to be used in his discretion, in aid of State and local boards of health in the event of an actual or threatened epidemic of cholera or yellow fever, in preventing the introduction and spread of the same, and in maintaining inspections and quarantine at points of danger. Asiatic cholera threatens an incursion into the United States in the near future, and realizing—in the interests of life, health, and commercial and industrial welfare—the vast importance of such preventive measures and adequate preparation for effective quarantine before the advent of foreign pestilences, so that they shall not come upon us defenseless and unprepared, the Sanitary Council respectfully and earnestly petitions the President of the United States to immediately convene the National Board of Health, and authorize its use of so much of the epidemic contingent fund as may be necessary for preparing and promptly enforcing a vigorous system of preventive measures in co-operation with, and in aid of, State and local health organizations with especial reference to Asiatic cholera."

A Sanitary Survey of the State of Illinois, embracing a house-to-house visitation, is now being made by the State Board of Health. From the elaborate documents that have been sent us, explanatory of the details of the survey, we have no doubt that it will be thorough and productive of great good.

City and Country Practitioners.—Commenting upon a suggestion made to the directors of the different hospitals, that the assistants should be cautioned against making disparaging remarks in public concerning the professional skill of their colleagues, the "Deutsche Medizinal-Zeitung" asks, very pertinently: "But how if the gentlemen in Berlin, the professors, privy councilors, assistants, specialists, and others, deliver their magisterial opinion with reference to patients who come or are sent to them from the country, with a lofty air, saying: 'What ass prescribed that for you?' or 'You certainly fell into clumsy hands.' Ah, my country friend, that is quite another story! (*Asinus col'egialitas!*)"

THERAPEUTICAL NOTES.

The Simaba Cedron as a Remedy for Hydrophobia.—Vaillant ("Therap. Gaz.") recommends a preparation made from the seeds of this South American tree as a remedy for hydrophobia. The active principle is a bitter crystalline substance, which dissolves in hot water to form a neutral solution. The writer professes to have cured with it two cases of hydrophobia that had already reached an advanced stage of convulsions.

Phenylhydrazine.—Hoppe-Seyler ("Ztschr. f. phys. Chem."; "Ctrlbl. f. d. ges. Therap.") has experimented with this substance and its salts, and finds that, when introduced into the stomach of rabbits, or injected beneath the skin, they cause a rapid decomposition of the red-blood corpuscles and a setting free of the coloring matter. Very small doses are fatal, their administration being followed by hæmaturia and other symptoms of profound hæmic disturbance.

Perosmic Acid in Sciatica.—Merces ("Lancet") has employed hypodermic injections of the acid in eighteen cases of sciatica, with complete success in twelve. From three to five drops of a one-per-cent. solution were injected deep in the region of the sciatic nerve, at a point midway between the tuber ischii and the trochanter major. The writer states that neither local nor general disturbance follows the injection. In some cases immediate relief was obtained after prolonged suffering.

Nitro-glycerin in Chronic Interstitial Nephritis.—Rossbach ("Berlin. klin. Woch."; "Ctrlbl. f. d. ges. Therap.") commends this remedy because of its favorable action in cases of contracted kidney attended with cardiac hypertrophy. He believes that many of the distressing symptoms of chronic interstitial nephritis are directly due to the increased blood pressure. Now, as nitro-glycerin has a direct tendency to lower this pressure, it follows that it is a most valuable drug in this disease. His method of preparation is as follows: Dissolve about a grain and two thirds of nitro-glycerin in six ounces of sulphuric ether, and then add two parts of powdered chocolate and one part of gum arabic. Allow the ether to evaporate, and add sufficient water to form a thick paste, which may be poured out into molds. Each troche will contain about a sixtieth of a grain of nitro-glycerin. The dose is from one one hundred and twentieth to one sixtieth of a grain every hour. The patient may complain of headache after the first few doses, but tolerance is soon secured.

Jaborandi in Obstinate Hiccough.—Pagenstecher ("Ctrlbl. f. d. ges. Therap."; "Bull. gén. de thérap.") reports a case of hiccough which had resisted every known remedy, including the bromides, morphine, chloroform, and electricity. The patient's diaphragm contracted in the most violent manner about twenty or thirty times a minute, and he had been unable to take any nourishment for three days. After receiving four grains of jaborandi-leaves, in the form of a decoction, he had a profuse perspiration, after which the hiccough was completely checked.

The Effect of the Cold-Water Coil.—Tzitovitch ("Ctrlbl. f. d. ges. Therap."; "London Med. Record") has studied the effects of the cold coil, when applied over the spine, in both healthy and sick persons, and his deductions are as follows: 1. No change of temperature, either local or general, follows the application. 2. The effects upon the circulation are very slight, there being sometimes a fall and again a rise in the blood pressure. A slight change in the frequency of the heart-beats and in their strength was noted while the coil was in place. 3. No change was noticed in the cutaneous electro-sensibility. The reflex is [illegible], were quite negative.

The Antiseptic Spray in the Treatment of Erysipelas and Burns.—Vergeot ("Bull. gén. de thérap.") exposes the affected parts to a spray of carbonic acid or hydrate of chloral (1 to 100) for several hours daily. In the interval, compresses soaked in a two per cent. solution of carbolic acid are applied. He recommends this treatment, not only on account of the antiseptic properties possessed by carbolic acid, but because of its anæsthetic effect. The histories of a large number of cases are detailed in none of which did any unpleasant symptoms follow the prolonged use of the spray. Only two of the patients died.

Antiseptic Silk and Catgut.—Roux ("Rev. méd. de la Suisse", "Ctrlbl. f. Gynäk.") gives the following brief directions for preparing antiseptic ligatures, which are divided into several different grades: 1. Raw catgut should be placed for eight days in pure oil of turpentine, then washed for a quarter of an hour in ether, and kept in absolute alcohol. 2. Immerse raw catgut for an hour in a two-per-cent. solution of corrosive sublimate, and then for eight days in turpentine. It should be kept in alcohol. 3. Dry silk for an hour in an oven, at a temperature of 180° F. 4. Boil the silk for an hour in a two-per-cent. solution of corrosive sublimate, wash in ether, and preserve in alcohol. 5. Immerse silk for eight days in a two-per-cent. sublimate solution, wash in ether, and keep in alcohol. 6. Soak the silk for eight days in oil of turpentine, wash in ether, and keep in alcohol. 7. Keep silk for eight days in the sublimate solution, then for eight days more in turpentine, and preserve as before. The writer states that the treatment with ether is for the purpose of extracting the excess of the antiseptic, so that the ligatures will not irritate the tissues. He has thoroughly tested all these ligatures by placing them in sterilized gelatin, and in no instance were micro-organisms observed. He says that No. 1 and No. 2 will be found most useful in surgical operations.

Iodoform.—Terrillon ("Semaine méd."; "Bull. gén. de thérap.") gives the following formula of a preparation which may be safely injected into goitres or enlarged glands:

Iodoform	15 grains;
Benzol	2 drachms;
Oil of wintergreen	2 drops;
Fluid cosmoline (*huile de vaseline*)	3 drachms.

The Adulteration of Iodoform.—Biel ("Pharm. Centralhalle;" "Dtsch. Med.-Ztg.") calls attention to the fact that iodoform is frequently adulterated with picric acid, a substance which is poisonous and tends to explode when triturated in a mortar. The latter is easily soluble in alcohol and ether, and has the same melting-point as iodoform, as well as its yellow color and crystalline structure, so that it readily eludes detection. The writer says that, if the suspected powder is suspended in water and then filtered, the filtrate should be perfectly clear if the iodoform was pure. If a solution of cyanide of potassium is added to it, a brownish-red color will appear if the slightest trace of picric acid is present, and within a few minutes a precipitate of a similar color will be deposited.

Tannate of Pelletierine.—Senator ("Berlin. klin. Woch."; "Dtsch. Med.-Ztg.") refers to this salt of an alkaloid obtained from the root of the pomegranate as a valuable tæniacide, although an expensive drug. Its use is followed by fewer general disturbances than that of any other vermifuge. The dose is about twenty grains.

Hydrocotyle Asiatica.—It is well known that this plant is held in high esteem in India as a remedy for various skin diseases. According to the "Lancet," the powdered leaves are administered in doses of ten grains three times a day. It may be incorporated in an ointment or applied to ulcers in the form of a poultice. Insufflations of the powder are highly recommended in the treatment of ozæna.

Mercury in Typhoid Fever.—Kalb ("Berlin. klin. Woch."; "Dtsch. Med.-Ztg.") has employed this method of treatment in upward of a hundred cases, and eighty per cent. of the patients were entirely free from fever at the end of ten days. A drachm and a half of the ointment is to be rubbed into the skin of the abdomen and the inner side of the thighs every day for seven days. At the same time the patient is to take eight grains of calomel and a grain of opium every six hours, and a considerable amount of alcohol. The writer states that the temperature falls rapidly at first, then rises to its former level, and there remains steady until the eighth day, when it falls to normal. He says that he has never seen a case of salivation.

A Pill for Scarlatinal Nephritis.—Bouloumié ("Union méd.") gives the following formula:

Gallic acid, Extract of thatany,	each	½ grain;
Boiled turpentine (oil of turpentine that has been kept in a dish of boiling water until it has become thick), Gurjun balsam,	each,	1½ grain.

From six to eight pills are to be given daily

Original Communications.

FIFTY CASES OF ABDOMINAL SECTION;

WITH REMARKS ON LAPAROTOMY.

By JAMES B. HUNTER, M. D.,

SURGEON TO THE WOMAN'S HOSPITAL; PROFESSOR OF GYNÆCOLOGY IN THE NEW YORK POLYCLINIC, ETC.

In reporting a series of fifty cases of abdominal section, I have added some remarks to such of the cases as seemed of special interest. My opinion on certain points in laparotomy is not based on these cases alone, as I have had the opportunity of witnessing about seven hundred operations of the kind, beginning with those of I. Baker Brown in 1866. In a large number of these cases I have acted as assistant, and have also had the subsequent care of the patients. In many others such notes have been made as were suggested at the time.

It is well to make a rule, in all cases of abdominal disease, to submit the patient to a thorough examination as to diseases of the other organs before deciding upon any operation. It is especially important that the urine should be carefully examined, more than once, and the condition of the heart and lungs investigated.

The Incision.—It is always best, except in cases of large, solid tumors, to begin with a small incision. An incision three inches in length is quite sufficient for diagnostic purposes, and for the removal of many large cystic tumors. It is easy to enlarge the incision, and in case that is not necessary there is greater certainty of obtaining good union of the abdominal walls.

The Spray and Antiseptics.—I consider the use of the carbolized spray invaluable in the operating-room. It should be very fine, and allowed to fill the room for at least an hour before the operation, the apparatus being placed high. During the operation it should be directed away from the patient, and on no account be allowed to play directly upon the exposed abdominal viscera. Coarse spray thus directed will rapidly cool the surfaces that should be kept warm, and thus, if not by the poisonous effect of the carbolic acid, add greatly to the danger of shock. The spray is especially valuable when spectators are present, as constituting a sort of veil between them and the patient. The water used for the spray, as well as that used for sponges, instruments, irrigation, etc., in all abdominal operations, should be water that has been boiled, and, if possible, water that has been heated above the boiling point. A microscopic examination of the sediment from the water ordinarily used for washing purposes will demonstrate the necessity for this precaution. The use of a small quantity of some antiseptic, while a large quantity of impure water is allowed, is a good instance of straining at a gnat and swallowing a camel. The ideal antiseptic environment is very hard to obtain. It requires perpetual vigilance, even in the best regulated hospitals, to secure satisfactory antiseptic conditions; and in private practice, with strange or indifferent nurses, it is next to impossible, even where expense is not regarded. In fact, the proper use of antiseptics is much more a matter of faith than of expense, and, without the cordial co-operation of all concerned, there will pretty surely be some vulnerable points. These may often be covered by the judicious use of the spray, which, with certain precautions, can not possibly do any harm. I now believe carbolic acid fully as efficient an antiseptic as the bichloride, while it is free from the dangers and inconveniences attending the use of the latter. The bichloride can not be used for the instruments, and the use of two solutions is a source of perplexity to assistants and nurses. The result is often that neither one is employed thoroughly.

Illumination.—The small, portable electric light now to be obtained will be found of great practical utility in searching for deep-seated bleeding-points during a difficult operation.

Drainage-Tubes.—There is room for the exercise of much judgment in the use of drainage-tubes. If there is danger of hæmorrhage, a small, straight glass tube left in the lower angle of the wound gives a valuable indication of what is going on within. The tube may be examined from time to time with a syringe, or with a little absorbent cotton on a probe. If there is no bleeding, the tube may be removed within a few hours, and the wound closed. If there is evidence of oozing, the tube affords a means of removing the blood or serum. A little blood is often disposed of by the peritonæum without difficulty, but sometimes a very small quantity is sufficient to give rise to septicæmia. The danger of leaving a small tube in the wound, provided it is lightly closed and well covered with an antiseptic dressing, is very slight. Where there have been extensive adhesions separated, or where any portion of a cyst remains, or where there is a very large pedicle, the use of a drainage-tube is advisable. The best tubes are those made of glass, of small caliber, perfectly straight, and having no openings at the side. In adjusting these tubes in the wound all the sutures that will be necessary for the final closing of the wound should be passed while the patient is under ether, and the ends left long, so that, on the removal of the tube, the wound may be closed without pain or disturbance.

Closing the Abdominal Wound.—Sufficient attention has not been given to the very important matter of securing a firm abdominal wall. Sometimes the edges of the wound are not brought together exactly, and therefore fail to unite perfectly. Sometimes an abscess forms in the site of the wound, rendering the subsequent union slight and liable to yield to pressure. For over three years past I have made a practice of closing the peritonæum separately, with a continuous catgut suture, using what is known as the "buttonhole" stitch. Before closing the peritonæum, one, two, or three silver-wire sutures, according to the length of the wound, are passed directly through the abdominal wall, including the peritonæum. These sutures are left loose until the others are introduced. The rest of the sutures are of silk, thoroughly carbolized, and are carried through every

thing but the peritonæum. Where a drainage-tube is used, the peritonæum is closed with catgut up to the tube. Since adopting this method of closing the wound, I have rarely seen abscesses or imperfect union.

Refrigeration.—The use of refrigeration, generally by the rubber coil, in incipient peritonitis, is of inestimable value. Where peritonitis is fully developed, it is still efficient. In cases of septicæmia the abstraction of heat does not necessarily benefit the patient. The temperature may be kept down to the normal point in such cases, and yet they may go on to a fatal termination.

Case I.—This patient was operated upon in a tenement-house, with very unfavorable surroundings and at the worst season of the year. She had been tapped several times before the operation, and the peritonæum had a peculiar granular appearance, indicative of previous inflammation. A large quantity (about ten quarts) of ascitic fluid had been removed three weeks before the operation. The abdomen was again distended with it when it was opened. Sixteen days after the operation it was again necessary to use the aspirator, and twelve quarts of fluid were removed. There was no further accumulation, and the patient made a slow but satisfactory recovery. She was well two years afterward, and there had been no return of the dropsy.

Case II.—The diagnosis of a tense ovarian tumor was made in this case, as a globular mass, freely movable, was felt, having no apparent connection with the uterus. This proved to be a true fibroid tumor, attached to the fundus of the uterus by a pedicle about half an inch in diameter. The tumor was removed, and the pedicle secured in the wound by a clamp. Both ovaries appeared to be in normal condition, and were not interfered with. The patient made a good recovery, and has since borne two healthy children. The tumor weighed a little over two pounds.

Case III.—This patient was operated upon in a cabin in the Catskill Mountains, near Ashland, and was under the care of Dr. W. H. Meade. No antiseptics were employed. The condition of the opposite ovary was not normal, and the question of removing it was considered. After some hesitation it was decided to let it remain. This decision has been a matter of congratulation, as the woman has borne several healthy children since the operation.

Case IV.—In this case, also one of ovarian tumor, there was some doubt as to the condition of the opposite ovary, but it was decided not to remove it. The patient became pregnant, and nine months after the operation was delivered of a healthy child at full term.

It is often a serious question whether the opposite ovary, though not apparently normal, is sufficiently diseased to warrant its removal. If the patient is not past the child-bearing age, the opposite ovary and tube should be very carefully examined, and removed only if there is evidence of disease. In many cases of ovarian tumor the opposite ovary has an apparent tendency to cystic disease. It is a misfortune to remove a healthy ovary, and it is equally a misfortune to allow one that is diseased to remain, and thus place the woman in peril of a second operation.

Case VIII.—This patient was examined on Saturday, March 29th, and directions were given that she should be prepared for an operation on the following Monday. At the time appointed she was etherized and placed upon the table, when it was found that the tumor had entirely disappeared. The change was due to a rupture of the sac, and the operation was postponed. One month later the sac had refilled, and the usual operation for its removal was performed. A quantity of ovarian fluid was found in the abdominal cavity, but the sac was full and tense. The point of rupture could be distinctly seen on careful examination, but it had closed firmly. No disturbance followed the rupture of the sac. The patient was kept in bed a few days, but had no symptoms of peritonitis. The contents of the sac were straw-colored and viscid.

This case illustrates the fact that the fluid contained in an ovarian cyst is not necessarily irritating to the peritonæum. When this case was reported to the Obstetrical Society, several others were cited in which the peritonæum had tolerated the presence of ovarian fluid. I have several times seen the abdominal cavity bathed in fluid from ovarian cysts ruptured during operations, without any bad consequences afterward.

Case IX.—A multilocular cyst, weighing twenty pounds and a half, was removed from the left side. Adhesions were very firm to the abdominal walls and omentum, but were separated after much hæmorrhage. The right ovary showed several small peripheral cysts, but it was decided that it was not sufficiently diseased to justify its removal. (See Case XIX.)

Case X.—In this case a multilocular cyst weighing thirty-five pounds was found on the right side. The fluid was for the most part dark and thin, and flowed freely through the cannula. As there were no adhesions, the collapsed sac was removed through an opening two inches and a half long. The left ovary was normal, and therefore was not interfered with. The tumor had been noticed eleven years before the operation, and had been steadily growing. It had caused no pain. The patient, having a dread of ether, was rendered unconscious by nitrous-oxide gas before ether was administered. By this means, which I have frequently employed, but which is too cumbersome and expensive for general use, the after-vomiting and nausea are almost entirely avoided, and the quantity of ether consumed is comparatively small.

Case XI.—The tumor in this case had crowded the uterus forward and was firmly adherent to the posterior surface of the uterus, to the intestines, and to the abdominal parietes. It was found impossible to enucleate or to detach more than a small portion of the upper part of the cyst. Having punctured and emptied the cyst, an effort was made, by passing the hand into it, to detach it still further, but without success. About one third of the sac was drawn out and excised, and the margin attached by silver-wire sutures to the abdominal wound, which was then brought together, except at the lower angle, where space was left for the insertion of a drainage-tube. Thomas's hard-rubber double tube was used. It reached to the bottom of the empty cyst. The dressings were applied over the drainage-tube, and, without disturbing them, the cavity of the sac was washed out every three hours with a five-per-cent. warm carbolic solution, by means of a Davidson's syringe connecting with one arm of the drainage-tube. From the other arm a tube conveyed the water to a vessel beneath the bed. The sac rapidly contracted, and at the end of the third day a smaller drainage-tube was required. By the twelfth day the cavity was almost closed. A small sinus remained when the patient was discharged. Eighteen months later the patient was examined, and a sinus that would barely admit a small silver probe to the depth of three inches was found to occupy the site of the tumor. A drop or two of serous fluid could be squeezed out once a day, but the patient was in perfect health, and suffered but slight inconvenience from it. The patient was married in the summer of 1881.

Case XII.—In this case the right ovary, which was cystic, was removed. There were very firm adhesions. Ten hours after the operation the patient showed signs of hæmorrhage, and the wound was opened. Bleeding was found to have occurred from the torn adhesions behind the uterus, and from a point below the ligature which secured the pedicle. The latter point was secured by ligature, and there was no further hæmorrhage, but the patient died from exhaustion a few hours later.

I have been very careful since this case to make as little traction as possible in raising the ovary for the purpose of securing the pedicle, and to avoid the use of a ligature twisted too tightly, as I have on several occasions known hæmorrhage to occur below the ligature, though the ligature had been perfectly secure.

For the discovery of bleeding points from torn adhesions deep in the pelvic cavity, I have found a large cylindrical speculum sometimes useful. Bleeding points which can not be tied may be touched with Paquelin's cautery. Firm pressure made by a sponge nearly dry will sometimes suffice to check oozing.

Case XIII.—Both ovaries and tubes were removed for the relief of dysmenorrhœa so severe as to incapacitate the patient from doing any work. Both ovaries were large and cystic. The patient reported, November 9, 1883, that she was cured of her dysmenorrhœa, but was suffering from threatened ventral hernia consequent upon imperfect closure of the wound in the abdominal wall. With a broad truss, however, she was able to attend to household duties, and was comfortable.

Case XIV.—There was much doubt about the diagnosis of this case, which was pronounced by several who examined it to be one of fibroid tumor of the uterus or of fibro-cyst. The usual incision in the abdominal wall exposed a double ovarian tumor. The tumors were firmly adherent to each other and to the uterus, which lay concealed between them. The right cyst was enucleated and the capsule tied. It was found impossible to enucleate the left cyst or to detach more than half of it. The upper portion was cut off, and the lower portion, which was very thick, was tied in five sections with strong silk and afterward attached to the edges of the abdominal wound, so as to shut off the abdominal cavity from that of the cyst. A glass drainage-tube was used, and the sac washed out every three hours with warm carbolized water. The wound filled up rapidly, and was entirely closed before the patient was discharged. The patient has reported frequently, and has remained perfectly well.

Case XV.—This patient had been under observation for a year before she entered the hospital, and had been repeatedly seen and treated during her menstrual period, when she suffered unmistakable agony. Her pains began several days before menstruation, and were referred by her to the right side. She had tried all the usual remedies, and at the last obtained partial relief from large doses of morphine. She had gradually given up all household duties, and was practically bedridden. The right ovary and tube were found to be much diseased and firmly adherent to the uterus. After much difficulty they were removed. The left ovary was also adherent, but was apparently free from disease. After a slight attack of peritonitis the patient made a good recovery, and for six months afterward was entirely free from dysmenorrhœa, able to go about and do her work, and considered herself as well as ever. After that time dysmenorrhœa returned gradually, increasing in severity each month, the pain being referred distinctly to the *left* side. She was exceedingly anxious to have another operation performed. Examination revealed what appeared to be a cystic ovary and a large tube on the left side. An exploratory incision was made, but it was found impossible to detach the ovary, which was enlarged and very firmly bound down together with the retroverted uterus. Some adhesions behind the uterus were separated, so that it could be raised partially into place, but the attempt to remove the ovary was abandoned. The patient made a good recovery.

Case XVII.—The tumor was found on the left side, with no pedicle, but firmly attached to the uterus, pelvic wall, and a portion of the intestines. With great difficulty it was enucleated, and the capsule divided into two portions and ligated separately. The broader portion was separated, with much risk, from the intestines. A smaller tumor of the right ovary was then discovered, also firmly adherent to the uterus and the pelvic wall. This was treated in the same manner. The bleeding points were tied, or touched with the actual cautery. A glass drainage-tube was left in the wound, but there was no subsequent hæmorrhage or discharge. The mass remaining after the enucleation of the tumor on the left side was remarkably thick and vascular. The patient died of septic peritonitis on the eighth day.

It would probably have been better in this case to treat the sac as in Case XI and not attempt to remove the entire tumor, but the peculiarities of the case could not be discovered until the operation had proceeded too far to admit of treating the cyst by drainage alone.

Case XIX.—This patient (see No. IX) was first operated upon April 11, 1881. An ovarian tumor, weighing twenty and one half pounds, was at that time removed from the left side. April 2, 1883, a tumor of about the same size was found on the right side, and removed. There were firm and extensive adhesions, but no troublesome hæmorrhage followed their separation. On cutting through the abdominal wall on the right side of the old wound, a cavity was entered, directly beneath the skin, communicating by an opening half an inch in diameter with the peritoneal cavity. This was doubtless the result of an imperfect closure of the abdominal walls after the operation, and the formation of an abscess, of which, however, there was no external sign. The abdominal wound was closed the last time in such a manner as to obliterate the cavity, and a firm union was the result.

Case XX.—There was found, on opening the abdominal cavity, evidence of extensive peritonitis and some ascitic fluid. There were two distinct multilocular ovarian cysts. The peritonæum was thickened and leathery, and studded with small granules. There was on the right side a tumor weighing fourteen pounds, and on the left side one weighing six pounds. There were few adhesions, but the pedicles were short and it was necessary to tie close to the uterus. There was much distress from tympanites on the second and third day, and, as there was some obstruction to the passage of a bougie or rectal tube and the condition of the patient was becoming desperate, the patient was given chloroform and the abdominal wound opened. A firm stricture was found in the rectum near its junction with the colon. By holding the rectum in the fingers at the point of obstruction, a small rectal tube was passed without much difficulty, allowing the escape of a large quantity of gas. The patient died of peritonitis and exhaustion on the ninth day.

This case was an exceedingly interesting one in many respects. In addition to the ascitic fluid there were five distinct varieties of ovarian fluid obtained by puncturing the various cysts. The extensive peritonitis that was found to exist had been accompanied by a very moderate rise in temperature. The stricture of the rectum was caused by contracting bands of lymph, and was a most perplexing feature. Besides peritonitis, there was found colloid degeneration of the omentum.

Case XXI.—The operation in this case was done for the relief of a very severe and persistent form of dysmenorrhœa. Both ovaries were cystic and there was double hydrosalpinx. There were no adhesions, and the operation was simple and satisfactory in every respect. Two small sponges only were passed into the abdominal cavity. The pedicles were tied with silk, which had been thoroughly prepared. Antiseptic precautions were observed carefully in every detail. The patient nevertheless developed peritonitis, which was uncontrolled by the most active measures, including the cold coil, and died on the ninth day.

Case XXII.—This patient had suffered so much pain for years that her friends believed her to be verging on insanity. Both ovaries were found to be large and cystic, and the tubes distended with pus. An abscess formed in the abdominal wound and was progressing favorably, when the patient herself removed all the dressings, disturbing the line of union. A few days later she did the same thing again, and left the hospital without permission. She had in consequence a very imperfect union. She has been seen several times since, and has now a large ventral hernia. Two days after the operation, in consequence of a rise in temperature, the patient was placed upon Kibbee's cot and kept there until the temperature had fallen. Since the operation the patient has been free from her old pains, and has enjoyed fair health.

Case XXIV.—This patient had suffered for eight years from severe dysmenorrhœa. She was confined to her bed several days each month. The periods were irregular, and menstruation latterly had lasted from ten to fifteen days. She had tried faithfully the various remedies, including galvanism, but was gradually growing worse. An examination under ether resulted in a diagnosis of left salpingitis and an enlarged ovary on the same side.

She was not at any time in the month able to walk well, and even a short walk was followed by severe pain, which compelled her to lie down for several hours. Tait's operation was performed in the usual manner. Both Fallopian tubes were enlarged and occluded; that on the right side was distended with pus. Both ovaries were cystic, the left one being of about twice the usual size. The patient recovered without a single bad symptom, and has reported regularly every three months since her discharge. At the end of a year she wrote that she was then entirely free from all her old pains, that she had not menstruated since the operation, that she was able to do more work than she had done for the last eight years, and that she had never been better in her life.

Case XXV.—In this case there was found a double ovarian tumor, having but a single pedicle, which was on the left side. The mass as it appeared before evacuating the contents of the cysts was like an hour-glass in shape, and attached to the central portion was a pedicle, not larger than the little finger, at the junction of the cysts. There were firm and extensive adhesions to the omentum and to the abdominal parietes, and much blood was lost during the operation from the separation of these adhesions.

Case XXVI.—This case was very difficult of diagnosis. The sound could not be passed more than two inches into the uterus. A large globular tumor was felt above the pubes, but, as opinion varied as to the nature of the tumor, it was decided to make an exploratory incision. On cutting through the abdominal walls a vascular tumor appeared, which proved to be the uterus. An elastic ligature was thrown around as near as possible to the cervix, and the uterus was then laid open, exposing a fibroid tumor attached to the entire cavity, and with especial firmness near the cervix. The attachments were separated with some difficulty, and a mass weighing two pounds was removed. The attachment of the tumor to the uterus on all sides had prevented the passage of the sound, and thus obscured the diagnosis. After the removal of the tumor, it was thought safer to remove the uterus than to attempt to close a long incision in an abnormally vascular organ. A large clamp was applied so as to include as much as possible of the cervix, everything above the clamp was then removed, and the wound closed up to the pedicle, to which the actual cautery was applied. There was very little hæmorrhage throughout the operation. The clamp was removed at the end of the first week. One week later the remainder of the cervix sloughed away entirely, leaving a free opening from the abdominal wound to the vagina. Warm carbolized water was passed through this wound several times every day. The canal gradually diminished in size, and was closed entirely seven weeks after the operation, merely a depression remaining. The patient was discharged March 3d perfectly well. She reported for examination a year later, when there was very little trace of the operation beyond the usual scar. She had been actively engaged in household duties.

It would have been next to impossible, even had the exact condition of the uterus been known, to remove so large a tumor by means of the vagina. The woman was unmarried, and the vagina and cervix were very small. The difficulty and danger of forcible dilatation, and the removal of the mass piece-meal, would have been very great.

Case XXVII.—An ovarian tumor weighing thirteen pounds was removed from the right side. On the left side the ovary was cystic, and the tube was distended, almost to the point of bursting, with what had the appearance and consistency of black paint. This, with the left ovary, was removed. There was also a fibroid tumor as large as a walnut attached, by a short, broad pedicle, to the fundus of the uterus. The pedicle was transfixed and tied, and the mass removed. This patient had suffered much more pain than is usual during the development of an ovarian tumor, and was much emaciated. She entirely regained her health.

Case XXVIII.—This patient had suffered for some years from severe dysmenorrhœa, and had all the symptoms of salpingitis. She was practically confined to the house, suffered constantly with nausea, was becoming rapidly emaciated, and was in danger of resorting habitually to the use of morphine. Both ovaries and tubes were found to be diseased and were removed. The left ovary was of about twice the normal size. Two thirds of its substance consisted of a dermoid cyst. The patient has been free from severe pain since the operation, but has not yet entirely recovered her health. She has menstruated several times.

Case XXIX.—Two semi-solid ovarian tumors were removed, involving both ovaries, and firmly adherent to the abdominal parietes. A papillomatous growth was found attached to one tumor. The patient had suffered much pain, had become emaciated, and there was ascitic fluid in the abdominal cavity. The tumor on the right side extended up to the liver. There were evidences of old peritonitis, and many adhesions to the intestines. The patient died of shock ten hours after the operation. Post-mortem examination showed granular kidneys.

Case XXX.—This patient had, for two weeks before the operation, a temperature varying from 100° to 104°, and was in very bad condition. The operation was done as early as possible. On opening the abdomen, there were found two very tense ovarian cysts, containing what had the appearance and odor of fœtid pus. One cyst was so firmly attached that it was impossible to remove the whole of it. It was evacuated and thoroughly washed out. The upper third was excised, and the

edges of the cyst fastened in the abdominal walls, a double drainage-tube being placed in the remainder of the sac. Both cysts included the tubes, and were tubo-ovarian cysts. Twelve hours after the operation the temperature in the vagina was 107·5°, and the pulse strong and very rapid. The patient died the following day. There can be very little doubt that her life would have been saved by an operation done earlier, but it was not practicable.

Case XXXI.—A large ovarian tumor was exposed, very firmly attached on all sides. After carefully enucleating the upper half of the tumor, the lower half was found to be free from attachment, so that the sac was inverted and a thick, broad pedicle formed of the remains of the sac and its capsule. The operation lasted one hour and fifty minutes, but there was not much hæmorrhage. The actual cautery was applied to the cut surfaces. No drainage-tube was used. The patient made an unusually good recovery.

Case XXXIII.—This patient had suffered for two years from an intolerable dysmenorrhœa. The pain was most severe three or four days before the flow, which was scanty and irregular. One year before the operation she was carefully examined under ether, and the diagnosis made of a large, prolapsed ovary, with retroversion of the uterus. Treatment by packing with cotton, by pessaries, and by rest was tried very thoroughly, for many months, but her condition grew gradually worse, and the operation alone promised relief.

The patient has menstruated several times since the operation, though both ovaries and tubes were entirely removed. The right ovary was large and cystic, and the tube distended with fluid (hydrosalpinx); the left ovary was also cystic and large, but the tube was apparently normal. Six months after the operation the patient began to suffer with severe headache each time when menstruation should have occurred. As this headache was very intense, and apparently congestive, venesection was advised, and about ten ounces of blood were removed, resulting in complete relief for that time, and for two subsequent periods. The patient has not reported since.

Case XXXV.—Increasing hæmorrhage and pain rendered an operation of some kind imperative in this case. It was proposed at first to remove the ovaries alone, but they were found so firmly adherent to the fibroid tumor that it was impossible to separate them with safety, the surface of the tumor being covered with large vessels. The whole mass was forcibly raised, and an elastic ligature passed around the cervix and secured. The cervix was then transfixed and tied in two portions with silk, the surface seared with the actual cautery, and the stump dropped back. The abdominal wound was closed entirely, and the patient recovered without any bad symptoms.

Case XXXVI.—This patient had been perfectly well until within a year of the time she applied for relief. She had no suspicion of the existence of a tumor, and was distressed only by a tendency of the uterus to come down, as it had never done before. On examination, the cervix was found at the vulva, and a large ovarian tumor was discovered. The patient had suffered no pain whatever. The tumor weighed twenty pounds.

Case XXXVII.—This patient was unaware of the existence of a tumor, and had not noticed any enlargement, but had suffered almost constant severe pain for six months. A dermoid cyst was found on the right side, and a large cystic ovary on the left.

Case XXXVIII.—This patient was delivered of a healthy child four weeks before the operation. Her enormous size during pregnancy attracted attention, and she was apparently very little smaller after delivery. The tumor, which weighed over seventy pounds, contained many small cysts with semi-solid contents. The only peculiarity in the case was that so large a tumor should have co-existed with a normal pregnancy. The patient recovered without a single bad symptom.

Case XXXIX.—The pain and weight of the tumor in this case, both constantly increasing, rendered some interference necessary. A fibroid cystic tumor was found, and the enlargement of the uterus was such that the cervix was almost obliterated. An elastic ligature was used, and the mass removed from the cervix without hæmorrhage. The tumor had also a firm and broad attachment to the brim of the pelvis, which was ligated. The stump of the cervix was cauterized and dropped back. The patient had suppression of the urine on the second day, and died, comatose, on the third day.

Case XLI.—This case was remarkable for the firm and extensive adhesions which were found in every direction. The operation was long and tedious, many bleeding points were tied, and the intestines were exposed to much manipulation and repeated sponging. The patient recovered without a single bad symptom.

Case XLIV.—This was a case of fibro-cyst of the uterus. There were firm adhesions to the omentum and to the bladder. As in Case XXXIX, the pain and sensation of weight led the patient to seek relief. The elastic ligature was applied to the cervix. The uterus was then removed, and the pedicle transfixed with two long knitting-needles above the ligature, which was allowed to remain in place. The peritonæum was attached to the cervix just below the ligature with sutures of silver wire. The patient recovered without any bad symptoms, the ligature and stump of the pedicle coming away together on the tenth day.

Case XLV.—This patient had been an invalid for many years, suffering from ovarian neuralgia. The operation was accomplished without the slightest difficulty. Salpingitis existed on both sides, but there were no adhesions. The ovaries and tubes were removed with the greatest ease, and there was no loss of blood whatever. Seven minims of Magendie's solution were administered hypodermically after the patient was put to bed. An hour later she was profoundly narcotized, not having recovered consciousness. An hour later there was acute œdema of both lungs, and the patient was cyanotic; and, though vigorous measures were adopted, she died four hours after the operation. There was evidence that a large dose of morphine had been taken by the patient herself before the operation.

Case XLVI.—This patient had been under medical care and treatment for five years. She was the mother of four children, living in moderate circumstances, and accustomed to a very active life. She had suffered for five years from dysmenorrhœa, which had gradually increased in severity and duration. Latterly she suffered pains four or five days before menstruation, and through the whole period. The flow was generally scanty, but lasted from six to eight days, and was followed by a discharge of offensive "matter," lasting sometimes two days. Physical examination gave unmistakable evidences of an enlarged tube on the left side. At the operation both tubes were found to be very large, and the left one was distended with pus. The left ovary was large and cystic, and the right one hard and atrophied. There were very firm adhesions, which were separated with much difficulty. There was some oozing from the torn adhesions, which continued several hours.

A glass tube was left in the lower angle of the wound until the oozing ceased. Ten hours after the operation it was removed, and the wound closed. The patient recovered without any bad symptoms, and with a scarcely perceptible rise of temperature at any time. She has been free from pain since the operation.

FIFTY CASES OF ABDOMINAL SECTION.

No.	Age.	Married or Single.	Date.	Place.	Length of incision.	Weight of tumor.	Character of tumor.	Adhesions.	Indications for operation.	Pedicle.	Drainage-tube.	Result.	Remarks.
					In.	Lbs							
1	24	M.	Aug. 9, 1873.	Private case.	3	13	Multilocular cyst, left side.	None.	Growth of tumor and ascites.	Ligature.	None.	Recovery.	Had been tapped 5 times. Twelve quarts of fluid removed by aspirator, seventeenth day after operation. Well two years later.
2	35	M.	Feb. 12, 1876.	Woman's Hospital.	5¾	2¾	Fibroma of uterus, with pedicle.	"	Increasing pain.	Clamp.	"	"	Tumor of four years' growth. Patient has had two children since operation.
3	22	M.	June 18, 1878.	Private case.	3½	40	Multilocular cyst.	Slight.	Increasing size of tumor.	Ligature.	"	"	Normal labor six months before operation. Two children since.
4	33	M.	May 2, 1879.	Woman's Hospital.	2½	20	"	Parietal.	"	"	"	"	Delivered of female child, September 29, 1881.
5	42	M.	Dec. 8, 1880.	"	3	21½	"	None.	Severe pain & œdema of legs.	"	"	"	
6	36	S.	Feb. 2, 1880.	"	3	20½	"	"	Increasing size of tumor.	"	"	"	Well a year after operation.
7	50	M.	April 26, 1880.	"	3½	18	Carcinoma ovarii.	Parietal.	Rapid decline in health.	"	"	"	
8	50	M.	Dec. 20, 1880.	"	2½		Multilocular cyst.	None.	Increasing size of tumor.	"	"	"	Cyst ruptured one month before operation.
9	46	M.	April 11, 1881.	"	5	20½	"	Firm.	Rapid decline in health.			"	Opposite ovary apparently normal, but another cyst developed later. See Case 19.
10	34	M.	May 12, 1882.	"	3	35	"	None.	Increasing size of tumor.	"	"	"	Opposite ovary size of walnut, but not removed, in accordance with express wish of patient.
11	23	S.	Dec. 2, 1882.	"	3½		"		Pain and increasing size of abdomen.		Glass.	"	Cyst so firmly and generally adherent that only a part of it could be removed. Drained the remainder. Very small fistula remained. Patient since married.
12	28	M.	Dec. 11, 1882.	"	3		Cystic ovaries.	Very firm	Severe dysmenorrhœa.	"	None.	Death.	Hæmorrhage from torn adhesions and from pedicle *below* ligature, cut by ligature. Tubes not removed.
13	30	S.	Jan. 22, 1883.	"	3½		"	None.	Increasing dysmenorrhœa.	"	"	Recovery.	
14	27	S.	Feb. 5, 1883.	"	4		Multilocular cyst.	Firm to uterus & pelvis.	Size of tumor and pain.			"	Both ovaries seat of large cysts, which were removed. Cyst-walls tied in sections.
15	33	M.	Feb. 12, 1883.	"	4		Both ovaries cystic.	Firm.	Dysmenorrhœa.	"	"	"	Left ovary so firmly bound down it could not be removed. Right ovary and tube removed.
16	29	S.	Feb. 26, 1883.	"	3½		Multilocular cyst & cyst of broad ligament.	Firm and general.	Severe pain, constant.	"		"	Cyst of left ovary and cyst of opposite broad ligament. Very firm and dense adhesions.
17	30	S.	Mch. 12, 1883.	"	4		Multilocular cyst.	To the intestines & uterus.	Increasing size of tumor, œdema.			Death on 8th day.	Right ovary cystic; removed. Large cyst of left ovary attached to uterus; enucleated.
18	31	M.	Mch. 24, 1883.	"	3		Pelvic abscess.		Pain and emaciation.			Recovery.	Abscess could not be reached. Stricture of rectum. Patient well in 1885.
19	48	M.	April 2, 1883.	"	5	20½	Multilocular cyst.	To uterus, int'stines, etc.	Pain and growth of tumor.			"	Second operation. See Case 9.
20	53	M.	April 23, 1883.	"	5	20	Double multilocular cyst.	Parietal.	Pain, dyspnœa, weakness.			Death on 9th day.	Both ovaries removed. Autopsy showed colloid degeneration of omentum and chronic peritonitis.
21	28	S.	May 7, 1883.	"	4		Cystic ovary; Hydrosalpinx.	None.	Dysmenorrhœa.	"	"	"	Diffuse peritonitis.
22	32	M.	May 18, 1883.	"	3½		Ovaries cystic.	"	Dysmenorrhœa.	"	"	Recovery.	Operation under spray. Large mural abscess. Closed by a second operation.
23	34	S.	Oct. 15, 1883.	"	3	25½	Multilocular cyst.	"	Pain and increasing size of tumor.	"	"	"	Peritonæum closed separately with continuous catgut suture.
24	30	M.	Oct. 25, 1883.		3		Ovaries cystic & tubes diseased.	Firm.	Dysmenorrhœa.			"	Left ovary much enlarged. Patient restored to health.
25	30	M	Dec. 3, 1883.	"	3	21	Double ovarian tumor.	Firm to omentum and intestines.	Declining health and pain.	"	"	"	Much hæmorrhage at time of operation. Small pedicle.
26	19	M	Dec. 17, 1883.	"	6	2	Fibroid in uterus.	Firm to omentum and bladder.	Pain, weight of tumor.		"	"	On making abdominal incision found large uterine body. Used elastic ligature and opened uterus and removed fibroid about 2 lbs. weight. Cut off uterus. Cervix sloughed out, leaving opening through to vagina. Patient went home well March 3, 1884.
27	28	-	Jan. 1884	Private case.	3	13	Unilocular cyst & small fibroid.	Slight.	Pain.	"	"	"	Opposite ovary and tube diseased and removed. Ovary cystic. Fibroid, size of walnut, removed from fundus of uterus.

FIFTY CASES OF ABDOMINAL SECTION—(*Concluded*).

No.	Age.	Married or Single.	Date.	Place.	Length of incision.	Weight of tumor.	Character of tumor.	Adhesions.	Indications for operation.	Pedicle.	Drainage-tube.	Result.	Remarks.
					In.	Lbs							
28	32	M.	Feb. 12, 1884.	Private case.	3		Dermoid cyst of left ovary, right cystic.	Firm.	Severe dysmenorrhœa.	Ligature.	None.	Recovery	Dermoid cyst of left ovary; right ovary cystic. Both tubes diseased and removed.
29	37	S.	Mch. 10, 1884.	Woman's Hospital.	6	35	2 multilocular tumors. 1 papillomatous.	Very extensive.	Pain and failing strength; ascites.		Tube.	Death 14 hours after operation.	Removed two semi-solid tumors, involving both ovaries, and firmly adherent to parietes and omentum. One papillomatous tumor. Granular kidney.
30	18	S.	Mch. 12, 1884.	"	6		Double tubo-ovarian cyst.	"	Pain and frequent attacks of peritonitis.		"	Death.	Both cysts suppurating. Acute peritonitis at time of operating. See note.
31	34	M.	April 1, 1884.	"	5	52	Multilocular cyst.	Extensive.	Increasing size of tumor.	"	None.	Recovery	Strong adhesion over upper part of cyst. Enucleated and found lower part free. See note.
32	22	M.	April 15, 1884.	"	3	20	Multilocular cyst & cystic ovary.	None.	Pain.			"	Ovarian tumor on left; cystic ovary on right. Both removed.
33	38	M.	April 25, 1884.	"	2½		Cystic ovaries and diseased tubes.	Firm.	Pain, severe dysmenorrhœa.	"	"	"	
34	37	M.	May 5, 1884.	"	6		Sarcoma of ovary.	Very firm	Pain and emaciation.		"	"	Pelvic adhesions so firm that the tumor could not be removed.
35	48	M.	June 7, 1884.	"	7	4½	Uterus removed.	None.	Pain and hæmorrhage.	"	"	"	Small piece of cervix tied and returned to cavity. Uterine fibroid. No bad symptoms whatever.
36	60	M.	Oct. 6, 1884.	"	3	20	Multilocular cyst.	Slight.	Pain and increasing size.	"	"	"	Not a single bad symptom.
37	19	S.	Oct. 31, 1884.	"	2½	3½	Dermoid & cystic ovary	None.	Severe pain.	"	"	"	Dermoid, right side. Cyst on left.
38	27	M.	Nov. 5, 1884.	Private case.	5	70½	Multilocular cyst.	Parietal and omental.	Large size of tumor.	"	"	"	Patient confined four weeks before operation. Healthy child, nursing day of operation.
39	43	M.	Nov. 13, 1884.	Woman's Hospital.	5	15	Fibro-cyst of uterus.	Firm to omentum & bladder	Pain and weight of tumor.			Death 3d day.	Pedicle three inches in diameter. Uterus as in Case 36. Suppression of urine.
40	46	M.	Nov. 17, 1884.	"	4	6½	Multilocular cyst.	None.	Pain and size of tumor.	"	"	Recovery	Ovarian tumor left side. Right ovary normal.
41	40	M.	Nov. 8, 1884.	"	7	12	Semi-solid tumor, ovarian.	Very extensive and firm.	Pain.	"	"	"	Many bleeding points tied; much sponging and manipulation.
42	23	S.	Dec. 12, 1884.	Private case.	2½		Cystic ovaries; salpingitis.	Firm.	Severe dysmenorrhœa.	"	"	"	
43	38	M.	Dec. 18, 1884.	Woman's Hospital.	2		Cystic ovaries and pyosalpinx.	Very firm	Constant pain.	"	"	"	Former pelvic abscess on left side.
44	48	M.	Dec. 19, 1884.	"	6	15	Fibro-cyst of uterus.	Firm to omentum & bladder	Pain and weight.		"	"	Uterus removed; pedicle treated extra-peritoneally. No bad symptoms.
45	38	M.	Dec. 16, 1884.	Private case.	3		Cystic ovaries and salpingitis.	None.	Pain and nervous exhaustion.	"	"	Death.	Death from morphine and ether.
46	40	M.	Jan. 12, 1885.	Private case.	3		Cystic ovaries and pyosalpinx.	Firm.	Constant pain.	"	Glass tube.	Recovery	Bleeding from adhesions. Glass tube left in for ten hours.
47	28	M.	Jan. 19, 1885.	Woman's Hospital.	2½		"	"	Severe pain and dysmenorrhœa.	"	None.	Death 5th day.	Death due to septic peritonitis; peritonitis began at pedicles.
48	35	M.	Jan. 23, 1885.	"	3			"	Ovarian neuralgia.			Recovery	Right ovary removed two years ago. Left found immovable.
49	35	M.	Feb. 2, 1885.	"	3		Cystic left ovary and l. salpingitis.	Very firm	Severe pain and constant nausea.	"	"	"	
50	50	M.	Feb. 22, 1885.	"	3	20	Multilocular ovarian cyst.	Slight and general.	Increasing size of tumor.	"	"	"	

The "Faith Cure."—In an able article, the Chicago "Times" says: "To a very great extent this new practice is the revival of the old methods resorted to among primitive men. The evil is located among the superior spiritual powers, and by solicitation, as of old, the remedy is sought in the same direction. Among the primitive healers, the article of faith was not included as an essential factor in the processes of cure; in the latest development of healing by imploring the interference of a spiritual agency, faith plays a most important part. If the patient now being treated does not improve or recover, it is due to his lack of faith. Under the ancient kindred system, the lack of recovery was due to the unwillingness of the superior spiritual power to permit such a result. The modern system is more chary of the character of the supernatural agency; it holds the patient responsible for any failure. Substantially, however, the two systems are identical. The wonderful nineteenth century has completed a cycle which connects it directly with a period in which savagery dominated the earth."

ELECTRICITY AS A STIMULANT IN RESPIRATORY AND CARDIAC FAILURE.*

By GASPAR GRISWOLD, M. D., M. R. C. S.

Electricity has long been conspicuous among the agents recommended for the treatment of sudden prostration, attended with respiratory and cardiac failure. The text-books, in discussing the resuscitation of cases of poisoning with such drugs as chloroform and opium, always include the faradaic current as a stimulant in the same clause with ammonia and alcohol; and every doctor feels it a duty to keep a battery in good order, that he may have it to use in such an emergency. It will be the object of this paper to inquire how far the usual methods of applying electricity in cases of collapse are in accord with what is known concerning the physiology of the heart. Electricity will be spoken of in a general sense, including both galvanic and faradaic currents; in this connection there is no important difference between the action of the two currents beyond the fact that the galvanic is more powerful. In a general way, however, the faradaic current is referred to, being the one far more commonly used in emergencies. A galvanic battery, in good working order, at hand in an emergency, is one of the rarities of medical experience.

Taking into consideration, first, the use of electricity as a stimulant in cardiac failure, the question naturally presents itself, Can electricity be so applied clinically as to stimulate the heart? To answer this question, let us turn for a moment to a short synopsis of the cardiac mechanism. The muscular contractions which constitute the heart-beat are the result of impulses generated by nerve structures situated in the substance of the heart itself. After all the nerves going to it have been cut, and even after it has been removed from the body, the heart still continues to beat.

The pneumogastric nerves exercise an inhibitory influence upon the heart, and modify its action principally by determining the duration of the period of diastole. A mild faradaic current, applied to one or both pneumogastrics, slows the heart by prolonging the diastole, the duration of systole not being visibly affected. A stronger, though still moderate, current slows the heart more conspicuously, prolonging diastole until the heart seems to hesitate whether to beat again; this amount of pneumogastric stimulation disturbs the heart's action sufficiently to considerably retard the circulation. A decidedly strong current paralyzes the heart muscle, and causes permanent arrest in diastole.

Under the name of "accelerator nerves of the heart" physiologists have described some branches from the last cervical and first thoracic sympathetic ganglia, going to the cardiac plexus. Electric stimulation of these "accelerator nerves" causes a quickening of the heart's beat; in this quickening, however, what is gained in rate is lost in force, for the blood-pressure not only is not raised, but may even fall during the stimulation. Indeed, the acceleration of the heart produced by stimulating these nerves closely resembles the quickened pulse of asthenic fevers. The importance of these nerves is not well understood; it is certain, however, that their action is too feeble to antagonize the retarding influence of the pneumogastrics, for, during maximum stimulation of the "accelerators," the thereby quickened heart is at once slowed down by even the mildest stimulation of the pneumogastrics.

To recapitulate: *The heart beats as a result of impulses arising in its own substance. The action of the pneumogastrics is always inhibitory. The "accelerator nerves" increase rate at the expense of force, and retard the circulation instead of assisting it.* In vivisections, after the natural pulsations have ceased, the exposed heart may be made to beat again and again by applying the electrodes directly to the heart muscle; but this effect can not be obtained by the stimulation of any nerve remote from the heart. It is evident from these facts that, to stimulate the heart with electricity, we must apply the current directly to the heart itself; application of one or both poles in the neck, whether it affects the pneumogastric or the "accelerators," must produce an effect the reverse of stimulation. Unfortunately, the relations of the heart and the chest wall are so varying and uncertain that we can not hope to reach the heart efficiently with a current from electrodes applied to the præcordial space. A mild current, under these circumstances, would probably have no effect, while a strong one, reaching the heart after being widely diffused, would be as likely to excite the inhibitory apparatus and stop the heart as to get to the motor centers and stimulate it.

The question, *Can electricity be so applied clinically as to stimulate the heart?* must, therefore, be answered in the negative. The two following cases further illustrate the subject:

Case I, described in the "Phila. Med. Times" for June 4, 1881, is that of a patient who suddenly developed cardiac failure during etherization, probably from organic disease. To quote the words of the report: "The faradaic battery was brought to the bedside, but, as the respiration was continuing comparatively unaffected, it was only applied for a short time, with one pole to the neck and the other in the præcordial region." The case terminated fatally.

In this instance respiration was not "particularly affected," and electricity seems to have been used entirely with the idea that, with one pole on the neck and the other in the præcordial region, it would stimulate the failing heart. As the poles in this position would lie over the pneumogastric nerve, it is evident that any effect upon the heart must have been the reverse of what was desired. The use of the battery as described may readily have caused the death of this patient by still further depressing the already feeble heart, and, even looking at it in the most favorable light, could certainly have done nothing to prevent the fatal termination of the case.

Case II is one of poisoning with hydrocyanic acid from eating bitter almonds, and is reported in the "British Medical Journal" for July 2, 1881. The patient was brought to Charing Cross Hospital in a collapsed condition, his apex-beat feeble, and his radial pulse almost imperceptible. Inhalations of ammonia were administered, and, quoting literally, "the current from twenty-five cells of a galvanic battery was applied for ten minutes—one pole over the apex of the heart and the other on the neck, over the course of the pneumogastric nerve."

* Read before the New York Academy of Medicine, February 19, 1885.

These are the words of the history; and the treatment was repeated several times, the patient finally recovering. It is stated by the physician who reported the case that the favorable termination was due, in his opinion, directly to the employment of the electricity. Now, it is a fact that the current from twenty-five cells of a good battery, applied to the pneumogastrics, will kill instantly the largest dogs, stopping the heart in diastole. A current from five or six cells, applied in the neck over the pneumogastrics, will produce faintness in the average patient and diminish the pulse-rate by ten or fifteen beats. There is every reason to believe that few patients could receive the current from twenty-five cells of a good battery, applied in the manner described, without great danger of instant death from cardiac paralysis. It is evident from these facts that, judging from a rational standpoint, the treatment of this case of hydrocyanic-acid poisoning was improper and calculated to do harm; and the thought naturally occurs, How could the patient recover under the circumstances? This may be accounted for in two ways: 1. The battery may have been out of order, and the current very much weaker than we would suppose, judging from the number of cells mentioned. This explanation seems plausible when we reflect how rare it is, especially in hospitals, to find a galvanic battery in what would be termed good working order. 2. In hydrocyanic-acid poisoning the pneumogastric nerves are paralyzed somewhat as they are after large doses of belladonna. After large doses of belladonna, the pneumogastrics entirely lose their irritability, and the strongest electric currents may be applied to them without having the least effect upon the action of the heart. In the case described, three hours passed after the bitter almonds had been eaten before the electricity was applied. It is probable that the pneumogastrics by that time were so far under the benumbing influence of the poison that they were not much affected by a current which, under more normal conditions, would have been enough to stop the heart. These facts, of course, are not alluded to in the report, the intention of which is to convey the author's opinion that the failing and inefficient heart may be successfully stimulated by galvanization of the pneumogastric. Both cases, Nos. I and II, are discussed in this paper in order to further emphasize the fact that the effect upon the heart of galvanizing or faradizing the pneumogastric is the reverse of stimulating, and is attended, in the case of strong currents, with great danger to life.

In a case where the failure of the circulation seems to be due mainly to the *rapidity* of the heart's action, it is possible that faradization of the pneumogastric may be of use by slowing the heart and tending to restore its normal rhythm. Digitalis does this; but digitalis at the same time stimulates the cardiac muscle, which the electricity would not do. It would be a dangerous thing to expose the heart to the depressing influence of the pneumogastric at a time when the circulation was already failing, and the theoretical benefit to be obtained from a temporary slowing of the heart would scarcely seem to justify so precarious a measure.

When we come to discuss the action of electricity as a *respiratory* stimulant we must admit at the outset that stimulation of the phrenic nerves causes contraction of the diaphragm. The phrenic nerves are very near the surface, and can be reached easily and with certainty by applying the current just above the inner end of the clavicle. Even after death a current applied in this way will cause inspiratory acts again and again, until the nerves lose their irritability from commencing decomposition. It is perfectly rational, therefore, to look upon electrization of the phrenic nerves as a means by which the failing respiration may be stimulated. With this end in view, electricity may be applied in two ways: 1. A mild current may be applied *continuously*, with the idea merely of making the inspiratory acts deeper and more efficient, without particularly affecting their rhythm. 2. A current may be applied of sufficient strength to at once cause a deep inspiration, and the application be *repeated at intervals of three or four seconds.* There is abundant evidence that good results have been obtained by these methods, especially the first; these good results have been, for the most part, described in reports of cases of opium poisoning. On both physiological and clinical grounds, therefore, *if we consider stimulation of the phrenic nerves as a measure by itself*, we must accept it as a proper and logical treatment in respiratory failure. But we can scarcely consider electric stimulation of the phrenic nerves by itself, therapeutically, for the reason that the phrenic and pneumogastric lie so near one another in the neck, equally superficial and not more than half an inch apart, that it is impossible to apply electricity to one of them without simultaneously affecting the other. We can not apply electricity to the phrenic, to stimulate the contractions of the diaphragm, without at the same time applying it to the pneumogastric, whose function it is to retard and even stop the heart. *The identical measure, therefore, by which we aim to assist respiration may, simultaneously and without warning, be the means of stopping the circulation.* This consideration becomes even more significant when we reflect what mild currents of electricity are sufficient to excite the inhibitory influence of the pneumogastric upon the heart. The author had occasion, almost daily for months, to apply electricity to the pneumogastric in two cases of exophthalmic goître. In these cases the usual pulse-rate was 120 a minute, but it at once fell to 100 or 90 when a very mild current from four or six cells of a galvanic battery was applied over one pneumogastric in the neck. If the current was increased beyond this limit, the action of the heart became hesitating, and the patients became faint and dizzy. The current which produced these unpleasant sensations was still far short of that which would be able to excite muscular contractions; if applied over the phrenics, it might have strengthened the respiratory process, perhaps, but it was certainly not strong enough to excite an inspiratory act. The author knows of a case of opium poisoning in which a strong faradaic current, which was being applied at intervals to different parts of the surface, merely to rouse the patient, was suddenly applied over the phrenic in the neck. The current reached the pneumogastric, and, as it was strong enough to stop the heart, instant death was the result.

In face of these facts, the following conclusions seem justified: 1. Electric stimulation of the phrenic nerves

should never be undertaken without the reflection that the current will at the same time reach the pneumogastrics. 2. Only mild currents should be applied, their effect upon the heart's action being carefully watched. 3. Especially should be avoided the sudden or careless application to the neck of a current sufficiently strong to produce pain or muscular contractions in other parts of the body. These conclusions having been stated, it will be a further object of this paper to inquire if there be not some varieties of poisoning in which the danger of cardiac depression from stimulation of the pneumogastric is so great as to contra-indicate any attempt to apply electricity to the phrenic. Different poisons affect the heart and the pneumogastrics very differently, materially altering their relations with each other. Take for an instance digitalis, which stimulates *both* the heart and the pneumogastrics, thereby slowing the beat even while increasing its force; take, then, belladonna, which stimulates the heart and yet paralyzes the pneumogastrics, giving us, like digitalis, increase in force, but with a more rapid beat from diminished pneumogastric restraint. Contrast with these the inhalation of chloroform, which, being brought in the blood immediately from the lungs to a contact with the lining membrane of the heart, exerts a direct paralyzing influence upon that organ while the pneumogastrics are still unaffected and present their normal irritability to any stimulus. Here we have, with digitalis, both heart and pneumogastrics stimulated; with belladonna, heart stimulated and pneumogastrics paralyzed; with chloroform, heart paralyzed, pneumogastrics normal. We know that the heart, by its inherent impulse to beat again, resists the tendency of the pneumogastrics to keep it in diastole, and we see in health a balance of power kept up between these two opposing forces. We know that in health a moderate current applied to the pneumogastric will slow the heart, and even cause it to pause in diastole, without doing harm. But let us imagine a condition like sudden heart failure from chloroform, where the heart is depressed while the pneumogastric is still active. The balance of power is now disturbed, for the pneumogastric is in a condition to conduct inhibitory stimuli as usual, while the enfeebled heart has not its usual strength with which to resist them. At such a moment, might not the heart be instantly stopped and paralyzed by a degree of pneumogastric stimulation which, under ordinary conditions, would only slow the heart by a few beats per minute?

It may not be inappropriate, at this point, to relate the circumstances under which the author's attention was first called to this subject. He had prescribed for a patient who was suffering from neuralgia; the mixture was to contain ℞ Tr. aconiti rad. (U. S.), ♏xl; syr. aurant. cort., ʒ iij; aq., q. s. ad. ℥ ij. M. Sig.: One teaspoonful dose, and repeat once at the end of an hour. The druggist by mistake left out the water and sent to the patient simply ♏xl of tr. aconiti rad. in ʒ iij of syrup. After the second dose had been taken, representing in all over ♏xx of aconite, the patient developed symptoms of poisoning. The surface was cold and clammy, and the extremities benumbed; the respiration was shallow and uncertain, and the pulse scarcely perceptible. The author at once administered large quantities of brandy, and called in Professor A. A. Smith to assist him. In view of the respiratory failure, Professor Smith proposed faradization of the phrenic nerves. This the author objected to, knowing that a current so applied would necessarily affect the pneumogastrics as well as the phrenics, and fearing that even a slight depressing influence might stop a heart which was already acting so feebly. The patient fortunately recovered; but the case induced the author to study the subject more carefully, and finally to undertake a series of experiments on dogs poisoned with aconite, chloroform, ether, and opium, in order to ascertain whether, under these not uncommon conditions, the danger of cardiac paralysis from stimulation of the pneumogastric would be much increased or not. The mode of experiment was as follows:

First Step.—A strong, healthy dog was etherized, and a Marey's cardiometer connected with the left carotid artery. This can be done without shedding twenty drops of blood, and the same incision exposes the pneumogastrics.

Second Step.—A faradaic battery was connected with both pneumogastrics by wire-hook electrodes, and adjusted so as to give a current just strong enough to slow the heart's action perceptibly, without otherwise disturbing it. The electrodes were then removed from the pneumogastrics and kept ready to be reapplied later in the experiment.

Third Step.—The drug to be experimented upon was administered, and the cardiometer watched for evidences of cardiac failure.

Fourth Step.—As soon as the cardiometer gave evidence that the heart was becoming weak, the faradaic current was passed to the pneumogastrics in the same strength which had, in step No. 2, been found to merely slow the heart. The cardiometer was then watched to measure the effect upon the heart. This plan of experiment seems calculated to show quite accurately whether the poisoned heart is liable to be paralyzed by a degree of stimulation of the pneumogastric which the healthy heart was perfectly well able to stand before the poison was given. The experiments, in detail, were as follows:

Experiment No. 1 with Aconite.—Dog etherized. Cardiometer connected. Battery adjusted to a strength which merely slowed the heart. One drachm of tincture of aconite was then poured down the dog's throat. After eight minutes, heart acting feebly and intermittingly. One minute later, applied battery to pneumogastrics. Expected to see the heart stop entirely, or at least show signs of great depression. Was surprised to see no effect produced upon the heart by stimulating the pneumogastrics. Increased the strength of the current until the full force of the battery was reached, but still with no effect upon the heart. This proved that the pneumogastrics were paralyzed by the aconite, and could no longer be excited to exert any inhibitory influence upon the heart.

Experiment No. 2 with Aconite.—This was a repetition of No. 1, with the same result. As soon as the heart showed evident signs of weakness from the aconite, the pneumogastrics were found to be so paralyzed that no current applied to them, however strong, had any effect upon the heart.

Experiment No. 3 with Aconite was a repetition of Nos. 1 and 2, with the same result.

Deductions.—Experiments go to show that the tendency to cardiac paralysis from stimulation of the pneumogastrics is *not* increased in aconite poisoning. Indeed, in the later stages of poisoning there is *no* danger in stimulating the pneumogastrics, for they are so paralyzed that no current applied to them has any effect upon the heart. In the treatment of aconite poisoning, therefore, the application of electricity, with proper care, to the phrenic nerve, is perfectly safe.

N. B.—This result shows that the treatment advised by Professor A. A. Smith, in the author's case of aconite poisoning, would have turned out all right, in spite of the objection which the author then made to it.

Experiment No. 1 with Chloroform.—Dog etherized. Cardiometer connected. Battery adjusted to a strength which merely slowed the heart. A sponge with chloroform on it was now substituted for the one with which ether was being administered. Chloroform was administered rapidly and in such quantity that poisoning ensued at once, the blood-pressure falling after a few seconds, and the heart-beat becoming feeble and irregular. The chloroform was now taken away and the faradaic current was applied to the pneumogastrics. The effect was instantaneous—the heart stopped in diastole and did not beat again.

Experiment No. 2 with Chloroform.—Performed in the same way as No. 1. When the current was applied to the pneumogastrics, the heart did not stop at once. It paused in diastole for a few seconds and then commenced to beat again, but very feebly. The blood-pressure did not again rise to more than half the normal, and the heart stopped finally after six minutes.

Experiment No. 3 with Chloroform.—Same mode of experiment. The heart stopped instantly when the current was applied to the pneumogastrics, exactly as it did in Experiment No. 1.

Deductions.—When heart failure occurs early in chloroform administration, the pneumogastrics are still normally excitable. At such a moment, even a very mild electric current applied to the pneumogastrics will instantly paralyze or fatally depress the heart. It is therefore eminently dangerous to apply electricity to the neck of a patient with heart failure from chloroform. The application over the phrenic of a current strong enough to cause contraction of the diaphragm would be almost certain to cause fatal cardiac depression.

Experiment No. 1 with Ether.—Dog etherized. Cardiometer connected. Battery adjusted to a strength which merely slowed the heart. The ether was then crowded until respiration was paralyzed and asphyxia ensued. The faradaic current was then applied to the pneumogastrics, but produced no more effect upon the heart than it did in the earlier stage of etherization, before the ether had been pushed to the extent of inducing asphyxia.

Experiment No. 2 with Ether.—This was the same as Experiment No. 1, and gave the same result.

Deductions.—That in asphyxia from etherization the heart can stand stimulation of the pneumogastrics as well as it can in health. Therefore it is safe to stimulate the phrenic nerve in ether poisoning with a current as strong as the patient could bear under normal conditions.

N. B.—The difference between the results obtained in chloroform poisoning and those obtained in ether poisoning is due to the fact that chloroform is a direct cardiac depressant, while ether does not depress the heart. If a dog is etherized, the trachea opened, and a bellows inserted so that respiration can be carried on artificially by the experimenter, then ether can be administered by means of a sponge fitted over the supply-opening of the bellows. In this way respiratory paralysis is rendered impossible, and the effect upon the heart alone can be studied. Under these circumstances ether may be administered for hour after hour, and in almost any quantity, without depressing the heart; if, however, a sponge with chloroform on it is substituted for the ether, the heart soon becomes weak and the blood-pressure falls rapidly. Changing back to ether stimulates the heart again to its original force, and changing still again to chloroform will again depress it. This proof that chloroform is essentially a cardiac depressant, and that ether is not, is as satisfactory as experimental proof could be.

Experiment No. 1 with Morphine.—Dog etherized. Cardiometer connected. Battery adjusted to a current which merely slowed the heart. One grain of morphine injected hypodermically and ether stopped. As soon as the heart became rapid and feeble and the breathing very slow, the faradaic current was applied to the pneumogastrics. No effect upon the heart. This proved that in opium poisoning, when the symptoms of poisoning are well marked and the pulse rapid and feeble, the pneumogastrics are paralyzed, and stimulation of them will not slow or depress the heart.

Experiments Nos. 2 and 3 with Morphine gave the same results as No. 1.

Deductions.—That in opium poisoning, when the heart is rapid and feeble, there is even less danger than in health of cardiac paralysis from stimulation of the pneumogastrics. It is, therefore, safe to carefully apply electricity to the phrenic nerve in opium poisoning.

When morphine, injected hypodermically, accidentally gets into a vein, sudden and alarming collapse is apt to follow. Under these circumstances, the morphine, thrown directly into the circulation, reaches the heart all at once and without much dilution in the blood. It must, therefore, exert a benumbing effect upon the heart itself for some time before it has reached the pneumogastrics in sufficient quantity to paralyze them. As this association of feeble heart with pneumogastrics still normal resembles the condition encountered in sudden heart failure from chloroform, the author undertook the following experiment:

Experiment with Morphine injected into a Vein.—Dog etherized. Cardiometer connected. Battery adjusted to a current which merely slowed the heart. Then half a drachm of Magendie's solution of morphine was injected into a small vein in the neck. The blood-pressure at once fell one half, and the respiration almost ceased. The faradaic current was now applied to the pneumogastrics. The heart stopped almost as suddenly as in the case of chloroform poisoning, but not so completely. It still continued to beat feebly for a minute or more, but then stopped.

Experiments Nos. 2 and 3 with Morphine injected into a

Vein gave substantially the same results as Experiment No. 1. In neither case was the heart stopped by the application of electricity to the pneumogastrics, but in both instances it received a shock from which it did not rally, and beneath which it finally sank at the end of a minute or two.

Deductions.—When morphine is injected into a vein, the heart is easily depressed by electricity applied to the pneumogastrics. It would *not*, therefore, be safe to faradize or galvanize the phrenic in this condition.

In conclusion, the views expressed in this paper may be summarized as follows:

1. Electricity *can not* be applied clinically in such a way as to stimulate the heart, literally speaking. In cases, however, where the heart is rapid, without much impairment in force, a mild current might be carefully applied over the pneumogastric in such a way as to restore the normal rhythm, and so increase the general efficiency of the heart's action. Cases are rare, however, where this would be indicated, rapidity and irregularity of the heart's action being generally associated with such feebleness as would contra-indicate any stimulation of the pneumogastric.

2. The application of one pole in the neck and the other over the præcordial space directs the current to the pneumogastric nerve, and retards the heart instead of stimulating it. A strong current applied in this way may stop the heart and kill the patient instantly.

3. An electric current applied over the phrenic nerve necessarily stimulates the pneumogastric at the same time. This measure, therefore, always threatens as much in the way of cardiac depression as it promises in the way of respiratory stimulation.

4. Liability of the heart to be stopped by pneumogastric stimulation is not increased in aconite, ether, or opium poisoning. It is, therefore, permissible to cautiously apply electricity over the phrenic nerve in these conditions.

5. In heart failure from chloroform, and when morphine has been injected into a vein, the heart may be stopped by even a slight current applied to the pneumogastrics. The application of electricity over the phrenic is, therefore, strongly contra-indicated under those conditions.

6. And, finally, it is emphasized that under no circumstances should a current strong enough to contract muscles elsewhere in the body be suddenly or incautiously applied over the phrenic or pneumogastric, or anywhere in the neck.

HOSPITAL RECORDS;

WITH A DESCRIPTION OF A NEW SYSTEM.

By WALTER WYMAN, M. D.,
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The object of clinical records in hospital practice is twofold. First, the protection of the physician; and, second, the preservation of clinical facts for future study and publication.

Many valuable histories are lost through want of a proper method. In hospitals where regular registrars are employed, this may not be the case; but few American hospitals support such an officer. The general method is to require the interne to transcribe the histories from his ward-notes into bulky volumes. This is regarded as drudgery by the interne, who is thus compelled to make two writings of each case, and to consume in clerical work time that could be more profitably employed at the bedside or his books. In consequence, the records are apt to be imperfectly kept. In other hospitals, clinical sheets are suspended at the beds, but the prescriptions are written in a ward-book, so that neither sheet nor book contains the complete record. In still other institutions, only the prescription-book is in regular use, notes of interesting cases being made on random slips of paper, which become lost; or, the interesting features being developed late, and the earlier notes having been neglected, it is deemed useless to commence the record. Thus many cases go unrecorded.

Again, when many patients are on hand, the ordinary ward-book for prescriptions is inconvenient. Memory may be at fault concerning the exact order for a given patient and both time and patience are then required in searching through the back leaves of this book.

Impressed by the above-mentioned difficulties, after several years of constant hospital practice, the writer devised the following plan, whose general features are described at the close of the article under the head of "General Remarks." He has now used this system constantly for the last three years in a service of from forty to ninety hospital patients daily, and, while his estimate of its value can not be impartial, it has proved so convenient, and has met with such appreciation from house physicians, sisters, and nurses, that he ventures to give it publication.

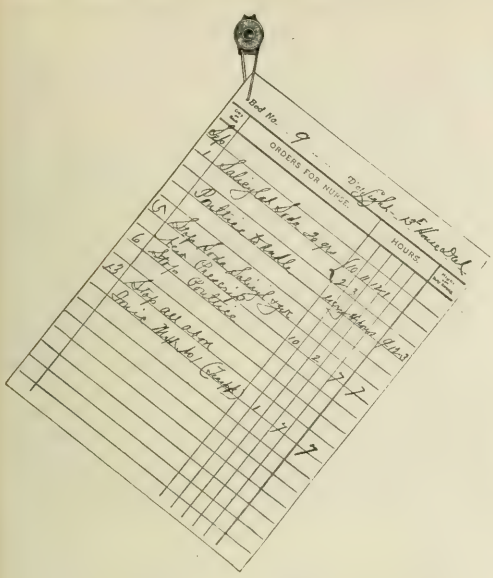
The appliances consist of a pin for each bed, on which to suspend the blanks, a pad of blanks, covers, a steel blow binder, and large envelopes for filing.

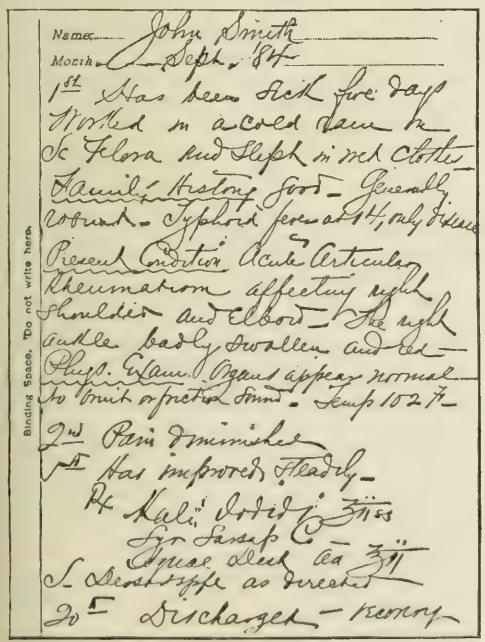
The pin, an important adjunct, sold in the shops as the "bachelor's button," is a combination of a safety-pin and button. The button portion rests in the bottom groove of the bed card-rack (or other available place), while the pin portion receives the blanks holding them in their proper order, yet allowing all the play that is needed.

The blanks are sufficiently described in the cut, which is of half their exact size. They are bound together in pads of fifty or seventy-five, like memorandum-blocks. The face of the blank ruled in black is intended for clinical notes and formal prescriptions. The reverse, ruled in red, is intended only to hold the orders for the nurse, or the one who administers the medicine. For clearness of description it will be best to ignore, for the present, the "Orders for Nurse" side. There is then for use in the ward, instead of the ordinary ward-book, a pad of blanks. At each patient's bed, hanging from the bed card-rack, is the suspensory pin. Writing, with stylographic or other pen, our first clinical notes of the case before us, we tear the blank from the pad, run the pin through the black spot in the right-hand upper corner, replace the pin, and the blank is then seen to be suspended with its face or notes toward the wall. At the next visit, lifting blank and pin together from the rack and resting the blank on our pad, we make additional notes. But, if the blank should be full, we take a fresh one and file on top of the first, its face also being toward the wall.

Now, supposing a new blank to be used every day for

one week, we would have seven blanks hanging with their faces to the wall, all held in proper relative position by the





clasp-pin, and we may read the seven days' history in consecutive order by simply taking pin and blanks together from the rack.

Supposing, again, upon the seventh blank, room remains for further notes, so that, on the following day, a new blank is not required. In this case, without removing the seventh one from the pin, we rest it upon the pad while writing, the six other blanks, together with the pin, being allowed to hang over the top of the pad out of the way, or pushed to one side.

When a formal prescription is required, one that must be taken to the apothecary, it is written on the side under consideration. The blank is returned with the medicine, and is filed on the pin by the nurse. Should the new prescription be written on a blank already filed, it may be removed from the pin for transmittal to the druggist, or be sent without removal, as is more customary.

But in hospital practice there are comparatively few formal prescriptions. Each ward has its locker containing the ward mixtures and more simple medicines, which may be administered by an intelligent nurse.

This brings us to the consideration of the reverse or side ruled in red, containing the "Orders for Nurse." The cut is almost self-explanatory. The notes or prescription being written on the face, the blank is reversed and the "orders" entered. Now, recalling that, when hanging, the face is toward the wall, it will be seen that the "Orders for Nurse" are toward the observer. These orders can be read at a glance without touching the blank, and serve as a ready reminder to the physician of each patient's treatment. This feature is particularly valuable when the wards are crowded. It is understood that every order is in force until repealed in writing. Thus, referring to the "Orders for Nurse" in the cut, the patient received the salicylate of soda every day at the hours indicated from September 1st to 5th, when it was stopped and a new prescription given. The poultices, however, were continued until the 6th.

The column marked "Night and Early Morning" permits the entry of night orders, and an order for the following morning that should be executed before the time for regular visit. Thus, September 13th the tonic was ordered (say at nine o'clock) to be given at 1 and 7 P. M. the same day, and at seven o'clock the following morning. Practically, however, there being but one night nurse for the whole hospital, the night orders should be written in a separate book or on a special slate.

Upon the patient's discharge, the blanks are removed from the pin, inserted between the leaves of a cover, and bound by means of an ordinary steel blow binder. The cover is of grayish tint, and contains name and description of patient, dates of admission and discharge, result, etc. (the ordinary bed-card items), thus making his personal history complete.

We have, then, his clinical record in book shape, made with only one writing.

The records are filed away according to the month of discharge—for example, the records of all patients discharged in September being placed in a large envelope marked "September." A complete index both of names and diseases is readily at hand in the ordinary hospital register. Opposite the given name or disease we have but to note the month of discharge, then turn to the corresponding envelope for the history of the case.

Brief Notes.— A large proportion of cases require but

one blank. Cases on hand as long as six months, and calling for frequent notes, do not make a bulky volume. Should a history become large, however, it can be bound and filed away as Volume I, and Volume II be started.

Post-mortem notes, and any non-medical memoranda, are also written on these blanks. A temperature-chart is in use corresponding in size to the blank.

In binding, the column marked "Night and Early Morning" is covered. This can not be avoided, and is of little consequence.

As regards diet (see cut), light diet was given until the 13th, when it was changed to house diet.

The blanks, and all other appliances, can be obtained of Messrs. Hammond & Jones, Printers, Baltimore, Md.

One point in this system is, that the regular and necessary detail work of the ward is utilized in making a record. There is no labor lost, no second writing or copying. It is surprising what effect good mechanical arrangements and a fixed method have in stimulating the desire to record cases. Given a sheet of paper of regular size and shape, made familiar by constant use, and a knowledge that what is written will be preserved and may be of value, and we have a constant temptation to make full notes. True, the notes may be crude and disjointed, yet the physician may feel that the facts are all there, safely preserved, awaiting a time when he can leisurely look them over, arrange, and perhaps publish them. He has, in fact, a clinical library. The writer has a separate clinical history in neat book form of every patient admitted to hospital in Baltimore during the past two and a half years, and the records were preserved without special trouble. The *separate* feature is of special value, permitting easily the gathering together of like cases for comparison or for statistical purposes, and, again, making a ready memorandum for use when called upon to testify in court.

In the ward, this method permits the physician at any time to review the points of his case, this review, especially upon the patient's discharge, being interesting and instructive.

There is, moreover, no room left for dispute between the nurse and the patient, or between nurse and physician, as to what the latter has ordered, and, if there has been any failure of administration, the record will quickly indicate the one at fault.

Baltimore, *December 15, 1884.*

A CASE OF HYPERMETROPIC STRABISMUS CONVERGENS, WITH CHOROIDAL ATROPHY, CURED BY GLASSES ALONE.

By F. C. RILEY, M.D.

Thinking that the somewhat unique features connected with the case herein reported might prove of interest to some of your readers, I have taken the liberty of presenting it to the profession. To dilate here upon the subject of strabismus in general is foreign to my present purpose, since the facts recorded establish a foundation from which general conclusions may be drawn:

J. R., aged ten, accompanied by his mother, consulted me in November, 1883, the latter affording the following history of the child's condition up to that time:

Has always been delicate. Had a severe attack of pertussis when three months old, from which he recovered but slowly.

About five years since had severe attack of measles. Scarlet fever, accompanied by diphtheria, nearly ended his career about one year and a half subsequently.

The mother also affirms that a squint has existed in the eyes —first one and then the other—since early infancy, but since the attack of measles referred to has been confined exclusively to the left eye.

A careful examination revealed the following conditions: Strabismus convergens (of the left) strongly marked; the eye turned at right angles to its fellow of the opposite side.

Rotatory motion of the head in attempting to view different objects.

By covering the right eye, the left or squinting eye moves slowly in position to "fix."

A turning of the head and body also occurs at the same time.

Vision in right eye equals $\frac{20}{20}$. Vision in left eye equals $\frac{20}{200}$. Ophthalmoscopic examination reveals hypermetropic astigmatism in each eye, and in the left eye a large circular patch of choroidal atrophy, having the region of the macula lutea as its center, and extending almost to the border of the disc on one side, and equally as far into the temporal half of the retina on the other.

The atrophy of the choroid in this eye accounts fully for the decrease in vision; and, as this eye has been the squinting one since the age of five, when the patient had measles, it is perhaps not an illogical deduction to conclude that the choroiditis occurred as a concomitant of that affection. Not being able to obtain as good vision as I deemed possible while the accommodative power was being exercised, I ordered atropine to overcome this interference.

With atropine, O. D. V. $= \frac{20}{20} + 1{\cdot}25$ Ds. $\bigcirc +$ 2 D. cyl., axis, 75°.

O. S. V. $= \frac{20}{70} +$. No improvement with glasses in this eye.

The vision was, therefore, raised in the right eye by the use of atropine and the proper correcting-glass to the average normal standard—i. e., $\frac{20}{20}$, or 1.

Upon subsidence of the effects of the atropine, I again tested the vision and obtained the following: O. D. V. $= \frac{20}{20} +$ 1 Ds. $\bigcirc +$ 2 D. cyl., axis, 75°. As the left eye could not be improved by the use of a glass, it was left out of consideration so far as the treatment from a refractive basis was concerned.

For the right eye I ordered the combination that represented his manifest hypermetropic astigmatism, and for the left simply a plane-glass. I might also state that the combination alluded to afforded him excellent vision for near work, such as writing, reading, etc.

Since the vision in the left eye was so slight, and the choroidal atrophy existing necessitated eccentric fixation in order to obtain even the slightest amount, it was deemed inadvisable to attempt a correction of the ametropia in this eye.

With a plane glass before the left eye, I depended upon the patient suppressing what little he saw with it, and upon his relying wholly upon his right eye.

Whether the squint would be completely relieved by such a procedure was uncertain. It was determined, therefore, not to operate, although it was strongly urged by the parents, until the glasses had been in use a sufficient length of time to demonstrate the futility of anticipating a cure through their agency.

I fully believed that the left eye would eventually act in unison with the right without a tenotomy, although it was still

looking at right angles to the latter after the effects of the atropine had subsided. Subsequent developments proved the correctness of this hypothesis, and I was much gratified to think a too hasty tenotomy had not been performed.

A careful observer to-day would not notice the slightest deviation of the previously squinting eye. The harmony of the oculo-myodynamical conditions is complete in every respect, and the patient has enjoyed perfect vision for a year and a half.

That a tenotomy was unnecessary the sequel abundantly proves. Had the operation been performed, owing to the fact that the left eye was practically sightless, the unhappy results of an over-correction might not have occurred; but in many cases of simple hypermetropic squint such a finale might be expected.

When it is possible to relieve the squint by correcting the refractive error only, it should always be done.

An over-correction, with its attending annoyances, is a reproach to the over-zealous tenotomist. I very seriously doubt if a case of hypermetropic strabismus should ever, or under any circumstances, be operated upon until recourse has been had to atropine, and the amount of the refractive error accurately measured and corrected. The correcting-glass in each case should then be worn for a sufficient length of time to prove, beyond the shadow of a doubt, that it is insufficient to maintain an equilibrity of convergence.

Under such circumstances a tenotomy can be resorted to with perfect safety and certainty of success.

105 Madison Avenue.

A CASE OF OPIUM POISONING SUCCESSFULLY TREATED WITH ATROPINE AND CAFFEINE.

By CHARLES N. DIXON JONES, B.S., M.D., Brooklyn,
late house surgeon to the Brooklyn Hospital.

The following case is presented with the belief that it is of sufficient interest to be worthy of record:

Gertie E., aged eighteen months, was brought into the Brooklyn Hospital on the morning of November 27, 1883, with all the symptoms of acute opium poisoning.

It was learned on inquiry that, two hours previously, the child had eaten six pills, each containing calomel two grains, opium one grain (the pills were chewed by an older brother and then given to his sister, who swallowed them). Soon after, it was noticed that the child became very sleepy. A physician was sent for, who administered mustard in warm water; slight vomiting followed; it was then given some strong coffee, which was retained on the stomach.

When admitted to the hospital, she was in a comatose condition, the pupils were insensible to light, and contracted to a pin-point in size. The respirations were infrequent, shallow, and so feeble as to be barely perceptible. The pulse was small, weak, and rapid. The face was cyanotic, extremities cold, and deeply congested.

Believing that the full emetic effect of the mustard had not been obtained, the indications to be met were: First, to overcome the immediate tendency to failure of respiration; second, the evacuation of the stomach; and, third, the administration of respiratory stimulants and the recognized antidote to opium.

A hypodermic injection containing $\frac{1}{75}$ of a grain atropinæ sulph. was accordingly given. As no immediate effect was produced, this was followed in ten minutes by another containing $\frac{1}{150}$ of a grain, with the effect of increasing the force and frequency of the respirations, and slightly enlarging the pupil.

In the mean time I procured a stomach-pump, consisting of a flexible catheter (Nélaton's) twenty inches in length and one third of an inch in diameter, connected, by means of a small piece of glass tubing, with a piece of rubber tubing three feet in length, and provided with a funnel.

The tube was introduced into the stomach without difficulty. Lukewarm water was then slowly poured into the tube through the funnel. The washing was repeated three times before the fluid returned clear. The fluid removed from the stomach was found to contain a dark curd, consisting of the coffee which the child had swallowed, also the coatings, and several fragments of the pills which she had eaten. After each washing it was necessary to remove the tube and suspend the process, owing to the cyanotic condition of the patient.

The child was now placed in bed. The record taken at this time showed that the pulse was very rapid and feeble (with the stethoscope); the heart was beating at the rate of 160 a minute. The respirations were 6 per minute, superficial and gasping. In addition to the internal medication, external stimulation by means of hot spongiopilin applied over the præcordial region, hot-water cans to the extremities, and vigorous friction of the chest, legs, and arms was kept up, and it was only after four hours unremitting care that reaction was established. Artificial respiration was practiced from time to time, when it was thought that life was in imminent danger from the failure or insufficiency of natural respiration.

At 2 P.M. her condition had somewhat improved. Hypodermic injection of atropine sulphate, gr. $\frac{1}{120}$, was administered. A warm enema of olive-oil and soap-suds was given. No effect.

At 2.50 P.M., pulse 130, respiration 9.

At 3 P.M., citrate of caffeine, gr. j, spir. ammoniæ aromat. and brandy, āā ♏v, were administered.

At 3.30 P.M., caffeine repeated. Pulse 130, respiration 10.

At 4 P.M., caffeine repeated. Patient is startled when spoken to in a loud voice. A deadly pallor is noticeable about the alæ of the nose, the eyelids, and the margins of the auricles; other parts of the face congested. Later she showed a marked tendency to rub these parts. I am unable to explain the physiological phenomenon producing this appearance, but it is probably due to vaso-motor spasm, the drug having a selective affinity for the nerves supplying this particular region.

At 4.40 P.M., patient passed urine; small in amount and highly-colored.

At 6 P.M., pulse 130, respiration 11.

At 7 P.M., caffeine, gr. ij.

At 8.10 P.M., hypodermic of atropine, gr. $\frac{1}{150}$.

At 9.50 P.M., respiration 14, pulse 140. From this time she rapidly improved until 12 M., when she began to show signs of returning life.

At 11.50 P.M., pulse 120, respiration 16. Bowels moved.

28th.—At 4 A.M., pulse 130, respiration 16.

At 6 A.M., pulse 120, respiration 18. The respirations are now regular for the first time; pulse is still rapid, but stronger. She now begins to show signs of returning consciousness.

During the day the child was very sleepy, but could be aroused to take nourishment. In the afternoon she was as bright and cheerful as if she had not passed through the terrible ordeal of opium poisoning. The after-treatment was the continuation of the milk diet, with a small amount of brandy, until evening, when she was discharged perfectly recovered.

It will be noticed in the history of this case that the first hypodermic injection of atropine was given at 11.45 A.M., the second at 11.55, and the third and fourth at intervals up to 8.10

P. M. The total quantity of sulphate of atropine given was about $\frac{1}{3}\frac{1}{5}$ of a grain. The quantity of citrate of caffeine used was five grains.

163 De Kalb Avenue.

Book Notices.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of Various Nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Woodcuts. In six volumes. Vol. V. New York: William Wood & Co., 1884. Pp. xxxvi–1207.

This volume contains fourteen articles; seven of them by American and the remainder by English authors. The first is on injuries of the head, by Nancrede, and is followed by one on malformations and diseases of the head, by Treves. Taken together, the two make a very complete study of the subject, although both occasionally deal with the same thing, *e. g.*, erysipelas of the scalp and necrosis of the skull. The chapter on tumors of the vault of the skull is worthy of study. The next article, on the eye, by Williams, of Cincinnati, seems meager in comparison with the magnitude of the subject, especially as fifteen pages of it are taken up with the general anatomy of the organ. The article on the ear, by Buck, is more exhaustive. The same rather artificial division of subjects seen in the case of the head is more noticeable in the articles on the throat. Lefferts takes diseases and injuries of the nose and its accessory sinuses; Heath takes those of the mouth, fauces, tongue, palate, and jaws; and Solis-Cohen takes those of the air-passages; while Macleod comes in between with the surgery of the neck; Post with that of the face, cheeks, and lips; and Kingsley with that of the teeth and adjacent parts, including tumors of the jaw and defects of the palate. The simple objection to this arrangement is that it is impossible for the different authors not to trench upon each other, and that the reader does not know just where to look for what he wants. It is simply a question of arrangement, however, for between them all the whole subject is thoroughly handled, and the index to the volume is a good one.

Perhaps the most interesting article in the volume is Mr. Henry Morris's, on injuries and diseases of the abdomen. The recent advances in abdominal surgery make very enjoyable reading, and the author has collected a great deal of valuable matter, especially with regard to suture of the intestine and artificial anus. The subject is a large one, and it is not exhausted in the three hundred pages devoted to it. A short article on hernia, by Mr. John Wood, closes the volume. On the whole, this installment of Dr. Ashhurst's great work sustains the reputation gained by its predecessors. With the next volume the encyclopædia will be finished.

BOOKS AND PAMPHLETS RECEIVED.

De l'aphasie et de ses diverses formes. Par le Dr. Bernard, ancien interne en médecine et en chirurgie des hôpitaux de Paris, etc. Paris: Bureaux du "Progrès médical," 1885. Pp. 270.

Transactions of the American Surgical Association. Volume the Second. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: Printed for the Association, and for sale by P. Blakiston, Son & Co., 1885. Pp. xl–531.

Lectures on Diseases of the Nervous System, especially in Women. By S. Weir Mitchell, M. D., Member of the National Academy of Sciences, etc. Second Edition, Revised and Enlarged, with Five Plates. Philadelphia: Lea Brothers & Co., 1885. Pp. 287. [Price, $1.75.]

Manual of Nervous Diseases, and an Introduction to Medical Electricity. By A. B. Arnold, M. D., Professor of Diseases of the Nervous System and Clinical Medicine, College of Physicians and Surgeons, Baltimore. With Illustrations. New York: J. H. Vail & Co., 1885. Pp. vii–170.

The Year-Book of Treatment for 1884. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1885. Pp. 316.

Typhoid Fever and Low Water in Wells. By Henry B. Baker, M. D., Lansing, Mich. [Reprinted from the "Annual Report of the Michigan State Board of Health" for the Year 1884.]

Western Reserve University, Medical Department, Cleveland, O. Announcement, 1885–'86.

Jahresbericht des Verwaltungsrathes des Deutschen Hospitals und Dispensary in der Stadt New York, 1884.

Controlling Sex in Generation, etc. By Samuel Hough Terry. New York: Fowler & Wells, 1885. Pp. 147.

The Physiological Effects and Therapeutical Uses of Hydrastis. By Roberts Bartholow, A. M., M. D., LL. D., etc. [Reprinted from "Drugs and Medicines of North America."]

Should Experiments on Animals be Restricted or Abolished? By Robert Meade Smith, M. D., etc. [Reprinted from the "Therapeutic Gazette."]

Methods of studying the Physiological Action of Drugs. By Robert Meade Smith, M. D., etc. [Reprinted from the "Therapeutic Gazette."]

Pelvic Hæmatocele, with a New and Successful Treatment. By Louis B. Couch, M. D. [Reprinted from the "Chironian."]

Kussmaul's Coma. By Robert Saundby, M. D., etc. [Reprinted from the "Birmingham Medical Review."]

Proceedings of the Twenty-ninth Annual Session of the Kentucky State Medical Society.

Report of Committee on School Hygiene in Tennessee. By Daniel F. Wright, M. D., etc. [Reprinted from the Second Report of the State Board of Health.]

Vital Statistics in Tennessee. A Report by J. D. Plunket, M. D., etc. [Reprinted from the Second Report of the State Board of Health.]

Experimental Researches on Cicatrization in Blood-vessels after Ligature. By N. Senn, M. D., of Milwaukee, Wisconsin. [Reprinted from the "Transactions of the American Surgical Association."]

The Thermic Phenomena in Contraction of Mammalian Muscles. By Robert Meade Smith, M. D., etc. [Reprinted from the "Archives of Medicine."]

The Oleates. Further Investigation into their Nature and Action, etc. By John V. Shoemaker, M. D., etc. [Reprinted from the "British Medical Journal."]

The Treatment of Diseases of the Skin by Novel Means and Methods. By John V. Shoemaker, M. D., etc. Philadelphia, 1884.

The Spinal Arthropathies (a Clinical Report of Six Cases of Charcot's Joints). With Illustrations. By A. Sydney Roberts, M. D., etc. [Reprinted from the "Medical News."]

The Cure of Writer's Cramp. By A. De Watteville, M. A., M. D., B. Sc., etc. [Reprinted from the "British Medical Journal."]

The Physiological Action of Cocaine on the Common Frog, with Special Reference to its Action on Organs and Tissues. By Hermann M. Biggs, M. D., New York. [Reprinted from the "Journal of the American Medical Association."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, APRIL 4, 1885.

A LIFE-SAVING LESION.

IF it is true that "of our pleasant vices do the gods make whips to scourge us," it is consolatory to reflect that our minor physical ills ofttimes ward off more melancholy visitations. The helping hand lent the incessant brain-worker by an attack of migraine is a familiar example, but who would ever have imagined that good—even to the saving of life—might come from surgical emphysema? Yet such is the optimistic view taken by Dr. Henry R. Silvester, who contributes to a recent issue of the "Lancet" an article entitled "On Life-saving from Drowning by Self-inflation." Whatever dangers the financier may conjure up at the mention of the term, it is evident that, from a life-saving point of view, inflation is not altogether abominable. Dr. Silvester's plan is, that a person in danger of drowning should make a small puncture—"not larger than would allow, for instance, of the passage of an ordinary blow-pipe"—in the mucous membrane of the mouth at the reflection of the cheek from the lower jaw, at a point about opposite the first molar tooth; and that, shutting his mouth and holding his nose, he should make a number of forcible blowing efforts, thus distending the subcutaneous spaces of the neck with air enough to make him float.

Who can doubt that a person who had subjected himself to this process would outsail the dusky maiden who, having donned a patent inflatable life-preserving suit, to guard against casualties, was gently wafted out into the Gulf of Mexico, bearing the parson as a passenger, when, by all the rules of propriety, she ought to have been baptized in the Mississippi River? The operation, says the author, is capable of being "performed without assistance in a moment, under the most adverse circumstances, and by the most ignorant, if once instructed in it, and without danger or pain, and suitable alike for the roughest sailor or the most delicate female." Some of these statements are afterward modified. For instance, the operation is said to be "*almost* painless," and some rude apparatus is admitted to be necessary—"in an emergency the point of a penknife, or even a sharp-pointed splinter of wood." Now, it is well known that a man in danger of drowning is *nunquam non paratus;* therefore he will always have so trifling an implement as a penknife or a splinter of wood ready. We would suggest, however, that it may take two hemispheres to perfect this neat scheme, and hint that ours is a country where nothing that can be done by machinery is ever done by ordinary appliances. Let Dr. Silvester ponder the "amniotome"—that beautiful invention of one of our countrymen! When we remember that "Lord" Timothy Dexter made a fortune by sending a cargo of warming-pans to the torrid zone, what may we not forecast as the brilliant future of that device which none but specialists in rupturing the membranes have thus far esteemed at its true worth? Henceforth it need never be said of a man equipped with the "amniotome," and "once instructed" in Dr. Silvester's plan, that he

> "ever, as the minutes flew,
> Entreated help or cried 'Adieu.'"

SALT.

FROM our familiarity with the value of salt as a condiment, and with its utility in the preservation of meat, it may readily occur to us that there are still other applications of this substance that are worthy the attention of physicians and sanitarians.

The unquestioned benefit derived from salt-water baths in many chronic affections is undoubtedly due in part to the circumstances attending their use. The summer trip to the seaside in August, which appears to be almost a fashionable necessity, in very many cases yields a grateful interest on the investment, in the way of renewed health and vigor, except when indulgence in the varied dissipations of the prominent seaside resorts counterbalances the good that would otherwise accrue. The fresh air, the out-door life, the very exercise of bathing, contribute in a measure to the end attained; but the salt itself exercises an influence that is not to be overlooked, as it stimulates the skin, quickens the circulation, and often appears to promote the activity of the organic functions. When we consider that the water of the sea contains only about two per cent. of chloride of sodium, with a varying but extremely minute proportion of other ingredients, we see how easy a matter it is to imitate it at home when the summer vacation is over, and thus to prolong the benefit and comfort that have been derived from salt-water bathing. A cupful of salt to the basinful of water is all that is requisite for a sponge bath; while those who possess the luxury of a metropolitan bath-tub will find that a peck of salt to the tubful of water will yield a more prolonged enjoyment and corresponding benefit. No one, we suppose, but a believer in infinitesimals would pretend that the minute quantities of the other chlorides, or of the sulphates and carbonates found in sea-water, exerted any appreciable effect on the economy, and the influence, such as it is, may be fairly attributed to the chloride of sodium alone.

The antiseptic properties of salt suggest a number of useful applications. In surgery and midwifery carbolic acid and corrosive sublimate have rendered great services, but at the same time their employment is not wholly without danger, although comparatively weak solutions are made use of. Salt, even in very strong solution, would be harmless, and might possibly replace the more active antiseptics in many cases. As a cleansing application to foul ulcers and wounds salt solutions have been used from the earliest times. In cases of indolent action, with large, pale, and flabby granulations, the astringent effect of the salt would doubtless prove of service, as well as in many cases of excessive mucous secretion.

There is yet another application of salt, and one that cer-

tainly merits more extensive investigation. We refer to the disinfection of night-soil and other sewage. In cities, a few handfuls of salt thrown daily into the water-closets, and an occasional handful thrown into the wash-basins, would go far, we believe, toward counteracting the noxious effects of the omnipresent sewer-gas, against which sanitary efforts have so long been directed. In the country a quart or more of salt used daily in the privy vaults would serve an equally useful purpose.

MINOR PARAGRAPHS.

LAPAROTOMY IN PROFESSOR BRAUN'S CLINIC.

In a recent number of the "Wiener medicinische Wochenschrift," Dr. Felsenreich publishes a report of a hundred cases of laparotomy, representing the operations done by Professor Braun during the period from 1879 to 1883. Of these operations, sixteen were myomotomies, with ten recoveries; and seventy-four were ovariotomies, of which sixty ended in the recovery of the patients. On recalling the facts that all the operations were performed in the public lecture-room, and that the after-treatment was conducted in a large general hospital, the patients being almost invariably in an unpromising physical condition, these statistics will not appear so bad as at first sight. It is worth noting that Braun always performs a laparo-hysterotomy for removing solid tumors of the uterus, and, moreover, that he secures the stump by the extra-peritoneal method.

ALEXANDER'S OPERATION.

As a fresh reminder that there is "nothing new under the sun," we read in a late number of the "Centralblatt für Gynäkologie" that M. Alquié suggested the operation of shortening the round ligaments, as a cure for prolapsus uteri, long before that idea had occurred to Alexander. Subsequently Aran thought of applying this same method to the cure of retroversion. Freund also is credited with having studied out the operation and performed it on the cadaver. The important point is that, while the procedure had occurred to others as a feasible one, Alexander was the first to put it into effectual practice. Whether or not the operation is called by his name, makes little difference.

MEDICAL FEES IN VIENNA.

According to the "Progrès médical," physicians are more numerous in Vienna than in any other city in Europe; there are ten times as many, in proportion to the population, as in London. This implies a dismal prospect for the younger men, who must be content with very modest fees. One practitioner (whose name is not mentioned) is credited with forty thousand dollars a year, but the rest "*ont tout lieu de désespérer.*" There is a great deal of complaint against the vast system of medical charities, which are extended indiscriminately and are taken advantage of by patients who are amply able to pay a physician.

THE GORDON MEMORIAL HOSPITAL.

It is proposed to establish a hospital at Port Said, in Egypt, in memory of the English hero who devoted his life to that unhappy country. It is a good idea, and one that will meet with universal approval. The "Lancet" very aptly remarks in regard to this scheme: "It will be well if we are permitted to leave this one trace of benevolence in the region where we have left so many memorials which posterity will view with less complacency."

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 31, 1885:

DISEASES.	Week ending Mar. 24.		Week ending Mar. 31.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	4	0	0	0
Typhoid fever	10	6	5	1
Scarlet fever	97	14	92	19
Cerebro-spinal meningitis	7	7	7	6
Measles	138	21	154	18
Diphtheria	51	23	78	23

The following is a summary of the cases and deaths reported during the three months ending March 31, 1885: Typhus, 31 cases; 1 death. Typhoid fever, 111 cases; 40 deaths. Scarlet fever, 1,093 cases; 203 deaths. Cerebro-spinal meningitis, 72 cases; 65 deaths. Measles, 1,890 cases; 349 deaths. Diphtheria, 779 cases; 345 deaths.

The American Surgical Association will hold its next annual meeting in the Army Medical Museum building, at Washington, on Tuesday, Wednesday, Thursday, and Friday, April 21st, 22d, 23d, and 24th. According to the preliminary programme, papers will be read as follows: "The Field and Limitation of the Operative Surgery of the Human Brain," by Dr. John B. Roberts, of Philadelphia; "An Experimental and Clinical Study of Air Embolism," by Dr. N. Senn, of Milwaukee; "Nephrectomy: its Indications and Contra-indications," by Dr. Samuel W. Gross, of Philadelphia; "Nephro-lithotomy," by Dr. L. McLane Tiffany, of Baltimore; "The Healing of Arteries, in Man and Animals, after Ligature," by Dr. J. Collins Warren, of Boston; "The Immediate Cure of Fistula in Ano," by Dr. Stephen Smith, of New York; "The Ætiology of Tetanus," by Dr. P. S. Conner, of Cincinnati; "A Case of Cholecystotomy," by Dr. C. T. Parkes, of Chicago; "Some Points in the Surgery of the Hypertrophied Prostate," by Dr. J. W. S. Gouley, of New York; and "Phosphorus Necrosis: its Causes, Treatment, and Prevention, with Reports of Cases," by Dr. J. Ewing Mears, of Philadelphia.

The Denver Medical College held its annual commencement exercises on Thursday, March 26th, and graduated a class of six candidates. Professor Charles Denison delivered a remarkably forcible address.

M. Dujardin-Beaumetz, says the "Union médicale," has been made an officer of the Legion of Honor.

The University of Vienna.—The "Medical Times and Gazette" announces the promotion of Dr. Anton Wölfler, Dr. Hofmopl, Dr. Ultzmann, and Dr. Englisch to professorships.

A Female Candidate for the License to Practice is credited by the "Medical Times and Gazette" with having written in her examination papers: "Bleeding from the nose is neither Venus nor artillery; it is caterpillary." Is our contemporary sure that this did not occur in the country where most of the colleges do not require an entrance examination?

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 22, 1885, to March 28, 1885:*

Taylor, M. K., Major and Surgeon. Granted leave of absence for one month, to take effect about April 15th. S. O. 46, Department of the Missouri, March 21, 1885.

Havard, Valery, Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 65, A. G. O., March 21, 1885.

RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Gaston, California. Post Surgeon. S. O. 30, Department of California, March 20, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending March 28, 1885.*

BATTLE, K. P., Assistant Surgeon. To proceed to Memphis, Tenn., for temporary duty. March 27, 1885.

The Death of Professor Frerichs is announced in the "Medical Times and Gazette" as having taken place in Berlin on the 14th of March. The deceased was best known to the profession in this country by his advocacy of the doctrine that uræmia is due to the formation of carbonate of ammonium from the decomposition of the urea retained in the blood.

Society Meetings for the Coming Week:

MONDAY, *April 6th:* New York Academy of Sciences (Section in Biology); Brooklyn Anatomical and Surgical Society (private); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Chicago Medical Society (annual); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; St. Albans, Vt., Medical Association (annual).

TUESDAY, *April 7th:* New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Elmira, N. Y., Academy of Medicine; Medical Societies of the Counties of Broome and Niagara, N. Y., and Essex and Union, N. J.; Chittenden County, Vt., Medical Society.

WEDNESDAY, *April 8th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Tri-State (New York, Pennsylvania, and New Jersey) Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association.

THURSDAY, *April 9th:* New York Laryngological Society (private); Brooklyn Pathological Society; Society of Medical Jurisprudence and State Medicine, New York; Harlem Medical Association of the City of New York; South Boston, Mass., Medical Club (private); Medical Society of New London County, Conn. (annual).

FRIDAY, *April 10th:* Yorkville Medical Association, New York (private); Medical Society of the Town of Saugerties, N. Y.

SATURDAY, *April 11th:* Obstetrical Society of Boston (private)

Letters to the Editor.

ENCEPHALIC NOMENCLATURE.

NEW YORK, *March 26, 1885.*

To the Editor of the New York Medical Journal:

SIR: While in accord with the general principles underlying Professor Wilder's nomenclatural reform, and, indeed, having accepted many of them in writing and teaching, I would call attention to the objections which may be raised against the term "syringocœlia." By general consent, the spinal segment of the central nervous system is termed the myelon, and, to harmonize, the term should be "myelocœlia." The existence of a rhomboid sinus in the lumbar cord of birds, its *inferential* existence in extinct saurian reptiles, as well as the temporary dilatation observed in the same region of all examined amniotic and batrachian embryos, do not constitute, I venture to think, sufficient reasons for founding a "rhombocœle." On similar grounds, the embryonic opening of the "myelocœlia" into the neurenteric canal might rank with the porta (Monroi) as one of the primitive openings of the neurocœlia, and equally deserve a name. The term is further objectionable because "Syringomyelie" of the Germans, in contradistinction to *Hydromyelus* (which latter is a genuine dilatation of the central canal of the cord), is used to designate a pathological channel excavated in tissues which are normally without a cavity. I think that, unless it is generally agreed to give a segmental name to that part of the cord containing the rhomboid sinus of birds, a fundamental modification of the cœlian classification is not warranted.

In connection with the question of priority of description of the porta (of Monro), I would remark that Burdach's surprise at Gall's denial of its existence would have been mitigated had he borne in mind the ambiguity of Monro's description, to which Wilder directs attention in his first communication on the subject. Gall was led to believe that Monro referred to the existence of a communication between the lateral ventricles *through* the septum lucidum. He was correct in denying such a condition, as he was in many other matters pertaining to encephalic anatomy.

Respectfully yours,

E. C. SPITZKA.

RUPTURE OF THE UTERUS.

STAPLETON, S. I., N. Y., *March 25, 1885.*

To the Editor of the New York Medical Journal:

SIR: I observe in your issue of March 14, 1885, an article upon "Rupture of the Uterus," by Dr. Frank W. Ross, of Elmira, N. Y., reporting a case from the practice of Dr. William Woodward, of Big Flats, Chemung County, N. Y., in which the entire contents of the uterus at full term escaped, unruptured, into the abdominal cavity; with the statement: "it being the second ever recorded (the other by Hamilton) in which the entire contents of the uterus escaped, unruptured, into the abdominal cavity." Permit me in this connection to invite attention to an article upon "Rupture of the Uterus," by myself, published in the "American Journal of Obstetrics" for April, 1881. In this article one hundred cases are reported, among the number there being several where the same condition was found to exist as that mentioned by Dr. Ross.

Very respectfully,

R. P. M. AMES, M. D.,
Passed Assistant Surgeon, U. S. Marine-Hospital Service.

A PROPOSED PHYSICIANS' EXCHANGE.

To the Editor of the New York Medical Journal:

SIR: Referring to your editorial and the quoted remarks of a correspondent, in the journal for February 28th, I heartily second the suggestion of a Physicians' Exchange Bureau. As a practical nucleus for such an enterprise, I would suggest to the publishers of the journal that hereafter they devote a little space, under the head of "Exchange Column," to the wants and announcements of patrons. Let the latter be restricted to, say, five lines each, to be inserted three times, the advertising clerk to keep a register of each announcement, with a number attached to each, inquirers to be furnished with full address of advertiser, on application with stamp. The charge for registration and insertion of a skeleton announcement to be, say, $1, or other reasonable fee.

Whole columns of these wants and announcements appear in English medical journals, and some of the more obscure publications in this country have tendered a free list of the kind to their patrons; but, as yet, none of our first-class journals have ventured to try a paying plan. I believe such a department will soon become an indispensable medium when once fairly inaugurated. Will the "New York Medical Journal" undertake to be the pioneer in the movement?

Yours, Rustic.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of March 16, 1885.

The Second Vice-President, Dr. C. T. Fenn, in the Chair; Dr. Liston H. Montgomery, Secretary.

Locomotor Ataxia; its Diagnosis and Treatment in the Pre-ataxic Stage.—Dr. D. R. Brower read a paper with this title. The pre-ataxic stage, he said, although easily recognized, was usually overlooked, and the result was that the diagnosis was not commonly made until the case was incurable. The diagnostic points were: Sensory disturbances (lightning pains); disturbances of the patellar, pupillary, and vesical reflexes; and sexual, gastric, mental, and muscular derangements. The various sensory disturbances were sometimes absent, but the patellar-tendon reflex was so rarely normal that practically its abolition was of great diagnostic significance. Perhaps two persons in a hundred were naturally destitute of this reflex, and it was therefore of importance to ascertain, in any given case, that it had been present during health. If the reflex was wanting, and the quadriceps extensor cruris responded normally to faradization, the sign was diagnostic. Loss of the pupillary reflex, without impairment of the accommodation, was a most striking symptom. The other phenomena enumerated were then described, and the author proceeded to consider the treatment of the pre-ataxic stage. The foundation of the treatment should be absolute and prolonged rest in the recumbent posture. This, he was aware, was an innovation, but the rule that a diseased organ needed rest applied to the spinal cord as well as to any other. As had been shown by Dr. Weir Mitchell, the judicious use of massage and passive movements would serve to keep up the general nutrition and prevent wasting of the muscles. In view of the frequency with which syphilis lay at the bottom of the disease (owing, he thought, to the inadequacy with which that affection was usually treated), anti-syphilitic remedies must be used; mercury should be pushed to a point short of salivation, and iodide of potassium given in drachm doses three times a day, or in larger amounts if they could be tolerated. Iodide of sodium, while not so efficient, was often better borne. Vichy salt was a good corrigent to be used with these large doses of mercury and iodide of potassium. With non-syphilitic patients, and with those who did not improve under this treatment, nitrate of silver might be used with advantage, in doses of from a quarter to half a grain. Want of success with this drug was often due to its decomposition before it had entered the circulation, and some excipient should be employed that would prevent this. He had found hyposulphite of silver, administered subcutaneously, non irritating and satisfactory—a grain and a half daily until ninety grains had been given. Another drug of undoubted value was ergot, in drachm doses three or four times a day. Cold baths, of a temperature of 65° or 70° F., were also of service, while hot baths were highly injurious. Strychnine should be avoided. A number of clinical histories were then given, showing marked improvement, if not complete cure, as the result of this plan of treatment.

Dr. H. Gradle remarked upon the uncertainty as to whether the pre-ataxic symptoms were not really due to some other disease, and alluded to the first case on record of the cure of locomotor ataxia by stretching the sciatic nerve (Landolt's case, in 1875 or 1876), in which the spinal cord and the posterior roots of the nerves were found healthy after the patient's death, which was due to some other disease.

Dr. G. C. Paoli said that in but few cases had stretching of the sciatic nerve, for any form of difficulty, resulted in recovery or in benefit. His own experience did not bear out the view that syphilis was a frequent cause of locomotor ataxia; he was inclined to agree with Duchenne, that masturbation was a common cause. It occurred also in persons whose surroundings were insanitary. The free use of iron in the treatment would irritate the mucous membrane of the alimentary canal, but he thought it should be given in moderate doses, with iodide of potassium.

Dr. R. Tilley thought the pre-ataxic stage might extend over a long period, as long as thirty years, which made it difficult to say in any given instance what it implied. So far as the literature of the subject was concerned, he thought syphilis was mentioned as a cause by far the most frequently. He coincided with the author of the paper in regard to the injurious effects of hot baths, including the Turkish bath.

Dr. Brower closed the discussion, stating that the pathology of the disease was somewhat uncertain, that he did not agree with Dr. Paoli as to the agency of masturbation in producing it, and that he had wished to lay stress in his paper on the treatment of the pre-ataxic stage by rest.

Empyema; Paracentesis and Drainage.—Dr. E. Fletcher Ingals read a paper with this title, in which he called attention to a method of treatment that he had followed for a number of years, and that he had described in the "Transactions of the Illinois State Medical Society" for 1877. Aspiration would cure the disease in a limited number of cases; free incision would cure a large percentage of those patients who survived the shock of the operation; but he had no doubt that many of the deaths after the radical operation were due to the operation itself. Loomis had said that twenty per cent. of the patients in whom an opening took place spontaneously recovered, while only twelve and a half per cent. of those who were operated upon recovered. This, however, must not be taken as an argument against any operation, for recent statistics would show a much larger proportion of recoveries after operations by the better methods than without them. The essential points were to empty the cavity slowly and keep it thoroughly disinfected. Aspiration would seldom meet these requirements, but it was always best to precede the radical operation by aspiration, withdrawing the pus several times if necessary, so that dilatation of the lung and contraction of the chest-wall might proceed to such an extent that all the fluid could be removed at one time without causing a distressing or suffocative sensation. After this, a few days should be allowed to elapse before the radical operation was performed.

To secure proper drainage and prevent the loss of drainage-tubes in the pleural cavity, he prepared the tubes as follows: A piece of the best rubber tubing, two feet long, nearly a quarter of an inch in diameter, and with a caliber of an eighth of an inch, was cut half through near its middle, so that, when folded at the cut, one end would project an inch beyond the other. Thus folded, the two parts were fastened together, at a point about an inch and a half from the cut, with a silk suture, which

was tied on the inside of the perforated tube. One portion of the tube should be perforated about half an inch from the cut, and the other portion in several places over an extent of three or four inches along the part that was to hang within the chest. As a matter of convenience, the outer ends of the tubes were tied tightly, so that pus would not escape through them during their introduction. The difference in the length of the two portions enabled us to know which one of them it was that had the multiple perforations, a matter that was often of importance in the after-treatment. Having made a small incision through the skin, he plunged a broad, flat trocar through it into the pleural cavity, the cannula being broad enough to allow of the ready passage of the two tubes. As the trocar was withdrawn, the pus flowed in a full stream, but the flow was at once stopped with the thumb until the drainage-tubes were picked up. The thumb was then removed, the tubes were pushed rapidly into the cavity to the proper depth, the cannula was withdrawn, and the tubes were left in position. Not more than an ounce or two of pus would escape, and the tissues would contract close about the tubes, preventing the entrance of air. A piece of sheet rubber, about three inches square, with two small holes near its center, was then slipped over the tubes down to the chest-wall, so as to prevent the ingress of air if the tubes became loose. To secure the tubes perfectly, a piece of the same tubing, half an inch long, was slipped over each of them, two strong loops having been tied to it. These were carried down close to the chest-wall, and long strips of adhesive plaster were passed through the loops and around the chest. The tubes hung between the folds of a bandage that was then passed over all. After completing the dressing, he opened the tubes, attached longer pieces by means of bits of glass tubing, and washed out the pleural sac with a twenty-per-cent. solution of carbolic acid at a temperature of 101° F., until the cavity was clean, care being taken to exclude air. The tubes were then closed by tying them. Subsequent cleansings should be made two or three times a day, and very soon this could be done by the patient himself or the friends. Two weeks after the operation, one of the tubes might be left open, hanging in a bottle, which the patient could carry in his pocket. This operation he had performed many times, and he thought nothing could be more satisfactory in recent cases; even where resection of the ribs might afterward be needed, he thought the chances were much improved by first resorting to this procedure. Eighty per cent. of the patients would recover.

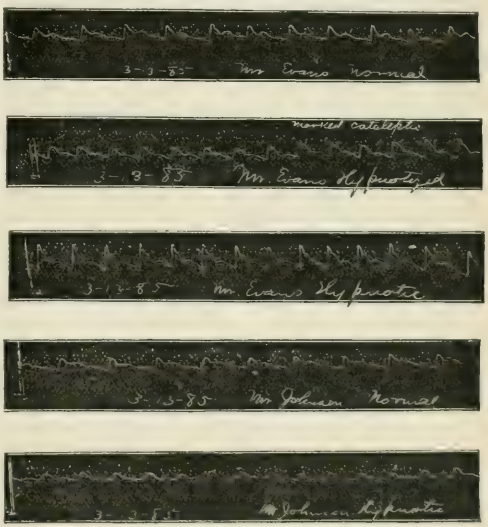
The subject was discussed by Dr. TAYLOR, of New York (present by invitation), Dr. TILLEY, Dr. H. J. REYNOLDS, and the author of the paper.

Hypnotism.—Dr. G. C. DAVIS read a paper on this subject in which, after having traced the history of numerous phases of the belief in a supernatural power of the mind over the body, he expressed his conviction that what we now knew as hypnotism had been sufficiently examined to warrant its further study in connection with medicine. For the sake of investigation, he would divide hypnotism into three forms, the cataleptic, the lethargic, and the somnambulistic. Hypnotism was an unusual physiological condition brought on by a perverted action of certain parts of the encephalic centers, and so powerful a means of influencing the nervous system demanded investigation with a view to its therapeutic employment. When a hypnotized person was in a state of lethargy, the eyes were usually closed, the limbs were flaccid, and the body was powerless; the pneumograph showed the respiration to be deep and somewhat irregular; the tendon reflexes were generally exaggerated, and neuro-muscular over-excitability was a marked characteristic.

After having read the paper, the author introduced three persons to illustrate the three hypnotic states that he had mentioned. Each of them showed an acceleration of the pulse very soon after entering the "trance" state. The cataleptic subject's limbs were perfectly rigid, and remained wherever they were placed; they could be moved very little, and invariably returned to their original attitude. While these persons were under Dr. Davis's influence they obeyed every command and performed various antics. One of them seemed thoroughly frightened when he was told to open his eyes and look at the ghost of George Washington.

An animated discussion ensued, in which one of the speakers exclaimed: "As a scientific fact, this exhibition is worth that" (snapping his fingers)! It was suggested, too, that one of the subjects might be a "professional," but this was accompanied by the statement that it was not intended to question Dr. Davis's sincerity.

Dr. DAVIS reiterated his belief in the scientific importance of the subject, and added that he was not afraid to investigate anything. He then showed the following sphygmographic tracings:



CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of February 7, 1885.

Dr. WILLIAM H. PORTER in the Chair.

Phthisis.—The CHAIRMAN opened the discussion with a paper. [It will be published hereafter.]

Dr. ELLIOTT said that since the discovery of the *Bacillus tuberculosis*, by Koch, nearly all observers who had been at all careful in their method of technique had succeeded in finding the microbe, and in isolating it so as to satisfy themselves that it had an identity of its own. Others, who were less careful, had found the bacillus, as they stated, in various indefinite fluids, such as water, normal sputa, urine, and the expectoration of various forms of lung disease, and on the strength of such cursory investigations had at once denounced Koch and his germ. While careful observers were satisfied of the identity of this germ, they were not agreed as to the part it played in the specific disease, tuberculosis. There was a tendency on the part

of extremists to make us believe that many or nearly all cases of chronic phthisis were tuberculosis, that nearly all enlarged glands were tubercular, and in no department were they so sanguine as in the chronic suppurative diseases of bone. They classified all cases of carious inflammation, of suppuration of the vertebræ or of the joints, as distinctly tubercular, and would have the diagnosis based upon the discovery of one or two bacilli in an examination of from thirty to forty specimens. It seemed to him to be as unreasonable to classify all suppurative diseases of bone under the head of tubercular as it would be to class all the chronic diseases of the liver under the same head. But we knew that the liver was subject to syphilitic infiltration, fatty degeneration, and tuberculous deposit; was it not possible that the same variety of diseases could be ingrafted upon a diseased bone? This seemed the more probable since recent histological researches had demonstrated that bone was similar in structure to the connective tissue in which particles of mineral matter had been deposited. Like connective tissue, it had its vascular and nervous supply, and on this account, if on no other, it would be unreasonable to place all its affections in the category of tubercular. Of course this condition could be ingrafted upon a suppurative disease of bone, just as it might become the sequela of acute lobar pneumonia where, resolution failing to take place, an abscess formed and hectic and tuberculosis were developed. The autopsies in these cases showed that minute miliary tubercles were deposited about the abscess and sometimes in the other lung. It was asserted that in all cases of chronic suppurative bone disease the *Bacillus tuberculosis* was present, and that in cases that tended to a cure it became encapsulated; but that, if a general tuberculosis supervened, it escaped from its bondage and was carried to distant parts of the body. Most patients with caries recovered under the present modes of treatment; in fact, its general tendency was to recovery. Of course the condition incident to caries predisposed to tuberculosis. Competent observers must succeed in isolating the germ, and, by inoculating it, in producing the disease, before we should be able to say that the evidence was sufficiently strong to compel a universal acceptation of the theory. If this was done, he did not think that tuberculosis, especially in bone disease, would be found to be so common as many of the German observers would have us believe.

Dr. W. M. Leszynsky, during a three months' experience in an asylum for the insane, had seen a number of patients with phthisis who, although excavations had taken place, had no rise of temperature; in fact, none of the rational symptoms of the disease at all, everything else seeming to be masked in the mental derangement.

Dr. J. M. W. Kitchen had studied the disease entirely from a clinical standpoint, which in these days of "pure cultures" and microscopical investigation was not very fashionable. His consideration of the subject had, however, led him to some pretty definite conclusions. He thought that the causes might be said to be three: predisposing, intermediate, and direct. He was undecided with regard to the direct cause, but did not consider that Koch's theory was proved as yet. The predisposing cause was malnutrition in every case, while the cause of the malnutrition might be congenital as an anatomical malformation, such as a lung that was too large or too small; or it might be immediate, as in syphilis; or the cause of the malnutrition might rest with the heart or the nerves. He believed in hereditary habit and in an inbreeding of consumptives for generations, so that the descendants of phthisical parents, when exposed to a direct cause, readily developed the disease. The intermediate cause he considered to be dependent upon an active or passive congestion, so that pulmonary phthisis was set up in a tissue that was in a bad state for resistance. Of course this was merely observation: there was no actual proof. He also considered catarrhal pneumonia as an intermediate cause, because when a lung was in this condition it soon became badly nourished, and then could readily acquire tuberculosis; but tuberculosis might be present before the pneumonia. He had no faith in local applications in the treatment of this difficulty. It was, in fact, almost impossible to make any applications to the lungs in such a way as to exercise any curative influence, and he believed that the proper method was to build up the system as much as possible, in the hope that a cure would follow as the resistance of the tissues was improved. He was himself an example probably of a cured phthisis, as several years ago he was told by several prominent physicians of the city that he was suffering with the disease. He had immediately started with the method of treatment just indicated, going to the country and working in the open air, in order to place his system in the best possible condition to resist the progress of the disease; and he was convinced that his recovery was due to that course. He did not believe that there was any specific cure for phthisis, even though it should be proved to be a specific disease.

Dr. M. P. Jacobi said that it was well known that children as a rule experienced a certain amount of immunity from the disease so far as the lungs were concerned. Out of three hundred and twelve cases of phthisis in children, collected by Rilliet and Barthez, in forty-seven the lungs were found intact. This was in accord with the theory which considered the infection of the lung as secondary to tuberculosis of the bones, which was such a common condition in early life. Hüter maintained that one out of twenty cases might be averted by scraping the affected bone. Those who opposed this theory noticed how often caseous infiltration was present, and how many scrofulous children there were in whom phthisis did not occur. This was no argument, however, for tuberculosis could be just as well confined to external manifestations without any complicating visceral lesion as syphilis could. The exciting cause was frequently a broncho-pneumonia, though in some cases undoubtedly the infection was first received by the glands. Broncho-pneumonia with engorgement of the bronchial glands might follow pertussis, and the pneumonia would then subside, perhaps the patient appearing quite well, but the swelling of the glands still persisting. After a period of rest, there would be an apparent relapse of the whooping-cough. Paroxysms which might be mistaken for those of pertussis were sometimes present, as well as cyanosis from the pressure of the enlarged glands, with distension of the jugular vein, and dullness in the inter-scapular region could usually be made out, followed by other foci of infection in the lungs, until at last the child succumbed to diffuse tuberculosis.

Dr. Wendell C. Phillips read a paper upon Intra-pulmonary Injection, with an account of two cases. He also presented a patient upon whom he had performed the operation. [The paper will be published hereafter.]

Dr. A. H. Smith had had no personal experience with the intra-pulmonary injections, but was watching some cases in which he proposed trying it. He considered that it was always desirable to watch a patient, in whose case it was intended to apply a new remedy, for some time before doing so, in order to appreciate the tendency of the disease.

Dr. Jacobi had treated a case of phthisis in this way some three or four years ago. There was a large cavity under the left clavicle, also signs of softening in the right lung. The emaciation was extreme, the patient having suffered for several years. It was impossible to say whether or not anything was accomplished by the treatment, as the patient soon succumbed to the disease. The needles used were larger than those employed by Dr. Phillips, but were never introduced the whole three inches.

Four or five days were allowed to elapse between the operations. There was very little pain experienced, and iced cloths were immediately applied over the seat of puncture, as it was feared that a pleuritic inflammation might be set up. The patient raised a little blood after one of the injections, but whether or not she had previously been subject to hæmoptysis did not appear in the history. It was evident that the injections, if they had no beneficial effect, did no harm.

Dr. S. S. Burt had occasionally seen a case of phthisis which seemed to be of syphilitic origin, but he had not found anything like the proportion indicated in the paper of the evening. He had not seen the cases that had come under his observation very early in the disease, as patients were usually in the third stage when they came to a hospital. He did not consider that phthisis ever developed from acute lobar pneumonia unless tubercle were present, but he recalled one case in particular where an abscess and cavity had developed after a pneumonia under the right clavicle. He did not think that the disease was directly inherited, but that the bad constitution which might predispose to the inroads of the disease might be. After the tubercles were developed our resources were very limited; we could only palliate the cough, give nourishing food, and suit the climate to the conditions of the case in hand. It was a mistake, however, to send the patients away in advanced cases, as many undertook the journey in search of health only to die soon after their arrival at the selected locality. The division into three stages was entirely arbitrary, and he thought that two stages—that of consolidation and that of excavation—would answer the purpose as well if not better. In the prognosis, other things should be taken into consideration besides the physical signs. If the pulse was good and the fever slight, even though there was considerable consolidation, the patient might be sent away with the prospect of some, if not considerable, benefit; but, if with a slight amount of consolidation there was also a very weak pulse and a good deal of fever, he did not consider that anything could be gained.

Dr. A. H. Smith said that it seemed to him, to go back to the question of phthisis being frequently due to syphilis, that the study of the first disease in the rural districts remote from our large cities, where syphilis was not and had not been known for generations, such regions not being without the range of possibility, would militate against the theory. Often in these districts phthisis prevailed perhaps to as great an extent as in the cities. He knew of a place where the population consisted of well-to-do farmers, whose ancestors had settled there a hundred or more years ago, and who had descended from that original stock with scarcely any admixture of outside blood, where, although syphilis had been unknown for years, the great destroyer of life was phthisis. He considered that malnutrition lay at the bottom of the development of the tuberculous condition, and that one factor having much to do with this malnutrition was ventilation. Paradoxical as it might appear, he thought that any one who was familiar with life in the country would agree that, while people had "all out-doors" to live in, they paid little or no attention to the proper ventilation of their dwellings and sleeping apartments, living in reality in worse atmospheres than usually obtained in our large cities; and to this cause he believed much of the pulmonary disease existing in those localities could be traced. As bearing upon this subject, as well as upon a specific cause for the trouble, the fact might be mentioned, which was, he thought, generally admitted, that in many sections where phthisis had not existed prior to their becoming resorts for such patients the disease was now found to prevail to a greater or less degree. This was the case, he had been told, in Colorado. It was also exemplified in some of the South Sea Islands, where phthisis had been absolutely unknown among the natives until the advent of Europeans, since which time the disease was developed without any admixture of the two races. It would, therefore, seem as though some specific germ was transported from place to place, and, having once obtained a foothold, remained to work its terrible results. He thought the disease was much more curable than in former times. We constantly saw evidences in the post-mortem room of cavities that had healed over, in some cases finding the crustaceous remnants, the *débris* which had undergone chalky transformation, and he thought that any one whose professional experience extended back over a number of years could recall patients with undoubted phthisis that had either entirely recovered or, after living a number of years, had died of some other complication.

So far as treatment was concerned, he thought that, putting aside the intra-pulmonary injections (which could have only a very limited application, confined to those cases where the phthisis was limited in the amount of lung tissue involved or in the case of cavities where there was but one, for the reason that we could not follow up a diffuse phthisis by a multiplicity of injections, in widely separated portions of the lung), the treatment had to lie in the direction of the improvement of the nutrition in every way possible, and it seemed to him that a systematic study of the methods of improving the nutrition would cover pretty much the whole treatment of the disease; he did not think that we had any specific remedy or treatment.

Dr. S. J. McNutt said that there seemed to be nothing peculiar in the indications for the treatment of the disease in children. Loomis probably had given more attention to the general subject of health resorts and to climatic treatment than any other American author. He advanced the well-known rules with regard to the sending away of patients with the disease, and added that the same general indications should be observed in regard to the children born of phthisical or decrepit parents. Change of climate and surroundings was often of the greatest importance to them. He knew of no such powerful agent in arresting phthisical tendencies in childhood as systematic physical exercise in the open air. This physical training should be begun in infancy and continued to adult life. All the influences that tended to the development of hyperæmia of the bronchial tubes, including impure air, should be avoided. Climate more than anything else, in his opinion, had a controlling influence over the development of phthisis, except when it was tubercular, when he had never observed that it had any effect. We knew of no locality, however, that exercised an absolute curative effect, or where a person was absolutely free from any danger of contracting the trouble. Altitude, although formerly supposed to exercise this power, was now proved not to do so, immunity being due only to the absence of the organic germs. Tubercular phthisis was not, as a rule, benefited by the change, and these patients did better in their own homes than anywhere else, but in the cases of the fibrous variety high altitudes, such as Colorado or the different resorts in the Rocky Mountain range, appeared to be peculiarly beneficial. In the catarrhal form great care should be had when recommending a change of air. High altitudes were apt to prove rather a detriment than an advantage in such cases, owing to the patients' liability to hæmorrhage. He did not think it was ever necessary to send patients out of our own country, as we could find every variety of climate within its boundaries. In reply to a personal question, Dr. Loomis had said that he knew of no locality that seemed to have such a beneficial effect upon children with this complaint as the Adirondacks. Coates called attention to the fact that in persons whose respiratory muscles were weak phthisis was apt to develop. This view was supported by the fact that persons living in high altitudes, where the air was

quite rare, and consequently greater respiratory exertion was necessary, seldom showed signs of succumbing to phthisis.

If phthisis could be shown to originate in imperfect expansion of the lungs, this fact would, in its turn, support the theory of a specific virus as an ultimate cause, because, if the air stagnated, the germ would have the opportunity to remain in the lung and develop. Koch had found that the bacillus was of slow development, at first at least, so that the absence of positive signs during a considerable period of its development was not at all remarkable.

Dr. F. R. Sturgis did not consider syphilitic phthisis a common affection. It was to be distinguished from the phthisis of tubercular origin by the absence of emaciation and hectic. There was usually some impediment to the respiration, and perhaps slight pain. The cough, if present, was slight, if the infiltration was disseminated through the lower and middle thirds of the lung. Given diffused dullness in the lower third of the lung in any case, without emaciation or fever, and with slight cough, he would suspect syphilis as a cause. If the affection was circumscribed, a cavity might be formed, in which case it would contain either some pus or a mucilaginous tenacious matter, such as was found in gummatous infiltrations elsewhere. Hæmoptysis rarely occurred, the lesion healed up, a cicatrix remained, and, of course, respiration was absent in that part of the lung. The speaker remembered a patient in Charity Hospital who had hemiplegia together with a tuberculo-crustaceous syphilide. He took five hundred grains of potassium iodide daily, under which treatment he improved and the hemiplegia disappeared. The dose was then diminished to three hundred grains daily, when an attack of dyspnœa occurred without expectoration, cough, or fever. There was no elevation of temperature. Physical examination showed consolidation in the middle third of one lung. The chlorides were not absent from the urine. The patient resumed the use of the five hundred grains of the iodide, and in three days the lung had cleared up. In children, pulmonary syphilis was usually diffused and not circumscribed. The speaker's experience did not coincide with that of the Chairman. He had not found this syphilitic affection of common occurrence, considering the great number of adults who had syphilis; indeed, he believed that a large proportion of male adults had syphilis at some period of their lives. They went through with it as they went through with the measles. The ratio of the hereditary was small as compared with that of the acquired cases. The speaker did not consider that the resolution of a given lesion under the use of the "mixed treatment" was any proof of a syphilitic origin, as both mercury and iodide of potassium had the property of causing absorption of infiltrations, from whatever cause, as was shown by the use of large doses of calomel in pneumonia of non-syphilitic origin.

(To be continued.)

Reports on the Progress of Medicine.

GENERAL MEDICINE.

BY HENRY C. COE, M.D., M.R.C.S., L.R.C.P.

Hay Fever. William S. Paget ("British Medical Journal") offers some suggestions with regard to this affection, from which he is himself a sufferer. He finds from his own experience that the active agent in causing the peculiar symptoms is not confined to the pollen of the *Gramineæ*, since the perfume of any flower in full bloom will produce a similar effect after the disease has been once established. During an intense heat and when an east wind is blowing, he finds that the attacks are especially aggravated. A bright light also increases, though it does not produce, the symptoms. The writer has little faith in internal treatment; as regards local measures, he insists upon the necessity of protecting the eyes against pollen, dust, and also the glare of the sun. Veils and goggles are recommended for this purpose. He has experienced great relief from the use of tepid collyria of water, or a solution of zinc, morphine, and hydrocyanic acid; cold applications should be avoided, since their after-effects are unpleasant. Nasal irritation may be relieved by the inhalation of a mixture of equal parts of liquor ammoniæ and carbolic acid.

The Treatment of Hay Fever.—Lennox Browne (*Ibid.*) disapproves of the use of insufflations in the treatment of this disease, as being unscientific in theory as well as in application. He has long employed ointments, his own favorite formula being a drachm of oil of eucalyptus to an ounce of vaseline. This is carefully applied to the mucous membrane of the nose by means of a camel's-hair brush. As a radical measure he recommends the cauterization of the mucous membrane by means of the galvanic cautery at a dull red heat, or by the use of nitric, acetic, or chromic acid. Local causes of irritation, such as relaxed uvula, polypi, or hypertrophic rhinitis, should always be sought for and removed. As regards internal remedies, the writer places a good deal of confidence in opium and belladonna, stating that these drugs, when combined, not only prevent the unpleasant physiological effects which follow the use of either when administered alone, but also exert a more marked influence over the disease. "I venture," he concludes, "to differ from the dictum that the treatment of hay fever need by any means be considered as unsatisfactory, provided only it be conducted on scientific, not on empirical grounds."

The Diagnostic Value of Westphal's Symptom in Some Unusual Forms of Spinal Disease.—Althaus ("Lancet") reports several cases, showing the importance of loss of the knee-jerk as a pathognomonic symptom in certain obscure forms of tabes. This condition must be associated with a fair amount of voluntary power, faradaic response, and involuntary contraction of the quadriceps femoris on direct percussion. If knee-jerk is present or exaggerated, even if the other symptoms seem to point to sclerosis of the posterior columns, we may safely exclude this lesion.

Carcinoma of the Peritonæum.—Atkinson ("Archives of Medicine") writes at some length on this subject. He prefers to regard so-called colloid cancer not as a distinct variety, but rather as a degenerative change, such as may be present in either the scirrhous or medullary form. Pain is the earliest and most important symptom; the local tenderness is probably due in most cases to accompanying peritonitis, as are also various gastric disturbances. Locally an enlargement of the abdomen will be noted, and in most cases nodular masses may be defined on careful palpation. Ascites is constantly present, and frequent masks the local condition. If a sanguinolent fluid is obtained by tapping, there is a strong suspicion that cancer of the peritonæum is present; the diagnosis is confirmed if this fluid deposits a sediment containing groups of epithelial cells. Œdema of the lower extremities is frequently marked. The patients rapidly emaciate, fever is present, metastatic deposits are formed, and death eventually takes place by exhaustion, peritonitis, hæmorrhage, or some pulmonary affection. The average duration of the disease is about six months. The ætiology is obscure, heredity being a possible element. The diagnosis is often difficult, especially in primary carcinoma, tuberculous peritonitis being most often confounded with it. Pain, absence of fever and of evidences of tubercle in other organs, and extensive ascites point rather to carcinoma. Paracentesis should be resorted to in case of doubt. The treatment is simply palliative.

The Pathology of Suppurative Inflammation of the Kidney.—Steven ("Glasgow Med. Journal") contributes an elaborate article upon this subject, illustrated by numerous original drawings. He divides suppurative inflammation into four classes, the first including metastatic renal abscesses, the second inflammatory conditions due to extension of disease from the lower urinary tract, while the third and fourth include, respectively, renal phthisis and perinephritic abscess. As a result of his observations on metastatic abscesses, the writer is inclined to accept the views previously expressed by pathologists, that micro-organisms are never absent. He agrees with Klebs as regards the cause

of suppurative nephritis in affections of the urinary tract—viz.: that it is due to organisms which are carried into the renal tubules and there excite suppurative actions; these organisms are doubtless introduced into the bladder during catheterization. Referring to tuberculous ulcers of the kidney, the writer states that he has detected numbers of Koch's bacilli in these lesions.

Speaking of perinephritic abscesses which seem to be entirely independent of any disease in neighboring parts, the suggestion is offered that perhaps the virus originates in the bladder, and is carried to the capsule of the kidney by the lymphatics of the ureter.

The Early Stages of Tuberculosis.—Gibson ("Edinburgh Medical Journal") reports at length a case which, in his opinion, proves that there is an early, and curable, stage of tuberculosis. The patient was a chemist, with a good family history, who two months previously had begun to notice that he perspired freely at night. He lost flesh rapidly, developed hectic, and, when examined, had harsh respiration and fine crepitant râles at the right apex. He was put on a mixture of atropine and sulphate of quinine with generous diet, under which treatment he improved rapidly, until in the course of four months he had gained sixteen pounds, and all unfavorable symptoms had disappeared.

The Nature and Treatment of Chorea.—Fox ("Bristol Medico-chirurgical Journal") regards chorea as a symptom of cerebral disease. He quotes three fatal cases of his own, in which careful examinations were made. In one of these the patient suddenly became comatose, and died. At the autopsy several blood-clots were found pressing upon the right hemisphere of the brain and minute emboli were present in the arteries of the corpora striata. A few vegetations were found in the mitral valve, though no murmur had been detected during life. In a second case death was equally sudden. General softening of the central white substance was found. Vegetations were present on the aortic valves, as had been suspected. The third patient was delirious for two weeks before his death. Small emboli were discovered in the vessels of the corpora striata. The mitral valve was slightly "beaded"; both lungs and the spleen contained infarctions.

Summarizing his observations upon the embolic origin of chorea, the writer states that vegetations are found on the mitral valve in the majority of fatal cases; the fact that no murmur is heard in most instances is probably due to the fact that these excrescences are generally situated on the auricular surface of the valves, where they offer no obstruction to the flow of blood. In regard to treatment, Dr. Fox makes a distinction between that suitable in chorea minor and that to be employed in chorea major. In the former cases he has long used cold affusions with much benefit; with electricity he has had but little experience. Iron, arsenic, and sulphate of zinc are useful drugs; the bromides and hyoscyamus are sometimes administered with benefit; calabar-bean is to be employed with great caution. Regular gymnastic exercises are valuable, especially with young children. In treating chorea major, opium and chloroform inhalation, cannabis indica, and conium are recommended. The writer has had no experience with strychnine carried up to large doses, as advised by Trousseau.

Tubercle Bacilli in Scrofulous Swellings.—Pellizari ("Annales de dermatologie et de syphiligraphie") reports a case of scrofula in a child whose family history was free from tuberculosis. She had several strumous ulcers upon the face, which were cauterized; as they recurred, they were thoroughly scraped out with the sharp curette. Among the caseous masses thus obtained the author found by long searching, after upward of sixty stained specimens had been examined, three of the characteristic bacilli of tuberculosis. These, however, were enough, he thinks, to establish the diagnosis.

Eclampsia and Epilepsy.—Féré ("Archives de neurologie"), writing of the relation between these two affections, lays down the following propositions: Children often inherit a tendency to convulsive attacks; these attacks in later life become truly epileptic. Scarlatinal eclampsia may culminate in genuine epilepsy. Pregnancy may act as an exciting cause of epilepsy in patients of a neurotic tendency. Puerperal eclampsia can often be explained only by regarding it as true epilepsy.

In certain subjects we may conceive of the existence of "epileptogenous zones" (gastric, uterine, etc.), irritation of which is peculiarly liable to occasion neurotic manifestations. Finally, there are acute epilepsies (*épilepsies éclamptiques*), which occur in neurotic subjects under special excitement. These may manifest themselves in infancy, in the puerperal state, etc., and may be entirely cured, or may terminate in chronic epilepsy.

New Inventions, etc.

AN APPARATUS FOR THE TREATMENT OF FRACTURE OF THE THIGH.

By J. T. Fey, M. D.,
RICHMOND, TEXAS.

The apparatus for fracture of the femur, of which the accompanying woodcut is an illustration, was devised by the writer several years ago, and, while it has been applied and used with very little trouble, it was never arranged so as to be easily adjusted in its various indications until lately, for which he is indebted to the firm of G. Tiemann & Co., of New York. The object of the writer in producing an appliance of this kind was to get rid as much as possible of bandages, which have always been, and are even yet, the drawback in treating fractures. Skill has greatly



lessened the dangers of bandages, we well know; but how few men of our profession have enough practice to either make them expert or keep them so outside of our large hospitals or large cities, where there are opportunities to follow surgery as a specialty! We maintain, however, that this appliance may be utilized even by the most expert and experienced surgeon for treating the earlier stages of fracture, especially if compound or comminuted; that is to say, allowing, first, free circulation in the limb, constant inspection, and easy adjustment up to the period when the dangerous symptoms are gone and healthy union is established, after which, say in about four weeks, all things being favorable, a permanent dressing can be placed on the limb and the box set aside. The leading indications in fracture being, after reduction, extension, counter-extension, and lateral support by some form of pressure, we have in this a movable foot-piece which plays in a slot of several inches with which to increase extension after it is once obtained, which is done by securing the foot to the board by strips of muslin attached to a lace around the ankle placed over well-arranged cotton batting to prevent abrasions, or strips of adhesive plaster attached to the sides of the leg as for the pulley and weight, or even the clove-hitch. This foot-board has also a ginglymus movement which will permit passive movement of the tarsal joint at appropriate times. A second point of extension is from above the knee with a lace to fit smoothly, with tapes one and a half to two inches broad, which are brought down and made fast in slots in the sides of the box below the knee. The double points of extension not only serve the purpose of increased power, but, when once everything is going on well, one or the other can be relaxed alternately. We have then counter-extension by a perineal band or roll, extending from the groin diagonally across the abdomen posteriorly and anteriorly, and made fast in the fork of the long splint, or side of the box, this long side being made fast to the patient's side by a broad bandage carried around the pelvis. The bottom of the box is an admirable posterior splint, while the inner side steadies the other parts, and is a point of attachment for securing one side of the lateral support, which is accomplished by a piece of muslin, about two inches wide, carried around the limb; or, to be plain on this point, one end is

passed under the limb around to the opposite side, brought over the upper side of the limb, carried through the top slot of the side of the box from which it started, and tied with the initial end, which is brought the through bottom slot, while the same kind of piece or strip is carried around the opposite way, and made fast in the slots of the opposing side of the box. Thus it will be seen that traction and support can be had to balance each other from the opposite sides, restraining either upper or lower fragment or end of the bone at the pleasure of the surgeon. These pieces or strips of bandage can be shifted up or down the limb according to which end of the fractured bone you desire to press on or restrain. If the surgeon deems it advisable, he can place pads inside the box and along the thigh, instead of the above-mentioned counter-opposing muslin strips. Again, we believe that there is sufficient power of extension and counter-extension to reduce the bones to coaptation by gradual tightening, and, when once in apposition, they can not well be displaced by muscular contraction or other means; but, with the steady and continued lateral pressure of the side-strips made fast around the opposite sides of the limb in the side-slots of the box, the position can be kept as nearly correct as possible. If there is a wound of the soft parts to be attended to and dressed, antiseptic lotions can be applied by cloths saturated and renewed at pleasure, as the entire limb is always exposed to view, and there is no means of cutting off the circulation and producing gangrene. The limb can be steadied and the sides of the box turned down if a necessity should occur for dressing a wound on the side of the thigh, and, when this has been done, everything, of course, be readjusted. During such time the limb should be carefully held steady and not allowed to slip, as also the parts carefully tightened at all points of traction afterward. If there should be pinching or pain at any point of pressure or friction, soft cotton-wool can be slipped under the same, such only being likely at the heel or perinæum. A little study and manipulation of the apparatus will soon enable any physician with a small share of surgical skill or ingenuity to understand the entire *modus operandi*.

Miscellany.

The Ninth International Medical Congress.—The following rules for the session to be held in Washington, in 1887, have been adopted:

1. The Congress will be composed of members of the regular medical profession, and of such persons as may be specially designated by the Executive Committee, who shall have inscribed their names on the Register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynæcological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing societies being entitled to appoint one delegate for every ten of their members.

The members of all special and subordinate committees, appointed by the General Committee, shall also be entitled to membership in the Congress.

All societies entitled to representation are requested to elect their delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

2. The work of the Congress is divided into nineteen sections, as follows, viz.:

1. Medical Education, Legislation, and Registration, including methods of teaching, and buildings, apparatus, etc., connected therewith. 2. Anatomy. 3. Physiology. 4. Pathology. 5. Medicine. 6. Surgery. 7. Obstetrics. 8. Gynæcology. 9. Ophthalmology. 10. Otology. 11. Dermatology and Syphilis. 12. Nervous Diseases and Psychiatry. 13. Laryngology. 14. Public and International Hygiene. 15. Collective Investigation, Nomenclature, and Vital Statistics. 16. Military and Naval Surgery and Medicine. 17. Practical and Experimental Therapeutics. 18. Diseases of Children. 19. Dental and Oral Surgery.

3. The general meetings will be reserved for the transaction of the general business of the Congress, and for addresses or communications of scientific interest more general than those given in the sections.

4. Questions which have been agreed upon for discussion in the sections shall be introduced by members previously nominated by the officers of the section. The members who open discussions shall present, in advance, a statement of the conclusions which they have formed as a basis for debate.

5. Notice of papers to be read in any of the sections, together with abstracts of the same, must be sent to the secretary of that section before April 30, 1887. These abstracts will be regarded as confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various sections will be received. Any member, after April 30th, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each section shall decide as to the acceptance of any communication offered to their section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a society.

6. All addresses and papers, read either at general meetings or in the sections, are to be immediately handed to the secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

In the sections no speaker will be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The Rules, Programmes, and Abstracts of Papers will be published in English, French, and German.

Each paper or address will appear in the Transactions in the language in which it was delivered by the author. The debates will be printed in English.

9. The officers of the General Committee on Organization are a President, such number of Vice-Presidents as may hereafter be determined on, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election. Honorary Presidents of the Congress and of the several sections may be appointed at the meeting of the Congress.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, the Chairman of the Finance Committee, and of four other members to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee, to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

11. There shall be a Standing Committee on Finance, composed of such number of persons as the Executive Committee may deem expedient, to be appointed by the President, subject to the approval of the Executive Committee. The Chairman of the Finance Committee shall be *ex officio* one of the Vice-Presidents of the Congress, and also a member of the General and Executive Committees. The Treasurer shall be *ex officio* a member of the Finance Committee.

12. Presidents of the Sections shall be *ex officio* members of the General Committee.

13. The Committee on Organization of each Section shall be composed of a President, such number of Vice Presidents as may be deemed expedient, of one or more Secretaries, and of members forming a council.

The Preliminary Organization is as follows: *President*, Austin Flint, Sr., M. D., New York. *Vice-Presidents*, Henry I. Bowditch, M. D.,

Boston; Henry F. Campbell, M. D., Augusta, Ga.; Nathan S. Davis, M. D., LL. D., Chicago; R. Palmer Howard, M. D., Montreal; Levi C. Lane, M. D., San Francisco; Tobias G. Richardson, M. D., New Orleans; Alfred Stillé, M. D., LL. D., Philadelphia; The Chairman of the Committee on Finance; the President of the American Medical Association; the Surgeon-General of the United States Army; the Surgeon-General of the United States Navy. *Secretary-General*, John S. Billings, M. D., LL. D., U. S. A., Washington. *Treasurer*, John Mills Browne, M. D., U. S. N., Washington. *General Committee*, Robert Battey, M. D., Rome, Ga.; Clarence J. Blake, M. D., Boston; Henry P. Bowditch, M. D., Boston; Samuel C. Busey, M. D., Washington; James R. Chadwick, M. D., Boston; J. M. Da Costa, M. D., Philadelphia; John C. Dalton, M. D., New York; W. W. Dawson, M. D., Cincinnati; Francis Delafield, M. D., New York; George J. Engelmann, M. D., St. Louis; William A. Hardaway, M. D., St. Louis; I. Minis Hays, M. D., Philadelphia; David L. Huntington, M. D., U. S. A., Washington; Abraham Jacobi, M. D., New York; Hosmer A. Johnson, M. D., LL. D., Chicago; Christopher Johnston, M. D., Baltimore; R. A. Kinloch, M. D., Charleston, S. C.; George M. Lefferts, M. D., New York; Joseph Leidy, M. D., LL. D., Philadelphia; S. Weir Mitchell, M. D., Philadelphia; Henry D. Noyes, M. D., New York; Thaddeus A. Reamy, M. D., Cincinnati; Thomas F. Rochester, M. D., Buffalo; Lewis A. Sayre, M. D., New York; Jonathan Taft, M. D., Cincinnati; W. Chew Van Bibber, M. D., Baltimore; Horatio C. Wood, M. D., Philadelphia; David W. Yandell, M. D., Louisville, Ky. *Executive Committee*, I. Minis Hays, M. D., Chairman, Philadelphia; the President; the Secretary-General; the Treasurer; the Chairman of the Finance Committee; Samuel C. Busey, M. D., Washington; Abraham Jacobi, M. D., New York; Christopher Johnston, M. D., Baltimore. *Standing Committee on Finance*, William Pepper, M. D., LL. D., Chairman, Philadelphia. [The organization of this Committee will be announced hereafter.]

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The Chicago Medical College held its twenty-sixth annual commencement exercises at the Grand Opera House on Tuesday, March 24th, when the degree in medicine was conferred on forty-one candidates, and the honorary degree on Dr. Jacob W. Velie.

The Fairfield County, Conn., Medical Society will hold its ninety-fourth annual meeting at South Norwalk, on Tuesday, the 14th inst. The president, Dr. Seth Hill, of Stepney, will give an address on "Ætiology," and Dr. Simon Baruch, of New York, another, on "The Significance of the Cervical Follicles in Gynæcological Practice."

THERAPEUTICAL NOTES.

Boldo and Boldine.—Laborde ("Union méd.") has made several experiments with these drugs, which were mentioned by Dujardin-Beaumetz in 1874, and have long been used in hepatic diseases. Boldine, an alkaloid extracted from the leaves of the boldo, has a complex chemical nature, which is not yet understood. When administered to animals in doses of three grains it causes instant death without convulsions; in smaller doses it acts as a soporific. Its hypnotic effect is ascribed by Laborde to its direct action upon the brain. Five or six grains administered to the human subject cause a deep slumber, from which the individual awakes without any unpleasant sensations.

Chloride of Methyl.—We have already called attention to the value of methyl spray in the treatment of neuralgia. Tenneson ("Rev. de méd.") has extended its use so as to include several other diseases. He records twenty cases of articular and muscular rheumatism, pleurisy, acute pneumonia, and tuberculous joint disease, in all of which pain was at once relieved by the use of the spray. The writer acknowledges that there is some danger in producing such sudden and intense cold, especially in cases of pneumonia, but he regards the anæsthetic properties of the spray as sufficiently great to counterbalance the other disadvantages. A prolonged erythema, more or less permanent cutaneous hyperæsthesia, and blistering are some of the minor accidents that may occur. It is possible to avoid these by not directing the vapor upon a single spot for more than five or six seconds at a time.

Pilocarpine in the Treatment of Pneumonia.—Mollière ("Lyon méd.") reports at length a case of double pneumonia treated with injections of pilocarpine, and adds some remarks concerning the efficacy of the drug. After reviewing the congestive effects produced in various organs by the presence of consolidation in both lungs, especially the symptoms referable to the kidneys, he draws the inference that by causing profuse perspiration the renal trouble may be relieved, with the result of producing a sensible diminution in the general blood pressure. In short, he believes that the cerebral disturbances so frequently observed in cases of double pneumonia are uræmic in their origin, and should be treated accordingly. A sixth of a grain of pilocarpine is the amount injected, and the effect is speedy and persistent.

Electricity in the Treatment of Uterine Fibroids.—Carlet (*Ibid.*) has written a thesis upon this subject, which gives the results of observations made in one hundred and eighteen cases. The method which he describes consists in the application to the uterus of a constant current, which is not interrupted throughout the entire sitting. The positive pole is passed within the uterine cavity, the negative being placed over the lower part of the abdomen. In case the tumor encroaches upon the cervical canal to such an extent that it is impossible to pass the electrode up to the fundus uteri, a channel is made in the growth by galvano-puncture, and the electrode is inserted into that. The author states that this treatment certainly does cause a diminution in the size of fibroid tumors, although they never disappear completely; the hæmorrhages cease and the general condition of the patient is decidedly improved. No accident occurred in upward of nine hundred and fifty *séances* reported by the writer.

The Salts of Copper in the Treatment of Scrofula.—Du Moulin ("Gaz. hebd. des sci. méd. de Montpellier"; "Lyon méd.") concludes, from a series of observations, that the salts of copper have a specific action upon strumous affections, and asserts that under their use enlarged glands diminish rapidly in size, and scrofulous eruptions disappear. He used the sulphate of copper, dissolved in syrup.

Original Communications.

TWO CASES OF LIGATURE OF THE COMMON CAROTID ARTERY FOR TRIGEMINAL NEURALGIA.*

BY JOSEPH C. HUTCHISON, M. D.,
SURGEON TO THE BROOKLYN HOSPITAL.

CASE I.—Daniel C., forty-five years old, born in Ireland, and a gold-digger by occupation, entered the Brooklyn City Hospital, September 4, 1871, suffering from neuralgia of the left inferior maxillary nerve. His general health had always been good. From 1855 to 1867 he was engaged in mining in California, and, although much exposed to wet and cold during this time, he was never kept from work by illness. In the autumn of 1867 he was attacked with sharp, stinging pain in the region of the lower jaw, occurring in paroxysms, every two or three hours. The paroxysms increased in frequency and severity for the two succeeding years, compelling him to give up work. During this period the three molars and the adjoining bicuspid of the left side of the inferior maxilla were removed, but the removal of the teeth (which were sound) gave no relief.

In the spring of 1871, previous to which time he had been under my treatment for several months, with only temporary improvement, the last upper molar of the left side was removed by a surgeon in Boston. The pain ceased, and the case was reported as one of cure.† Three weeks after the removal of the tooth, the paroxysms of pain returned, and were as severe as before.

When the patient entered the hospital he was somewhat emaciated and his strength was impaired. Paroxysms of pain (described as stinging, burning) recurred every few minutes, day and night. The patient relieved himself somewhat by violent friction with his hand over the seat of pain.

September 6, 1871, Gross's operation‡ of exsection of the alveolar processes for neuralgia of the jaw-bones was performed. An incision was made along the edentulous alveolar ridge, on the left side of the lower jaw, as far forward as the first bicuspid tooth; the soft parts, including the periosteum, were turned aside with a periostotome, and the alveolar processes were gnawed off with a rectangular gouge forceps to a level with the palatine process. The bone and soft parts seemed to be healthy. No sutures were used; the wound healed rapidly, and the patient was entirely relieved. Twelve days after the operation he was discharged apparently well, and five months afterward he reported that there had been no recurrence of pain since the operation. The case was again reported as cured; this time by the writer.*

He returned to California and resumed his occupation as a miner. The pain returned with its former severity, but I am unable to state how soon after the last operation, and the dental branch of the inferior maxillary nerve was exsected by a California surgeon. This operation relieved him entirely for three years; but whether it was also reported as having cured the patient I am unable to state. He again applied to me for treatment in June, 1877, nearly ten years having elapsed since the disease first began. The pain occupied the same locality as before, in his lower jaw, radiating to the corner of his mouth and lips, and occurred in paroxysms of intense severity every half-hour. He obtained only temporary relief from electricity and the usual medicinal remedies for this form of neuralgia, and, in desperation, implored that operative surgery, which had previously brought him relief, should again be appealed to. For this purpose he was readmitted to the Brooklyn City Hospital, and on June 30th a carbolized catgut ligature was applied to the left common carotid artery. Antiseptic dressings were used; the wound healed by first intention, and after the operation there was prompt and complete cessation of pain. No untoward symptom occurred, except a slight hoarseness, which continued for a year and suddenly left him, and he was discharged *cured* a second time, according to the hospital record, July 16, 1877.

One year and a half after the operation (January 23, 1879) he wrote from California that he was quite well, and entirely free from neuralgia, and I hoped that his intractable enemy was finally subjugated. But I was disappointed. In September, 1883, he again presented himself for treatment, and stated that for three years and eight months after ligature of the common carotid he was free from pain. It then returned, but with less severity, soon after he began to work in damp places. I now advised him to seek employment in a drier atmosphere, and he promised to report himself to me if the pain did not subside. I have not heard of him since.

CASE II.—*Neuralgia of the First and Second Divisions of the Fifth Nerve of Thirty Years' Standing; Ligature of the Common Carotid Artery, and Neurectomy.*—G. N., aged forty-nine, a native of Ireland and a carpenter by occupation, came under my care at the Brooklyn City Hospital, June 10, 1878, for very severe neuralgia of the first and second branches of the fifth nerve. He stated that March 12, 1848, thirty years before, he was suddenly attacked with severe pain in the right cheek after washing his face in cold water. Previous to this time he had enjoyed good health, and there was no family predisposition to any disease. The pain was very intense and extended from the right cheek and right side of the nose backward along the track of the superior maxillary branch of the fifth nerve. He had occasional pain also in the right side of the forehead; the pains were paroxysmal, occurred at short intervals, and were excruciating. He alleges that he was treated at that time by copious blood-letting, and had no more pain for five or six months, when it returned with its former severity, and continued for three years, when he applied to the late Dr. Ackley, of Cleveland, O., for surgical treatment. This eminent surgeon made a long incision through the scalp above the right ear, but the operation gave no relief. The patient then visited New York and Philadelphia for treatment; various internal remedies were prescribed, but without any benefit, and he was told by Dr. Valentine Mott that he could do nothing for him. September 19, 1856, he sought relief in Bellevue Hospital, and came under the care of the late John A. Lidell, M. D., who at that time reported the case.* Dr. Lidell made an incision near the right supra-orbital notch, and excised the principal branches of the supra-orbital nerve to the extent of about three eighths of an inch. He then cut down upon the infra-orbital filaments near the infra-orbital foramen for the purpose of excising them, but the hæmorrhage was so free that he was unable to see them, and he contented himself with simply dividing them. These operations gave the patient six months of immunity from pain; it then returned as severely as before, when Dr. Lidell opened the infra-orbital canal and excised half an inch of the trunk of the superior maxillary nerve. Six days afterward the patient was

* Read before the New York Surgical Society, March 24, 1885.

† See "Boston Medical and Surgical Journal," vol. viii, p. 82, 1871.

‡ See "Transactions of the American Medical Association," vol. xxi, p. 198.

* "American Journal of the Medical Sciences," January, 1874.

* See "New York Journal of Medicine," vol. i, third series, p. 317.

discharged from the hospital relieved, but how long the relief continued is not known. He was next treated by Dr. Willard Parker, Sr., with internal remedies, but received only transient benefit.

This poor fellow entered the Brooklyn City Hospital in 1860, suffering intensely, and a portion of the right superior maxillary nerve was again excised by Dr. George Cochrane and Dr. Charles E. Isaacs; the operation gave him relief only until the incisions had healed. He came under my observation June 10, 1878, as before stated, at the Brooklyn City Hospital. He had frequent paroxysms of severe pain, lasting from five minutes to half an hour, and he stated that for the last month the paroxysms had been more severe than ever before. His suffering had now extended over a period of thirty years, with occasional intervals of relief after some grave surgical operation. Medical treatment had given him only transient comfort, and he desired that some operation might again be tried to secure him immunity from pain. Encouraged by the result in the previous case, I suggested ligature of the right common carotid artery, and, after having explained to him its dangers and the uncertainty of obtaining relief from the operation, he begged that it should be done as speedily as possible. I applied a ligature to the artery June 21, 1878, above the omo-hyoid; it came away on the nineteenth day. No cerebral symptoms followed the operation, nor were the paroxysms of pain diminished, either in frequency or in severity, in the slightest degree, notwithstanding the liberal use of hypodermic injections of morphine after the operation. I now decided to try excision of the infra-orbital nerve again. A semi-elliptical incision was made along the lower border of the orbit down to the bone, and the soft parts were separated by an elevator from the orbital plate of the superior maxillary bone back to its posterior border. It was my intention to divide the nerve where it enters the infra-orbital canal at the spheno-maxillary fissure, and then divide it in front where it emerges from the infra-orbital foramen, and draw out of its canal the portion of the nerve lying between the sphenoidal fissure and the infra-orbital foramen.* I found it impossible to do this operation systematically, owing to the altered condition of the parts due to former operations, and I contented myself with scraping out the entire contents of the canal, hoping that the canal might be obliterated, and that a new bony formation would prevent a reunion of the excised nerve. The patient was immediately and entirely relieved of pain by the operation, and remained well until he was discharged August 31st. A few days subsequently he presented himself again and complained of severe pain in the inferior maxillary nerve, extending from the right mental foramen backward over the right cheek, which he declared was as intense as his former pains were. I lost sight of him after this.

Recapitulation of the Operations.—Case I.—1st. Removal of the right upper molar tooth was followed by relief from pain for three weeks, although there had been no pain in the course of the superior maxillary nerve at any time.

2d. Removal of the alveolar processes of the lower jaw gave complete relief for more than five months, but how much longer I can not state.

3d. Excision of the inferior maxillary nerve relieved the pain for three years.

4th. Ligature of the left common carotid resulted in relief from the neuralgia for three years and eight months. No cerebral symptoms followed the operation, and none have appeared

William D. [illegible] the lapse of nearly four years.

Boston, Secretaries [illegible] 1st. Incision of the scalp with no benefit.

Cushing, M. D., Cl[illegible] of the branches of the supra-orbital nerve near

Thomas Hitchcock, M. D., Ba[illegible]

Edward Maynard, M. D., Washington [illegible] published by Hodgen, of St. Louis. See "Trans. [illegible]

Louis, W. H. Morgan, M. D., Nashv[illegible] Association," vol. xxxi, p. 773.

the supra-orbital notch, and at the same time incision of the infra-orbital filaments of the superior maxillary nerve near the infra-orbital foramen, relieved the neuralgia for six months.

3d. Removal of half an inch of the superior maxillary nerve from the infra-orbital canal was followed by freedom from pain for an unknown period of time.

4th. Excision of the superior maxillary nerve in the infra-orbital canal was repeated ten years after the last operation, but the neuralgia returned so soon as the incisions had healed.

5th. Ligature of the right common carotid twelve years after the last operation. There was no relief from pain, and no cerebral symptoms followed the operation.

6th. Removal of the superior maxillary nerve from the infra-orbital canal a third time, a little more than ten years since it was last removed. During the two months and a half after the operation that he was under observation he was free from pain, but then began to complain of neuralgia in the inferior maxillary nerve. I then lost sight of him.

The operation of tying the common carotid artery for trigeminal neuralgia, which was first recommended and practiced by Nussbaum and Patruban, has been practiced by other surgeons with a fair amount of success. Hüter* refers to fifty-four cases, in three of which the patients died (five per cent.), and remarks incidentally that the operation was performed after all other treatment, medical and surgical, had failed. Professor John A. Wyeth† has tabulated fourteen cases, one of which was the first case reported in this paper. He classed it among the cured, but the disease returned, since the publication of his paper, three years and eight months after the artery was tied. Ferdinand H. Gross, M. D., of Philadelphia,‡ has added one case, and the writer has reported another in this paper. Of these sixteen cases, which were quite fully reported, one was fatal; fifteen were followed by recovery; two were total failures; eight were cured; six temporarily relieved—one for two years, one for three years and eight months, one for four years, one for eight months, one for eleven months [and in one relief was not of long duration].

The operation, it seems to me, is worthy of further trial in severe cases which have resisted all other treatment, medical and surgical. It has been suggested that the same results would be accomplished by ligature of the external carotid, whose branches supply the trigeminal nerves.

The treatment of trigeminal neuralgia is, it must be confessed, largely empirical in its character. A rational and discriminating treatment must be based upon a more thorough knowledge of the morbid conditions which produce the symptom. Such investigations have thus far been very incomplete.

The Chicago Gynæcological Society.—The following is the programme for the next meeting, to be held at the Palmer House on Friday evening, the 17th inst.: 1. Remarks upon Chronic Peri-uterine Abscess, by Dr. Christian Fenger; Remarks upon a Teratoma, by Dr. W. W. Jaggard; a paper by Dr. Henry T. Byford (the subject to be announced).

* "Grundriss der Chirurgie," vol. ii, p. 233.

† "Essays on Surgical Anatomy and Surgery," William Wood & Co., 1879.

‡ "American Journal of the Medical Sciences," April, 1883, p. 366.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.

By ALEXANDER J. C. SKENE, M. D., Brooklyn,
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(*Continued from page 321.*)

DESCRIPTION OF THE OPERATION FOR RUPTURE IN THE FIRST DEGREE.

The first part of the operation consists in denuding the surfaces to be united. The extent to which this should be carried depends upon the character of the injury. If there is no prolapsus of the pelvic floor or of the posterior vaginal wall (see Fig. 5), it will suffice to denude the surfaces as far as the original laceration extended and no farther. This can be done by tracing the outline of the scar tissue formed by the healing after the laceration. This scar tissue contracts and brings the normal tissues toward each other so that the portion to be exsected, as indicated by the rule given here, appears to be very small and insufficient; but, when the scar tissue is removed, the skin and mucous membrane retract and make the denuded surface large enough—much larger, in fact, than the piece of tissue taken away. If more tissue is removed in such cases and good union is obtained, the introitus vaginæ is made too small.

When the sides of the laceration are drawn outward and the pelvic floor is prolapsed, and the distance from the meatus urinarius to the anterior portion of the sphincter ani is increased to an abnormal degree (see Fig. 5), the denudation should be made high enough on either side to make sure, if possible, to unite the loose ends of the bulbo-cavernosus muscle. To do this the original scar tissue should not be taken as a guide in vivifying the parts. On the contrary, the vivifying should be carried upward on either side to within an inch or less of the lower side of the vestibule. In this condition there is usually prolapsus of the posterior vaginal wall, and when such is the case, the denudation should be carried upward nearly to the highest point on the prolapsed portion of the vaginal wall. (See Fig. 5.)

The instruments for denuding the parts are a number of sponges fixed in holders, a tissue forceps (see Fig. 10), and Emmet's curved scissors, four in number, two with lesser curves and two with greater. (See Fig. 11.) These instruments can not be described; they must be seen to be appreciated.

The method of operating is as follows: The patient is placed upon the operating-table in the lithotomy position; an assistant on each side holds the limb in the flexed position with one hand, while with the other he separates the labia to fully expose the parts; the operator, seated in front of the patient, seizes the tissues with the forceps on the left side as high up as the denudation should extend, and with



Fig. 10.

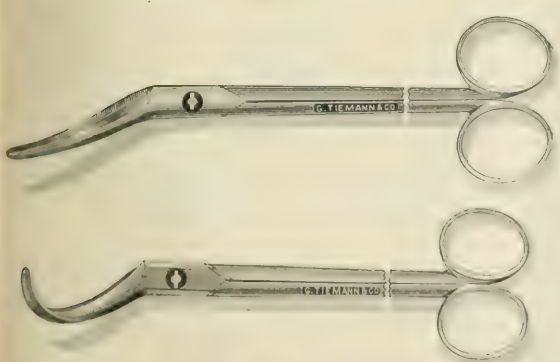


Fig. 11.

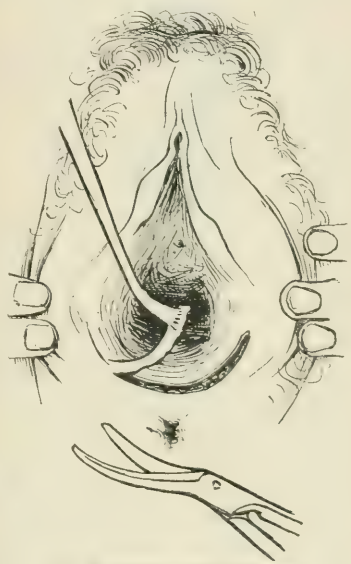


Fig. 12.—First step: denudation begun.

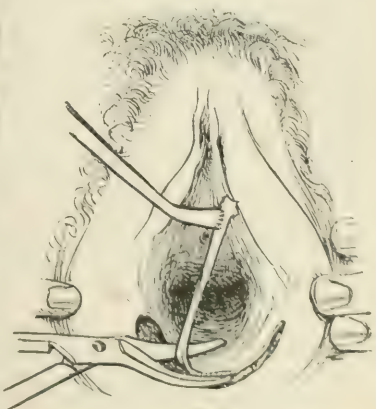


Fig. 13.—Second step, continuing the steps

the scissors removes a strip at the junction of the skin and mucous membrane across to a corresponding point on the right. The end of the strip should be left attached, the other scissors taken, and the strip continued back to the left again. In this way the continuous strip may be taken out from one side to the other and back again until the whole surface is denuded. The three figures will give a better idea of the mode of procedure than a description.

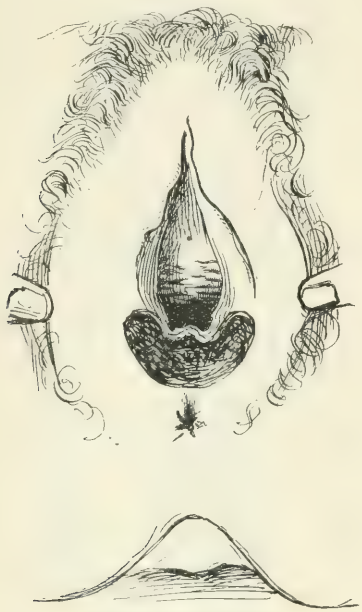


Fig. 14.—Vivifying complete.

In case there is prolapsus of the vagina, and it is therefore necessary to carry the denuding high up on the vaginal wall, the scissors with the greatest curve should be used at that part of the procedure.

When the whole surface has been denuded in the manner described it is necessary to make sure that the edges of the wound are straight and alike on both sides, and that the surface is smooth. This can be accomplished by causing the assistants to put the parts upon the stretch, when careful sponging will show any irregularity which needs to be trimmed off. By passing the finger over the fresh surface, any scar tissue that remains can be detected by its density and resistance compared with the softness and elasticity of the normal tissue.

At this stage of the operation attention should be given to hæmorrhage. If there are any spurting vessels in the wound they should be controlled by suture or ligature. Fortunately, when such vessels are encountered they are generally at the upper margin of the wound and may be controlled by passing a fine suture through the mucous membrane of the vagina under the vessel and then tying tight enough to stop the bleeding. This has been already noticed under the head of general observations.

Next in order comes the introduction of the sutures, and just here it may be stated that for all plastic operations I use silk sutures prepared as follows: The ordinary braided silk is immersed five or six hours in wax containing six per cent. of carbolic acid and six per cent. of salicylic acid. The wax is kept all the time at a temperature high enough to liquefy it. This long immersion in the melted wax is necessary to thoroughly saturate the silk. When this is accomplished, the silk is drawn through a carbolized sponge to remove any excess of the wax. It is then put on a reel which is placed in a close-stoppered bottle and kept until required. Nos. 5 and 7 are the sizes used; No. 7 for the lower one and No. 5 for the upper sutures. The needles employed are the ordinary darning needles found in the dry-goods stores, ranging in length from two inches and a quarter to one inch and a half. The larger needles are armed with the No. 7 thread and the smaller with No. 5.

To manipulate these needles it is necessary to have a suitable forceps, and for this I have devised the instrument represented by Fig. 15. It is a double forceps. The central portions of the two blades which form the handle are made of spring steel. The halves cross each other at about an inch from each end to form the jaws. At one end there are three grooves which receive the needle and hold it at an acute, obtuse, or right angle, whichever the operator may require. The other jaw, which closes over the grooved one, is file-faced, which keeps the needle from slipping through the grooves when pressure is made upon it. The jaws of the other end are copper-faced and are used to grasp the point of the needle in drawing it through. The elastic spring of the handle portion opens the jaws at each end, the needle is introduced into the desired groove, the handle is grasped, which closes the jaws and holds the needle perfectly immovable, no matter how much pressure may be brought to bear upon it. When the jaws are closed there is a stop-catch that holds the two halves of the handle together and keeps a firm hold upon the needle. The needle is carried into the tissues held by the grooved and file-faced jaw; it is then unfastened by drawing back the catch, the forceps is reversed, and the point of the needle seized in the copper-faced jaws and withdrawn. The advantage of the copper-faced jaws is that they seize the point of the needle firmly enough to draw it through the tissues without injuring the point; a valuable feature in such an instrument.



Fig. 15. Needle forceps.

The sutures are introduced as follows: The needle—placed in the forceps at right angles to it—should be entered in the skin exactly at the edge of the wound at the lowest external angle of the denuded tissue. It is then passed outward deep into the tissues, then curved round in the tissues in front of the rectum and deep into the tissue of the other side, and made to emerge at a point corresponding to the one where it was entered. If this is properly done, no part of the suture will be seen. Its position

in the tissues will be as represented in Fig. 16. The dotted line represents the suture which describes a circle, and the straight line shows the sides of the wound as they are brought together where the suture is tied. Sometimes where the tissues are rigid it is difficult to introduce the first suture with one sweep of the needle. It is then better to pass the needle in through half of the vivified portion, to draw it out and re-insert it at the same point, and to carry it round through the other side. If there is sufficient tissue between the base of the vivified part and the rectum, the second and third sutures may be introduced like the first—each one being passed at a higher point. The fourth suture (see Fig. 17) is introduced through the side. It is



Fig. 16.



Fig. 17.—The stitches in place.

then carried through about three eighths of an inch of the vivified portion of the vaginal wall, and then passed through the other side. The last suture is passed through both



Fig. 18.—The dotted line gives the normal location of perineal body.



Fig. 19.—Perineal body restored. Profile view.

sides, as shown in Fig. 19, the position of the sutures being viewed in profile.

When more than five sutures are used, the fifth is passed like the fourth, only a little above it. Most operators introduce the index-finger into the rectum, to guide the introduction and passing of the needle. This should not be done under any circumstances, because, by doing so, the rectal wall is crowded forward, and is sure to be included in the suture, and, besides, it is a violation of the rules of antiseptic surgery to operate with dirty fingers.

In many cases there is very little tissue left in the perineal body after the vivifying is completed. The muscular coat of the vaginal wall having become atrophied, or torn from its attachments to the floor of the pelvis, there is only the mucous membrane left, and, when that is removed in denuding the parts, the wall of the rectum is all that is left above the skin and sphincter-ani muscle. When such is the case, the first suture only should be carried through the tissue, as already described; the rest should be introduced as shown in Fig. 17.

The great advantage of this is, that the sides of the wound are brought together in front of the rectum, the place where the perineal body should be. Furthermore, the sutures introduced in this way avoid the rectal wall—a very important desideratum, as we know from the fact that when any of the sutures are, intentionally or by accident, passed into the wall of the rectum, they cause much pain and rectal tenesmus, and greatly distress the patient, especially when the bowels move. When the sutures are all in place, the wound should be carefully cleansed of all blood-clots, and, if there is still some oozing of blood, traction should be made upon the sutures; if that controls the bleeding, the sutures should be tied in the ordinary way. While they are being tied the sides of the pelvic floor should be pushed up by the assistants, to bring the wound together.

The after-treatment and other points, such as the removal of the sutures, will be brought out in the history of the following cases:

Case of Central Laceration extending to the Sphincter Ani; Uncomplicated.—The patient, a spare, small woman, had always been in good general health. Married nine years, and had one child eight years old. Her labor was easy and rapid, and her convalescence uninterrupted, excepting that she had a leucorrhœa which began after the lochia stopped, and continued until the time when she sought medical adivce. Her menses returned ten months after her confinement and one month after her child was weaned. Six years after her confinement she overtaxed her strength, and then her leucorrhœa became more profuse, and she began to suffer from backache and slight pelvic tenesmus, especially upon standing or walking. She was slightly constipated, but in all other respects was well. She sought medical advice because of these symptoms and her sterility. An examination showed the laceration, and no other injury to the pelvic floor. The posterior and lateral parts of the floor were well sustained, and there was very little separation of the sides of the laceration. There was commencing prolapsus of the posterior vaginal wall, but so slight that it was only apparent upon separating the labia and causing the patient to cough or make downward pressure. The uterus was slightly below its normal elevation, but not changed in its axis. The leucorrhœa was due to a cervical catarrh, which promptly yielded to treatment.

Five days after a menstrual period her bowels were freely moved in the morning by a dose of pulv. glycyrrhizæ comp., given at bedtime the night before. On the following morning the bowels moved of their own accord, and, an hour later, an enema of borax and warm water was used to wash out the rectum. For breakfast she had a cup of coffee and a bowl of clear

beef-soup. A large vaginal douche was used of borax and hot water to cleanse the parts thoroughly. At twelve, noon, she was anæsthetized with ether, and the operation was performed according to the method already described. The bleeding was easily controlled by the sutures. A small pledget of marine lint was placed over the wound and the knees bandaged together. Soon nausea followed, but no vomiting, and late in the evening she was comfortable, having only a feeling of slight burning in the region of the wound. She took a small cup of tea, and slept several hours during the night.

Next day she had milk, soup, and gruel. The catheter was used for the first forty-eight hours, and after that, when necessary, she was rolled over upon her face, and, with a bed-pan placed under her, she urinated without further help. On the morning of the third day she took a Seidlitz-powder, and at noon an enema of castile soap and water, which moved the bowels freely and easily. After this the bowels were moved daily with an enema and she had her usual food. The marine lint was kept upon the outside of the wound for five days, changing it daily. There was no discharge from the vagina or wound. There were no vaginal injections used, and the wound was not washed at any time. In fact, after the fifth day, she had no local treatment. On the eighth day the sutures were removed in the following way: She was placed in Sims's position on the bed; the nurse separated the nates, which exposed all the sutures without making any traction upon the parts; each suture was seized with a forceps, and, with the tenaculum blade of the scissors, one side of the thread was caught up and divided. Fig. 20 shows the scissors used for the removal of

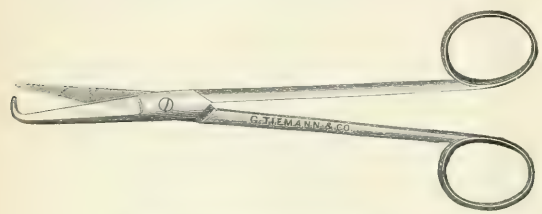


Fig. 20.—Scissors for removing sutures.

sutures. It answers the purpose well, and guards against clipping off both ends and leaving the suture in the tissues, an accident which not unfrequently happens. This method of removing the sutures is very much simpler than trying to remove them with the patient upon the back.

The patient was kept in bed until the twelfth day after the operation, but during that time she was permitted to change her position from the back to either side without help. On the thirteenth day she was permitted to sit in a chair, and on the fifteenth day she was permitted to begin to walk.

Two months after the operation she was examined, and the space between the rectum and vagina was found to be normal to the touch, i. e., the lines represented by the lower portion of the posterior vaginal wall and the outer surface of the pelvic floor, running from before backward, formed an angle represented at Fig. 21.



Fig. 21

Furthermore, when the introitus vaginæ was retracted with a Sims's speculum and the instrument removed, the muscles promptly contracted and firmly closed the vagina, showing that the muscles had been restored. This I consider to be the only reliable evidence of the success of this operation.

OPERATION FOR LACERATION EXTENDING THROUGH THE SPHINCTER-ANI MUSCLE.

In this injury the laceration frequently extends upward through the posterior vaginal and anterior rectal walls. When such is the case, it is necessary to restore these parts down to the sphincter ani before the operation is performed for the restoration of the sphincter and perinæum. It complicates the operation and increases the liability to failure, if there is any laceration of the recto-vaginal walls when the final operation is performed; hence, I urge the primary operation when there is any need for it. In the primary operation, the tissues of the vaginal and rectal walls on each side of the laceration should be carefully denuded, well outward upon the vaginal side, with the object of obtaining as broad surfaces as possible. Silk sutures are introduced with a round-pointed needle, such as Emmet uses for vesico-vaginal fistula. The needle should be entered at the edge of the vaginal mucous membrane, curved round into the muscular coats of the vagina and rectum, and brought out exactly in the margin of the rectal mucous membrane. Fig. 22 represents the vivified tissues and the sutures in place before being tied.

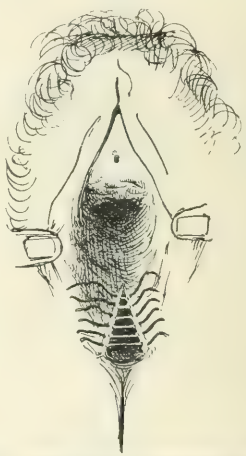


Fig. 22.—Restoration of the recto-vaginal septum.

The sutures should be not more than an eighth and a sixteenth of an inch apart. They should be removed on the eighth day, and one month allowed to elapse before the next operation is performed, in order to give the parts a chance to become firmly united.

(*To be concluded.*)

CONGENITAL FISSURE OF THE STERNUM.

By FRANK MADDEN, M. D., Brooklyn,
MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS; DEMONSTRATOR OF ANATOMY, LONG ISLAND COLLEGE HOSPITAL.

While engaged in the examination of an applicant for the Brooklyn Life Insurance Company, I discovered the following anatomical anomaly, which is of sufficiently rare occurrence to warrant its being placed on record:

The subject of this malformation being very diffident, and shrinking from publicity, it was only after considerable persuasion that he consented to allow a photograph of his body to be taken, which, after all, gives but an approximate idea of the original.

The three-quarter position was found to afford the best view of the case, for the full face or front view rendered the shading so slight that it failed to represent the actual amount of depression of the skin and other soft structures covering the fissure.

Careful examination developed the following facts concerning his history and present condition:

Aged forty, born in Sweden, married, and by occupation a tailor; height, five feet seven inches; weight, one hundred and fifty-two pounds; measured around the chest, upon deep inspiration, thirty-six inches, and deep expiration, thirty-three inches and a half; girth of waist, thirty-one inches; respirations, twenty a minute; pulse, while standing, 72, while sitting, 66 a minute. Fairly well developed, and apparently performing all his functions normally. His family history is highly satisfactory in all respects.

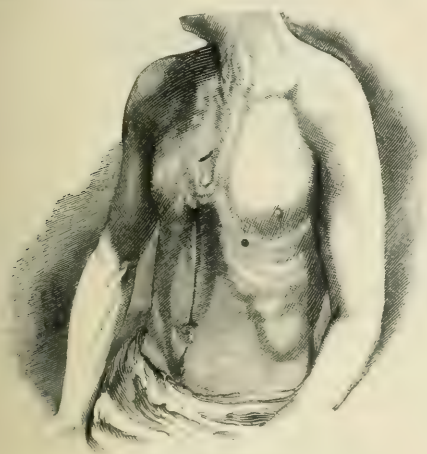


Fig. 1.

There is a total absence of osseous structure in the middle line of the sternum, leaving an irregular, oblong space measuring 13 cm. (5⅛ inches) from the top of the sterno-clavicular articulation to the lower border of the fissure, where the two lateral halves come together, and with a varying width of from 3 cm. (1 3/16 inch) to 5 cm. (2 inches). There does not appear to be any deficiency in the bony structure, but a simple non-union of the two sides—i. e., were the two pieces united they would be equivalent in width to the complete bone.

In the diagrammatic drawing the U-shaped opening was carefully measured, and represents the actual amount of separation existing between the two halves of the bone.

From the lowest point of this fissure, where the two pieces of the sternum unite, there is a well-defined and distinct cicatrix involving the integumental coverings and extending down to the umbilicus. This cicatrix is almost directly in the median line, being somewhat puckered or radiated around the lower end of the opening, but a smooth line from there to the umbilicus.

When minutely questioned in regard to any former injury or operation that might account for this cicatrix, he replied that he was "born so," and that his mother had told him he had had a "sore" there until he was two years old. By this "sore"

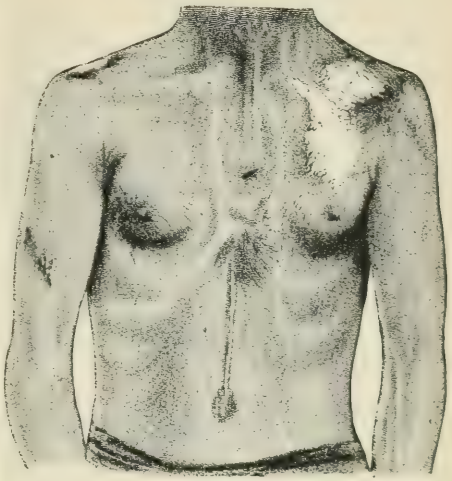


Fig. 2.

it was evidently meant to designate that portion of the cicatrix at the lower border of the fissure which did not fully unite

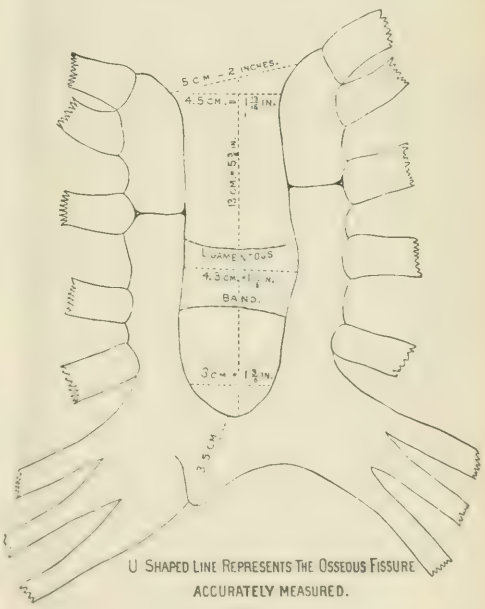


Fig. 3.

until the time stated. He positively denies any injury or operation, and states that he is now, and always has been, in the same condition as far back as he can remember.

The two lateral segments of the bone, with which the costal cartilages of the ribs articulate, unite below at about the point where the costal cartilages of the sixth and seventh ribs join the sternum. There is a marked depression of the skin cover-

ing in the fissure of the bone, and in the bottom of this lower portion of the opening can be seen distinctly the pulsation of the heart—i. e., probably the right ventricle.

There is also at the junction of the lower and middle thirds of the cleft an apparently firm aponeurotic or fibrous bridge of tissue, which can be felt under the integument at this point, extending across from side to side from the posterior surfaces of the two halves of the bone, and about an inch in width vertically. It seems to be a ligament acting as a brace and girder, preventing the two segments from spreading laterally, or placed there to afford better protection to the base of the heart, which is beneath it. Above and below this point there seem to be only skin and superficial fascia covering the anterior mediastinum.

The sterno-hyoid and sterno-thyroid muscles arise by two muscular slips, one from each half of the bone, and stand out very prominently when the head and neck are fully extended, and are also quite conspicuous during the ordinary respiratory movements. The sterno-cleido-mastoid muscles arise from each side respectively, the sternal origin being limited to the upper portion of the bone upon either side.

The ensiform appendix is very firm and deviates to the right side. The black points in the accompanying drawings mark the location of the heart (base and apex) as made out by percussion and auscultation.

This case is very similar (almost the counterpart) to that presented by the late Dr. Groux, which was reported upon at a meeting of the Brooklyn Anatomical and Surgical Club, November 18, 1878, by Dr. Charles Jewett, and published in the "Proceedings of the Medical Society of the County of Kings" for January, 1879. As many of the readers of the present article may not have access to Dr. Jewett's report, which contains a full and thorough *résumé* of the literature touching upon this interesting and rare anomaly, the following extracts are here appended for purposes of comparison:

"Dr. Groux died October 15, 1878, at the age of forty-five years. The autopsy was made October 17th, by Dr. Henry Riedel, of this city. Professor J. C. Dalton, of New York, and a large number of other medical gentlemen were present. Our president, Dr. L. S. Pilcher, Dr. G. W. Baker, and the reporter were among the number.

"Before opening the thorax, the trachea was ligated, to prevent displacement of the heart by collapse of the lungs.

"An incision through the skin and superficial fascia opened directly into the anterior mediastinum. No other structure bridged the space between the lateral halves of the bone.*

"The heart was found normal in size and shape, and normally situated, except that the position was slightly higher than usual, the apex presenting at the level of the upper border of the fifth rib. The right auricle lay wholly to the right of the median line. The position of the right ventricle corresponded precisely with that of the pulsating tumor described in the above report.

"The anatomical appearances of the malformed bone are well displayed in the accompanying figure. Were the lateral halves united, a slight deficiency in width would be seen at the upper portion of the manubrium, perhaps one-half inch. The lower segment of the gladiolus would also be found somewhat smaller than usual. Otherwise there is no deficiency of bony substance.

"It will be seen that the articulations of the fifth, sixth, and seventh costal cartilages deviate somewhat from their normal

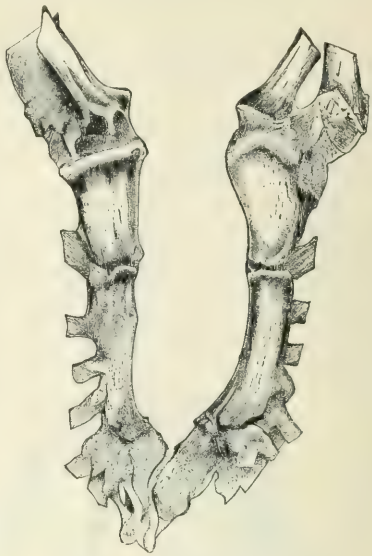


Fig. 4.

relations to the lower segment of the gladiolus. While the fissure divides the entire bone, the lateral portions of the lower segment of the gladiolus articulate with each other. Each articular surface is covered by a cartilage, and the two parts of the bone are bound together by external ligamentous bands. The articular cartilages of this joint blend below with the ensiform appendix.

"The vertical depth of the fissure from the level of the sterno-clavicular articulation to the bottom of the cleft is four inches.

"Width at the level of the first costal cartilage, one inch.

"Width at widest part, 1·4 inch. . . .

"Among similar cases of malformation or absence of the sternum that I have been able to collect are the following:

"In the 'American Practitioner,' October, 1878, Dr. J. T. Hodgen, of St. Louis, reports a case of congenital fissure of the sternum, with exstrophy of the heart. The heart was wholly outside of the thorax. The integument was continuous over the fissure, except an opening in the median line, through which the vessels passed. The child died on the fifth day after birth. The sternum in this case presented a U-shaped cleft, extending down to a point opposite the articulation of the fourth rib with the sternum. Width of the opening, one inch.

"Dr. A. M. Slocum ('Trans. of the Coll. of Phys. of Phila.,' 1860, iii, N. S., p. 310) describes a case of congenital fissure of the upper half of the sternum in the case of a woman twenty-five years of age. Fissure filled up with a strong ligament and covered with the common integument. Vertical depth, three inches; ordinary width, one inch and a half.

"Professor Abbott ('Mem. de la soc. de biologie,' tome iv, 1 sér., p. 163) relates a case of absence of sternum in an adult negress, married, and the mother of three perfectly developed children.

* "Dr. Cammann of the New York Pathological Society reported that this space was apparently covered with a strong subcutaneous fibrous sheet of aponeurosis."

"Dr. Otto Obermeier (Virchow's 'Archiv,' 1869, xlvi, pp. 209–217) says that several cases of bifid sternum are to be found in the literature known to him—few in adults—and gives valuable bibliography.

"Professor C. L. Ford writes that the Museum at Ann Arbor 'contains a sternum with an opening in the middle, of small size, and another of less width.'"

It will be seen by comparing the two cases that there is a marked similarity, the only difference being that of size, with one exception, and that is that in the present case there was also a failure of union in the soft parts, as well as in the osseous structures, the former of which did not exist in the case of Dr. Groux.

Even in this case the failure of union in the soft parts in the median line can only have involved the superficial structures, skin and superficial fascia, because had it extended through all the soft parts of the abdominal wall in front—i. e., the aponeuroses of the external and internal oblique, transversalis, and peritonæum—there would have been a history and physical evidence of a former protrusion of some of the abdominal or thoracic contents, of which there is not at present the slightest indication.

This defect is due to imperfect fœtal development and a failure of union in the two primitive cartilages from which the osseous sternum is formed, and in this case there is also an imperfect union of the ventral plates. We see the same imperfection quite frequently in hare-lip, which is simply a failure of union of the soft parts in the median line, often extending to the osseous structures beneath, the superior maxillary bones. Spina bifida and exstrophy of the bladder are other examples of the same defective fœtal development and failure to unite in the median line; but the non-union of the sternum in the median line, leaving a complete fissure, is one of the rarest forms, as will be seen from Dr. Jewett's article, in which he notes all the principal cases reported.

SOME NEW CONSIDERATIONS ON THE PATHOLOGY OF DIABETES MELLITUS,

WITH THE GROSS AND MICROSCOPICAL FEATURES FOUND IN A RECENT NECROPSY.*

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It seems almost impossible, if not absolutely absurd to attempt, to say anything new upon the subject of diabetes mellitus, or glycosuria. But a careful study of the microscopic changes of the glandular organs removed from a diabetic subject, and an analysis of them, in the light of our present physiological, experimental, clinical, and pathological data, suggests some new or modified points of interest. It has developed a new view of diabetes, which, it is hoped, may be found tenable, and be more fully verified, by the addition of other necropsies. For, should this theory become substantiated, it certainly decides more positively the line of treatment. It will also enable us to strike directly at cause and effect. But it especially emphasizes the importance of the early recognition of the disease, and positively determines the necessity of instituting the proper treatment from the very beginning.

Diabetes mellitus is said by some at least, if it is not generally believed, to be most frequent in the higher stations of life or among the well-to-do class of people. It is a noticeable fact that diabetes is especially frequent among the Jewish race, and strikingly so in wealthy Jewesses.

Consequently it would appear that excesses—and by this is meant a physiological increase in nutritive material, which tends to keep the liver or hepatic cells continually overworked — should be considered the starting-point. This condition may result from eating too freely of hydro-carbonaceous substances, either alone or in conjunction with the proteids, both of which may tend to materially impair the physiological activity of the hepatic cells, and thus excite a condition which renders them incapable of performing their normal work. Overcharging the portal blood with glucose or cane-sugar has been found, by actual experiment, to be followed by glycosuria.

The experiments of Pavy show that oxygenated blood injected into the portal circulation produces super-oxygenation of it, which apparently increases the amount of work on the part of the liver, and is followed by glucose in the urine. A number of similar experiments could be cited, and also that of Schiff, who excited glycosuria by direct galvanization of the hepatic substance, as proof of the primary trouble being located in the liver; but that of Pavy and the introduction of sugar into the portal blood appear to point more directly to the solution of the mystery.

From these observations it seems reasonable to suppose that excessive imbibition of nutritive elements into the portal circulation must, of necessity, call for a super-oxygenation of the portal blood; and in this way additional work is called for on the part of the hepatic cells; consequently the capillaries are dilated to furnish the necessary material to carry on the excessive metabolism; and in this way this peculiar disease may be and is developed by material processes as well as experimentally. It may be that the increased demand made upon the liver is transmitted by the sensory filaments of the sympathetic to the hepatic medullary center, which produces either deficient or excessive stimulation as the case may be, with a like result transmitted back to the liver, which is followed by incomplete or undue activity on its part, instead of just the requisite response and a complete metabolism.

This theory is quite as much in keeping with physiological laws as tracing its source to indefinite and varying cerebral lesions, which, in many cases, are wholly absent. Not that cerebral lesions may not in some cases interfere with the nervous mechanism of the liver and bring about this same change in the capillaries and hepatic cells, resulting in incomplete or excessive transformation in the liver. In traumatic diabetes the tendency is to recovery, which, as in experimental diabetes, tends to prove the necessity of a surcharging of the portal system with nutritive materials to produce permanent diabetes. In proof of this view may

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be cited limitation, if not absolute restriction, of the diet, with a regulation of the vascular system, which, in many cases, causes a marked diminution of the glucose in the urine, and in some its total disappearance, while a neglect to observe these laws almost invariably increases the quantity.

The case recorded by Brunton, in which the glycosuria was directly traceable to the irritation of a tape-worm, is a case in point, substantiating the view that the primary disturbance to the nervous system is that of peripheral irritation of the sensory fibers of the sympathetic, transmitted to the medulla, and then reflected back to the liver, because the removal of the parasite was almost immediately followed by a permanent disappearance of the sugar from the urine.

It may be, however, that the enormous appetite which is sometimes produced by a tænia was the cause of surcharging the portal system with nutritive material, and thus produced the disease. In either case, the nervous irritation was peripheral and not central.

The frequent occurrence of temporary glycosuria in pregnancy is explained by the utero-gestation causing the well-known peripheral irritation of the sympathetic system, and also by throwing more work upon the liver; the same irritation exists during lactation, but is especially marked when, for any reason, the flow of milk is suddenly arrested, which causes increased peripheral irritability of the nervous system, and at the same time throws more work back upon the liver. This explains the glycosuria in both instances, and helps to sustain the present theory of increased nutrition, hepatic lesion, and peripheral nerve-irritation. Pregnancy and arrested lactation, especially the latter, help to sustain the theory of increased work with imperfect hepatic metabolism as the primary source of diabetes.

The weight of evidence deduced from the large number of experimental and pathological lesions of the nervous system points decidedly in one direction—namely, that to produce glycosuria, even temporary in nature, there must be increased nutritive material in the blood of the portal vein.

The frequency of the renal lesion in diabetes, which is that of an epithelial metamorphosis of a peculiar and severe type, and the finding of no evidence of sugar in the blood at a recent necropsy, suggest the probability that the glucose is not produced and discharged as such into the blood, from the liver, but that sugar-forming elements are produced, which circulate in this incomplete state in the blood and on through the kidney. These sugar-producing elements, being acted upon by the renal cells, are drawn through by them as a foreign body from the blood and discharged into the uriniferous tubules as fully formed glucose; and in this way is explained the necrotic condition of the renal epithelial cells. If we admit that all forms of parenchymatous metamorphosis of the kidney are due to an increased amount of work on the part of the renal cells, this explanation offers to me a tangible reason for the very general if not constant renal lesion found in these cases. It also helps to explain the final termination of so many of these cases by a nephritic lesion, which is usually evinced by albumin and casts. The small amount of albumin may be explained upon the theory that some, if not a considerable quantity, of the glucose is produced from the albuminoids, and that the sugar represents what otherwise would be eliminated as albumin, urea, carbon dioxide, and water.

Exception may be taken to this view from the fact that sugar has been found in the blood of a diabetic patient during life. This is true; but both urea and sugar are found in normal blood, yet there does not appear to be a sufficient quantity of sugar found in the blood to account for the large amounts discharged in the urine. In regard to urea, this statement is known to be the fact.

The close relationship existing between the sympathetic nerves of the liver and those of the kidneys explains the primary dilatation of the renal vessels. The marked increase in the lumen is maintained by the hyaline transformation, which causes a permanent thickening of the vascular wall and completely destroys its elasticity. The result of this is that all power to regulate the pressure upon the glomeruli is removed, and the increased hydrostatic pressure forces a very large quantity of water through, and explains the copious quantity of urine voided.

Pathological Anatomy of Diabetes.—The author has had the opportunity of making only one necropsy in this interesting disease, the results of which will be incorporated in this description in detail. As after all wasting diseases, if of any duration, the cadaver will be found extremely emaciated. This, however, is not invariably true, for some patients do not emaciate, but die in full flesh. This occurred in two cases under my personal observation.

In the case in question the body was very thin. Rigor mortis was absent. The lower extremities were covered by an eruption, which did not disappear upon pressure. This was syphilitic in all probability. The skin was unusually pale and blanched. The panniculus adiposus was nearly absent. The muscles were thin and dry. The pericardial sac contained about half an ounce (15·5 c. c.) of clear serous fluid. The heart cavities contained a small quantity of blood and coagulum. The muscular tunic was very soft and flabby, so that the cavities collapsed and the organ became flattened when it was laid upon the table. Microscopic examination showed granular and fatty degeneration of the cardiac muscles. All the valves were free and sufficient, but, owing to the relaxed condition of the organ, could not readily be made to close perfectly to the water-test. The heart weighed eleven ounces (311 grammes).

The left lung was perfectly free in the pleural cavity. It presented nothing specially abnormal. There was, however, a slight amount of interstitial thickening of the apex and the superior portion of the upper lobe. It weighed twenty-one ounces (569·3 grammes).

The right lung was quite adherent at the apex, at which point the pulmonary tissue was indurated and presented the gross appearances of consolidation, with a tendency to the formation of cavities. The remaining portions were free in the pleural cavity. When the indurated apex was bisected, a large, cheesy-looking nodule was divided, also numerous smaller zones, of like material. Two small cavities were developing. The intervening pulmonary tissue was indurated. The contents of the cheesy nodule were examined for bacilli by Dr. G. R. Elliott, but none were found. The larger of the two distinct cheesy masses had a sticky feeling, so common to gummy tumors. On macroscopic examination, it appeared to be partially encapsu-

lated or blended with the adjacent pulmonary tissue by a fibrous band, which was lined by concentric rings of fibrillated connective tissue. The center of this neoplasm was more decidedly granular and cheesy. The surrounding pulmonary tissue showed to the unaided eye a distinct increase in connective tissue studded with numerous granular spots or bodies somewhat resembling miliary tubercles. Sections were made which included the capsule of this large mass and the adjacent tissues on both sides. This apparent fibrillated capsule, when examined under the microscope, was found to be composed of numerous layers of fibrillated connective tissue, which were irregularly interspersed with blood-vessels. Some of the tissue appeared to be of recent formation and in a state of active inflammation, and took the stain deeply, while other portions were older, granular, and degenerated, and did not stain. On the inner side of this band, going toward the center of the foci, the granular and degenerated condition became more and more decided. The structure closely adjacent to the outer portion was the vesicular tissue, but this was markedly altered. The walls of the air-vesicles were enormously thickened, being in some instances of five or six times their normal thickness. Sections from various portions of this indurated nodule showed numerous broad bands of fibrillated connective tissue in various stages of formation. In some places they presented the lively and deeply stained appearance of newly formed connective tissue; at other points they appeared to be in a state of active inflammation, being dotted with deeply stained leucocytes; in still others they were almost obliterated by the abundance of deeply stained, round connective-tissue corpuscles, with positive nuclei, and of about twice the size of the lymphoid corpuscles. The last-described regions, if viewed alone, could not be distinguished from a round-cell sarcoma. Some of the fibrillated bands showed a slight deposition of carbon pigmentation. The yellow elastic fibers were very distinct and abundant.

In all the sections there was an unusual and marked thickening of the alveolar walls, which in many places were congested and in others quite granular.



Fig. 1.

Numerous spots were found which somewhat resembled tubercle granulation, but close inspection failed to reveal any distinct tubercle tissue or giant cells with multiple nuclei. These zones were composed of this thickened tissue, and showed various changes in the alveoli, some of which were simply filled with red blood-corpuscles alone, some with fibrillated fibrin, red blood-corpuscles, and large and small desquamated epithelial or lining cells of the air-vesicles. Some were simply packed full of these desquamated corpuscles; others were filled with a granular substance which would not take the stain. All these conditions were interspersed without any reference to a uniform progressive development of inflammation. The walls of the capillary vessels were slightly thickened.

This condition undoubtedly was that of a gummatous formation rapidly approaching liquefaction and the formation of cavities. (See Fig. 1.) The numerous smaller foci were probably smaller gummata, or the nuclei of larger ones. The interstitial thickening was of syphilitic origin, and this condition is quite frequent and often mistaken clinically for tubercular phthisis. This certainly was not a tubercular process.

The interstitial induration diminished progressively from the apex to the base. The weight of the right lung was twenty-eight ounces (793 grammes). Both lungs were slightly congested and œdematous, but no more than would be expected in connection with death without special pulmonary symptoms.

Various lesions have been described as affecting the lungs in diabetic cases, particularly chronic inflammatory conditions leading to the formation of cavities; also all forms of pneumonia and tubercle with cavities; pleuritic exudations, and even gangrene.

The first thing noticed when the abdomen was opened was an unusual pallor of its contents. The colon was over-distended with gas, and contained only a slight amount of soft fæcal matter. The lower portion of the ileum, and several coils of the small intestine, were bound together and adherent to the lower border of the pelvic cavity on the right side by firmer and old fibrous bands. This binding down, however, had not to any marked degree occluded the lumen of the gut. Both the ileum and the jejunum were nearly empty, and at places so markedly contracted that at first it gave rise to the supposition that there was a stricture; but, on displacing what little gas remained in the lumen of the small intestine, the apparent stricture disappeared and a similar appearance was produced at a distant point. The stomach and duodenum were distended by considerable gas. The whole alimentary tract and all the abdominal viscera, the liver excepted, were very pale. No other abnormity was detected at any portion of the alimentary tract.

The lesions which have been described in connection with the alimentary tract are chronic catarrh, hyperæmia, thickening and tumefaction of the mucous membrane, slaty pigmentation, hæmorrhagic erosions of the stomach, and hypertrophy and muscular thickening of the stomach and the upper portion of the intestine.

The spleen was pale, and softer and larger than normal. Microscopic examination failed to show anything abnormal. It weighed eight ounces (226·7 grammes).

Little or no mention is made of the spleen in histories of autopsies in diabetic cases.

The sexual organs were not specially examined, as there was no gross change which attracted attention.

The change which has been recorded is atrophy of the testicle in some of the younger subjects.

Both kidneys were very much enlarged. The left one weighed ten ounces and a half (311·8 grammes), the right ten ounces (283·4 grammes). Their capsules were normal in thickness and non-adherent, excepting at one or two points where a large vessel connected the capsule with the underlying parenchyma. The renal surface, after enucleation of the kidney from its capsule, was perfectly smooth. Both the free and cut surfaces were very pale, and the latter looked quite granular to the unaided eye. The cortex was very much thickened, being about four times as deep as in a normal organ. The markings of the cortical arches were distinct and straight, and, by their deep color, gave evidence of apparent congestion. No cysts were found.

The macroscopic examination gave no evidence of a diffuse lesion, but all those which are common to a chronic parenchymatous metamorphosis of the kidney. On microscopic examination, the lesion was found to be located in the epithelial cells of the uriniferous tubules, and in the walls of the smaller arteries and vessels entering the Malpighian tufts. The epithelial corpuscles in every portion of the organ were in a state of advanced and extensive granular metamorphosis, each individual cell being enormously enlarged, and in most instances all evidence of a nucleus obliterated.

The process in this instance differs from the ordinary parenchymatous metamorphosis, and has by some been described as a necrosis of the epithelial elements. Regarding this lesion in the light of a necrotic process, and that of ordinary parenchymatous transformation in the light of a carious process, we have a good comparison for the two conditions. Fig. 2 shows the ordinary form, and Fig. 3 the diabetic.



Fig. 2.

This necrobiotic process caused the tubules to become larger than normal, and in some of them all evidence of lumen had been obliterated, so that all that remained to represent the original uriniferous tubule was a space filled with necrotic epithelial cells. At other points the basement membrane of the tubules was entirely stripped of its epithelial lining.

The intertubular tissue was rendered more apparent and thickened by an œdematous swelling which, taken together with the denuded tubules, would at first lead to the supposition that the lesion was that of chronic diffuse nephritis. (See Fig. 3.) In fact, this lesion has been, and by many would be, called a diffuse nephritis. But a closer study readily shows that the lesion of the intertubular tissue is free from any inflammatory exudation or recent formations in the shape of new connective-tissue and lymphoid corpuscles. The true lesion, therefore, is a metamorphotic pro



Fig. 3.—*a*, uriniferous tubules distended and occluded with necrotic epithelium; *b*, swollen, œdematous, and non-inflammatory intertubular tissue, with an occasional epithelial cell.

cess of the cells, brought about by an excessive amount of work, while that of the interstitial trouble is secondary and œdematous in character and not inflammatory. None of the sections showed any granular casts in the tubules, as is sometimes the case, but an occasional hyaline cast was found.

The walls of the small vessels were very much thickened by a process the exact nature of which has not been satisfactorily ascertained, but one that may properly be called a hyaline metamorphosis. (See Fig. 4.) This hyaline meta-

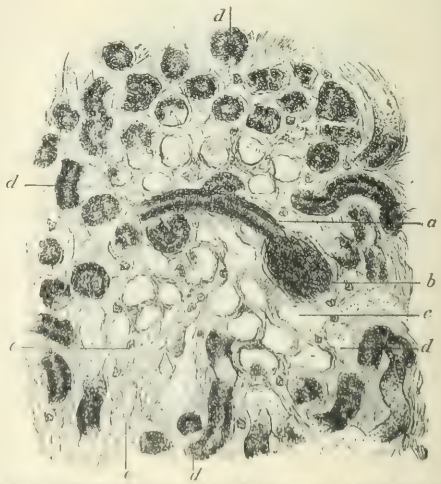


Fig. 4.—*a*, hyaline transformation of an afferent vessel; *b*, a Malpighian tuft; *c*, pavement tubes stripped of their epithelium; *d*, tubules filled with necrotic epithelium; *e*, œdematous intertubular tissue.

morphosis causes a permanent thickening of the dilated arterioles, so that they ultimately become converted into

non-elastic tubes opening directly into the tuft, as seen in Fig. 4.

The intimate connection between the liver and kidney by the sympathetic system is offered as a solution of the primary dilatation of the arterial vessels of the kidney, which finally become thickened and wholly unable to contract, and, consequently, remain open after death, as seen in the sections and in the drawing (Fig. 4, *a*). It was also found that the lumen was of more than twice the normal size, and that this condition extended up to and even through the capsule of Bowman, until the coil of vessels was reached. This lesion was not so advanced in every vessel, but all of them were more or less involved.

This enormous thickening and loss of contractility easily explains to my mind the abundant flow of urine. The pressure exerted upon the tuft of vessels within the Malpighian capsule, or dilated or expanded extremity of the uriniferous tubule, is governed by the contractility of the arteriole just anterior to it. If for any reason this is constantly dilated, and its walls are thickened, it loses the normal contractility, and a greater volume of blood is constantly poured into the tuft of vessels. This, with the unequal strain upon the vessels of the tuft from the constantly varying blood-pressure, weakens their walls and permits of a more abundant escape of water from the blood, and, consequently, a more copious volume of urine. This view is substantiated by pathological and clinical data, for there are three other lesions of the kidney in which this or a similar transformation of the vessels is met with, and in every instance the lumen of the vessel is increased and its walls are thickened, and a copious discharge of urine is the invariable rule. These are the well-known cirrhotic or red atrophy of the kidney, the waxy kidney, and one form of chronic diffuse nephritis.

The capillaries of the glomeruli had a peculiar waxy and translucent appearance, but did not respond to the ordinary test for amyloid material.

The nuclei of the cells covering the vessels of the tuft were very indistinct and often imperceptible. The capsule of Müller was also the seat of the same œdematous thickening as was noted in the intertubular tissue. There was an absence of blood in the kidney, which may have accounted for the suppression of urine which existed before death.

In the majority of the recorded necropsies a lesion of the kidney has been noted. The organs are spoken of as being enlarged, hyperæmic, and with a hypertrophic swelling of the epithelium, most of them apparently from gross appearances. The more recent writers speak of the change in the cells as a necrotic transformation, similar to that already described.

The hilum of the kidney and the ureter presented nothing specially abnormal. The bladder was empty and contracted down to a hard ball.

Catarrh of the pelvis of the kidney and of the ureter has been spoken of as a common occurrence. Abscesses in the kidney, amyloid degeneration, and nephritic tuberculosis have been described as being found after death.

The liver was considerably enlarged and dark in color, contrasting strongly with the pallor of all the other viscera. Its weight was ninety ounces (12,551·4 grammes), with sixty ounces as the maximum weight allowed for a normal liver. It was tested for amyloid transformation, but none was detected. When cut into, it offered rather more resistance than is usually the case in a normal organ. No further macroscopic evidence of cirrhosis could be detected. The external surface was perfectly smooth, with a few spots of chronic perihepatitis. Throughout the entire cut surface there were found numerous disseminated, dark-red, degenerated-looking spots or zones of hepatic tissue, which were surrounded by what appeared to be perfectly normal liver-tissue. On microscopic examination, these red zones were found to be composed of hepatic cells in various stages of retrograde metamorphosis. In some instances the nuclei, the protoplasm, and even the outlines of the corpuscles, were obliterated by the granular metamorphosis and swelling of the epithelial corpuscles. The central portion of these zones showed the most marked degenerative changes. The destructive metamorphosis grew less and less marked as the periphery was approached, and finally blended with the surrounding liver-tissue, in which the hepatic cells were found to be perfectly normal. None of the epithelial corpuscles showed the fatty degeneration, with the formation of fat droplets, so common in the acute and diffuse hepatitis of the acute blood diseases. The intervening normal hepatic tissue will account for the long duration of the disease and the reason for improvement under proper treatment. The duration of the disease may have depended upon the rapidity of the hepatic metamorphosis. On account of the difficulty of localizing with certainty a central vessel, it was impossible to determine with positiveness at just what point of the circulation the centers of these degenerated foci were located.

Another interesting lesion was a marked dilatation of the hepatic capillaries, with a thickening of their walls, and also the development of a slight amount of interstitial tissue.

The peculiarity of this interstitial new formation was that it surrounded each individual cell, or a cluster of two or three, and ran along the walls of the intra-lobular plexuses, instead of the walls of the interlobular vessels, as is commonly the case in ordinary cirrhosis. In this respect this lesion very strongly resembled, if it was not, a syphilitic sclerosis of the liver.

This general formation of new tissue undoubtedly accounted for the resistance to the knife so noticeable when the organ was first cut into.

Fig. 5 represents very accurately the changes in the liver, as seen under the microscope. The same can be said of those showing the appearances in the lung and kidney.

The drawings were made by Dr. George G. Van Schaick, and to him is due the sole credit for their accuracy and perfection.

The thickening of the walls of the hepatic capillaries, already alluded to, may be due to a hyaline transformation similar to that found in the renal vessels.

The descriptions which have been given of the changes occurring in the liver are numerous and contradictory. The major part of them appear to be based upon gross appearances instead of minute microscopic details. The various conditions which have been found are hyperæmia, hypertrophy, congestion, increase in volume from changes in the glandular cells, cirrhosis, atrophy, amyloid degeneration, the formation of abscesses, and obliteration of the portal vein.

Marks of hepatic degeneration have been quite frequently met with, similar to those already described, together with a diminution of fat in the liver, etc.

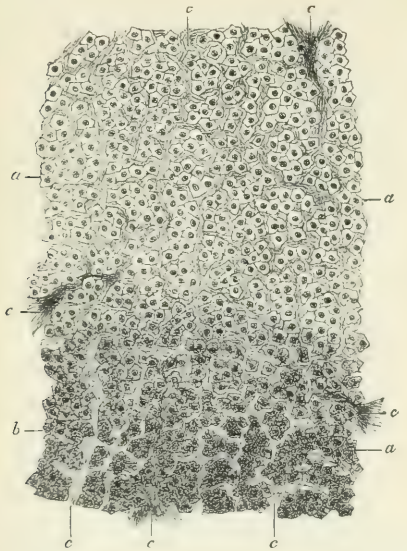


Fig. 5.—*aa*, a zone showing normal hepatic cells; *ba*, a zone showing parenchymatous metamorphosis of the hepatic cells; *c*, portal systems and intralobular cirrhosis.

In this case no special change, either macroscopic or microscopic, could be made out in the pancreas. In many of the recorded cases, however, various lesions have been found. The numerous lesions which have been recorded as found in this organ are atrophy, or atrophy with degeneration (on the other hand, it has been found small and hard), primary fatty destruction of the gland-cells, cancer, calculi, and obstruction to the duct, with cystic degeneration of the gland. In other instances it has been found very soft and anæmic.

Including all these lesions, some form of abnormity has been detected in nearly fifty per cent. of the cases. On the strength of this, some have gone so far as to locate the cause of diabetes in the pancreas.

In my case the only gross abnormal appearance in the nervous system was an extreme pallor of the cerebral substance. Microscopic examination of the medulla failed to reveal anything abnormal. The sections apparently represented a normal medulla, save for a little thickening of the vascular walls.

The almost innumerable experimental lesions which have been instituted for the production of glycosuria, either permanent or temporary, have not been cited; neither have the many cerebral and upper spinal lesions which have now and then been found in connection with diabetes. The reason for omitting them in detail is that they only prove one thing: that no constant or certain lesion has been shown to be the pathognomonic lesion in this disease. The majority of them sustain the theory that overloading and overworking of the liver are necessary for the establishment of a permanent diabetes. For, unless the super-nutritious condition of the portal blood, with a possible hepatic lesion, is present, the removal of the nervous injury is invariably followed by a disappearance of the glycosuria, while in the incurable forms of diabetes death occurs and no nervous lesion is detected, but marked lesions are found in the liver and kidneys. But, as before stated, an injury, or irritation, or undue mental impressions, may act as the spark in kindling the fire, and only in this way can the numerous lesions act, for all of them are frequently met with in cases in which there has been no appearance of sugar in the urine.

In this case the pericardial fluid, blood, and hepatic tissue were examined for glucose by Dr. Henry Rolando, house physician at the Presbyterian Hospital, who failed to find sugar in any of the samples.

The fact that no sugar was found in the blood appears to me to be strong proof that the glucose does not pass out of the liver as such, but rather in the form of sugar-producing elements, the nature of which is unknown, and that the renal cells complete the formation. This hypothesis has its analogy in the formation of urea, uric acid, etc.

The practical points of interest derived from this study are, that diabetes mellitus has for its primary cause a change in the portal blood and in the hepatic tissue and vessels; that the influence of the nervous system is secondary and not primary. Accepting this view, the line of treatment is positively defined. The excess of nutriment sent to the liver should be cut off or regulated so that the least possible work is demanded of the hepatic cells, and in this way there is a possibility of repair on their part.

The nervous system should not be neglected; it should be depressed or stimulated, as each individual case may seem to require, until its influence upon the system and the hepatic functions is brought as nearly to the normal as possible.

The vascular system also requires special attention on account of the change in the vessels of the liver and the renal arterioles. Remedies should be used which regulate the heart's action and cause its movements to remain steady. The vascular tension should be kept as even as possible. By so doing, the hepatic circulation is rendered more uniform, and less strain is brought to bear upon the vessels of the renal glomeruli, and, consequently, the work of the liver and kidneys is more evenly and perfectly performed, with less damage to these organs.

Under such circumstances repair may be accomplished, the organs restored to their normal condition, and the disease cured. This, however, can only be hoped for when the right treatment is instituted early. Therefore early recognition and treatment are essential, as it is believed that part, at least, of the sugar is finally formed and thrown out by the renal cells. Special attention should be paid to this condition, for the simple reason that a large majority of diabetic patients die from uræmia, which is secondary, and produced by the excitation of a form of renal lesion brought about by excessive work on the part of the kidneys, and commonly classed as Bright's disease.

The therapeutic considerations have not been discussed in detail, as this article is more especially confined to the pathological considerations. One observation, however, is that

no specific remedies can be expected to overcome all these pathological changes.

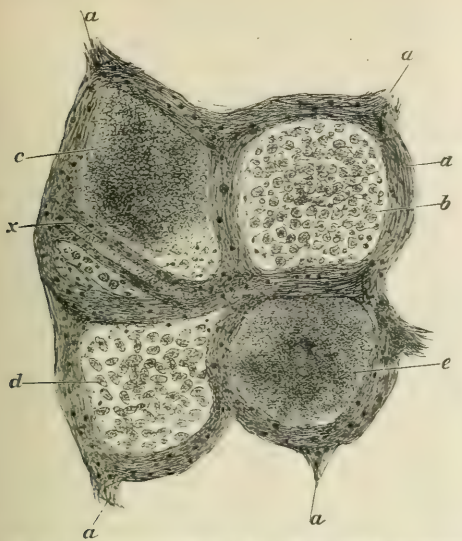


FIG. 6.—*a*, thickened vesicular walls; *b*, an air-space showing red hepatization; *c*, an air-space showing gray hepatization; *d*, an air-space showing catarrhal desquamation of epithelial cells; *e*, an air-space showing the degenerative pneumonia of syphilis; *x*, a blood-vessel between two thick bands of fibrillated vesicular wall.

The condition of the lung is of great interest and importance. It establishes positively in this case that the pulmonary affection was not tuberculous. It certainly suggests the inference that many reputed tubercular processes in the lung may have been due to a similar or independent condition.

A CASE OF CHRONIC PELVIC ABSCESS

TREATED BY ABDOMINAL INCISION AND DRAINAGE.

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The following history of the case has been prepared by Dr. J. H. Todd, house surgeon:

Mrs. W. H. J., thirty years old, was admitted into the California Woman's Hospital, September 2, 1884. She had been married six years, but had never been pregnant. She menstruated at twelve years of age. When her menses first appeared they were regular, and she had but slight pain. She grew and developed very rapidly, and was excessively fond of dancing, skating, and active exercise with excitement. She soon began to have painful menstruation, with increase in the amount of menstrual discharge. These symptoms gradually increased, the pain coming on two or three days before the appearance of the discharge. At the age of seventeen she first consulted a physician, who, upon examination, pronounced the case one of retroversion of the uterus, and treated the patient for the displacement without benefit. At twenty years of age she had an attack of cellulitis, caused by taking cold from exposure on the first day of a menstrual period, with suppression of the discharge. She was confined to bed for two months, during which time she had a constant flow, not excessive but persistent. The dysmenorrhœa and retroversion remaining after she recovered from the cellulitis, she was treated by another physician. At the age of twenty-two she had a second attack of cellulitis from a similar cause, and running precisely the same course. Two years later, without known cause, she had a third attack, running a similar course. During these years she had passed through the hands of many physicians, with but temporary benefit. In 1882 her physician introduced a stem pessary, which she wore for a month with comfort and relief. A longer instrument was then adjusted, which caused excessive pain, and had to be removed immediately. An attack of cellulitis followed, confining her to bed for nine weeks. During this attack there was no hæmorrhage, as there had been in the former attacks, and she did not recover as she had recovered from them. In January, 1883, she first noticed a discharge of pus *per rectum* at the time of going to stool, which has continued constantly until now. At times the discharge is more profuse and the pain less severe; at other times the discharge almost ceases, when the pain becomes excessive, and is accompanied with fever and occasional rigors. From that date until now the pain, during the first three days of the menstrual periods, has been so excessive that nothing but morphine in increasing doses would relieve it. At present she complains of excessive pain in the region of both ovaries, now worse on the right side, radiating to the leg, the back, and the side.

She is tall, excessively emaciated, and anæmic; her power of locomotion is impaired; her nervous system is in poor condition; she has severe headaches, but sleeps well; her bowels are regular, her appetite is good, and her respiration is normal. She is found to have retroversion of the uterus, with chronic cellulitis and pelvic abscess.

Hot vaginal injections were given three times a day; Churchill's tincture of iodine was applied to the vaginal roof three times a week; and hydrate of chloral and morphine were given in sufficient quantities to relieve pain.

September 10th.—Dr. Scott and Dr. Blake made an examination under ether, but were unable to discover the opening from the abscess into the rectum, as it was situated too high. Sims's new wire speculum was used and the rectum explored for quite four inches, but no opening could be found; above the distal end of the speculum, however, pus was seen trickling down.

On the 16th the patient left the hospital, to be absent during Dr. Scott's visit to the East, but returned and was readmitted on the 23d, suffering intense pain in the region of the right ovary. Constant application of heat, an occasional hypodermic of morphine, with attention to the bowels and the nutrition, constituted the treatment until November 18th. She was then etherized, and Dr. Scott made an incision in the linea alba from one inch below the umbilicus to the pubes. When the peritonæum was opened, a tumor presented filling the right side of the pelvis, and extending beyond the median line. The omentum and intestines were closely adherent, both to the surface of the tumor and to the abdominal wall. With great difficulty a portion of the tumor was cleared by including the adherent omentum between two ligatures and cutting between them, after which the attachment of the omentum was separated with the finger-nail. The small intestines were so matted together and adherent to the tumor that it was found impossible to separate them. A stout silk ligature was then passed through the surface of the tumor, by which the upper wall was lifted into apposition with the abdominal wound, to which it was stitched as securely as possible. The patient was then turned on the side and a long, curved trocar and cannula were thrust into the abscess. Upon the withdrawal of the trocar a large quantity of extremely fœtid pus was let out through the cannula. A stream

of solution of bichloride of mercury, 1 to 1,000, was thrown upon the abdominal wound during the removal of the pus. The cavity of the abscess was then washed out with a like solution, the trocar was reintroduced into the cannula, and, with a finger of the right hand in the vagina to direct them, the trocar and cannula were pushed through into the vagina. A probe was then passed through the cannula, and a French rubber drainage-tube, which had been attached to it, was drawn through the abdominal opening. One of Tait's glass drainage-tubes was then passed over the tube into Douglas's space, and the abdominal wound was closed with silver stitches. The cavity of the abscess was washed out with a 1-to-500 solution of bichloride of mercury, and it was ordered to be done every three hours with a 1-to-1,000 solution.

The patient was very low when she was removed from the table, and at 5 P. M. the most alarming collapse set in, the temperature rising to 100·3° F. while the pulse was 150 and very weak. As there was no drainage by the vagina, Dr. Scott enlarged the vaginal opening and washed out the abscess with a bichloride solution, 1 to 1,000, when the temperature at once fell to 99°, and the pulse was somewhat improved. At 9.15 P. M. violent vomiting set in, and the pulse became unappreciable at the wrist, and remained so until half past seven the next morning, when reaction took place; since then her improvement has been gradual, but steady. On December 11th she was permitted to sit up, and on the 30th she was discharged cured.

To Mr. Lawson Tait we are indebted for the wonderful improvement in the treatment of pelvic abscesses by abdominal incision and drainage, and he has abundantly demonstrated its efficiency and safety when properly performed. I have treated three cases by abdominal incision and drainage, with two complete recoveries and one death. In my first case the abscess was the result of a violent post-partum inflammation caused by getting up the third day after labor and exposure to cold. When first seen, the patient was extremely emaciated, and the left thigh so firmly flexed on the abdomen that it could not be extended under the influence of ether; and she had lain in this condition for six weeks before entering the hospital. I could define the existence of an abscess occupying the left iliac region and extending across the abdomen a little to the right side of the linea alba, but I could not detect any bulging in the roof of the vagina on either side of the cervix or behind, through which I might attempt to reach the abscess. I proposed opening the abdomen in consultation with the medical staff, but could find none to agree with me, as they considered the woman dying, and that the operation would kill her speedily. Under these circumstances I deferred the operation for nearly three weeks, when uncontrollable diarrhœa and vomiting set in, with rigors, high temperature, and profuse sweating, and the patient begged for an operation. On opening the abdomen, I was distressed to find that perforation of the bowel had taken place, and fæces came away with the contents of the abscess—a casualty which might have been avoided had I operated earlier. For a fortnight the fæces came through the wound, when the perforation closed, and the patient made a rapid and complete recovery. In my second case the abscess was an enormous one. The patient had, two or three days before the operation, some severe rigors, followed by intense pain in the abdomen, and symptoms of peritonitis. On opening the abdomen, the intestines were so matted together and inflamed that it was exceedingly difficult to get at the abscess, which had very thick walls, consisted of a number of pus cavities, and dipped down low behind the uterus, rendering it very difficult to evacuate it entirely, although the patient was rolled over nearly on her face and the cavity washed out, by a Davidson's syringe, with carbolic acid and water. I think the operation was delayed so long that perforation of the abscess-wall had taken place, giving exit to part of its contents into the abdominal cavity, and, unfortunately, I trusted to abdominal drainage only, and did not open into the vagina as well. She died on the second day.

My third case is the one above detailed, and I can not but congratulate myself on having made the vaginal opening, for not only was the drainage perfect and her recovery complete, but I noticed the steady disappearance by absorption of the cellulitic exudate which filled the entire roof of the vagina and rendered the uterus perfectly immovable. Two months have not yet elapsed since the operation, and already more than half the exudate has been absorbed, the uterus is movable, the patient has gained twenty pounds in weight, and her locomotion is perfect. These details may appear trifling; but to all who are conversant with the unsatisfactory treatment of pelvic abscesses on the old plan—the very imperfect results attained, and the slow, lingering convalescence, with, after all, remaining exudate, and impaired mobility of the uterus—no detail can be trifling or unimportant. In Mr. Lawson Tait's description of the operation he makes no mention of a counter-opening by the vagina and *through-drainage*. Nor does Dr. Emmet allude to it in referring to the operation in the third edition of his book. I can not help attaching great importance to the vaginal opening. I do not imagine that it entails any additional danger, but I should like to ascertain through the "New York Medical Journal" whether other gynæcologists have practiced it.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Micro-Chemistry of Poisons, including their Physiological, Pathological, and Legal Relations; with an Appendix on the Detection and Microscopic Discrimination of the Blood. Adapted to the Use of the Medical Jurist, Physician, and General Chemist. By Theodore G. Wormley, M. D., Ph. D., LL. D., Professor of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania. With Ninety-six Illustrations upon Steel. Second Edition. Philadelphia: J. B. Lippincott & Co., 1885. Pp. 741. [Price, $7.50.]

Étude sur les scléroses encéphaliques primitives de l'enfance. Par le Dr. H. Richardière, Ancien interne lauréat des hôpitaux, etc. Paris: G. Steinheil, 1885. Pp. 110.

Des ruptures utérines pendant le travail à terme; pathogénie et traitement. Par le Dr. R. Labusquière. Paris: H. Lauwereyns, 1884. Pp. 95.

Du traitement chirurgical des néoplasmes mammaires. Par le Dr. Émile Valude, Ancien interne des hôpitaux, etc. Paris: G. Steinheil, 1885. Pp. 153.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, APRIL 11, 1885.

DR. PLAYFAIR ON LACERATION OF THE CERVIX UTERI.

A RECENT number of the "Medical Times and Gazette" contains a clinical lecture, by Professor Playfair, on Emmet's operation, or, as it is barbarously styled, "trachélo-raphé." But this is a minor blemish. It would be unfair to examine too critically the statements of a gentleman who has not only been an honored guest in this country, but an author to whom we have felt grateful because of his championship of American gynæcology; but in reviewing Dr. Playfair's lecture one can hardly avoid the inference that he has not grasped in its entirety Dr. Emmet's idea of the lesion and its repair, or else that he has chosen to touch lightly upon a most important aspect of the matter.

It appears strange to the American reader not only that a writer should feel called upon to assume an apologetic air when referring to this topic, but that he should call attention to the fact that the operation for laceration of the cervix has been "lauded as a new panacea for all the ills which female flesh is heir to." This latter theory has gone out of fashion among us, and indeed it was never entertained by the most enlightened of our gynæcologists, so that it is not easy to see how its existence could ever have been inferred from the writings of either Dr. Emmet or his most enthusiastic followers.

Dr. Playfair describes quite graphically one condition for which the operation is performed, and is very judicious in his remarks as to the selection of proper cases, but he might have referred to other results of the lesion than the so-called "ulceration." A word concerning preparatory treatment, upon which Dr. Emmet lays so much stress, would not have been amiss. It is gratifying to see that such a fair-minded foreign observer has taken the trouble to study and adopt the operation, and we trust that his precept and example will lead his more skeptical *confrères* to at least give the matter their thoughtful attention.

THE HIGH OPERATION FOR STONE.

IT is a general impression among medical readers that suprapubic lithotomy is not only a very rare, but also an unwarrantable operation—one, in fact, which belongs to the Dark Ages of surgery. Occasionally some American writer does put in a plea for its revival, but we seldom hear of the "high operation" being extensively practiced by any single surgeon. Dr. Dulles ("American Journal of the Medical Sciences," July, 1875, and April, 1878) has presented some strong arguments in its favor, and Petersen ("Archiv fur klinische Chirurgie," xxv) has also commended it. Dittel, in a recent number of the "Wiener medicinische Wochenschrift," advocates the high operation in cases in which the bladder contains very large, hard, or irregular calculi, or foreign bodies the size and shape of which are such that they can not be removed by the perineal section. He appears to consider the operation less dangerous than that by the perinæum, since it spares important organs. Ebermann ("St. Petersburger medicinische Wochenschrift") has had an extended experience with lithotrity in women, and unhesitatingly condemns "epicystotomy" as a dangerous and unnecessary procedure. Yet the latter is not an uncommon operation in Professor Billroth's clinic. Under the conditions imposed by Dittel, we have no hesitation in commending the operation, but we should be sorry to see it adopted in the case of any but male patients.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 7, 1885:

DISEASES.	Week ending Mar. 31.		Week ending Apr. 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	5	1	5	1
Scarlet fever	92	19	93	12
Cerebro-spinal meningitis	7	6	4	5
Measles	154	18	214	22
Diphtheria	78	23	64	35

Small-pox is reported to have broken out in Montreal, having been carried to that city, it is said, by the conductors of parlor cars from Chicago.

The Honorary Degree of LL. D. was conferred upon Dr. Austin Flint, Jr., of New York, by the Jefferson Medical College, of Philadelphia, at the annual commencement, held on Thursday, the 2d inst.

The New Haven County, Conn., Medical Society.—At the annual meeting, to be held at the Dayton House, Ansonia, on Thursday, the 16th inst., the subject for discussion will be "Diet in Fevers."

A Portrait of Dr. Fordyce Barker is to be presented to the New York Academy of Medicine at its next meeting, Thursday evening, the 16th inst. It is expected that the presentation speech will be made by Dr. Thomas M. Markoe. The portrait, by Lazarus, represents the ex-president of the Academy in his Edinburgh academical robes, a feature which, we think, will form a pleasing variation of the garbs shown in the portraits that now adorn the Academy's walls. The likeness is excellent, the expression being serious but kindly.

Columbia College.—It is announced that Dr. John S. Billings, of the army, has been invited to extend his course on hygiene from twelve lectures to twenty, and that Dr. Edwyn Waller, heretofore instructor in quantitative analysis, has been made professor of analytical chemistry.

The College of Physicians of Philadelphia will hold its annual conversazione on Thursday evening, the 16th inst. Dr. S. Weir Mitchell and Dr. Edwin T. Reichert will show specimens of snake poisons and drawings illustrating their effects; Dr. E. O. Shakespeare and Dr. H. F. Formad will exhibit apparatus for sterilizing organic infusions, various cultivations of bacilli, also the bacilli of tuberculosis and of cholera. Dr. J. Gibbons Hunt will show various microscopical preparations of interest; Mr. Holman will exhibit the circulation of the blood

with the lantern microscope, together with other objects of interest; and Dr. H. F. Formad will show photographs of bacilli, etc., on the screen. The Mütter Museum and the library will be open during the evening, and supper will be served at 10 o'clock.

The Alumni Association of the New York College of Pharmacy held its annual dinner on Wednesday evening, the 8th inst., at the Rossmore Hotel.

Foreign Students and the Paris Hospitals.—The *conseil municipal* has decided that foreigners may be allowed to compete for positions as *internes*, as we learn from the "Progrès médical," but will insist that none but Frenchmen be appointed in the higher grades of hospital service.

Another Medical Novelist.—The "Lancet" confirms the rumor that "Pen Oliver, F. R. C. S.," the author of "Charley Kingston's Aunt," is the well-known surgeon, Sir Henry Thompson.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 29, 1885, to April 4, 1885:*

Hall, William R., Captain and Assistant Surgeon. Granted leave of absence for one month and fifteen days, to take effect when his services can be spared. S. O. 70, A. G. O., March 27, 1885.

Gardiner, John de B. W., Captain and Assistant Surgeon. Ordered for temporary duty at Fort McHenry, Md. S. O. 64, Department of the East, March 28, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 4, 1885.*

Murray, R. D., Surgeon. Granted leave of absence for one week. March 31, 1885.

Bratton, W. D., Assistant Surgeon. To proceed to New York, N. Y., for temporary duty. April 2, 1885.

Watkins, R. B., Assistant Surgeon. To proceed to New Orleans, La., for temporary duty. April 2, 1885.

Appointments.

The following candidates, having passed the examination required by the regulations, were appointed assistant surgeons by the Secretary of the Treasury, April 1, 1885, viz.:

William D. Bratton, M. D., of South Carolina;

Ralph B. Watkins, M. D., of Connecticut.

Society Meetings for the Coming Week:

Monday, *April 13th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Norwalk, Conn., Medical Society (private); Burlington, Vt., Medical Club.

Tuesday, *April 14th:* New York Surgical Society; New York Medical Union (private); Medical Societies of the Counties of Oneida (Utica), Rensselaer, and Tioga (Owego), N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Medical Societies of Bergen (Hackensack) and Cumberland Counties, N. J.; Fairfield County, Conn., Medical Society (South Norwalk).

Wednesday, *April 15th:* Northwestern Medical and Surgical Society, New York (private); New Jersey Academy of Medicine (Newark); Windham County, Conn., Medical Society; Middlesex South District, Mass., Medical Society (Waltham).

Thursday, *April 16th:* New York Academy of Medicine; New Haven (Ansonia) and Tolland County, Conn., Medical Societies; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *April 17th:* Chicago Gynæcological Society.

Saturday, *April 18th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

Dr. James L. Little.—We are pained to have to record the death of this well-known surgeon, which took place on Saturday, the 4th inst., as the result of a brief illness which is understood to have been peritonitis.

James Lawrence Little, M. D., was born in Brooklyn in 1836. He studied medicine as a private pupil of the late Professor Willard Parker, and received his medical degree from the College of Physicians and Surgeons in 1860. Immediately after his graduation he was appointed on the surgical house-staff of the New York Hospital, where he served for what was in those days the regular term—two years. On leaving the hospital he entered the military service (quite as much from his intense patriotism as from a desire for further surgical opportunities), and was at once made surgeon-in-charge of the Park Barracks, a number of wooden structures that had been hastily thrown together as a refuge for the sick and wounded soldiers that passed through New York on their way to or from the seat of war. At about the same time he was appointed first assistant at the surgical clinic of the College of Physicians and Surgeons, a position which he held for a number of years, with great credit to himself and to the advantage of the clinic. Meantime he had taken up his residence in a quarter of the town where his patients were likely to be numerous, and he speedily found himself with a large practice on his hands—chiefly surgical from the outset. Before long he was appointed one of the surgeons to St. Luke's Hospital, and subsequently he received a like appointment at St. Vincent's. Both these positions he held up to the time of his death, and for a considerable period prior to his decease he had been professor of clinical and operative surgery in the New York Post-Graduate Medical School and Hospital, professor of the principles and practice of surgery in the Medical Department of the University of Vermont, consulting surgeon to the Mary Fletcher Hospital, at Burlington, Vt., and a member of the Medical Society of the County of New York, of the New York Academy of Medicine, of the New York Pathological Society, of the New York Surgical Society, of the Northwestern Medical and Surgical Society, and of the New York Physicians' Mutual Aid Association.

Dr. Little's career was exceptionally successful. At the very first, he had the great advantage of a mature and commanding presence, so that probably his patients never had their confidence in him restricted by his appearing "too young." But this was his only accessory advantage; nepotism, self-interest on the part of others, and all the golden borders that sometimes light up the clouds of a young doctor's life were never brought to bear in his favor. He was emphatically a man of the people and a self-made man; had he not been possessed of sterling worth, he would never have been heard of beyond the circle of his personal friends. He was also in an eminent degree a man of action rather than of book-learning. The success of his operations was a frequent subject of remark, and it was not uncommon to hear surprise expressed that it was greater than that of some of his contemporaries who were accounted more learned. His "luck" was often spoken of, but it must have been with the secret conviction that whatever he lacked of book-learning he had more than made good by his powers of observation and his mastery of the art of surgery.

While Dr. Little unquestionably made an impression upon New York surgery, it was rather by his successful practice than by any novelties, either of design or of execution, such as are likely to be handed down in literature. Nevertheless, his first notable achievement, while yet a hospital *interne*—that of making immovable dressings manageable by his simple and effective plaster-of-Paris splint—must prove an enduring monument to his memory. He will long be remembered, too, for his great experience with Allarton's operation of median lithotomy, and for the many points of detail in which he rendered it easier, simpler, and more satisfactory. Dr. Little was not over-fond of writing, but many of his contributions were noteworthy, and, almost up to the day of his death, he was an active participant in the proceedings of the New York Surgical Society—indeed, this issue of the journal contains a report of a recent meeting of that society in which he took part.

There is no better criterion of a medical man's worth than the esteem in which he is held by those who serve under him in a hospital. Judged by this test, Dr. Little was worthy of the greatest admiration. While he was a strict disciplinarian, he was kind and considerate, and as a consultant he was exceedingly liked. He was a man of noble purposes and of a great, kindly heart. Devoted to his profession, he was at the same time a loyal citizen. By his death two colleges lose a most successful teacher, two hospitals an excellent surgeon, the profession an indefatigable worker, his family a kind husband and father, and the community a man who was every inch a typical American.

Letters to the Editor.

ENCEPHALIC NOMENCLATURE.

To the Editor of the New York Medical Journal:

SIR: Referring to Dr. Spitzka's note in the "Journal" for April 4th, page 391, I venture to suggest that he may have overlooked, in my "schema," Fig. 2, the name *myelocœle* as applied to the *entire myelic division* of the neurocœle, or cavity of the "cerebro-spinal axis." Commonly, especially in anthropotomy, there would be no occasion for the use of any other term for what is now called the "central canal," and hence, as upon so many other points, Dr. Spitzka and I would be in strict accord. But when, as in the cases which he names, there is a marked dilatation of the myelocœle in the lumbar region (without committing ourselves to the recognition of that region as a segment), it seems to me desirable to employ distinct names for the tubular and the expanded portions. I am not tenacious as to *syringocele*, but *rhombocele* is certainly a good monomial, and sufficiently suggestive substitute for the polynomials, *sinus*, and *fossa, rhomboidalis* (which are applied also to the "fourth ventricle," and are therefore ambiguous) and *ventricule lombaire*. I repeat my request for information as to the first employment of the name *foramen Monroi*, which I have proposed to replace by the monomial *porta*.

Respectfully yours,

BURT G. WILDER.

THE PASSAGE OF A PISTOL-BALL THROUGH THE EAR, AND ITS SUPPOSED LODGMENT IN THE STOMACH OR LUNGS.

To the Editor of the New York Medical Journal:

SIR: There is nothing special in this case aside from its novelty and the uncertainties which surround the place of lodgment of a ball when it has entered the body.

On the night of the 14th of February a young man placed the muzzle of a Smith & Wesson five-shooter, .32 caliber, in the external ear of his supposed *fiancée*, and fired. He then placed the muzzle of the same pistol in the meatus of his right ear, and fired. On opening the cranium, the ball was not found lodged in the brain or in the bones, but it had traversed the entire length of the petrous portion of the temporal bone, splitting it into three pieces, and rupturing the carotid artery and the jugular vein. After dislodging the carotid artery, it traversed the canal and struck the basilar process of the occipital bone at its connection with the sphenoid. The inferior maxillary bone was removed from the glenoid fossa on one side, which admitted of a free exploration of the fauces. Notwithstanding a most diligent search was made in the brain, the bones, and the throat, the ball was not found. The conclusion was that it had entered either the œsophagus or the trachea, and found a lodgment in the stomach or lungs. The direction of the ball can better be appreciated by taking the base of a skull and passing a probe into the carotid foramen and canal, and another into the meatus auditorius externus.

TANDY L. DIX, M. D.

SHELBYVILLE, KY.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 24, 1885.

The President, Dr. R. F. WEIR, in the Chair.

Ganglion of the Wrist.—Dr. A. C. POST presented the patient, who had a ganglion of the wrist, which he had treated by puncture and evacuation of the contents, and whose case he had already reported to the society about one month ago. There remained only a slight hardness in the situation of the swelling. It was possible that there was a slight reaccumulation of fluid, and it might be necessary to resort to further operative procedure.

Congenital Hypospadias.—Dr. POST also presented a patient on whom he had performed an operation for hypospadias on the 3d of February. The man was over thirty years of age. The floor of the urethra was deficient to the extent of about 2 ctm. behind the corona glandis. The operation consisted in making a perineal incision into the membranous part of the urethra, introducing a short catheter into the bladder, dissecting a flap of integument 2 ctm. wide on the lower surface of the penis extending back nearly to the scrotum, and denuding a space 1 ctm. wide on each side of the flap and extending forward on the lower surface of the glans. The flap was then doubled on itself and drawn forward as far as the glans, and its edges were attached by fine sutures to the outer edges of the denuded space. The deep layer of the doubled flap, which was designed to form the floor of the urethra, was not attached by sutures, but left to attach itself. The wound was washed with a solution of mercuric bichloride, 1 to 1,000, and dusted with iodoform. To take off the tension from the base of the transplanted leaf, a V-incision was made behind the base of the flap, the triangular flaps of skin were dissected up from its base, and the sides of the triangle drawn together with sutures, converting the V into a Y. The wound healed perfectly, and the floor of the urethra was thus extended forward beyond the corona glandis. The catheter was withdrawn from the perineal wound within a fortnight after its introduction, and the patient passed his urine freely through the reconstructed canal. Within a very few days the wound of the perineum was entirely healed.

The PRESIDENT asked Dr. Post if he did not attribute the success in a great measure to the perineal opening.

Dr. POST replied that he did.

Dr. J. L. Little asked if there was any marked curvature of the penis.

Dr. Post answered, no, there was only a slight tendency to curvature.

The President said that marked curvature of the penis did not usually take place unless the opening in the urethra was farther back.

Dr. Charles McBurney said it was noticeable that a prominent author on genito-urinary diseases had stated that to make an opening in the perinæum like that resorted to by Dr. Post was adding a major operation to a minor one; but it had always seemed to him absurd to make such a criticism on the perineal opening, as it was a simple operative procedure, and the opening was one which readily closed.

The President had had occasion to open the perinæum five times in the treatment of anterior fistulæ by plastic operations, and in no instance had there been any failure in the rapid spontaneous closure of the perineal opening.

Dr. McBurney had had one patient with an extensive fistulous opening in the urethra which required four operations for its cure, and in that instance he made an opening in the perinæum, which closed after each operation upon the urethra, so as to make it necessary to reopen it each time before doing the next operation.

The President said that within a few months he had closed in one patient three openings in the normal urethra from tertiary ulceration situated in the corona glandis. The operation consisted in vivifying the edges of the fistulæ after making a perineal opening. The broad, freshened edges of the prepuce and inferior surface of the glans were sewed up with several rows of catgut sutures, and in this manner a perfect success was obtained. He thought the multiple rows of fine catgut sutures, as well as the perineal opening, contributed to the good result.

Dr. Little remarked, with reference to Dr. Post's case of ganglion of the wrist, that it seemed to him the sac was beginning to refill. He had had a similar case under treatment in which the swelling extended above and below the wrist, and in which he made a free incision, and followed it by the application of a compress for some time, when it seemed to be entirely cured. Subsequently, however, it was found that the sac had refilled, and he made a second incision. The tumor was a kind of double swelling, and contained the fluid ordinarily seen in ganglia, with the exception that he did not find any of the so-called rice bodies.

Dr. Post said that if the sac in his case refilled he would make a freer opening and treat it as an open wound.

Carcinoma of the Parotid; Successful Removal of the Entire Gland.—Dr. L. A. Stimson presented a man, sixty-four years of age, from whom, twenty days previously, he had extirpated the parotid for carcinoma. The growth made its appearance four years ago, and of late had increased in size rather rapidly, so that at the time of the operation it involved the skin to the extent of about an inch and a half by two inches. The case was brought before the society, first, because complete extirpation of the parotid was said by some writers to be too hazardous to be undertaken. In this instance there was no difficulty in removing the gland, and the only vessel of much size which was divided and ligated was what seemed to be the temporal branch of the external carotid, the bifurcation into it and the internal maxillary appearing to be much lower than usual. Of course there was complete facial paralysis. The entire gland was involved in the tumor except at the deeper part, where it seemed to be healthy. The growth had invaded the sterno-cleido-mastoid muscle just below the mastoid process. At the close of the operation Dr. Stimson was able to cover the entire wound by a skin-flap, and at the end of a week it had all healed except at the situation of the drainage-tube; but during the second week it became evident that the deeper upper part of the cavity left by removal of the gland had not closed, and there was now present an opening about a third of an inch in depth, running up in front of the mastoid process. There was also another point low down under the chin, which marked the position of a defective suture, where the borders of the incision had not united. At the same time the wound had remained practically without pus. It was treated by irrigation with bichloride solution during the operation, and dressed with iodoform afterward. The tumor was movable superficially, but the deeper posterior and upper portion was very firmly adherent.

In making a dissection before the operation Dr. Stimson encountered a peculiarity of the internal carotid artery, which consisted in an S-shaped fold or turn, about an inch above the bifurcation, which drew the artery into a loop three quarters of an inch across, placed transversely in the neck, so that the upper portion of the loop was three quarters of an inch superficial to the line of the artery itself.

Paralysis of the Trapezius, Serratus Magnus, and Rhomboidei.—Dr. Stimson also presented a man, thirty-two years of age, who had always been healthy until the present trouble, which began five months ago with pain in the right side of the neck, followed by difficulty, steadily increasing, in the use of the right arm and in raising the hand to the head, which was now very marked, and with which there was inability also to use the shoulder, especially in bringing it forward. He could raise the arm to the horizontal line, but no farther; and when he did so, or when he pressed with the raised hand against an object in front, the vertebral border of the scapula became very prominent and the soft parts between it and the spine were deeply depressed to fill the space left between the scapula and the wall of the chest. The line running from the point of the shoulder to the side of the head, formed by the trapezius, was much less full and prominent than on the other side. The deltoid and scapular muscles seemed normal, and the inability to raise the hand to the head appeared to be due to weakness of the upper fibers of the trapezius. Recalling the patients whom Dr. Gerster presented to the society some time ago, he had presented the man partly that the society might have the opportunity to see him, and partly to obtain a diagnosis. The muscular reaction had been tested with electricity by some neurologists, and the patient had been told that there was marked degeneration of the rhomboid muscle and of the trapezius, but not of the serratus magnus, and that the reaction was not that of degeneration. The question in Dr. Stimson's mind was, what muscles were at fault, and what was the cause of the paralysis. The posterior border of the scapula was held down to the chest not by the action of the serratus magnus alone, but by the conjoined action of the posterior fibers of the trapezius, the rhomboideus, and the serratus magnus, and therefore, when either one of these muscles was paralyzed, the border of the scapula could leave the chest; the question therefore arose, Which of them in the present case was affected, or were all? The levator anguli scapulæ seemed to be perfect. There was no specific history, and there was no wasting of the muscles of the hand, as might be expected in progressive muscular atrophy; nor was there any history of traumatism.

Dr. A. G. Gerster had seen a somewhat similar case in an adult girl after dislocation of the shoulder joint, in which instance there was paralysis of the serratus magnus on the injured side due to traumatism accompanied by paralysis of almost all the muscles surrounding the shoulder joint, a complication which, according to Busch, of Bonn, was not at all uncommon.

Dr. Post remarked that it was hardly conceivable that any single muscle should be paralyzed by itself unless it was supplied by a single nerve which distributed branches to no other muscle, as in the case of the fourth and the sixth cerebral nerves.

Excision of the Knee Joint.—Dr. McBurney presented a patient upon whom he had performed excision of the knee joint. Henry J., thirty-five years of age, a coachman, was admitted to the hospital May 19, 1884. The patient's family history was good; his previous health had been excellent, and there was no history of venereal disease. Four years ago he slipped and struck his left knee, and was laid up for four days. Two years after this the knee became swollen, and the leg was fixed upon the thigh at an angle of forty-five degrees, which condition lasted for two weeks. There was then an interval of eighteen months in which the knee seemed to be nearly well. Six months ago the knee began to swell and to be painful, and three months and a half ago an incision was made from which pus discharged very freely. Since that date four additional openings in the thigh and leg had been made for the evacuation of pus. Last May Dr. McBurney found the patient with a general suppurating joint, eroded cartilages, and sinuses burrowing in every direction through the thigh and leg, and almost down to the ankle joint, separating the muscles of the calf. He performed complete excision and removed all the joint structures, and thoroughly curetted all the sinuses. The dressings from the date of operation to July 15th were changed as occasion demanded. On August 30th the sinuses on the anterior and posterior surfaces of the limb were laid open, and again, also, on October 2d, sinuses on the outer side of the leg were laid open and curetted. On November 28th there was excellent bony union, and the foot was in a state of talipes equinus. On February 23, 1885, there was a small sinus, not leading to bone, on the anterior surface of the limb, which on March 24th had been healed for some weeks. The result was a shortening of the limb of not quite three inches, with bony union, which was found to be complete six months after the operation. The bone was treated without either wire or nails, or other apparatus except an external appliance to obtain apposition of the fragments, a method which Dr. McBurney thought possessed advantages. The incisions through the bone were straight. There remained some paralysis of the flexors of the foot, which also existed before the operation. The result was not a handsome leg, but it was much better than a wooden one. The speaker had performed excision of the knee joint in nine cases, and in all union had taken place rapidly, the longest period being six months after the operation, and the shortest six weeks, in the case of a child. He had had another case in which union took place, and in which he did not use either wires or nails, but simply an outside splint, and the result was satisfactory. Concerning a third case treated in this manner, he was unable to report. Other things being equal, it was desirable to avoid the introduction through bones of substances which were not absolutely essential.

Dr. Post remarked that the evil resulting from the introduction of wires was not very formidable.

Dr. McBurney admitted that the results were not very serious, but at the same time he had seen prolonged discomfort, considerable pain, and suppuration from the presence of such foreign bodies, and, unless the advantage attending the presence of the wire or nails was very compensating, he thought they had better not be used. This was an important point, which could, however, be decided only by further experience. In a case like the one just reported, which was the worst he had ever seen, he thought the result was in favor of not using wire to hold the surfaces in apposition.

Dr. Geester thought that the question could not be decided so simply as this. He believed that there were cases in which the use of wires and nails was not necessary, whereas they might be in some cases essential to get good apposition of the fragments—for, instance, if the surgeon had to deal with a fat or very muscular subject, where the fixation of the resected joint in the splint was more difficult than in lean individuals. He had not wired many bones, but he had used nails in six or seven cases, two of exsection of the knee joint, two in the performance of Mikulicz's operation, and after a number of necrotomies, and had found them exceedingly useful and non-irritating. In the first case of knee exsection the nails had not been disinfected properly, some suppuration took place, and tuberculous granulations sprung up which rendered revision of the knee joint necessary, and, on laying open several sinuses and removing the granulations, the wounds healed. Excellent bony union of the same surfaces had taken place almost immediately after the operation. In other cases no reaction followed the use of nails, and, as soon as the nails were withdrawn, the tracts closed up without suppuration. Dr. Gerster thought the trouble experienced in the removal of nails was far less than from the use of wire, but that their proper disinfection was essential.

Dr. Little asked how long the nails were allowed to remain.

Dr. Geester replied that it depended upon circumstances. He had left them in as long as four weeks. The nail need not do any harm, as it was no more irritating than so much clean silver wire.

The President remarked that the nails certainly added firmness to the limb, and were easily removed.

Dr. McBurney agreed with Dr. Gerster with regard to the use of nails and wires, but he thought there were few cases where exsection of the knee or shoulder was demanded in the fat subject. Of course the operation might be demanded in some cases of traumatism, but the point was not whether nails could be borne without causing irritation, but whether nails were necessary. That they could be borne, there was no question whatever; but, on the other hand, there were not infrequently cases where the bone was so disorganized, and abscess cavities were so large, that practically there was not sufficient bone left for the nail to enter and be of any service.

Dr. L. M. Yale had seen one of Dr. McBurney's cases, in which he thought that neither nails nor wire would have held the bone together.

Dr. McBurney remarked that it was a case of this character which first led him to try to keep the bony surfaces in apposition without any special kind of retentive apparatus.

Dr. Stimson said that there was another question of importance in the treatment of these cases, laying aside the question of how much benefit either wire or nails afforded. It was well known that the bone encountered in excision was not tough, strong tissue, but was spongy, and could be readily broken down with the gimlet, and that whatever instrument was used for making the holes for inserting the wires or nails usually made a hole much larger than itself. The leg and thigh together constituted a very long, heavy body, and any lack of support of the foot would produce a change of angle at the section unless the union there was stronger than that furnished by a nail driven into the spongy bone, as he had seen it, was likely to be. The same was true of wires; those which were used were ordinarily not strong enough to stand any heavy strain, such as could be given by partial weight of the foot, but, even if they were, the bone through which they passed was rapidly absorbed about them. In his own last case, one yielding an excellent result, the wire loops promptly became loose and fell out spontaneously. He thought that the result desired, which could not be obtained with wire, could be obtained by attention to one point

in the dressing, that of supporting the limb with the heel considerably higher than the buttock in a splint which did not take hold of the limb below the knee, and thus allow the thigh to sink away from it. If this method was observed, simply lifting the limb and placing it upon a posterior splint, gravity would keep the leg in apposition with the thigh, and all that the wires could do in addition was to keep the segments from being rotated one upon the other. The simple action of gravity alone would keep the two cut surfaces of bone in contact, unless the limb was so suspended that the leg alone was fixed and the thigh allowed to sag away from it. The limb should lie loose on a posterior splint, a gutter, so that the leg could follow the thigh as the buttock sunk in the bed.

The President said he must, however, add that from his experience the introduction of nails did stiffen the divided bones.

Dr. H. B. Sands said his experience in the use of nails in excision of the knee was limited to two cases. The first was that of a man upon whom he performed the operation a little more than a year ago, employing three nails, which, from his lack of experience, were not very skillfully introduced. One of the nails, which was driven in in the median line from below upward, penetrated so near the popliteal space that, as a matter of precaution, it was removed on the second day. The other nails were allowed to remain two weeks, when, being found quite loose, they were removed. The other case was one in which he had excised the knee joint two weeks ago. It was one of white swelling of an aggravated character, occurring in a girl sixteen years of age, with very extensive abscesses and sinuses running up to the middle of the thigh as well as down the leg. He introduced three nails in the usual manner, and, although the osseous tissues were somewhat soft, considerable force was required to insert them. Dr. Sands was satisfied that the mechanical advantage derived from their use in this instance was very great. It became necessary to dress the wound forty-eight hours after the operation, and three dressings had since been made on account of the soiling of the bandages. When the dressings were changed, the advantage of using the nails was shown in the fact that the limb could be readily lifted without disturbing the apposition of the sawn surfaces, and at the present time, two weeks after the operation, the nails had not loosened their hold. His own inclination would be to use nails in preference to wire, and, if they could be shown to be harmless, as seemed to have been demonstrated, they should be tried as a means of getting better apposition than could be obtained by the use of external splints. They would appear to be particularly useful in a case like this one, in which frequent dressings were required.

Dr. Gerster asked Dr. McBurney how he treated the abscesses situated about the knee joint.

Dr. McBurney replied that they were all freely laid open and curetted; that they were heavily lined with granulations, and they were as thoroughly scraped as possible, after which they were thoroughly irrigated with bichloride solution, and, wherever possible, were packed full with iodoform gauze. Some of them required several scrapings; but, as far as possible, they were laid open at the first operation.

The President remarked that he was very much impressed with the treatment of such sinuses which he saw at Kiel, at Esmarch's clinic, where they were laid open and dissected out, and sutured together with deep catgut sutures, after which they healed promptly.

Dr. Gerster had raised the question for the purpose of referring to what he regarded as a widespread error. It had been said that drainage tubes were used after resecting tuberculous joints, and were left in for a certain length of time, persistent and troublesome sinuses would remain behind as a consequence of the use of the drainage-tubes. This to him seemed to be erroneous, since he thought that any sinus, kept open by a drainage-tube, whose walls were in a healthy condition would close up almost immediately after removal of the tube. If a sinus did not close up, it was due to the fact that it was lined with granulations of a specifically morbid character, containing tubercle bacilli, when granulations were prone to decay and lacked the tendency to form cicatricial tissue. The form of treatment referred to by Dr. McBurney was the only proper one, and removal of the entire capsule and all the tuberculous (cheesy or gelatinous) tissues about the joint was essential to a speedy and thorough cure. In Germany, all these foci were methodically removed as if they were malignant disease, the entire capsule was excised, and in almost all cases the operation wound healed by primary union. He had seen seventeen cases in Kiel in which this had taken place. Wherever such diseased tissues were left behind, a relapse of the tuberculosis was established, and gradually all the remaining healthy parts of the granulating wound were again infected.

Dr. C. K. Briddon said he had seen three cases illustrating this condition within the last two or three months. In one there was a sinus nearly in front of the head of the humerus, which was opened and scraped out thoroughly. It contained tuberculous tissue. The cavity was filled with iodoform, a bone-drain was introduced, and the operation wound required only one dressing afterward. The sinus healed completely, and all the motions of the shoulder joint were restored within a month. In another case the sinus was in a similar condition, and was treated in the same way with the same good result. Both of these cases occurred in children, and the first dressings were removed at the end of two weeks. In another case of tuberculous disease of the knee joint all the granulations were removed from the deep recess of the sinuses, and three bone-drains were introduced. When the dressings were removed, at the end of thirty days, it was found that union had not taken place, and it was doubtful whether it would ever occur.

Two Cases of Ligature of the Common Carotid Artery for Trigeminal Neuralgia.—Dr. J. C. Hutchison read a paper with this title. [See page 401.]

Dr. Post remarked that one important point brought forward by the reader of the paper was the influence of dampness on neuralgic affections. He believed it had been shown that change of climate exerted a powerful influence on such affections, especially going from a dry to a damp climate. This miner had a recurrence of his difficulty after returning to his occupation. Dr. Post regarded this as an important point with reference to the treatment of these forms of neuralgia.

Multiple Rupture of the Ileum.—The President presented a specimen which bore upon the question of laparotomy in abdominal injuries. An employee of the elevated railway got caught between two cars, and was severely jammed. The immediate effects were not specially prostrating, as the patient walked from the Chatham Street station to the Grand Street ferry, also three or four blocks on the other side of the river before reaching his home. When he arrived he complained of considerable pain in the abdomen, and called a physician. This occurred on a Sunday. With the exception of some increase in the frequency of the pulse and tenderness of the abdomen, the patient did very well, until Wednesday evening, when he began to vomit. After a very short time the vomiting became stercoraceous, and the physician in attendance, supposing that he had to do with obstruction, administered a very large enema, which was followed by a great deal of pain, and the patient's condition rapidly grew worse. Dr. Weir was asked to see him on Thursday evening, and to be prepared to perform laparoto-

my, but on his arrival the man had been dead about two hours. The autopsy was held three hours after death. There was a sharply outlined ecchymosis stretching across the belly just below the umbilicus. It was found that the contusion had torn apart the fatty tissues to the extent of four or five inches on each side of the median line, but that the muscular tissues had not been torn except a very few fibers, and that there were several blood extravasations under the peritonæum, which, however, was not torn. The ileum at a point nearly two feet from the cæcum bore marks of injury, consisting in three lacerations, and between two of these openings for a distance of six inches there was a mass of gangrenous gut from the damage done apparently to the mesentery. Around this there was some fæcal extravasation, bound in generally by recent adhesions. At one place there was apparent giving way of this limitation of inflammatory product, and then a slight extravasation of fæcal matter toward the loin on that side had taken place. It was a case which, had it been seen earlier and the abdomen opened, would have offered a very good chance for a successful issue, as the injury was limited, and up to Wednesday evening the patient was in a fair condition.

Dr. SANDS asked if there were any signs by which a diagnosis could have been made early.

The PRESIDENT replied that the appearance of the symptom of vomiting, together with the history of the case, would have warranted the surgeon in making an exploratory incision.

Necrosis of the Lower Portion of the Femur; Epithelioma; Amputation.—Dr. MCBURNEY presented a specimen removed by amputation from a man, thirty-five years of age, who had his first periostitis twenty-eight years previously. The bone was the seat of necrosis, as shown by the presence of a sequestrum projecting from the inner side of the thigh, and for a period of nine years and a half he had escaped surgical treatment. Sinuses had formed at different points, and finally an epitheliomatous mass developed at the inner side of the thigh, some four or five inches in diameter, through which the sequestrum protruded. There was great dislocation of the leg backward, and the limb was useless. On dissection, the artery was found lying in absolute contact with the specimen of dead bone. Fortunately, no one had made sufficient strain upon it to cause hæmorrhage.

Dr. POST remarked that, probably, if the sequestrum had been discovered and removed, the epithelioma would not have developed. Several years ago he saw a case of epithelioma, the result of a wound of the leg which had been received in the war, and which had remained unhealed.

The PRESIDENT thought all the members had seen instances of epitheliomatous growth from long-continued bone injuries at the lower or middle portion of the tibia; but Dr. McBurney's specimen was the first which he had seen where epithelioma, under such circumstances, had invaded the thigh.

Fracture of the Patella.—Dr. SANDS had been called in consultation three days before to see a lady who had received, ten days previously, an injury while getting off a railroad car in the Grand Central Depot. She stepped from the car to the platform, which she says was an unusual distance, and alighted upon the right foot. She was aware that she had received some injury by feeling a sharp pain, which almost caused fainting, and by hearing and feeling something snap. She did not fall, and was certain that she did not strike her knee. She was able to walk a considerable distance, nearly the length of the depot, where she was met by a relative, who escorted her to her carriage, in which she was driven home. She was able to ascend the steps without much assistance, and was helped upstairs to her bedroom in a similar way. On the following day she sent for her physician, who found a great deal of swelling in the lower part of the thigh, from extravasation of blood, and also a considerable effusion into the knee joint. Ten days afterward the effusion into the knee joint had subsided, the ecchymosis had disappeared, and a fracture of the patella was discovered. Dr. Sands saw the patient, and found that the fragments were separated to the extent of half an inch. A singular feature of the case was that the fracture, which ran through the middle of the bone, was not transverse, but diagonal, running from above downward and inward. This was the only case in Dr. Sands's experience in which he had ever known a person to fracture the patella completely and to be able to walk immediately afterward, and he would like to know the observations of the members of the society on that point. The other fact which was interesting was that the fracture was evidently produced by muscular violence, and that it should show the obliquity noticed in the present case.

Dr. STIMSON had had a case three or four years ago in which oblique fracture of the patella took place, as in Dr. Sands's case, and in which also the fracture was produced by muscular action. He did not remember that the patient was able to walk. The line of fracture ran from the outer upper angle downward to a point below the equator. It had been stated in text-books that patients could walk backward with fracture of the patella.

The PRESIDENT remembered one case where a man fractured the upper portion of the patella and walked up-stairs; whether the fracture was transverse or not, he was unable to recall.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 11, 1885.

The President, Dr. JOHN A. WYETH, in the Chair.

Suppuration of the Tunica Vaginalis.—Dr. T. M. PRUDDEN presented a specimen from the body of a man who had died from suppuration of the tunica vaginalis following frequent tappings of a simple hydrocele. The pus and the walls of the sac contained two kinds of bacteria in great numbers.

The PRESIDENT said, in reply to a question by Dr. Peters, that a mechanical introduction of bacteria was not necessary for their development in abscesses, inasmuch as they were found in those that had no apparent external communication. He also remarked that the case narrated by Dr. Prudden was not unique with regard to death following tapping of a simple hydrocele with the hypodermic needle.

Hyperplastic Enlargement of the Ovaries.—Dr. H. C. COE presented several enlarged ovaries which he thought had been still capable of functional activity, and said that probably in many cases the diagnosis of useless ovaries was made by the operator rather than by the pathologist. He had seen as many as thirty or forty enlarged ovaries in which, from the appearance of the Graafian follicles, etc., the function had not been destroyed. These organs presented almost exactly the appearances under the microscope observed in so-called fibroid tumors of the ovaries, and the inference was that fibroids of the ovaries consisted in hyperplastic increase of the normal stroma. He had entertained the idea, although it might be fanciful, that painful menstruation was sometimes due to increased thickness of the ovarian capsule interfering with the easy rupture of the Graafian follicle.

Dr. RIPLEY asked whether increased thickness of the capsule and enlargement of the ovary might not exist without dysmenorrhœa. If so, it would be an argument against the theory.

Dr. COE replied that enlargement of the ovary had been found at autopsies without a previous history of dysmenorrhœa.

Dr. BOLDT asked whether the enlarged ovary was not prolapsed, which fact in itself would cause dysmenorrhœa.

Dr. Coe said that the organ was likely to be prolapsed unless it had previously become fixed in its normal position by adhesions.

The President thought a death-blow to the argument offered by Dr. Coe concerning the cause of dysmenorrhœa was the fact that menstruation might continue even after removal of the ovaries.

Dr. Coe remarked that it was a question whether the hæmorrhage after ovariotomy was true menstruation.

Cancer of the Peritonæum.—Dr. Van Gieson showed several specimens. In regard to one of them, from a case of carcinoma of the peritonæum, he asked Dr. Prudden if so-called colloid cancer of the peritonæum was carcinoma at the outset.

Dr. Prudden said this question was not settled in the minds of all pathologists; he thought that in some cases the disease began as colloid, while in others it began as carcinoma.

Dr. Amidon asked whether, in carcinoma of the peritonæum, the pain did not have some relation to the presence or absence of involvement of the parietal layer.

Dr. John C. Peters referred to a case in which, after death, a fibroid tumor was found in the body of the uterus, while the right ovary was the seat of colloid degeneration, with secondary nodules in the peritonæum.

General Miliary Tuberculosis.—Dr. Van Santvoord presented the lungs of an infant nine months old. The interest of the specimen was in the great extent to which the lungs were involved in the disease in a child so young.

Cirrhosis of the Liver and Kidneys.—Dr. W. P. Northrup presented specimens from the body of a woman, sixty-two years of age, who was a total abstainer from alcoholic liquors, and had been in good general condition. There was a history of Bright's disease a year ago, and at one time the urine contained some sugar. The autopsy revealed great diminution in the size of the liver and kidneys, due to cirrhosis.

Dr. Ripley remarked that cirrhosis of the liver might occur without there having been abuse of food or drink, and without a syphilitic history. The liver might vary in weight in adults from one pound to five or six pounds without being the seat of disease, and the organ diminished in size after the fiftieth or sixtieth year.

Dr. Frank Ferguson presented microscopic sections of the sarcoma of the brain shown at the last meeting.

Meeting of March 25, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Tracheotomy in Diphtheritic Croup; Death.—Dr. H. J. Boldt presented the trachea and lungs of a child which died sixty-three hours after tracheotomy for diphtheritic croup. The specimens confirmed views expressed by some of the members at previous meetings, to the effect that, as a rule, the lungs of patients who died of asphyxia were more or less anæmic, and not congested.

Ovarian Tumor twisted Five Times upon its Pedicle; Removal; Recovery. Dr. James B. Hunter presented the specimen, from a patient who was first examined about the middle of December, at which time it was doubtful whether there was a tumor or not. It was quite evident at the next examination, early in January, that there was an ovarian tumor. The patient reported rather suddenly in February that she was suffering acute pain, and entered the hospital. The symptoms pointed to commencing peritonitis, and an operation was done in advance of the appointed time. The cyst was found covered with very large veins, and the least prick was followed by copious hæmorrhage. There was strangulation from twisting of the pedicle upon itself five times. Hæmorrhage had taken place into the walls of the tumor. The temperature and pulse-rate soon became normal, and the patient made a good recovery. Had the operation been delayed a day or two longer, the prognosis would have been much more doubtful.

Ovarian Adeno-Cystoma with Spontaneous Rupture of one of the Cysts during Life.—Dr. T. M. Prudden presented a specimen which had been removed from a woman twenty-eight years of age, and who had first noticed the growth seventeen months before, just after the birth of her last child. The growth developed from the right ovary; one side was a solid mass of tissue, and the other the seat of a cyst which had ruptured spontaneously, for which laparotomy was performed, but without success.

Dr. Hunter remarked that, about a week ago, he removed a tumor of almost exactly the same description from a patient fifty years of age. It had been developing nine months.

Rod-shaped Hæmatoidin Crystals.—Dr. Waldstein presented a microscopical section of a tumor of the testicle, showing rod-shaped hæmatoidin crystals in the form of asterisks—a form which to him was unique. There was no other evidence of hæmorrhage into the tumor.

Dr. Janeway remarked that he had seen similar crystals in the urine, but very rarely.

Tubercular Laryngitis.—Dr. Van Santvoord presented a larynx illustrating tubercular laryngitis, the specimen being chiefly interesting because of its excellent state of preservation. There were also pulmonary tuberculosis and tubercles in the liver and intestines.

Pelvic Abscess opening into the Duodenum.—Dr. E. G. Janeway presented specimens from the body of a woman, forty-five years of age, who was admitted to the hospital with a history of having been sick for five weeks, suffering from pain in the right lumbar region and thigh. The thigh was flexed upon the pelvis, and the leg upon the thigh. There was but very little elevation of temperature; during the last hours of life the temperature was subnormal. No distinct swelling was present, but the symptoms were such as to lead to the suspicion of psoas abscess. Two explorations were made without obtaining pus. At the autopsy, a psoas abscess was found which had not been reached by the exploring-needle, because of intervening indurated tissue. There was a small opening into the duodenum, and, doubtless, pus had been discharged during life, as there was diarrhœa. But, the stools being blackened by bismuth, the pus was not detected by the naked eye.

Perityphlitis.—Dr. G. L. Peabody presented the right iliac muscle, the cæcum, and the vermiform appendix, removed from the body of a girl twelve years of age, who was brought to the New York Hospital with the history that she had been in good health until ten days before, when she was taken with pain in the belly and obstinate diarrhœa. There were no dysenteric symptoms. The temperature ranged between 103° and 105° F. There were frequent irregular chills, marked distension of the entire abdomen, pain and tenderness in the right iliac region, following the course of the ascending and transverse colon; also dullness over the cæcum and in the region of the ascending and transverse colon. The exploring-needle was employed by one of the surgeons to the hospital, but no pus was withdrawn. It was intended to perform laparotomy, but the child's condition was too low. At the autopsy, blood-clots were found in the kidney and liver at the seat of puncture. There was one caseous focus in the lung, of about the size of the end of the finger, with numerous miliary tubercles. There were caseous foci in the liver, which was enlarged, and had caused dullness in the region of the transverse colon. There was a small abscess at the cæcum surrounding the vermiform appen-

dix. The appendix was not perforated, but contained hardened fæces.

Atheroma of the Coronary Arteries; Myocarditis.—Dr. Peabody also presented the heart of a man sixty years of age, who had led a very active life of excitement and dissipation, and who died suddenly while in apparent health. The autopsy showed dilatation of the left ventricle, atheroma in the thickened border of the aortic cusps, also very extensive atheromatous changes in both coronary arteries, the caliber of the vessels being very much diminished by the calcareous deposit; there were also fibrous interstitial myocarditis and chronic diffuse nephritis. Spasmodic contraction of the coronary arteries could hardly have been the cause of death, as the walls seemed to be too rigid to permit of such action. Judging from several cases that he had seen, it would seem that when such extensive fibrous myocarditis existed as in this case the heart was liable to cease to act at any time.

Dr. Waldstein referred to the case of a man who for more than five years suffered from attacks of angina pectoris, in whom after death disease of the coronary arteries, also of the smaller vessels, and myocarditis were found. Death was not sudden.

Dr. Prudden thought that in accounting for death in such cases two facts should be taken into account: The weakened condition of the heart from degeneration of its muscular walls, and the diminished blood-supply through narrowed arteries.

The President remarked that interference with the nutrition of the central nerve-ganglia should not be lost sight of.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of March 23, 1885.

The President, Dr. Daniel Lewis, in the Chair.

The Question of Resignation from the Society.—The Secretary read the report of the Comitia Minora, including an opinion by the Counsel for the society, on the ability of members to resign. The following were some of the questions raised, and the answers given by the Counsel: 1. Are all practitioners of medicine required by the laws of this State to become members of a county medical society? Answer, Yes. 2. How can membership in a county medical society be terminated? Answer, By the resignation of any member who shall also cease to practice medicine and surgery in the county. 3. If membership can be terminated by resignation, must the resignation be accepted by the society in order to make it operative? The reply was that a resignation was operative only in case the member ceased to practice his profession. 4. Is the statute of 1827, requiring practitioners of medicine to become members of a county society, still in force? Answer, It is, to the extent of requiring such membership. 5. Is the statute of 1841, requiring graduates from without the State to pass an examination by the Board of Censors of some county medical society in order to become legally qualified practitioners, still in force? Answer, It is not.

The reasons for these opinions were then given in full, and the report concluded with the following words: Membership may be exacted of every practitioner, upon due notice, under penalty of forfeiture of the right to practice upon refusal. No active practitioner can resign from any county society, nor can the society accept the resignation of his membership.

The report was received and ordered entered upon the minutes.

A Simple and Efficient Surgical Operation for Lacerated Perinæum. Dr. W. Gill Wylie read a paper with this title.

Dr. J. B. Hunter said that Dr. Wylie's operation was essentially the one which he had performed for many years past. There being so many ways of repairing the lacerated perinæum might be regarded as pretty good evidence that the perfect way had not yet been discovered. It was also evidence that a good result might be obtained by different operations. The first method which he had witnessed was that in which the horse-shoe form of denudation was practiced, which he regarded as objectionable because it must give a superficial perinæum. It was a misconception to look upon the perinæum as having no body. Dr. Emmet spoke of his new operation as being simply a narrowing of the lower portion of the vagina, but Dr. Hunter did not think that was what the new operation accomplished at all; he thought it restored the true perinæum, meaning by that term structures which had depth as well as length and breadth. We might during a confinement case suppose we were going to avoid laceration of the perinæum by giving it support, when in fact that body had already been torn—not superficially, but deeply. The operation described by Dr. Wylie was intended to reach the deeply lacerated structures. Confining his remarks to lacerations not extending into the rectum, Dr. Hunter said that for many years past he had avoided denuding more than the parts naturally covered by mucous membrane, and in his opinion the greatest merit of Dr. Emmet's operation was that it taught us what not to do. He had used various kinds of sutures, and had found one as good as another. He did not think it mattered much what form was used, provided the surfaces were united properly, and too great tension was avoided. Lately he had used catgut altogether. One objection to Dr. Emmet's recent method was that more surface had to be denuded than in his former operation. Dr. Hunter's method of operating differed from that described by the author of the paper principally in the manner of introducing the sutures. Dr. Wylie inserted a part of the sutures from below upward, and others from above downward. Dr. Hunter began above, and put the last suture in below. One of the chief advantages of this operation was the fact that during the healing process it was not necessary to use the catheter, nor to give morphine to relieve pain, as after the old method. He thought Dr. Wylie would find it an advantage to use catgut instead of silver wire.

Dr. P. F. Mundé had been surprised to find, on his return from Europe a number of years ago, that the operation for repair of laceration of the perinæum not extending into the rectum was being very successfully performed in America, while in Europe success had been obtained only for the more extensive lesion. The reason was that here the sutures were passed deeper, while in Europe only a superficial perinæum was formed. When he witnessed Dr. Emmet's new operation it struck him that simply narrowing the posterior wall of the vagina would not unite the perinæum below, and thus there would be left a gaping vulva, and in one operation done by himself he found this objection to be valid. He thought the old clover-leaf form of denudation was very similar to that practiced by Dr. Wylie, as it would require only a stretching of the denuded surface to cause it to assume the nearly straight lines pictured by the author of the paper.

Dr. Hunter corrected a misapprehension on the part of Dr. Mundé, who supposed Dr. Emmet's new operation failed to restore the perinæum to its normal condition. That restoration was, in Dr. Hunter's opinion, its great advantage.

Dr. B. F. Dawson said he also had his peculiar way of repairing the lacerated perinæum. After denuding the original tear, the simpler the manner in which the surfaces were united the better, avoiding many sutures, for they corrugated the surface, strangulated the vessels, and caused abscess and much pain. He usually found two sutures enough. Dr. Emmet's recent operation was perfect, except that it was much more difficult to perform than the one which he adopted.

Dr. F. A. Castle, referring to intra-abdominal pressure,

thought excessive flatus should be avoided in patients who had had rupture of the perinæum.

Dr. A. S. Hunter spoke of the abscesses which often formed after the old method for repairing the perinæum, and of the great pain which the patient suffered. These occurrences he had observed to be absent in Dr. Wylie's cases.

Dr. H. J. Boldt bore testimony to the advantages of Dr. Dawson's method of operating, especially of the small number of sutures employed.

Dr. Wylie would not object to the use of catgut where the tension was slight. With regard to the form which the cloverleaf would assume, if the tissues were stretched, the change of form would not do away with the fact that the tissues in the angles remained undenuded. He doubted whether Dr. Dawson's method would give permanently good results, especially in marked cases of rupture. He thought the method suggested by Dr. Hunter would not bring up the everted ostium vaginæ quite so well as his own method. He laid stress upon the importance of stretching the sphincter ani, and upon the effect of straining at stool in producing proctocele.

A State Board of Medical Examiners.—A resolution was passed, to the effect that the society urge upon the Legislature the passage of the bill approved by the Medical Society of the State of New York at its last meeting.

Dr. Sturgis, Dr. Drake, and Dr. Piffard made remarks, and, it appearing that the proposed substitute for the bill recommended by the State Society contained some important alterations in the original bill, Dr. Roosa favored Dr. Loomis's amendment to his resolution, which was passed as amended unanimously.

Alleged Illegal Practitioners.—The Board of Censors having been called upon to give reasons for failing to convict one Jacques for illegally practicing medicine, Dr. Drake, the Secretary of the Board, said the Court held that the diploma received by Jacques from the Eclectic Medical College was legal. On motion, the Censors were instructed to be prepared to give full information on this case and others before the courts at the next stated meeting.

Delegates to the State Society.—Dr. F. R. S. Drake and Dr. W. O. Moore were elected delegates to fill vacancies created by the resignations of Dr. Carpenter and Dr. Warren.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Meeting of March 20, 1885.

The President, Dr. H. P. Merriman, in the Chair;
Dr. W. W. Jaggard, Secretary.

The Influence of Cimicifuga Racemosa upon Parturition.—Dr. J. Sutdam Knox read a paper with this title, in which, after giving a *résumé* of the medical history of the drug, he related his experience with it in one hundred and sixty cases of labor, including those of fifty-seven primiparæ and ninety-three multiparæ. Under its use, he had found the average duration of the first stage reduced from seventeen hours to six hours and a quarter, and that of the second stage from three hours to an hour and three quarters, in primiparæ; that of the first stage from twelve hours to three hours, and that of the second stage from an hour to twenty-seven minutes, in multiparæ. From his observations he had concluded that the drug had a positive sedative effect on parturient women, quieting reflex irritability, nausea, pruritus, and insomnia; that it mitigated and often altogether abolished, the neuralgic cramps and irregular pains of the first stage; that it relaxed the soft parts, thus facilitating labor and diminishing the risks of laceration; that it increased the energy and the rhythm of the pains in the second stage; and that, like ergot, it maintained a better contraction of the uterus after delivery. In regard to the latter, point, however, it was his habit to give ergot after the expulsion of the head. At first, in his indiscriminate use of the drug, he had caused a few precipitate labors. His method of using cimicifuga was to give fifteen minims of the fluid extract, in three times that quantity of compound syrup of sarsaparilla, every night for four weeks before the time for labor to come on.

Dr. Philip Adolphus had used the drug in only one case, and in that instance there had been no result.

Dr. Edward Warren Sawyer thought there could be no doubt as to the action which Dr. Knox had attributed to the drug, and he would make use of it in his practice.

Dr. W. W. Jaggard could not admit that Dr. Knox's observations amounted to a demonstration, but they made further investigation desirable. Views like those set down in the paper had been presented before the Illinois State Medical Society a few years before by Dr. H. Webster Jones, whose advocacy of the drug as an oxytocic was well known to every practitioner in the city. It was extremely difficult to determine the average duration of the first stage of labor; one author had concluded, from his observation of several hundred primiparæ, that the cervical canal began to dilate from eight to fourteen days before the birth of the child, while other observers had considered the duration of the first stage much shorter than Spiegelberg's typical seventeen hours, to which Dr. Knox had alluded. One hundred and sixty cases were not enough to serve as the basis for such positive deductions as Dr. Knox had drawn. The question had been investigated in Germany on a large scale, and under every condition for accurate observation, and, although it was true that Schatz had reported favorably as to the action of the drug in the treatment of certain pathological conditions of the uterus, the results had been purely negative. However, he did not wish to be understood as condemning the drug. As to the practice of giving ergot before the completion of the second stage, it was reprehensible. This remark applied exclusively to physiological labors.

Dr. Charles Warrington Earle had used the remedy in a variety of cases, with no results. He had seen about as many precipitate labors before as after he began to use it. But perhaps he had not used large enough doses, or given it for a sufficient length of time before labor came on.

Dr. Henry T. Byford wished to enter a protest against all methods of rendering labor shorter—quick labors were "wrong labors" as a rule.

Dr. George M. Chamberlain had had no experience with the agent, but he was opposed to giving ergot before the expulsion of the head in physiological cases.

Dr. Knox was so convinced of the truth of his conclusions that he would continue the use of the drug. As to giving ergot before the expulsion of the child, he did it to save time—it was not absorbed until twenty minutes after it was given, and long before that time the child was born. He could not spare the twenty minutes required to secure retraction of the uterus after the expulsion of the child and the placenta. At the present day there were no physiological labors—women were not Eves. By the judicious use of such a drug as cimicifuga, labor could be made to resemble the ideal physiological process that was still observed among savages.

The Value of Permanganate of Potassium in Amenorrhœa.—The Secretary read a candidate's thesis on this subject, by Dr. Edmund J. Doering. He had used the remedy in thirty cases depending upon anæmia and general atony of the sexual apparatus, in about half of which the observations had, for one reason or another, been unsatisfactory. The conclusions stated in the paper were as follows: 1. In doses of from two to four grains, the permanganate was an efficient emmenagogue, if

given for a period of not less than two weeks. 2. Its administration in doses large enough to be effective was accompanied by severe pain, which impaired the value of the remedy, as it was often necessary to discontinue its use. 3. It was best to administer the drug in capsules, taken midway between meals and followed by large draughts of some pure mineral-water. Dr. Doering was elected a fellow of the society.

Miscellany.

Sanitary Work in Illinois.—In connection with the sanitary survey of the State and the house-to-house inspection, now being prosecuted under the direction of the State Board of Health with reference to the probable appearance of Asiatic cholera in this country, the board has just issued circular-letter No. VI, addressed to county clerks, and requesting that the work of getting the public institutions into good sanitary condition be completed with as little delay as possible. Much work of this character was done during the past summer and autumn, in response to the circular-letter of the board issued in July last. But, in addition to what remained to be done when cold weather suspended operations, there must since have accrued, in many cases, accumulations of filth and refuse which should now be promptly removed; defects in plumbing, drainage, and sewerage, disclosed during the winter, should be repaired; and the effects of the occupancy of dormitories, workshops, wards, cells, and other apartments should be remedied by a thorough spring cleansing. The officers in charge of almshouses, jails, and all other public buildings under control of the County Board, are notified to commence this work at once. Very much that requires to be done—scrubbing, whitewashing, removal of garbage and refuse, the emptying and disinfection of vaults and cesspools, the opening up and cleaning out of drains, sewers, and ditches—can be performed by the employees and inmates of the institutions. Especial attention should be given to the location and condition of privies and water-closets at these places, as also at court-houses and elsewhere. Vaults should be emptied before warm weather makes such work dangerous, and then be thoroughly disinfected with sulphate of iron (copperas). Where these vaults are within fifty feet of any source of water-supply—well, spring, pond, lake, or running stream—their further use should be abandoned, and, after being emptied, they should be disinfected and filled up with clean, dry earth—one of the best disinfectants. The new vault should not be less than fifty feet from the nearest water-supply; should be water-tight; ventilated by a four-inch shaft, opening above the roof; the contents should be kept inoffensive by the use of some cheap disinfectant; and the building and its surroundings should be kept in the cleanest attainable condition. Where practicable, the substitution of the earth-closet system for the subterranean vault-storage is recommended. In either case, the frequent removal of the contents, and their safe disposal, by use as fertilizers, are necessary sanitary measures. The source of the water-supply, and its storage and distribution, should be carefully inquired into, and all possible causes of pollution should be removed. A pure water-supply is of the first importance to health under all circumstances; but among numbers of persons living under the conditions which obtain in county institutions its importance is increased. Epidemics of diarrhœa and dysentery may be caused by impure water; while typhoid fever and Asiatic cholera are spread more commonly through the water-supply than in any other way. These remarks and suggestions will indicate the character of the work which the board considers it desirable should be accomplished before warm weather sets in, not alone through fear of cholera, but in the interest of public health, and, consequently, of true economy.

A similar circular was recently issued to railroad managers, setting forth that the spread of Asiatic cholera is due oftener to the pollution of the water-supply than to any other one cause. There is no commoner mode of such pollution than through foul, badly constructed, and improperly located privies and water closets. The disease, in this country, being always due to importation, and its spread being, most commonly, by persons traveling from place to place, it follows that railway-privies and water-closets are especially exposed to the danger of cholera infection. In view of these facts, it is requested that all such places in connection with stations, freight-houses, shops, and round-houses be at once inspected and put in good sanitary condition. Responses have been received from nearly all the roads, and one of the most important lines has already completed the work indicated along the entire extent of its road.

The Late Dr. James L. Little.—At a meeting of the Faculty of the New York Post-Graduate Medical School and Hospital, held April 5, 1885, the following resolutions were unanimously adopted:

Whereas, In the Providence of Almighty God, our colleague and friend, James Lawrence Little, M. D., one of the founders of this school, has been removed from us by death; therefore,

Resolved, That in the death of Dr. Little this institution and our profession have lost an accomplished and successful teacher and practitioner of surgery, and one who was also a wise counselor in all the interests of the medical profession and a firm friend and supporter of all efforts to advance its position.

Resolved, That we shall ever cherish the memory of his life, characterized as it was by scientific and philanthropic devotion to his calling, unblemished integrity, and genial relations with his associates.

Resolved, That a copy of these resolutions be signed by the officers of this school, and sent to the "New York Medical Journal" and the "Medical Record," for publication.

[Signed.] D. B. St. John Roosa, M. D., *President.*
Frederic R. Sturgis, M. D., *Secretary.*

The Meeting of the American Medical Association.—At the request of many members of the association, the Illinois Central Railroad Company has arranged to run a special train of Pullman buffet sleeping-cars for members, together with their families and friends, who may wish to attend the meeting, which is to be held in New Orleans on Tuesday, Wednesday, Thursday, and Friday, April 28th, 29th, and 30th, and May 1st. The train will leave Chicago Saturday evening, April 25th, at nine o'clock, and run through to New Orleans without change of cars, arriving at nine o'clock the following Monday morning. The rates will be as follows: Round-trip tickets good for fifteen days, $20; for forty days, $25; until June 1st, $30. Those who wish to return by a different route, by way of Louisville, Cincinnati, or St. Louis, will be provided with tickets at $5 in excess of these rates. The sleeping-car rates, from Chicago to New Orleans, will be $6 for one double berth, and $12 for a section. Early application should be made to Mr. C. S. Burton, Ticket Agent, 121 Randolph Street, Chicago, or to the General Passenger Agent, Mr. A. H. Hanson.

Military Hospital Construction.—The "Scientific American" states that at the recent international conference of the societies of the Red Cross the Emperor of Germany offered a prize of 5,000 f. and a gold medal for the best model of a soldiers' barrack and field hospital; and that the delegates from this country have issued a request to American inventors to take part in the contest. The barrack must be large enough to contain twelve beds, easy of transportation, made with interchangeable parts, and capable of being taken down and reconstructed. The designs should reach Antwerp by the 1st of September, when a committee will decide on their merits.

A Cæsarean Operation performed by the Patient.—Several of our European exchanges are giving currency to an account of a case of this sort that was lately presented before a Bohemian medical society. A peasant woman had borne seven children, four of her labors having been terminated spontaneously, two with the forceps, and one by craniotomy. At her eighth confinement she had been in labor ineffectually for two days, with no attendant but a midwife, when she determined to perform the Cæsarean section upon herself, as she had once heard a description of that operation. Seizing a razor, she made an incision in the median line of the abdomen, which she carried down to the uterus. She then opened the uterine cavity with a bold cut, and extracted a living child, together with the placenta. A few hours afterward the physician who reported the case found her exhausted, and with a frightful wound of the abdomen, from which a coil of intestine protruded

Her surroundings were filthy in the extreme. The intestine having been cleansed and returned within the abdomen, the incision was closed, an antiseptic dressing was applied, and the patient made a perfect recovery, without a bad symptom. It is said that there is every reason to believe the story.

THERAPEUTICAL NOTES.

Ergotin in Pulmonary Affections.—Simol ("Siglo Méd."; "Union méd.") speaks highly of this drug in connection with the treatment of bronchitis and the congestive stage of pneumonia, although he acknowledges that its action is simply palliative. He states that it relieves dyspnœa, lowers the temperature, and aids expectoration.

Ergotinine.—Chabazian ("Gaz. hebd. de méd. et de chir.") prefers this alkaloid to ergotin in the treatment of post-partum hæmorrhage dependent upon uterine inertia. He injects subcutaneously from five to fifteen minims of a one-to-one-thousand solution. It is better, he says, to use small doses frequently repeated than to administer a single large dose, because unpleasant toxic symptoms may follow the latter. The advantages of ergotinine are said to be that its action is more rapid and constant, and that it does not produce the local pain and swelling that are so often observed after hypodermic injections of ergotin. Moreover, the dose of the alkaloid is much smaller than that of ergotin.

Euphorbia Pilulifera.—Marsset ("Bull. gén. de thérap.") has made a careful study of this drug. Its active principle is described as being soluble in water and in alcohol. Given in minute doses to animals, it first accelerates the movements of the heart and lungs, and then arrests them completely, acting directly upon the medullary centers. Locally, it is non-irritating, except to the mucous membrane of the stomach. The writer recommends the drug in attacks of dyspnœa, especially of the asthmatic variety, fifteen grains of the dried plant being given daily, in divided doses before meals.

Pelletierine.—Schröder ("Arch. f. exper. Path. u. Pharm."; "Ctrlbl. f. klin. Med.") reviews the observations that have already been made concerning the action of this alkaloid of the pomegranate, and gives the result of his own experiments. He recommends the sulphate as a valuable tæniacide, the dose being five grains, followed in about half an hour by a cathartic. He adds the caution that atheroma of the arteries should be regarded as a contra-indication to the use of pelletierine, as the drug causes an increase of the arterial pressure.

Carbolic Acid in Indigestion.—Berdoe ("Brit. Med. Jour.") has frequently treated acid dyspepsia with small doses of carbolic acid. He uses a solution suggested by Dr. Fenwick, containing one part of the crystallized acid in four parts of glycerin, and gives from five to ten minims as a dose, either merely diluted or mixed with nux vomica or liquor opii sedativus, the latter being added in case of pain. He does not attempt to explain the action of the drug, but suggests that its efficacy may be due either to its anti-fermentative power or to the anæsthesia which it induces in the gastric mucous membrane.

Naphthalin in the Treatment of Typhoid Fever.—Götze ("Ztschr. f. klin. Med."; "Dtsch. Med. Ztg.") reports thirty-five cases of typhoid fever treated at Rossbach's clinic with fifteen-grain doses of naphthalin, the daily amount sometimes reaching to between ninety and a hundred grains. Seventeen of the cases were "aborted"—that is, the fever was arrested within ten days from its beginning. In nearly every instance the duration of the disease was shortened, and the morning remissions became universally pronounced as soon as the treatment was begun. In only one case were unpleasant after-effects observed, a slight cerebral disturbance occurring after the patient had taken a hundred and five grains. The kidneys were never affected.

Faradization in the Treatment of Intermittent Fever.—Grigorjew ("Russkaja Medicina"; "Dtsch. Med. Ztg.") has employed local faradization, twice a day, for fifteen minutes, in the affection, and reports that by such treatment he has cured eight out of twenty patients. Seven were cured by general faradization. It is stated that the attack ceased after six seances. The manner of applying the electrode in the former cases is not stated, but from the fact that the author refers to a marked diminution in the size of the spleen after each sitting, it is fair to infer that the current was passed through that organ.

Common Salt in the Treatment of Pleurisy.—Schulz ("Dtsch. med. Wchnschr."; "Dtsch. Med.-Ztg.") has had ample opportunity to confirm a statement made by Robinson with regard to the efficacy of chloride of sodium in the treatment of pleuritic effusions. In a series of cases of acute pleurisy a tablespoonful of a one-to-thirty solution was given every two hours, dry diet being at the same time imposed. Under this simple treatment the exudation diminished rapidly, and the quantity of urine passed was noticeably increased. It is stated that the appetite was improved, and that there was an absence of that thirst which would naturally have been expected. The treatment should be restricted to cases of simple exudation, as it is useless in empyema.

Bisulphide of Carbon in the Treatment of Neuralgia.—The "Union médicale" contains the following suggestion with regard to "pure neuralgia" (*névralgie pure*), not due to any local cause: Pour ten or fifteen drops of bisulphide of carbon upon a bit of cotton and apply it directly to the seat of pain, care being taken that the liquid does not evaporate too quickly. A feeling of warmth is first experienced, then a slight painful sensation, which vanishes as soon as the cotton is removed. The relief is said to be immediate, and no local lesions are observed, except a temporary redness of the skin.

Lactic Acid as a Caustic.—Von Mosetig-Moorhof ("Ctrlbl. f. Chir.") applies the concentrated acid to fungous granulations, lupus, and epithelioma, in preference to any of the common escharotics, his reason being that, while it thoroughly destroys not only the cells of the new growth, but also the stroma and nutrient vessels, it spares the healthy tissue. His method of making the application is as follows: The surrounding healthy parts are covered with a layer of simple cerate, then a piece of cotton saturated with the acid is placed upon the diseased tissue, and covered with goldbeater's skin, a bandage being applied over the whole; or a paste may be made of lactic and silicic acids, which can be spread over the affected surface. The bandage is removed after twelve hours, and a simple dressing substituted. The pain attending the application is said to be slight. From five to seven applications are generally sufficient for the cure of an ordinary case of lupus, and the resulting scar is invariably soft and smooth.

The Elastic Bandage in the Treatment of Incarcerated Hernia.—Jakowlew ("Wratsch"; "Ctrlbl. f. Chir.") speaks highly of compression by means of the elastic bandage in cases in which taxis has failed and the surgeon does not feel justified in operating. The use of elastic compression should not be continued longer than twelve hours. Five successful cases are reported out of six in which urgent symptoms were present and taxis had been applied in vain.

The Action of Warm Water upon the Gravid Uterus.—Auvard ("Bull. gén. de thérap.") reports the result of a number of observations made for the purpose of determining whether warm vaginal injections could be used with safety during pregnancy, and whether they had any influence upon the course of labor. He decides that water at a temperature of 48° C. (= 118·4° F.) does not cause uterine contractions, if injected slowly and gently into the vagina. Kiwisch's results with injections of warm water for the purpose of inducing premature labor must therefore, the author thinks, have been due either to the violence of the treatment or to the fact that other means were employed in addition. If these injections are practiced every half-hour during the first stage of labor, the os dilates rapidly and with less pain than when they are not used.

The Action of Caffeine on the Conjunctiva.—Like several other experimenters, Argyll Robertson ("Brit. Med. Jour."), having noticed the similarity in the chemical composition of caffeine and cocaine, has been led to try the effect of the former on the conjunctiva. After the instillation of a few drops of a one-to-six solution, dilatation of the pupil and slight injection of the conjunctiva were the only effects observed; in no instance was there any anæsthesia.

An Inhalation for Coryza.—Hager ("Union méd.") recommends the following formula:

Pure carbolic acid	150 grains;
Ammonia water	3 drachms;
Alcohol	1 ounce;
Distilled water	5 drachms.

A piece of cotton saturated with this mixture is placed in a wide-mouthed bottle, and the vapor is inhaled.

Original Communications.

ANTIPYRINE AND ITS EFFECTS.*

BY WILLIAM H. DRAPER, M. D.,
PHYSICIAN TO THE NEW YORK HOSPITAL.

IT is a striking fact that, while the progress of science adds little to our knowledge of the essential nature of fever, it continues from time to time to enlarge our resources for its control. One of the latest contributions to the means of subduing the heat as well as the other symptoms of fever is antipyrine. This substance, which has been brought to our notice within the past year and which has already been the subject of extensive physiological and clinical experiment, was discovered by Knorr, of Munich. It is one of the many derivatives of coal-tar, and most of us probably will be none the wiser for the assurance that it is a dimethyloxychinizine. It is a crystalline, grayish-white powder, with a faint tarry odor and a slightly bitter taste, soluble in alcohol and in double its weight of water. Its physiological effects on animals have been investigated by Professor Demme, of Berne,† who found that in single large doses (0·35 grm. in frogs and 1 gr. in rabbits) it caused death by cardiac paralysis. With smaller doses (0·03 in frogs and 0·5 grm. in rabbits) central nervous symptoms appeared, first excitability of brain and cord, and subsequently paralysis.

The irritability was shown by general muscular tetany and increase of blood-pressure (vaso-motor), and the paresis by general loss of irritability and failure of blood pressure, in spite of cardiac integrity. In mild cases of antipyrine poisoning Demme found that caffeine hypodermically increased the irritability of the nerve-centers. The poisonous doses for the human subject have not been determined, but, from his experiments on animals, Demme concludes that single doses of 0·2 in children up to five years of age, 0·5 in those over five, and in adults 2·0 grm. should be given only when patients are under constant observation.

Antipyrine was first used in the treatment of fever by Filehne,‡ of Erlangen. He found that it reduced a high temperature 40° C. (104° F.) and upward to 38° C. (100·4° F.) without secondary effects, with the exception of the occasional occurrence of sweating and vomiting. The reduction took place by gradual defervescence in the course of two or three hours from the administration of the first dose, and usually lasted from seven to nine hours, sometimes for a longer period, the temperature returning to its former height without the occurrence of a chill, as is usual after the antipyresis produced by kairine. He found, also, that the pulse followed approximately the temperature curve.

Filehne's method of administering antipyrine is by distributing five or six grammes over a period of two hours in doses of two grammes repeated at intervals of an hour.

Guttman* confirmed Filehne's observations in twenty-seven cases of high temperature. He found that doses of half a gramme, given in six consecutive hours, effected but slight reduction, and only for a short time. Guttman noticed occasional sweats in defervescence.

Biermer,† of Breslau, reported by Alexander, tried it in fifteen cases of high temperature in different diseases, according to Filehne's method. The temperature generally fell to normal. He noticed sometimes a very marked sweat, which began after the first dose of two grammes. The depression of temperature lasted longest in typhoid fever, and for the briefest period in pneumonia. In relapsing fever it was reduced to normal and kept there by repeated doses. He found that antipyrine, given in the beginning of a paroxysm of intermittent fever, shortens it, but does not prevent a recurrence. According to Biermer's observations, the pulse usually falls with the temperature, sometimes at a later period, and occasionally not at all. He speaks of vomiting and other secondary symptoms as of rare occurrence. May‡ found antipyrine especially efficacious in the fever of pneumonia. He noticed slight chills, vomiting, and sweating as sequences of its administration, and in one instance collapse which he did not ascribe to the antipyrine. Falkenheim* saw the temperature fall to 34·8 C. (93·8° F.) in a feeble girl with typhoid fever. He also found that it failed to prevent a recurrence of the paroxysm in intermittent fever. Alexander, in his observations in Biermer's wards in Breslau, found that in typhoid fever it lowered the temperature and pulse, but did not shorten the disease. It affected the sensorium favorably. In acute rheumatism he thought it had a specific effect on the joint lesion. Besides lowering the temperature, Alexander also noticed the occurrence, in three cases, of an eruption like measles, and in one case it always provoked an urticaria.

My own experience with this drug was obtained during my late service in the New York Hospital, and mainly in the treatment of typhoid fever. My predecessor, Dr. Peabody, had already been experimenting with it when I assumed the service in October. He had been somewhat embarrassed in his experience in consequence of the short supply of antipyrine in the market in the early part of the autumn, but he had been much impressed with the certainty of its antipyretic action, and especially with its tranquillizing effect upon the nervous symptoms of fever.

My observations were made on twenty cases of typhoid fever. A table of these cases, which has kindly been prepared for me by Dr. Thayer, the able senior assistant physician at the New York Hospital, will show that the majority of these cases were severe in type, having numerous complications, and several of them continuously high temperature.

Of the 20 cases, 17 were males and 3 females. Three were between 15 and 20 years of age, fourteen between 20 and 30, and three between 30 and 35. Five died and fifteen recovered, showing a mortality of 25 per cent. Of the

* Read before the New York Academy of Medicine, April 2, 1885.
† "Berliner klin. Wochenschr.," 1884, No. 51.
‡ "Breslauer Zeitschr.," 1884, No. 11.
§ "Deutsche med. Wochenschr.," 1884, No. 51.
* "Berl. klin. Wochenschr.," 1884, No. 51.
† "Berliner klin. Wochenschr.," 1884, No. 51.
‡ "Zeitschr. für klin. Med.," Bd. vii.

five who died, the ages were 18, 22, 25, 28, and 30. One died on the fifteenth day of the disease, one on the twenty-fifth, one on the thirty-seventh, one on the fifty-fifth, and in one the duration of the disease could not be ascertained.

The highest temperature recorded in the fatal cases was as follows: 107·6° on the twenty-fourth day; 105° on the twenty-ninth day; 105·6° on the fifth day; 105·6° on the fifty-third day; 104·4° on the twentieth day.

The average temperature in the fatal cases was 101·4°, 102·4°, 104·4°—under baths 102°; under antipyrine 102·4°; under baths 101·2°; under antipyrine 101·1°.

The highest temperatures recorded in cases of recovery varied from 103° to 106·6°.

The average temperatures varied from 100·6° to 103·6°.

Vomiting was a frequent symptom, occurring in fifteen of the cases. Diarrhœa was a marked symptom in seven cases. Constipation occurred in eight cases; hæmorrhage from the bowels in two cases; sweating, repeated and more or less profuse, in six cases.

The nervous symptoms were notably few. Delirium occurred in four cases only; marked deafness in one; headache in seven; vertigo in two; tremor and subsultus in one; involuntary movements in one; semi-coma in one; and chills in six.

The antipyretic treatment adopted in all of these cases was the application of cold, either by sponging or baths, or the administration of antipyrine. The method of administering the antipyrine was that recommended by Professor Filehne. The maximum dose was 75 grains, given in three portions of 30, 30, and 15 grains at intervals of an hour. The pretty uniform effect of this dose was in accordance with the statement of Filehne, to reduce a temperature of 104° or 105° to 100°, or even to the normal, by gradual defervescence within three or four hours from the administration of the first dose. The depression continued from four to nine hours, when the temperature would begin to rise without the chill, which occurs after the use of kairine, usually attaining the maximum again in the course of twelve hours. It was rarely necessary to use more than 150 grains in the twenty-four hours to maintain the average of the temperature from one to two degrees below what might reasonably have been anticipated without its use. The pulse, as a rule, followed approximately the temperature curve, and the general effect upon the nervous symptoms was such as is usually observed in antipyresis from any febrifuge.

In all the cases the antipyrine depressed the temperature. In one case it failed to lower the temperature when given by the stomach, but did so when used hypodermically. In another case its administration occasionally failed to diminish the fever.

The effect on the pulse was generally to diminish the frequency and increase the strength of the pulse. No marked depression of the heart's action was noted.

One of the most marked and most uniform effects observed was the moistening of the tongue. Sweating, more or less profuse, was caused in six of the cases.

Vomiting was provoked by the drug, occasionally, in six cases.

The nervous symptoms were, as a rule, favorably affected by the antipyrine. In only one instance did it seem to depress the spirits. Generally it quieted delirium, cleared the intelligence, diminished deafness, and allayed restlessness and subsultus. It was noticeable that the patients looked less listless and seemed more comfortable when under the influence of the drug.

In six cases the administration of the antipyrine caused an erythematous rash resembling measles, and in one instance a macular eruption presenting a purpural appearance. These eruptions caused but little irritation, and faded in the course of a few days without discontinuing the remedy.

The urine was carefully examined throughout the course of all the cases, and presented no other changes than those usually observed where the disease is complicated with a parenchymatous nephritis. No change of color was observed such as has been noticed after the administration of kairine. A summary of a table, showing the number of days during which each patient was under the influence of antipyrine, the total number of doses, and the amount of the drug in grammes, gives the following results:

Of the five patients who died, one took 10 grm. in ten doses during a period of five days.

A second took 27 grm. in seven doses during a period of six days.

A third took 34 grm. in twenty-one doses during a period of eight days.

A fourth took 48 grm. in ten doses during a period of seven days, and the fifth took 321 grm. in sixty-five doses during a period of thirty days.

Of those who recovered, the shortest period during which the drug was given was one day, the number of doses two, and the amount 3 grm. In this case the temperature was reduced on the sixteenth day of the disease from 104° to 94°, and never rose afterward above 101°. The patient was discharged cured at the end of the sixth week. The largest amount administered was 334 grm. in one hundred and ten doses during a period of twenty-three days. This was a case of exceptional severity of forty days' duration, and with continuous high temperature, complicated with diarrhœa, involuntary movements and repeated chills. The antipyrine occasionally provoked vomiting and sweating, and caused a very copious erythematous rash, which was followed by an eruption of furuncles. The most marked reduction of temperature in this case was from 103·8° to 98°.

In a second case of great severity, which was discharged cured on the fifty-third day, 244 grm. were given in forty-nine doses during a period of thirty-three days. In this case, the highest temperature noted was 106·6° on the fortieth day of disease, the lowest 96·6° and 97·2° on the forty-seventh and forty-ninth days, respectively. The average temperature in this case was 103·6°, the highest noted in any of the cases.

In a third case of recovery, which was discharged on the thirty-ninth day, in which the highest temperature was 105° on the nineteenth day, and the lowest 97° and 97·6° on the eighth and thirty-sixth days, the average for the whole period of the fever being 101·35°, the patient took 257 grm. in fifty-five doses during a period of twenty-three days.

This case was complicated with hæmorrhages from the nose, gums, and bowels. A fourth case, which was discharged cured on the thirty-ninth day, took 159 grm. in thirty-two doses during a period of twenty-one days. The highest temperature in this case was 105° on the thirtieth day, the lowest 98·4° on the twenty-second. The average for the whole period of fever 101·7°. This case was complicated with diarrhœa and delirium.

In the remaining ten cases of recovery, antipyrine was used in amounts varying from 25 to 85 grains. It should be noted that, in the four cases in which the largest amounts of antipyrine were administered, chills and more or less profuse sweating were observed, and also vomiting. In two of these cases the drug produced a profuse rash, and convalescence was complicated with furuncles.

In three of the cases the effect of the antipyrine in reducing the temperature was contrasted with the effect of the cold bath. The average temperature in one case, while the baths were used, was 104·4°, under the antipyrine the average was reduced to 102·2°.

In a second case the reduction of the average temperature under the two methods of treatment did not present so striking a contrast; under the baths the average temperature was 102·4°, under the antipyrine 101·2°.

In a third case the difference was not a notable one.

In a case of puerperal septicæmia with a very high temperature, in the service of Dr. Peabody, the baths failed to make a decided impression upon the temperature, but the antipyrine promptly reduced it.

In a case of perineal abscess, in which the temperature on admission was 105° +, a dose of 75 grains of antipyrine was promptly followed by a reduction to 93°. It was a striking feature in this case, as in several of the typhoid fever cases where this collapse temperature was produced, that there was no other sign of collapse; the pulse remained good and there was no marked disturbance of the capillary circulation.

I have made no systematic observations with antipyrine in other diseases than typhoid fever, but I have used it in pneumonia, scarlatina, in intermittent fever, and in tuberculosis. It has invariably reduced the temperature, and while it has not seemed to alter the course of the disease it has relieved the discomfort due to the fever and evidently contributed to the well-being of the patient.

It will be observed that these observations confirm all that has been claimed for this drug by the experience of the authorities quoted at the beginning of this paper.

In estimating the therapeutical value of antipyrine it is important to bear in mind that thus far our experience only justifies us in commending it as a very certain and apparently a safe means of reducing temperature. We have as yet no statistics which enable us to compare its merits in this respect with the application of cold. Whether the antipyresis produced in this way will reduce the mortality of typhoid fever, as Brand, Liebermeister, and others claim that the antipyresis produced by cold has done, and whether it will act as efficiently as cold in pure thermic fever, are questions that remain to be determined by more extended experience.

There is as yet no substantial reason to believe that antipyrine modifies in any material way the course of the diseases in which it has thus far been administered. This circumstance, however, offers no objection to its use. The dangers which arise in many diseases from long-continued high temperature can not be questioned, and, until the complex problem of fever is solved and our knowledge of its essential causes enables us to apply rational principles for its relief, we must be content to treat it as a symptom, and seek by safe means to control its effects.

It seems idle to speculate as to how antipyrine reduces temperature. It may be assumed, from what experience has thus far taught us, that it is not an antipyretic in the sense that quinine and the salicyl compounds are antipyretics. These are ideal antipyretics in the diseases in which they exert their power. They neutralize the cause of the fever. Antipyrine smothers but does not extinguish the fire. Whether its antithermic action is the result of a chemical effect upon the process of oxidation, or whether it exerts an inhibitory influence upon the nervous centers that control nutritive processes, it is vain, in the present state of our knowledge, to inquire. It certainly affects favorably all the nervous symptoms of fever, and this, together with the fact that it sometimes, in excessive doses, causes vomiting, sweating, chills, and collapse temperatures, would seem to show that the nervous centers are primarily affected by it. But, as we have said, this is at present idle speculation.

The only conclusions which can be safely drawn from our experience with the drug thus far are:

1. That it is an efficient means of reducing temperature.

2. That it is apparently a safe means of reducing temperature, if prudently administered and carefully watched.

3. That while it does not, so far as our present experience demonstrates, markedly modify or abort the diseases in which it has been administered, it does manifestly contribute to the comfort of those who are suffering from high temperature.

4. That its administration is occasionally accompanied with unpleasant effects, which more than counterbalance the benefits to be derived from the reduction of temperature.

5. That a more extended experience in its use and methods of administration may so formulate the conditions for which it is especially adapted that it will prove a precious contribution to the resources of therapeutics.

THE ERUPTIVE FEVERS

IN THEIR RELATION TO CEREBRAL TUMOR AND OTHER DISEASES OF THE NERVOUS SYSTEM *

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A LARGE number of the diseases of the nervous system are slow and insidious in their onset and progress; for this reason they are often passed unobserved in their early stages

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by the general practitioner, and even by the specialist. The somewhat advanced stage of these diseases when recognized, and their chronic course, together with the pathologic changes which are occurring in the nerve tissue and its supporting framework, the neuroglia, under these conditions are unfavorable for treatment. Some of these conditions, which might, by a very early recognition, be treated successfully under these circumstances, pass to chronic states, treatment of which is only palliative.

More and more we seek after the ætiology of these states; with this knowledge of ætiology goes our power of prognosis. Our abilities in this direction spread with our increasing knowledge of the origin of these diseases. We seek the changes occurring in the vascular system either as endarteritis or periarteritis; from vitiated blood-supply by the introduction into the circulation of foreign material, such as the syphilitic virus, the poisons of infectious diseases, or in the circulation of products of defective assimilation. The predisposition of the nerve-centers to disease, owing to primary abnormities in structure, or lack of harmony in the construction of the various parts of the machinery, renders them liable to be easily disturbed in their harmonious action, soon giving way in certain places, causing either one or the other form of functional, then structural disorder. These abnormities in the structure of the central nervous system play quite a prominent part as predisposing causes of its diseases, as instanced in the degenerative insanities, epilepsies, and many other states. Thus studies on ætiology, although not directly pointing to special lines of treatment, are valuable in that they point the way backward along which we should go to meet and ward off these diseases, and there alone in many of these conditions must we expect to combat them. If one casts a glance over the various fields of medicine he will observe that great efforts are being made in the study of the causation of disease, prominently shown by the active study of micro-organisms.

I beg first to direct your attention to the subject of cerebral tumor. I must confine myself entirely to the subject of cerebral tumor in children, as it is in the case of these little ones alone that I can suggest anything new. A search through works on diseases of children or diseases of the nervous system gives us no satisfactory information as to the causation of cerebral tumor, neither do the works on diseases of children indicate the possibility of tumor as a sequela of the eruptive fevers of which children are mainly the subjects. A search through a large number of medical journals issued in the past ten years has brought to my knowledge but very few recorded cases of cerebral tumor in children, with or without autopsies, and in very few of the cases found has there been any indication of what might possibly be the cause of the tumor.

The absence of recorded cases may be due largely to the reluctance of parents to grant permission for autopsies on their children. In the past six or seven years, during which time I have seen a few cases of cerebral tumor in children, I have been struck with the fact that most, if not all, of them followed very soon upon an attack of measles. This so impressed itself upon my mind that I began to look upon the measles as the cause of the development of the tumor, and I have been in the habit, in the past five or six years, of directing the attention of my medical friends, with whom I saw patients in consultation, to these fevers as a factor in the ætiology of cerebral tumor. In support of this theory I will now give my own cases and the one I have found recorded.

It is not maintained that all cases of cerebral tumor are due to this cause.

Case I (Personal).—A little girl four years of age, the sixth child of a family of seven children, all of whom are healthy and of healthy parents, up to one year and a half ago enjoyed good health. At this time she had an attack of measles, on her recovery from which she had immediately following an attack of scarlet fever, which was mild. These febrile attacks occurred in the spring; in the summer there was first observed some peculiarity in her walking—uncertainty in walking and disposition to sleep. This condition increased until two years ago, when she became unable to stand or walk. No other symptoms had been observed. Examination of the child shows that she is ataxic in the upper and lower extremities, but with no impairment of sensibility, no muscular atrophy, no cephalalgia, and no vomiting. Ophthalmoscopic examination shows white atrophy of both optic nerves and granular indistinctness in outline of the discs, although vision appears good. There is no paralysis of cranial nerves. These symptoms increased gradually until the patient was unable to stand even with support; vision became almost entirely lost; the head began to increase in size, and attained eventually considerable proportions; then she began to be cross and show evidence, by her cries and facial expression, that she suffered pain in her head. This condition increased until the corneæ of both eyes began to suffer trophic changes, with abrasions, slight sloughs, slight purulent secretion, and markedly injected blood-vessels. Vision became entirely lost, and the patient passed gradually into a stupor, no vomiting having at any time occurred. One morning she suddenly had a convulsion and died. No autopsy was allowed.

Case II.—G. W., aged nine years, whose previous health had been good, had a mild attack of measles in April, 1875, followed by unusually severe nasal catarrh. In May the first symptoms indicating disturbance of the nervous system began, consisting of a sort of choreic ataxic movement of the right side, soon followed by severe headaches, vomiting, and coma with convulsions, from which he recovered. The right side soon became paralyzed, and this was followed eventually by contracture and choked disc, with subsequent atrophy and complete loss of vision.

The symptoms progressed until August 24, 1880, when the patient died quietly without convulsion. The autopsy showed a tumor of the left crus. This was a patient of Dr. Seguin's, whom I saw through his kindness.

Case III.—Annie F., aged eleven, was seen in consultation with Dr. Hyde, October 11, 1881. She had always been in poor health. Just a year ago she had an attack of measles, and in July she began to complain first of pain in the calves of the legs, with occasional cramp. On July 19th she suddenly passed into a state of stupor lasting about one hour, then followed by a convulsion which lasted some time. She gradually recovered from this, and afterward had at intervals attacks of vomiting and difficulty in walking, which increased; also impaired vision and diffuse headaches. When seen by me she was in a very feeble condition. Her pulse was 140, and she had marked pallor and atrophy of all the muscles, but mostly in the upper extremities, similar to the atrophy in progressive muscular atrophy. Her muscular power was so much impaired that

she could not grasp anything, and was hardly able to walk; but there was no paralysis of the eye muscles. There was complete absence of the tendon reflex. She could count fingers with difficulty at two feet. An ophthalmoscopic examination showed choked disc. This patient died many months after in a convulsive seizure. No autopsy was allowed.

Case IV.—Anna F., aged seven, was seen in consultation with Dr. Healy on November 11, 1882. She was rather tall and slight; her mother was rather nervous. The patient had a mild attack of measles in May of this year, the eruption being quite slight. She recovered rapidly, and in the summer she went to Rahway, N. J. During her stay there she had repeated attacks of vomiting, and complained of vague pains all over her body, first in one place and then in another, and at last complained of pain in her throat. About September it was noted that her pupils were dilated. Toward the end of that month she began to have temporary losses of vision, lasting a few minutes and then passing away. At present she has paralysis of the left third nerve. The pupil is very slightly dilated, and the naso-labial fold is less marked on the left side. She appears to use her right arm and leg a little awkwardly, and there are slight choreiform movements of both upper extremities. She can not count fingers with the left eye, and can do very little better with the right one. There is choked disc in both. This patient eventually had convulsions, then became paralyzed and died. No autopsy was made.

Case V.—Emma H., aged three years and a half, was seen at the Kings County Hospital, with Dr. Arnold, in April, 1882. A few months previous she had a mild attack of measles. She was admitted to the hospital March 27th. When seen, she appeared to be suffering pain and to have defective vision, and, when she attempted to take hold of an object presented to her, to be ataxic. She used both hands well otherwise, so far as could be judged. She remained in bed constantly, and died April 28th. The autopsy showed a tumor of the right half of the pons and the crus.

Case VI. (reported by Dr. Ridge Jones ["British Medical Journal," October 27, 1883]).—Henry A., aged three years, was admitted to the Victoria Hospital for Children May 10, 1883. It was stated that his father was asthmatical and delicate, but that his mother and six other children were well. Two children had died, one of spinal disease and wasting. The mother had had two miscarriages. Two years before admission the patient had measles, and since that time his head had been growing large. He had had fits of screaming at night, putting his hands to his head. About a year before his admission a squint was noticed, and it had continued ever since. He had been wasting for about the same period. During five months, i. e., from May till September, 1882, fits occurred as above described, but ceased until seven weeks before his admission, when the mother noticed loss of power and contraction of the right arm, and that at the same time the head was turned almost constantly to the right side. There was also palsy of the left side of the face, with impaired vocalization. On admission, the head was considerably larger than normal in proportion to the size of the body. There was internal strabismus, but the pupils were equal and dilated. Paralysis of the muscles of the left side of the face, and slight rigidity and tonic spasm of the right arm and leg, were also noticed, and there was optic neuritis. Trophic disturbances of the cornea occurred. On May 10th the temperature began to rise, and between that time and his death, on the 23d, ranged from 100°8 to 107° F., and he passed into a comatose state. The autopsy showed a tumor of the left half of the pons, in its substance. Dr. Gibbs's microscopic examination led him to believe it was composed of tubercle, large giant-cells being visible in a section.

These cases are few in number, it is true, but they are sufficient to point to infectious fevers as a decided factor in the causation of these tumors in children. The nervous symptoms followed very soon after the attack of measles. A year, however, may elapse before any marked nervous symptoms present themselves, as these tumors are of comparatively slow growth.

It has been stated that in most of these cases the attack of measles was of a mild character, and this is in keeping with the fact already observed, that in syphilis of the nervous system there is most frequently a history of very slight secondary manifestations, perhaps with no eruption noticed by the patient, but, a few years after, grave lesions of the central nervous system occur, referable to the effect of this syphilitic poison. Another point which appears worthy of mention here is the very great frequency with which cerebral tumors in children are found at the base of the brain. Is this due to the greater functional activity of the motor tracts and basal ganglia at this age, or to the marked richness in the vascular supply of these parts? The change which takes place in the nervous system, giving rise to these tumors, will be considered subsequently, as at this present time it must be based upon our knowledge of other conditions somewhat similar.

Let us pass now to the eruptive fevers in relation to disseminated cerebro-spinal sclerosis. First, we will glance rapidly over brief histories of cases taken from Marie ("Progrès médical").

Case I.—In 1879 a man, thirty years old, had typhoid fever. Three weeks after the onset of the fever he was found to have phlebitis of the left inferior member, with marked œdema. The phlebitis was intense and lasted many months, interfering with his ability to walk. Very soon after he recovered from the fever he began to have difficulty in speaking, but it was only in 1881 that he took special notice of it. In 1883 he began to have difficulty in walking, then trembling of the hands and trouble in writing. In March, 1884, he had trembling on voluntary movement of the hands, which was shown very plainly when he tried to bring a glass of water to his mouth. His writing was very irregular.

Case II (Ebstein, "Archiv f. klin. Med.," 1872).—A man, aged forty-four years, had severe typhoid fever from May to August, 1864, and prolonged loss of consciousness took place during convalescence. Then appeared an indistinctness in speaking, and there was partial atrophy of certain muscles of the tongue, together with feebleness and trembling of the upper and lower limbs and of the head on voluntary motion. He died in 1872, and the autopsy showed disseminated sclerosis.

Case III (Kahler).—A boy, thirteen years old, had severe typhoid fever, during which he had sloughing of the buttocks and gangrene of the ear, and remained in bed five months. During convalescence there were marked trembling of the head, intense tremor of the right arm, and difficulty in speaking. Subsequently there were attacks of vertigo and loss of consciousness.

Case IV (Westphal).—A man, forty years old, had ataxia of the upper and lower extremities, involuntary rhythmic movements of the head, disturbance of speech, difficulty of deglutition, etc., five weeks after the commencement of typhoid.

Case V (Chauffard).—A woman, twenty-eight years of age, had severe and protracted typhoid fever. Three months after, there were cincture pains, and marked weakness on the left

lower extremity, and she had to remain in bed. Five months after, there were slowness of speech, defective memory, spasmodic walk, exaggerated tendon reflex, and spinal epilepsy.

Case VI (Personal).—In 1874, while assistant visiting physician to St. Peter's Hospital, I saw a man in that hospital, about forty years of age, who had severe typhoid, with marked unconsciousness. As soon as he began to convalesce he was found to have decided difficulty in speaking, so that he could hardly be understood, also ataxia of the lower and upper extremities. There was no nystagmus. He remained in about the same condition up to less than a year ago, when I last saw him. I recognized the connection between the nervous disorder and the typhoid at that time, and considered it due to thrombosis.

These six cases will suffice to illustrate the connection between typhoid fever and disseminated sclerosis.

Variola is not infrequently followed by marked nervous lesions. Westphal has reported some cases.

Case I.—A man, twenty-eight years old, for the first two days of the attack remained in bed as if dead, and appeared to have completely lost consciousness. When the eruption was fully developed, there was a return of consciousness, followed by ataxia of the arms and legs. Seven weeks after the attack there was paresis of the left arm, difficulty and slowness of movement of the fingers were present, but there was no longer any ataxia of the inferior extremities. The gait was spasmodic, and there was impairment of the sense of smell, with difficulty of swallowing and weakened memory.

Changes occur in the central nervous system following scarlet fever.

Case I (Pollard, "Lancet," 1878).—A boy had scarlet fever at two years of age, with violent convulsions. During convalescence trembling was observed, which gradually increased. At the age of five years there was another series of convulsions. At the age of seven years, when he was under Pollard's observation, there were difficulty of speech, tremor of the upper extremities on voluntary motion, and difficulty and ataxic movements in walking.

Case II (Personal).—A girl, twelve years old, had convulsions immediately following scarlet fever, also a certain amount of mental dullness. She often spoke of headache, and had a marked disposition to lean to the left side. There was no curvature of the spine to account for this. She also had frequent epileptiform fits, and evidences of chronic meningitis.

Scarlet fever may also be the cause of mental disorders, two or three cases having come under my observation and several authors having reported cases.

The paralysis following diphtheria will not be considered here, as it does not come within the scope of this paper; neither will we consider nervous lesions following certain cases of pneumonia.

I have now placed before you in a brief manner our present clinical knowledge of this subject, which is so full of interest, and the further development of which is full of promise. I shall therefore leave this part of the subject for your future consideration and clinical observation.

We will now glance in the same brief way at the pathological changes which occur in these cases. Disseminated sclerosis has given, pathologically, the basis for the inferences which follow, because it has been best studied microscopically.

The first part of my paper, which refers to cerebral tumor, can at the present time only be explained pathologically by what we know of other conditions. The explanation which is given of the changes in disseminated sclerosis I shall adopt largely as the explanation of what occurs in the development of cerebral tumors following these fevers.

Marie ("Rev. de méd.," No. 7, 1883), studying the subject of disseminated sclerosis, particularly in infants, alludes to the fact that, although disseminated sclerosis was first carefully studied by Charcot and Vulpian, in 1862 and 1863, it is in the medical literature of England that we find the most information. It was only in 1875 that Dr. Moxon published his first two cases, with autopsies, and since that time many cases have been published.

Kahler and Pick, in 1879 ("Beiträge zur Pathologie und pathologischen Anatomie des Centralnervensystem"), recognized and pointed out the connection between infectious diseases and disseminated sclerosis, and have not hesitated to assign infectious organisms as the cause of these nerve-lesions.

Marie adopts this view and remarks that these cases follow typhoid fever, scarlet fever, etc., and he discusses the hypothesis in the following manner:

Does the infectious agent act by its presence, by its localization in certain parts of the central nervous system, or by the formation of new products under the influence of this infection? These products, passing into the lymphatics of the nervous system, irritate them, and this irritation gives rise to an interstitial proliferation of connective tissue or sclerosis of different parts of the nervous system. It is known that arteritis, more or less generalized, is frequent in infectious diseases. It is known that more or less diffuse arteritis is associated with disseminated sclerosis, and autopsies have shown that this condition follows the distribution of the arteries (Hugo Ribbert, Virchow's "Archiv," xc, 243, and Klein, "Med. Obs.," xvii, 9).

I now show you specimens and drawings of my own, to illustrate this arteritis in disseminated sclerosis.

We must now inquire how this arteritis takes place. In recent years contributions have been made to this subject by H. Martin ("Rev. de méd.," 1881), Guandian ("Gaz. hbd.," April, 1883), and Barie ("Rev. de méd.," 1881). Infectious diseases are frequent causes of arteritis, and a peculiarity about it is that the arteritis is always (?) disseminated. In this connection the observation of Popoff (Virchow's "Archiv," lxiii, 1875) is of interest. He describes in typhoid fever an accumulation of lymphoid cells in the perivascular spaces, which may penetrate among the nerve-cells and give rise to inflammatory irritation.

Blaschko (Virchow's "Archiv," lxxxiii, 3, 471) inoculated a rabbit with the pus from a puerperal arteritis, and found in the cortex of the brain and cerebellum a considerable quantity of capillary emboli, consisting of bacteria in a soft, semi liquid material, analogous to that which forms the clouds in putrefying liquids; and he thinks that it is these bacterial fragments which block up the capillaries and thus determine the thrombosis.

He has been unable to discover any lesions in the nerve-tissue surrounding these emboli, but Weigert and Cohnheim

have discovered in the neighborhood of similar bacterial emboli lesions of the nerve-cells, one of the characteristics of which is the resistance of these cells to the action of coloring reagents.

Heschl ("Wiener med. Woch.," 1880, p. 791) examined microscopically the cerebral cortex of a woman who had died of coma due to the infection of a whitlow. He found that in the neighborhood of the bacterial emboli the cerebral substance was changed into a finely granular mass, in which a few nerve-cells and nerve-tubes could still be seen.

It would appear, then, from the foregoing facts, that the passage through the blood-vessels of blood-carrying, irritating material of any kind, whether it be bacteria or something else, may give rise to vascular and perivascular inflammations, which may subside or go on to the formation of new material in the arteries, etc., bringing about sclerosis of the arteries which is permanent, and which would explain the appearance of symptoms referable to the nervous system after convalescence is established.

Now, to apply what we have learned to explain the development of cerebral tumors following the eruptive fevers would appear to present difficulties, for the reason that the tumor is localized; but I am impressed with the idea, although I am at present unable to demonstrate it to you as I have done with the disseminated sclerosis, that the lesion is primarily a vascular or perivascular one. Further clinical observations, with microscopic examinations, can alone throw more light on this subject.

We have seen by the observation of Popoff that in typhoid fever accumulations of lymphoid cells occur in the capillaries and perivascular spaces of the brain, giving rise to irritative phenomena. This condition would appear to be a possible explanation of the mental disturbances following scarlet fever, etc.

Without trespassing much on your patience, I will allude, before closing, to the importance which a study of the blood-vessels in diseases of the nervous system is assuming. In many of the diseases of the central nervous system microscopic examination shows, I think, that the changes are due to degenerations. I do not use this term in the sense of secondary degenerations, but of degenerations due to nutritive disturbances—physiological degenerations if you please. We naturally ask ourselves what is the starting-point of these changes, and recently much attention has been given to the study of the blood-vessels in all the diseases of the central nervous system. The association between disseminated sclerosis and the vascular changes is pretty well established.

Some writers have even gone so far as to maintain that systematized lesions, such as sclerosis of the posterior columns (Martin and Adamkiewicz), are due primarily to arterial changes. This is a view, however, which appears improbable, but the unsystematized lesions may have arterial changes as their starting-point.

The treatment of these conditions must be preventive. After they are fully established, only amelioration can be hoped for.

Children or adults who present markedly neuropathic constitutions, or the children of neuropathic parents, during and after attacks of these fevers, should be watched carefully to see that they recover fully from the effects of these diseases, for it is these children who are most likely to suffer. I will not take up time by giving therapeutic indications, as they will be apparent to you all in the nutritious and digestible diet, friction, baths, tonics, etc. And if the theory of micro-organisms be accepted for these eruptive fevers, then very small doses of bichloride of mercury, as a tonic, etc., may be advisable during and after the fever.

OTOLOGICAL CONTRIBUTIONS.

By OREN D. POMEROY, M. D.

A CASE OF PAPULO-TUBERCULAR AFFECTION OF THE DRUM MEMBRANES IN A SUBJECT OF HEREDITARY SYPHILIS.

A. M. S., aged eighteen, tall, poorly nourished, has a prominent lower jaw; face and head of the shape of subjects of hereditary syphilis. His teeth also are badly developed, resembling those in hereditary syphilitic cases. He does not admit ever to have had syphilis, but does acknowledge a gonorrhœa. About four months since he was attacked with an interstitial keratitis from which he has nearly recovered under constitutional treatment, with some of the usual local applications. On July 18, 1883, after indulging in a somewhat excessive amount of beer, his eyes had a serious relapse, and he found that his hearing had become somewhat affected, the trouble dating back about four days. On July 23d his deafness still continuing, the drum membranes were inspected. The right showed considerable congestion about the short process and the manubrium.

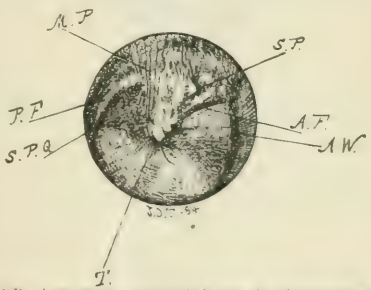


Fig. 1. S. P., short process; posteriorly is seen the whitish-looking material described in the text. M. P., manubrial plexus of vessels. P. F., posterior fold of the membrana. S. P. Q., superior posterior quadrant.

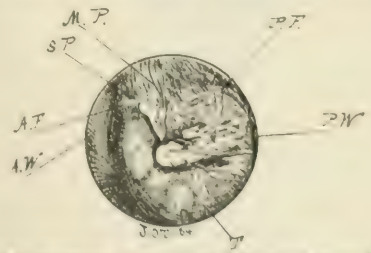


Fig. 2. S. P., short process; [illegible] fold; P. W., posterior wall; M. P., manubrial plexus of vessels; A. F., anterior fold; A. W., anterior wall.

Along the line of the malleus handle a whitish [illegible] appearance resembling softened epidermis [illegible]

it by a bit of cotton, it was found firmly adherent. Elsewhere the membrane is somewhat opaque, and there is no light spot. The left membrane shows some redness along the malleus-handle; light spot present, but placed a little above the umbo. Behind and just below the malleus-handle is a triangular grayish mass somewhat resembling the appearance in the other ear, but more prominent and marked. This also can not be removed by the cotton-wool. The hearing of the R. is w. 2½″, of the L. w. 4″. Bone conduction is decidedly better in the left ear.

July 27th.—Hearing in R. w. 1″, in L. w. 3″. Bone conduction the same in each ear, although there was some difficulty in eliciting intelligent replies.

August 1st.—Hearing in the R. w. contact, and 1½″ in L. No improvement on inflating the drums; considerable redness about the malleus-handles and short processes in each ear; corneæ are clearing, and pain in the eyes yields to atropine. On August 3d, the whitish spot of infiltrated epidermis has disappeared from the right membrana, leaving the membrane reddened and thickened, with a rounded elevation behind and somewhat on the

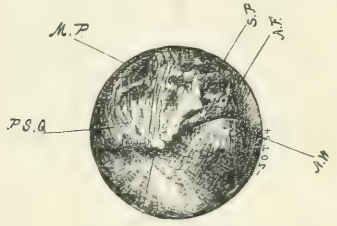


Fig. 3.—T., tumor. S. P., short process; the manubrium seen for a little distance. A. F., anterior fold. A. W., anterior wall. M. P., manubrial plexus. P. S. Q., posterior superior quadrant of the membrana.

manubrium; hearing as before. In the left the grayish spot has much increased in size, and has a nodular appearance. Hears

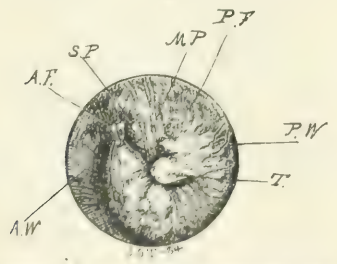


Fig. 4.—T., tumor. S. P., short process; the manubrium may be seen for a portion of its course. M. P., manubrial plexus of vessels. P. F., posterior fold. P. W., posterior wall. A. W., anterior wall. A. F., anterior fold.

the w. orly on contact. This nodule has been present for only two days; bone conduction about the same in each, though the observation is not positive.

6th.—The swelling in the left has decreased in size, and the membrana is much more vascular in the region of the tumor. The left ear hears the watch on contact, and the right, the watch pressed. Bone conduction better in left.

9th.—General condition slightly improved.

14th.—The lower notes of the piano heard somewhat better than the higher; bone conduction in the right the same as the aerial, and in the left somewhat better.

September 10th.—The vessels on the left membrana surrounding the swelling are much diminished in size. Eye symptoms

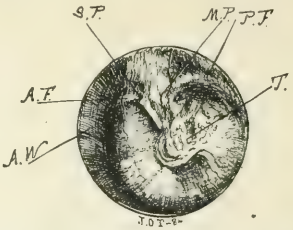


Fig. 5.—T., tumor. S. P., short process; nearly the whole of the manubrium is visible. M. P., manubrial plexus of vessels. P. F., posterior fold. A. F., anterior fold. A. W., anterior wall.

continue, but with less intensity. Constitutional treatment continued. Left hears the watch gently pressed, right somewhat less.

October 10th.—H. D. R. w. 1½″, after inflation the same, H. D. L. w. 0., after inflation w. pressed. Tuning-fork heard better by aërial conduction; bone conduction somewhat diminished; appearances of membrana unchanged, except that the blood-vessels are large and distinct; ordered to go into the country. Three months afterward, the patient having been in the country, the eyes are much better, though not well. The drum membranes are looking nearly normal. The H. D. R. is w. 2″, L. w. contact, no change by inflation. This has been the condition during the whole progress of the case except in one or two instances, where the hearing has been slightly improved by inflation. Tinnitus has hardly been complained of at all. Tuning-fork observations the same as in the last record.

I conclude that the tuning-fork tests pointed to a suspicion of labyrinthine disease, but actual proof of that does not exist. The appearance in the right ear has not been minutely described, it being similar to that of the left, only the tumor was much smaller and disappeared sooner. One marked feature of the appearance was the great size of the blood-vessels, which in the pen drawings are represented by black lines. The drawings represent the tumors as grayish or whitish, but after a few days the color was a dull red. After the swellings had entirely disappeared, vessels of considerable size remained. I infer that the tumors were in the dermal layer of the membranes. The whitish appearance at the first, I conclude, was due to infiltration of the epidermis, which was soon thrown off. There was no evidence of its being a hypertrophy of the epidermis. The superficial position of the tumors was evident from the facts that the malleus-handles and short processes were distinctly behind the tumors, that there was no approach to perforation of the drum membranes, and that the superficial position of the markedly injected blood-vessels indicated that the deeper portions of the membranes had escaped. As the dermoid layer of the membranes was affected in this process, the tumors would come under the head of a skin affection.

In Bumstead and Taylor on "Venereal Diseases," p. 793, in discussing hereditary syphilis these observations are made: "These later orders of dermal lesions may be papulo-tubercular, or perhaps pustular, but in general they are tubercular, tuberculo-ulcerous, and gummatous." In the case under consideration there was no ulceration, no softening, no scaly

appearance, except the removal at first of the epidermis; and it seems to the writer that, in the absence of any literature directly bearing upon this subject, we are justified in making the diagnosis of papulo-tubercular affection of the dermal layer of the membrana tympani. It is not denied that there was more extensive disease than this, there evidently being an inflammation of the drum cavity with exudation into the tympanal lining, including that covering the round and oval windows.

The evidence of labyrinthine complications was not, perhaps, so complete as might be necessary to confirm such a diagnosis. It appears to the writer that evidences of labyrinthine complications in syphilitic affections of the middle ear are perhaps less frequently observed than is generally believed. The illustrations are from pen drawings by Dr. J. O. Tansley, of the Manhattan Eye and Ear Hospital, New York.

CHONDRITIS AND PERICHONDRITIS OF THE AURICLE, PROBABLY OF NEURO-PARALYTIC ORIGIN.

F. K., aged forty-six, applied to the Manhattan Eye and Ear Hospital, on October 27, 1884, for an affection of the auricle. He says that about two weeks since he noticed a small pimple situated near the center of the ear (auricle). This soon gave rise to a watery discharge. After four days the ear began to swell, until every part of the auricle, except the lobulus, was swollen to nearly twice its normal size. A considerable portion of the cheek adjoining the auricle was also swollen, red, and numb (anæsthesic). A carbolic-acid lotion soon relieved this swollen condition. The auricle and the adjacent regions are completely anæsthetic, although this was at first only partial. On the date of application, October 27th, the auricle is much swollen, except the lobulus; red, moist, and with a scurfy state of the epidermis, the appearance resembling that of acute eczema. This scaly material may be removed easily, leaving sound, somewhat reddened skin beneath, except in some of the deeper depressions of the auricle, notably the fossa scaphoidea, where abrasions of the skin are observed. The lesion described by the patient as a pimple, located just behind the concha and within the helix, now presents the appearance of a dark-brown crust which also appears on the posterior surface of the auricle, opposite to the scab in front.

On applying a probe, it is easily thrust quite through the auricle, emerging on its posterior aspect, and showing a complete destruction of all the tissues of the auricle. This was accomplished without sensation on the part of the patient. A sero-sanguinolent and somewhat glairy discharge proceeds from this opening. The patient denies syphilis; has had children. His voice is like that of a child or a woman. The cause of this is found by Dr. Douglas to be dependent on a paralysis of the left vocal cord; this trouble dates back six years. Has some dizziness from inco-ordination. A one-per-cent. solution of acid. carbol. was ordered, with which to bathe the auricle freely.

October 31st, the loss of tissue posteriorly is so far restored as to be nearly healed, the reparative material having filled up the ulcerated place so as to present only a shallow ulcer in front. This is covered by an adhering, yellow-looking scab; signs of reparative action everywhere manifest. The spot in the scaphoid fossa is still covered with a yellowish scurfy material, but, on removal, the skin beneath is perfectly sound. Two days afterward, however, on removal of the scurfy material from this part, the skin beneath was found to be ulcerated. This had now begun to resemble the other and principal ulceration. This yellowish scurfy material still covers other parts of the auricle more like the appearance at first, only the auricle is much less swollen than formerly. On November 3d the ulcer in the scaphoid fossa has healed, leaving a small, yellowish scab, easily removed; auricle less swollen; the principal lesion has nearly healed; posteriorly, the aperture has nearly closed, being covered in mostly by sound skin. This has progressed steadily until November 20th, when the aperture behind is completely closed, and in front, also, it is nearly healed; swelling of the auricle entirely disappeared; no return of sensation to the part. December 1st, auricle nearly restored to its normal condition, but ulceration seems to have commenced again posteriorly opposite to the original ulceration. Behind the ulcerated place the parts are somewhat livid, as though the old condition was about to return. The ulcer was touched with a fifteen-per-cent. solution of carbolic acid several times, at intervals of two days, and the auricle has been bathed several times a day in a solution of bichloride of mercury, one twelfth of a grain to the ounce of water. January 2d, 1885, auricle completely healed, except that just above the old ulceration there is a minute bloody bleb, which was easily ruptured. The upper and anterior portions of the auricle still present somewhat of the former scurfy condition. In addition to the treatment already spoken of, iodide of potassium was given, and the electric brush was applied to the anæsthetic parts; ergot was also administered. There has been no restoration of the paralysis of the vocal cord, nor of the anæsthesia of other nerves. The patient has been seen some months after the difficulty has subsided, and so far there is no relapse.

The case seems to me unique, and quite analogous to the neuro-paralytic affections of the cornea. It is not quite descriptive to call the affection perichondritis and chondritis, as there was added to this an affection of the skin covering the front of the auricle which I never have seen in any true case of perichondritis or chondritis of the auricle.

Dr. Seguin saw the patient in consultation, and reported that there was partial anæsthesia of the left trigeminus, left occipitalis, major and minor nerves, of the left superficial cervical plexus, and of the left ulnar and median distribution, which had continued for one year. External ear (left) almost insensible. Paralysis of left vocal cord dates back six years to an attack of hoarseness; no syphilis. The pathology of this condition seemed to him quite obscure. On account of the absence of neuralgia, he would exclude disease of the trunk of the trigeminus or of the Gasserian ganglia. He thinks this case quite unique, and that the ear affection was the result of mild traumatism, induced, possibly, by scratching the part, together with the subsequent sepsis. He thinks the ear would have remained sound if protected from injury and bacteria, the state of anæsthesia not offering the usual protection from traumatism existing in that of the normal ear.

DIPLACUSIS BINAURALIS.

The following case of double hearing with both ears is sufficiently rare to warrant its publication:

Father C., a Catholic priest, aged forty, has had a chronic catarrhal otitis media in both ears for about two years. The left is nearly normal at present, but he occasionally has the Eustachian tube obstructed. H. D. R. w. A.; acute labyrinthitis.

At the commencement of the attack, the right ear heard a given note nearly one tone above that of the left, after about

a week of treatment (four visits), the faulty note seemed only about a half-tone above its fellow, and, after seven visits, the tone was the same as that of the other ear, except it was somewhat muffled. At the time the right ear heard the note one fourth of a tone higher, there was a repetition of the first sound, like an echo, which would place this ear, perhaps, in the category of diplacusis monauralis.

On the last observation, with the hearing of the right nearly reaching ten inches, sounds seemed muffled in this ear, and high tones were heard better than lower. Bone conduction better in the right ear, although, when both ears are closed, the tuning-fork is heard better in the left or good ear.

At the time the pseudo-note was a half-tone above, the patient heard only the third and dominant of the chord.

ELECTRICITY IN THE TREATMENT OF UTERINE FIBROIDS.

By J. T. EVERETT, A. M., M. D.,
CLYDE, O.

Noticing in your issue of March 7, 1885, a paper by Dr. J. N. Freeman, of Brooklyn, on "Electrolysis as a Cure for Uterine Fibroids," presenting the method as a new departure, and as Dr. A. J. C. Skene and others have replied to his statement quite fully, perhaps anything that a Western practitioner may say upon the subject is superfluous.

However, as it has been my fortune to struggle with these neoplasms somewhat frequently in my professional career, and to have met with a measurable degree of success, I venture to report the same for your consideration.

In the January number of the "American Journal of Obstetrics" for 1878 I published a paper on "The Faradaic Treatment of Uterine Fibroids," citing nine cases, extending from the year 1874 up to that date, in several of which, for obvious reasons, the electrolytic current was used at some stage of the case.

As this subject appears to have received but very little attention at the hands of the profession from that time to the present, perhaps a brief recapitulation of those cases in which the electrolytic current played an important part, with a fuller report of subsequent cases, may not be uninteresting to the many readers of your valuable journal.

In a careful study of these cases there are three lessons to be learned: 1. That for intra-uterine fibroids the faradaic current is amply sufficient to effect a cure, and, for obvious reasons, is the one to be selected, as it causes the uterine muscles to contract, choking off the afflux of blood, thus destroying the vitality of the tumor, separating it from its environments, and assisting in its extrusion. 2. For submucous or intra-mural fibroids the continuous current, from twelve or eighteen cells, will be found to act powerfully as a resolvent, causing the tumor to shrink and solidify, and separate from its capsule. 3. That, where the stronger electrolytic current of from twenty to seventy cells is used, there is intense pain unless anæsthesia is made use of. There is speedy death, with resultant destruction of healthy and diseased tissue, and suppuration. In this connection it is well to remember that the nearer the points of entrance and exit of the current the more rapid the result.

With these introductory remarks, allow me to report the most instructive cases:

Cases I, II, and III were simply small or medium-sized pedunculated, intra-uterine fibroids, with symptoms of excessive hæmorrhage and pain, accompanied by an anæmic and exsanguined condition. These were treated with the faradaic current, one electrode being applied over the sacro-lumbar junction, the other over the abdomen. The effect of these treatments was to control the flow, to destroy the vitality of the morbid growth, and to assist in their destruction and extrusion from their seats.

Case IV.—I was called, July 17, 1874, to see Mrs. H. Le F., a multipara, aged forty-two. I found the patient much exsanguined from the effects of a profuse hæmorrhage, which had prevailed at intervals for the last twelve or fourteen years, but had during the ten previous months been almost constant, and was accompanied by but slight pain. On examination, I found that the uterus extended upward to the ensiform cartilage, occupying fully one third of the abdominal cavity. Internally I found a fibroid tumor filling the entire pelvic cavity and presenting at the dilated os.

As the hæmorrhage was alarming, I gave a hypodermic injection of aqueous extract of ergot, which somewhat lessened the flow and caused slight contractile pains. July 28th, after having exhausted all other methods to control the flooding, I introduced four insulated silver needles three or four inches into the substance of the growth through the vaginal orifice, and connected these with the negative pole of a twenty-cell battery, placing the positive pole, in the shape of a copper disc, on the abdomen. This treatment was followed by a free discharge of serum, which gradually changed to a purulent character in a few days. The treatment was repeated on the fifth day with a similar result. By the 12th of August the bulk of the tumor was greatly lessened. August 20th, I passed a platinum loop around the lower third of the mass, attached a cautery battery, and with gentle traction severed this portion from its fellow. No hæmorrhage, depression, or shock followed. I continued the daily faradizations. September 25th, the tumor being greatly reduced in size and the os well dilated, I passed the platinum loop around the pedicle and removed the tumor, which was of the size of a fœtal head entire. Notwithstanding its enormous size, the patient made a rapid recovery, and has since enjoyed good health.

Cases V and VI were submucous fibroids, and were treated with the faradaic current and cured, respectively, in twenty-five days and in thirteen weeks, with no untoward occurrences.

Case VII was one of pedunculated, intra-uterine fibroid. Three months of faradization destroyed its vitality, and it was twisted from its pedicle and removed with no untoward circumstances.

Case VIII. I was consulted in the spring of 1876 by Mrs. D. B., aged fifty-eight, the mother of two children. She complained of profuse hæmorrhage, which had been troubling her for some months. I found the uterus extending nearly to the ensiform appendix, bound firmly to the right side, and quite immovable, completely filling the pelvic cavity. The probe passed up beside the tumor eleven inches and a half, revealing a submucous fibroid involving the anterior wall of the womb, and measuring four inches and a half in its transverse diameter. I commenced the faradaic treatment as in similar cases, and continued it with good effect for some months.

January 1, 1877, the tumor was much reduced in size, and the hæmorrhage measurably controlled, but, the progress appearing to be at a stand still, I thrust an insulated needle deep into the tumor from the vagina, and passed a twenty-cell current through it for thirty minutes. During this treatment the mucous membrane overlying the growth was ruptured, and a portion of the mass bulged out through the rent.

These treatments were continued until January 28th, when a large mass of dead tissue, presenting at the os, was seized with strong forceps and twisted off.

Daily faradization was continued from this time until March 28th, when, as no further improvement was manifested, the patient was anæsthetized, the os freely divided, and the finger passed up along the side of the uterine walls between them and the growth, and several adhesions were broken up.

An attempt was then made to enucleate, but, on account of the dense adhesions at either end, and the alarming hæmorrhage, the attempt was given up. The tumor appeared to merge into the uterine muscles at either extremity, and the womb, in turn, was so firmly bound down by strong bands of adhesion to the circumjacent pelvic walls, that I was forced to content myself with removing by fragments, with the serrated scoop, all the diseased tissue that was deemed safe. The patient recovered from the exhausting effects of this operation with astonishing rapidity. The curette was used three times subsequently, each time removing as much of the neoplasm as it was possible to reach. The last time the morbid growth had assumed a sarcomatous character, which eventually developed by retrogressive metamorphosis into true carcinoma.

Case IX.—I was consulted, August 1, 1877, by Miss C. K., aged thirty-seven. The patient was a pale, cachectic lady of low stature and frail form, complaining of pain in the right ovarian region, with procidentia uteri, leucorrhœa, and at times intense metrorrhagia. Springing from the right cornu uteri was a fibrous polypus of the size of a turkey's egg. The patient was put upon ferruginous tonics and alteratives, and was treated daily with the faradaic current, and every third day with the constant current from eighteen cells. September 3d I pushed two insulated platinum-needles into the substance of the tumor through the abdominal walls and attached a twenty-cell battery to them.

Some pain and prostration following, the original course was resumed, but the tumor remained *in statu quo*. On the 15th I again inserted insulated needles, and passed a twenty-cell current for twenty minutes. On the 25th I used the electrolytic current again for fifteen minutes. On the 30th the same treatment was repeated. October 6th I used the same current for thirty minutes, but with no effect upon the tumor. On the 12th I passed a current from thirty cells, producing some shock. On the 20th forty cells were used, causing marked shock and peritoneal fever, which responded to warm fomentations, opium, and aconite. On the 25th I used sixty cells for twenty minutes, when the patient began to recover from the anæsthesia. Marked shock and depression followed, also fever and peritonitis, but no effect upon the tumor other than to increase its size. The patient, who was a professional nurse, and who knew something of medicine and surgery, desiring a radical operation, and as suppuration was manifested in the tumor, we decided to comply with her request. Accordingly, October 30, 1877, the peritoneal fever being fully under control and the patient in fair condition, she was anæsthetized by my colleague, Dr. S. W. Gillespie, when I proceeded to operate in the following manner. An incision six inches in length was made along the linea alba opposite the region of the tumor. Considerable adhesion was found to exist between the peritoneum and the abdominal walls along the track of the needles. This was easily broken up with the finger and the peritoneum was incised: the tumor, of the size of a turkey's egg, was seized and drawn out through the incision and the pedicle snipped off close to the uterus. The wound was then closed as in ovariotomy, with seven silver wire sutures over an elastic catheter upon either side of the cut, and all was covered with carbolated dressings.

This was my maiden operation under the spray method, and, notwithstanding recent peritoneal effusion, union by first intention took place throughout the whole incision. The patient made a good recovery, and was discharged, cured, December 16th.

It may be said that, as a uterine fibroid is a benign growth, in no case is a grave operation warranted; this is true in the main, but, after setting up so much inflammation as to lead to suppuration within the capsule of the tumor, it was considered the only way out of the self-inflicted dilemma. The causes of the peritonitis were: first, imperfectly insulated needles, and, secondly, too strong a current allowed to flow too long.

Case X was one of a pedunculated fibrous polypus, which was treated with the faradaic current for two months, when it was twisted off with strong forceps and removed entire. There was but little pain, no shock, and no hæmorrhage. This tumor, somewhat less than a goose's egg in size, was of dense white fibrous tissue, almost cartilaginous in texture.

Case XI was one of submucous fibroid, which promptly responded to the interrupted current.

Case XII was one of intra-mural tumor, which was very stubborn, and was only partially removed after steady daily faradization for three months.

Case XIII was one of pedunculated fibroid, which yielded promptly to treatment.

Case XIV.—I was consulted August 3, 1879, by Miss T. G., aged twenty-two. I found a subperitoneal fibroid, of the size of a fœtal head, springing from the left cornu uteri. I thrust two insulated needles into the tumor through the abdominal walls, and attached a thirty-cell battery for twenty minutes. The pain was so intense, and so much peritoneal inflammation was lighted up, that no further treatments of this character were given until September 4th, when the same treatment was repeated, but with only twelve cells attached. On the 9th, 12th, 15th, 21st, 24th, and 28th the treatment was repeated. The size of the tumor was markedly reduced, but, the general health of the patient failing, this treatment was given up, and, as she had developed tuberculosis, the case went on to a fatal termination from this disease.

Case XV.—I was consulted in June, 1882, by Mrs. B. J. H., aged thirty-six, the mother of two children, the younger ten years of age. Examination revealed a large interstitial fibroid. The patient was also suffering much discomfort from a large bronchocele which, with the neck, measured 18½ inches. I at once put her upon the use of alterative tonic treatment and used daily the continuous current from twenty-four cells, through the vagina and abdomen, and ten cells through the goitre.

This was continued for five months, with the effect of lessening the size of the fibroid fully one half, and of bringing the circumference of the goitrous neck to 17½ inches. November 13th, the improvement of the patient having been *nil* for some time, I anæsthetized her and inserted two gold needles (insulated within an inch of the point) deep into the fibroid through the vagina; the current was passed from one to the other needle for twenty minutes from a twenty-four-cell battery. While the patient was still anæsthetized, the needles were inserted into the opposite sides of the bronchocele, and a ten-cell current was allowed to flow for ten minutes.

This produced some redness in the goitre, and left a coppery taste in the mouth. The patient, who now resided seventeen miles from Clyde, did not present herself for treatment again until January 11, 1883. The treatments were again given the same as upon November 14th, and the effects were still more satisfactorily marked.

February 22d, the patient again presented herself [illegible]

ment, when the mucous membrane and the underlying muscular tissue of the uterus were found to have ruptured and the fibroid bulged through.

The patient was again anæsthetized, the mass seized with strong forceps, and about a pound torn off. The hæmorrhage was not alarming, and there was no shock. The continuous current was passed from a large silver electrode in the uterus to the positive electrode over the abdomen with thirty cells for fifteen minutes.

During the anæsthesia the bronchocele was again treated with the needles from opposite sides with a ten-cell current for ten minutes. The patient bore the treatment well. The following day she was again anæsthetized, and the large silver electrode passed well up into the uterine cavity, the positive pole attached, and three gold needles were inserted into the goitre, two on the right or larger lobe, and one on the left of the isthmus; these were connected with the negative pole and the current from thirty cells was allowed to flow for ten minutes, when forty additional cells were gradually turned on. The patient, though profoundly anæsthetized, showed symptoms of distress; and the elements were slowly withdrawn from the exciting fluid. In ten minutes the patient was seized with violent vomiting, and soon after with profuse purging. For the next six hours she was in an alarming state of prostration, simulating the collapse of cholera. From this state of extreme depression she rallied, and was able to sit up on the fifth day. The fibroid had entirely disappeared, the neck now measured 16¼ inches, and the goitre appeared atrophied, hardened, and lifeless, since which time matters have remained *in statu quo*.

Case XVI.—I was called, September 1, 1882, to see Mrs. H. D., aged thirty-two, the mother of one child. She had been suffering for three or four years with pain at the menstrual epoch, excessive flooding, irregular action of the bowels, nausea, weakness, etc. Examination revealed the os much abraded and nodulated, which gave me grave fears of malignancy. In the left ovarian region I found a tumor, about nine inches in length and three or four in diameter, which was attached to the left cornu uteri. I commenced local treatment for ulcerated os, and put the patient upon the use of alterative ferruginous tonics, etc.

I electrolyzed the tumor with a twenty-cell current every seventh day, and used faradaic treatment daily. January 1, 1883, the tumor had entirely disappeared, the os had healed, leaving the cicatrix of an old laceration, and the patient continued to mend until July 17th, when she was discharged cured. The suspicious nodulations never gave any further trouble.

Case XVII.—I was called, March 15, 1884, to see Mrs. J. F. B., aged forty-two, the mother of two children. She had been suffering for seven years, more or less, with excessive hæmorrhage and pain at the monthly epoch. Of late these symptoms had been much exaggerated. I found, upon examination, an intra-mural fibroid larger than a goose's egg. I commenced at once the use of the faradaic current, alternating with the continuous current. Every seventh day I used the insulated needles as in previous cases.

These treatments were continued until March 30th, when, a portion of the neoplasm being extruded through into the uterine cavity, it was seized and removed with but little trouble. April 5th another large mass was removed with equal facility. The treatments were continued until May 23d, when, there appearing to be no enlargement of the uterus and the patient suffering no pain at menstruation, she was discharged fully cured.

The New York Skin and Cancer Hospital.—The annual "kirmess" in aid of this institution was held at the Metropolitan Opera House on Tuesday, the 14th inst.

THE LOCAL USE OF ANTISEPTICS IN GYNÆCOLOGY.

By W. GILL WYLIE, M. D.,

PROFESSOR OF GYNÆCOLOGY IN THE NEW YORK POLYCLINIC; GYNÆCOLOGIST TO BELLEVUE HOSPITAL, ETC.

All instruments should be made with smooth, non-absorbent handles, and so constructed as to be readily cleaned. Scissors, forceps, etc., should be made with joints readily taken apart. Sponge-holders should be made of one piece of metal sawed open, so that the slit can be cleaned perfectly. The use of soft-rubber pessaries can not be justified, for they can not be kept clean while in the vagina. Pessaries with joints should also be avoided. Some years ago, recognizing the fact that leather and plush cases could not be cleaned, I had my instrument-cases and rolls made of canvas, which can be washed, and, by having two or more, one can have ready a perfectly clean case for his instruments. These cases are now made and sold by Messrs. Reynders & Co., and W. F. Ford, with Caswell, Hazard & Co. My rule is, if my patient can not have a trained nurse and abundance of clean linen and bedclothes, to refuse to operate unless she goes to a hospital where these can be had.

Before beginning to operate, in all cases, the vulva and vagina are carefully washed with a 1-to-5,000 solution of mercuric bichloride, all the instruments to be used are put into a 1-to-20 solution of Calvert's No. 1 carbolic acid, and the sponges are put into a 1-to-5,000 solution of mercuric bichloride. If irrigation during the operation is used, I prefer a 1-to-10,000 solution of bichloride of mercury.

All cotton to be used for tampons is made into pads or discs two inches in diameter, and from a quarter to half an inch thick; only the best absorbent cotton is used. These discs are put into a 1-to-5,000 solution of the bichloride, and then squeezed firmly to get rid of most of the fluid, leaving them firm and damp. They are then sprinkled freely with powdered iodoform, and packed away in air-tight glass jars.

Styptic cotton in discs is treated with the 1-to-5,000 bichloride solution, and then put into a 1-to-4 watery solution of subsulphate of iron, and squeezed out and packed away in glass jars.

Sponge-Tents and Dilatation.—Except in rare cases where I desire to dilate the cervix so as to enable me to pass one or two fingers into the cavity of the body of the uterus, I never use tents, for I have found that with Sims's steel uterine dilator I can readily dilate the canal, by taking time, at one sitting, to a sufficient extent to introduce a curette, etc.

When I do use a tent, it is made of the best mocha sponge, and is curved to suit the canal. The gum that is used in making them has some iodoform mixed with it, and the tents are kept in powdered iodoform.

Before introducing the tent I invariably dilate the canal to a slight extent with Sims's curved steel dilators, and, by means of an applicator wrapped with cotton, I apply pure carbolic acid to the surface of the canal. This not only renders it aseptic and removes the danger of sepsis from

the probably diseased membranes when drainage is stopped and pressure added by the dilating tent, but it also assures me that the tent has passed beyond and not pushed before it the constricted os internum, and enables me to put in a relatively large tent.

After the tent is put in, the vagina and vulva are again washed with a 1-to-5,000 bichloride solution, and two or more pads of prepared tampon cotton are put up against the exposed end of the tent. Then, with my long-nozzled powder blower, iodoform is blown freely into the vagina as the speculum is withdrawn, and in some cases an antiseptic pad of cotton, squeezed out in a 1-to-5,000 bichloride solution and allowed to dry, is kept over the vulva until the tent is removed. I never leave a tent in longer than twelve hours, for in that time it has done all it can do. I rarely am obliged to put in a second one, and, if I do, it must come out within twenty-four hours from the time that the first one was put in. If this plan is adopted, unless there is a center of septic infection in the uterine appendages or pelvic tissues, there will not be any rise of temperature.

Before using the steel dilator in ordinary cases, the vagina should be washed with the 1-to-5,000 bichloride solution, and before inserting the dilator the blades should be dipped in pure carbolic acid and the excess of acid shaken off. As soon as the instrument is withdrawn, an applicator, wrapped with cotton and dipped also in pure carbolic acid, should be passed into the canal; this acts both as an anæsthetic and as an antiseptic; after this, I usually blow iodoform freely over the cervix and vagina as the speculum is withdrawn.

Curetting.—The cervix can in almost all cases be sufficiently dilated with the steel dilator to enable a medium sized Sims's curette to be passed readily, and the risk of sponge-tents be avoided. After curetting, I apply pure carbolic acid to the curetted surface by passing the applicator through a cervical protector, which enables me to make the application directly to the surface, and prevents most of the carbolic acid from being taken up by the walls of the cervix before it reaches the uterine cavity.

When a Sims's curette has been properly handled, after the removal of the granulations there will be little bleeding, and I make it a rule to wait even half an hour and allow the patient to come partly out from the effects of ether, and, unless the bleeding is quite free, I do not put in a tampon, for it prevents drainage, and when styptic cotton is used it adheres and hardens and can not easily be removed for several days. When all bleeding has ceased, I blow into the vagina about half a drachm of iodoform, wash off the vulva, and put on an antiseptic pad if indicated.

Division of the Cervix.—Here the same plan is followed. If the circular artery is cut, I stop bleeding by passing a silver suture around it, and twisting till the hæmorrhage is controlled. After putting in Sims's glass plug or a stem pessary, or, what I prefer, a hard-rubber drainage tube, one or two pieces of prepared tampon cotton are placed against the plug, and the iodoform and a vulvar pad are used as before described.

Cancer of the Cervix.—If the cancer is sloughing, as will be indicated by a fœtid discharge, the diseased tissue is soaked by frequent douches of a 1-to-5,000 bichloride solution for at least four hours before the operation, the object being to render aseptic the sloughing mass and thus prevent infection during the cutting or scraping. After removal of the cancer, I stop hæmorrhage by exposing the surface to the air, by the hot-water douche, or by ligature or temporary pressure, and avoid, if possible, a styptic tampon, for it prevents drainage, and, when forced in tight enough to be effective in stopping hæmorrhage, it may split the weakened tissues of the *cul-de-sac* and open the peritoneal cavity. I have known death in three cases from this cause, in the hands of other surgeons.

Fibroids or Polypi.—If there is a fœtid discharge from a strangulated or sloughing part, I have the vagina or uterine cavity, as the case may be, soaked by frequent injections of a 1-to-5,000 or 1-to-10,000 bichloride solution for a least four hours, so as to prevent infection during the operation, and, for the same reasons as above stated, I avoid if possible the use of a tampon, especially a styptic tampon. In this way I have removed sloughing tumors without even a rise of temperature occurring after the operation.

Vaginismus, Vesico-vaginal and Recto-vaginal Fistula, Lacerated Cervix, etc.—The vagina is washed as usual with the 1-to-5,000 bichloride solution, iodoform is used freely in the vagina and on the vulva, and suppositories of iodoform are used in place of vaginal injections, unless the discharge is sufficient to indicate washing out. Before we used antiseptics, most of these operations could be done without the formation of pus or any marked rise of temperature, but many times the septic infection was troublesome and painful, and now and then a life was lost; but, by following the practice here described, a rise of temperature above 100° F. will be extremely rare.

Lacerated Perinæum.—Even non-believers in the use of antiseptics will admit that operations for lacerated perinæum often caused much pain and swelling, and nearly always the formation of more or less pus, and sometimes abscesses. By adopting the following method, one can operate in many cases without having any pus or even painful swelling. Examine the case with great care, and be sure that there is no disease of the rectum, vagina, uterus, or uterine appendages that may infect the wound of the perinæum during or after the operation, then wash the vagina, rectum, and vulva with a 1-to-3,000 or 1-to-5,000 bichloride solution, and operate under a stream of 1 to 10,000; after the sutures are in position, before twisting them up, dilate the rectum freely to relieve all tension from that source and enable the rectum to be emptied daily without effort on the part of the patient. Sprinkle iodoform freely on the vulva, in the vagina, and over the sutures. Instruct the nurse not to use a catheter if the patient can pass her water without it, and each time the water is passed or the bowels are moved (and they should be made to move, after the first day, every day) to wash out the vagina with a gentle stream of a 1-to-60 solution of carbolic acid (Calvert's No. 1), and the vulva with a 1-to-5,000 bichloride solution, and after each washing to sprinkle the parts freely with iodoform. Keep this up for at least five days or, but

ter, until the ninth or tenth day, when the sutures are removed. By this plan of treatment opium may not be needed at all, for the iodoform prevents not only swelling, but, in a great measure, pain also. The odor of iodoform can be pretty well disguised by Tonka bean, etc.

Laparotomy.—Here more depends upon securing cleanliness in the surroundings, the clothing, the instruments, the operator's person, hands, etc., than upon the use of antiseptics, for the surface of the peritonæum can not safely be reached by efficient antiseptics, and septic poisoning in these cases means death. I am aware that even in the simplest case antiseptics should not be allowed to take the place of cleanliness. *In surgery I would place cleanliness first, drainage second, rest third, and antiseptics fourth; but perfect cleanliness is very difficult to attain, and still harder to maintain. Recognizing my fallibility, I use antiseptics to make up in a measure for it.* I wash my patient and my hands, therefore, not only with soap and warm water, but with a 1-to-3,000 bichloride solution, my instruments are kept in a 1-to-20 solution of carbolic acid, and my sponges, after a most careful preparation, are squeezed out in a 1-to-5,000 bichloride solution before being used, and they are squeezed very dry and then put into a 1-to-60 solution of carbolic acid, or a 1-to-5,000 bichloride solution. If I cut off a Fallopian tube filled with pus, I touch the stump with either a Paquelin's cautery or some antiseptic. I have not dared to wash out the peritoneal cavity with anything except a very weak solution of carbolic acid; now I would only use warm water when washing was needed, and always dry the cavity well by sponging. After putting in the abdominal stitches, I wash the abdomen with a 1-to-5,000 bichloride solution, sprinkle iodoform freely over the sutures, and cover the wound and the abdomen with a thick layer of borated cotton, kept in place by firm adhesive straps.

The foregoing is sufficient to indicate what can be done in other gynæcological operations not mentioned in detail. If, after an operation on the vagina or the uterine cavity, septic disease sets in, as soon as the symptoms are unmistakable, say when the temperature in the axilla reaches 102° or more, I would use intra-vaginal or intra-uterine douches as indicated.

If a tent or tampon or stitches obstructed free drainage, they should be removed. The method of using intra-uterine douches would bethe same as I advocated in a paper printed in the "New York Medical Journal" of June 23, 1883, on "The Local Use of Antiseptics after Abortion and Labor." Since writing that paper I have made some careful observations on the use of mercuric bichloride in intra-vaginal and intra-uterine douches.

I am satisfied that it is a serious mistake to use a solution of 1 to 2,000, as recommended by some late writers. Even a 1-to-5,000 solution, used twice a day as a vaginal douche after labor or an abortion, will in many cases produce some of the characteristic effects of mercury on the general system within a few days. A close personal observation has made it clear to me how this may occur. After labor, and after some abortions, the capacity of the vagina is relatively large, and, where the perinæum is intact after a vaginal douche while the patient is on her back, from two to eight ounces or more may be retained in the vagina for a time. If it is retained even for a short time, most of the bichloride in solution passes by osmosis directly into the circulation of the patient. Suppose only two ounces of a 1-to-2,000 solution are retained, the patient might get a dose of at least half a grain with each douche, for, besides that in the two ounces, some would be absorbed during the time of giving the douche of a quart or more. If eight ounces are retained, two grains might be absorbed with each douche. Therefore it is important to empty the vagina by having the patient change her position, or even sit up if necessary, although a much weaker solution is used. If a solution of 1 to 2,000 is used, it will cause decided uterine contraction, so that another injection can not be given for several hours afterward without using force to insert the tube. Even the vagina may be somewhat constricted by it. In some cases of septicæmia it is necessary to use a douche every hour to kill the local infection and stop septic absorption, and in such cases I alternately use a 1-to-10,000 mercuric bichloride solution and a 1-to-60 solution of Calvert's carbolic acid No. 1. Mercuric bichloride is slow in dissolving, and when finely powdered may float undissolved for an hour or more, so it is best to have a carefully made solution, to which water can be added to make it of any desired strength. These observations as to the strength of the bichloride solution merely go to confirm what was determined in Germany some time ago.

I have said nothing about the use of antiseptics, except their local use; but, if the germ theory of disease is correct, much may yet be done by using antiseptics internally or hypodermically to stop the development and reproduction of germs in the whole system. Ten years ago I used mercuric bichloride hypodermically in syphilitic cases, and found that I could control the disease rapidly and with great certainty. By using a solution one grain to the ounce, and injecting it into the deep muscles of the back and hip, no abscesses were ever produced, and soreness was all that was complained of. The dose can be regulated with mathematical accuracy. I would not hesitate to try the same treatment in any case of septicæmia, should I fail to check the disease by the local use of antiseptics.

Book Notices.

A Treatise on Chemistry. By H. E. Roscoe, F. R. S., and C. Schorlemmer, F. R. S., Professors of Chemistry in the Victoria University, Owens College, Manchester. Vol. III. The Chemistry of the Hydrocarbons and their Derivatives; or Organic Chemistry. Part II. New York: D. Appleton & Co., 1884. Pp. ix 655. Price, $5.

The present volume of Roscoe and Schorlemmer's comprehensive treatise on chemistry still leaves the subject uncompleted. The fourth volume, which initiated the description of organic chemistry, was taken up with an account of the first three series of hydrocarbons, and now the fifth volume goes on with this account and carries the subject as far as the aromatic

compounds. It will be seen that, like a serial story, it breaks off at the most interesting point, for it is just in that department of chemistry which the authors have not yet covered that the most important discoveries are daily made and the most revolutionary changes are effected; and, of course, it is this installment of the work that students of the science have most eagerly looked for. Judging by the thoroughness with which the authors have followed up the latest developments in the chemistry of the hydrocarbons, the coming volume, on the aromatic compounds, will satisfy every reasonable expectation.

Of the installment of the work just issued there is little to be said, save that it is fully up to the standard of its predecessors; it is as encyclopædic in completeness of scope and as accurate in point of detail as any of the volumes previously published. With the volume immediately preceding, it forms a treatise on organic chemistry as exhaustive as can be found in the language. The section upon the carbohydrates alone—one of the most interesting in the work to medical men—covers over a hundred pages, and contains, in addition to merely chemical details, short digressions on the subjects of sugar-manufacture, saccharimetry, etc. Many valuable facts, including some of quite recent discovery, are presented, and the whole forms a complete summary of what we know upon this important subject.

Like the preceding volumes, this is well illustrated and carefully indexed—the latter an item of very considerable importance in a work of this sort. We regret to find that, in spite of careful printing, a number of typographical errors have escaped correction. A few of these affect the formulæ, and are thus productive of confusion; most of them, however, are merely mistakes in spelling, the correction of which is obvious.

BOOKS AND PAMPHLETS RECEIVED.

Louis Pasteur; his Life and Labors. By his Son-in-law. Translated from the French by Lady Claud Hamilton. New York: D. Appleton & Co., 1885. Pp. xiii–300.

The Adventures of Timias Terrystone. By Oliver Bell Bunce. New York: D. Appleton & Co., 1885. Pp. v–305. [Price, 50c.]

Praktische Beiträge zur Kinderheilkunde. III Heft. Die Verdauungskrankheiten der Kinder. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universität Berlin. Mit 3 Tafeln mikroscopischer Abbildungen. Tübingen: H. Laupp, 1884. Pp. 232. [Price, 6M.]

President's Address. By Richard McSherry, M. D. [Reprinted from the "Transactions of the Medical and Chirurgical Faculty of Maryland."]

Annual Announcement of the Medical Department of Niagara University. Session of 1884–'85.

Correspondence.

LETTER FROM WASHINGTON.

The Prospect in regard to Cholera, and the Preparations to prevent an Epidemic in this Country.—Medical Appointments.

WASHINGTON, *April 12, 1885.*

THE great and widespread belief in the certainty of the coming of cholera this summer is one of those curious examples of how easily, and on what a slender foundation a panic may be bred. Some of the liveliest shriekers in the cause might well be reminded of the fable of the boy who cried "Wolf!" so often that the shepherds at last paid no attention to him, so that, when the wolf finally came, the flock was ruthlessly torn, because the boy's outcry was deemed only another of his jokes. Nobody here overlooks the fact that there was a violent and disastrous outbreak of cholera in southern Europe last summer; but it is also borne in mind that it was suppressed after a time, and that, up to this date, it has not reappeared, except perhaps in a small village in Valencia, Spain. It is absolutely certain that, before cholera can prevail here, it must have made its appearance in some port or place whence emigrants depart for the United States. There has been no reappearance of the disease in its haunts of last year, and, so far from there being additional ground for alarm, there should be a much greater feeling of security. We may look for cholera, if at all, through Spanish channels, and our outpost of observation in this hemisphere would naturally be at Havana. But, while there seems no real occasion for alarm at this time, there is every reason for extreme vigilance on the part of the General Government as well as municipalities, and it is gratifying to see that all concerned are aware that "eternal vigilance is the price of" safety, as well as of "liberty"; and, with that feeling in the breasts of those responsible for the administration of affairs, it is surely unnecessary and cruel to try to breed panic among the people simply because certain of our agencies do not have the spending of the money in preference to others. If we look into the matter, we find that the Secretary of State has instructed all our consuls in Europe and South America to immediately notify the Department, by cable, of the appearance of cholera in any place within their respective consular districts. This is certainly the speediest means of notification, and the information thus obtained will at once be given by the Treasury Department to the Associated Press. The medical inspectors attached to our consulates have been ordered to be reappointed, for the inspection of emigrants and their baggage, and ships' crews and cargoes, and in this country the national quarantines are soon to be put in working order for the season. Then, should the cholera suddenly appear anywhere, it is only necessary for the Governor of any State to make application for such additional funds as he may need. How absurd, then, is the cry that "the General Government is doing nothing," and how absolutely at variance with the facts! It is not necessary, in this enlightened age, to create a panic in order to stimulate efforts for the prevention of disease.

The rag men are still at work trying to get their rags into this country without sanitary supervision, but thus far without success. Dr. Horatio R. Bigelow, of this city, now in Berlin, has been appointed an inspector of rags, to see that the Treasury Department regulations are complied with in all shipments of rags from that city to the United States. The appointment was made on the recommendation of the Consul-General.

The methods pursued by some otherwise very worthy gentlemen to obtain office are sometimes amusing. One medical gentleman, who was doubtless unable to leave his practice, sent his wife here to manage his canvass for a medical position now held in one of the public services by a prominent medical officer. The lady talked freely of the "incompetence and ignorance" of the officer whose place her husband wanted, but the principles of civil service reform seem too deeply impressed upon the present administration for immediate compliance with the lady's request without further investigation, and she has left the city a wiser if not a sadder woman.

Dr. Thomas I. Chew has been appointed physician to the city almshouse, *vice* Dr. W. P. C. Hazen, resigned. Dr. James F. Hartigan, lecturer on diseases of children in the University of Georgetown, has gone to Europe for the summer. Dr. S. B. Fisher, one of the oldest of our practitioners, died last week. He had had paralysis for some months prior to his death.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 18, 1885.

THE LONDON DEBATE ON CHOLERA.

Judging from the accounts given in our London contemporaries, the discussion which was begun at the meeting of the Royal Medical and Chirurgical Society, held on the 24th of March, proved to be crisp and searching. The proceedings were opened with a paper by the president, Dr. George Johnson, but the paper seems to have touched only incidentally on the points that just now are uppermost in the minds of those who are engaged in the study of the ætiology of the disease — those, namely, that relate to the connection between cholera and Koch's comma bacillus. Dr. Klein followed the president, and argued against the ætiological significance of the bacillus. Although the infective agency, he said, must be a living organism, since it possessed the power of self-multiplication, yet it was not necessarily connected with the dejecta of cholera patients. The fact that water contaminated with choleraic dejecta had often been shown to have conveyed the disease did not prove that it was the dejecta themselves that acted as the morbific agent; there must be something extraneous added to them. If we assumed that the infective agent was a bacterium, we must conclude that the disease was directly contagious, a conclusion that was disproved by overwhelming evidence. Such being the case, any bacterium present in the evacuations, however peculiar it might be, could not be connected with the infective agent. As a matter of fact, there was nothing very peculiar in the cultivation-growth of either the comma bacillus or the other organisms found in the intestines in typical cases of cholera. Acids did not kill them, although it was true that they would not grow in acids. In the experiments performed upon animals by Nicati and Rietsch, by Koch, and by others, some of the fatal results had been due, not to cholera as the sequence of injections of choleraic mucus or of cultivations of comma bacilli into the intestines, but either to the operation or to septic poisoning. Although the bacilli of cholera nostras and those of other forms of diarrhœal disease differed in their mode of growth from Koch's cholera bacilli, those that Lewis had found in the mouth in healthy persons were identical with Koch's comma bacilli in most respects.

Mr. Watson Cheyne was the next speaker, and it must be said that he met Dr. Klein's points very successfully. In regard to the close resemblance of the comma bacillus to some other micro-organisms, it was unwarrantable to assume that Koch had ever professed to be able to distinguish the former by the micro-scopical appearances alone; and it was equally unfair to say that Koch had ever inferred from its peculiar mode of growth that it must of necessity be the pathogenetic germ of cholera. Dr. Klein differed with Koch as to the number of the comma bacilii present in the intestines in cases of cholera, and this discrepancy, the speaker thought, might depend partly on the way in which the estimate was made, whether with the microscope alone or by means of cultivation, and partly upon the possibility that Dr. Klein had mistaken some of the rapidly growing bacilli, in which condition they were straight, for other organisms, an error that had happened within his own observation. As to Dr. Klein's conclusion that the bacilli did not effect a lodgment in the tissues, but were found only in the contents of the digestive canal, that might be owing to defective staining processes. But the main question was as to whether these bacilli were found in other conditions than Asiatic cholera. It was certain that they had been found in every genuine case of Asiatic cholera in which a competent search had been made for them. If, therefore, they had no essential connection with the cholera virus, they must be very widely diffused throughout the world, and very readily found, for it had made no difference whether the cases were examined in India, Egypt, France, Italy, or Spain. Nevertheless, Koch and others, in order to test the question of their wide diffusion, had examined vast numbers of specimens of saliva, dysenteric dejecta, putrefying matters, and the like, without ever finding the bacillus. Dr. Klein's statement that he and Dr. Gibbes had found the comma bacilli in dysenteric evacuations could not be accepted, unless they could bring some other proof than that of microscopical observation that the organisms they found were really the same as Koch's comma bacilli. It had happened to him to find large numbers of what, on microscopical examination, seemed to be comma bacilli in two cases of cholera nostras, but the cultivation tests had shown that they were distinct organisms. As to the bacilli found in the mouth, Koch and a number of other observers had all failed in their attempts to cultivate them.

At this point Dr. Klein virtually conceded that the oral organisms were not the same as the comma bacilli, and Mr. Cheyne continued a forcible line of argument against the assumption that the comma bacillus had ever been found apart from Asiatic cholera. He maintained also that the fact that the ingestion of the bacilli did not invariably produce cholera could not be said to prove that they were not the infective agent; like observations might be cited in regard to almost any infective disease—it was necessary that the subject should be in a receptive condition. Finally, in regard to the experiments on animals, he had had two cases in which both the symptoms and the post-mortem appearances were those of cholera, and he was satisfied that the deaths had not been due to septicæmia.

The discussion was resumed at the next meeting, held on the 31st of March, and Dr. Heneage Gibbes, who was the first speaker, agreed fully with Dr. Klein. Mr. Cheyne's statement that the comma bacilli were straight in the early period of their development was disproved, he said, by cultivation experiments, and there were no straight forms in a pure cultivation. Nor could it be admitted that failures to find the comma bacilli in the tissues were due to defects in the staining meth-

ods employed, for, when they were present, they were readily stained with ordinary reagents. Koch's statement that the large intestine was the seat of a natural cultivation experiment, and his other statement that the number of the comma bacilli was in direct proportion to the severity of the case, had not been borne out by his (Dr. Gibbes's) investigations and those of Dr. Klein; in the great majority of typical cases, section from the lower part of the ileum, hardened after Koch's method and treated with every possible staining agent and combination of stains, the bacilli were wholly wanting.

Mr. C. Macnamara cited the history of outbreaks of cholera, together with the experience of all other competent observers than Dr. Klein, to show that the infectious agent was contained in the dejecta, and he corroborated Mr. Cheyne's statement that twenty years ago the properties of the contagium were discovered to be extremely like those now recognized as belonging to the comma bacillus. Other speakers brought forward facts to prove the distinctive character of the bacillus. It must be said, we think, that Koch's doctrine was not at all shaken in the debate.

GYNÆCOLOGISTS AND GENERAL PRACTITIONERS.

Many of us are accustomed to the belief that the English are the only really conservative people under the sun, and that their medical men represent their most conservative class—a theory that is disproved by their brilliant record as advanced thinkers and observers. From our own preconceived opinions, as well as from a perusal of Professor Playfair's letter to the "American Journal of Obstetrics," we had come to the conclusion that specialists, and especially gynæcologists, had a hard time in London, that they led a precarious existence as objects of suspicion to the general surgeon, by whom they were regarded as an hermaphrodite brood, only tolerated because a few of them had made famous records in ovariotomy. But, from the moderate tone of recent society addresses, and above all the fact that a most promising British Gynæcological Society has just been established, we should infer that there now existed rather less of this feeling in England than in America. There is a growing, yes, a full-fledged jealousy on the part of many of our general practitioners toward all who devote themselves exclusively to the treatment of diseases of women. If this unreasonable prejudice were only nursed in secret, it would still be unfortunate, but, when it finds expression, as it often does, in open disparagement of a specialty which is at once the pride and the honor of American medicine, we consider it not only a matter for regret, but an occasion for remonstrance.

What is the cause of this antagonism between general practitioners and gynæcologists? Other specialists come in for a certain share of disapprobation, it is true, but it is upon the class we have mentioned that the phials of wrath are particularly emptied. It is asserted that gynæcologists are narrow-minded, arrogant, and exclusive, that they "run in cliques," having their own societies, the membership of which is limited; that they view the world, as it were, through a speculum; that they sew up the cervix and remove ovaries without occasion; that they exaggerate minor ailments; that each one of them has his own particular hobby, and so on. On the other hand, the man of many aims is credited with despising the narrow boundaries of the pelvis, with the contents of which he glories in being unacquainted. This gives some idea of the present sstate of feeling among us, and we must say that it does little credit to the profession. Who, we would ask, are our prominent gynæcologists—those in New York, for example? Are they not men who have spent years in general practice before gradually contracting their work within the limits of a specialty? The notion that they are necessarily ignorant of general medicine is controverted by the fact that no young man who aspires to follow their example is so foolish as to believe that he can attain to eminence as a specialist in diseases of women until he has spent many years in general practice. Of those who start with the contrary idea, few are ever heard of again.

Next, as to the arrogance and superior pretensions of this class of the profession, it is enough to add that those who are most skillful are, according to our observation, most humble and most distrustful of themselves. Their enthusiasm over hobbies may render them unacceptable to those who have no sympathy with their ideas, but the earnestness and sincerity of purpose of American gynæcology will always cover the multitude of its sins. As regards the tendency of specialists to refer to the pelvic organs many symptoms which could undoubtedly be explained by reference to the general condition of the system, we admit that here the general practitioner can find his strongest grounds for criticism; but he should not forget that, on the other hand, patients are frequently subjected to long courses of general treatment for ailments which are palpably of uterine origin. It is "six of one and half a dozen of the other." The subject of ovarian pathology is one that always serves as a red rag to anti-specialists. They admit that there are such organs as ovaries, but rarely that they require active treatment unless enlarged to the size of an actual tumor. In their eyes, their removal is not only unjustifiable, but the crying sin of modern surgery. Refusing to examine into the subject themselves, they credit their professional brethren with routinism, because the latter have made a study of the matter, and offer a means of relief. This is as illogical as it would be for a gynæcologist to open every enlarged abdomen off-hand, simply because it was supposed to contain a tumor.

It is time that a compromise should be effected between these antagonistic elements. Unquestionably the specialist does need a good deal of advice from his more conservative *confrère*, and would do well to adhere to the latter's broader views of disease, while the general practitioner should at least credit the gynæcologist with an honest even if mistaken zeal in his limited field.

MINOR PARAGRAPHS.

THE "MEDICAL NEWS" OF JAPAN.

Of all the exchanges that come to us, none perhaps gives greater evidence of the progress and the far-reaching influence

of modern scientific medicine than that strange and unintelligible-looking little magazine, the "Medical News," published weekly in Tokio, Japan. The issue before us, dated November 15, 1884, consists of thirty-two octavo pages, neatly printed in Japanese characters and bound in a plain paper cover. But a page and a half is devoted to advertisements. Some idea of the scope and style of the paper may be gained from its table of contents, which, being translated, reads as follows: Report of the Transactions of the last Meeting of the Society for Diseases of Children; eight short miscellaneous articles; Notice from the Board of Health to the Department of the Interior; Abstracts on the Practice of Medicine; On Surgery; New Instruments; On Medical Jurisprudence; On Materia Medica; Medical College Announcements. The paper read before the Society for Pædiatrics is on the subject of intestinal catarrh in children, which the writer speaks of as arising from insufficient nutrition, unwholesome milk, acid foods, unripe fruits, sugar, candies, preserves, etc., and as being particularly frequent at the time of the first dentition. Full directions are given as to treatment, and several prescriptions are recommended. In the department of medicine are articles on the treatment of gonorrhœa, blennorrhœa in the male [*sic*], etc. In surgery, cases of disease of the scalp, ranula, etc., are given. Then comes a description of a new instrument, made by a Japanese student in Germany, followed by a collection of abstracts on materia medica. The advertisements consist of the announcement of three new Japanese books; one a new edition of a work on natural science, another a new medical work (translated), and a third entitled "Famous Medical Men of the Present Reign." Then comes the regular notice of the "Medical News" itself, and finally a half-page in which are set forth the virtues of a remedy for pulmonary consumption.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

At the first meeting of this new society, the president, Dr. Meadows, delivered an able address upon its foundation and objects, which is published in full in a late number of the "British Medical Journal." In referring to the aims of this as distinguished from the Obstetrical Society, the speaker remarked that the divorce between the two was a necessary one, yet did not imply any antagonism; the growth of gynæcology had been such that it was impossible to do justice to the subject in a body devoted to obstetrics and the diseases of women and children. He stated that the society was open to all qualified medical practitioners, women not being excluded. Dr. Meadows makes a strong plea in favor of abdominal surgery being relegated entirely to the gynæcologists, although his argument may not be regarded as a particularly sound one that "if the gynæcological physician possess in an especial manner, as the result of his special experience, the faculty of diagnosis in abdominal cases, if he be an operator at all he ought to be allowed to operate in cases of this sort." He sketches a number of important questions which should be thoroughly discussed by the society, such as Mr. Tait's ideas on menstruation, the surgical treatment of uterine fibroids, antisepsis in peritoneal surgery, and the therapeutics of pelvic disease. We feel sure, with him, that the society will have a brilliant future: this can not fail to be the case if his sound advice is followed.

NEWS ITEMS, ETC.

The Late Dr. James L. Little.—At a special meeting of the Medical Board of St. Luke's Hospital, held April 8, 1885, the following preamble and resolutions were unanimously adopted:

Whereas, it has pleased Divine Providence to remove by death our beloved associate, Dr. James Laurence Little, who was for eighteen years one of the most active members of our staff; therefore be it

Resolved, That in his death we mourn the loss of a *friend* whose personal worth and rare kindliness of feeling have endeared him to his associates in this board, as well as of a surgeon who has won deserved distinction by enthusiastic devotion to his profession and successful achievements in surgery.

Resolved, That we extend to his family our heartfelt sympathy.

On behalf of the Medical Board, { Robert Abbe, M. D., *Attending Surgeon*, A. Brayton Ball, M. D., *Attending Physician*.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 14, 1885:

DISEASES.	Week ending Apr. 7.		Week ending Apr. 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	5	1	7	3
Scarlet fever	93	12	79	15
Cerebro-spinal meningitis	4	5	8	4
Measles	214	22	183	17
Diphtheria	64	35	67	23

The American Neurological Association will hold its eleventh annual meeting in New York on Wednesday, Thursday, and Friday, June 17th, 18th, and 19th.

The Association of American Medical Editors will hold its annual meeting in New Orleans on Monday, the 27th inst., at eight o'clock P. M., in the Medical College Building. The annual address will be delivered by the president, Dr. Henry O. Marcy, of Boston, on "The Legislative Establishment of Medical Examining Boards in America," and papers are expected to be read by Dr. F. E. Daniel, of Austin, Texas; Dr. F. S. Billings, of Boston; Dr. R. J. Dunglison, of Philadelphia; Dr. J. V. Shoemaker, of Philadelphia; Dr. Leartus Connor, of Detroit, and others. All members of the profession are cordially iinvted to be present and participate in the meeting, especially journalists and authors.

"Professor Hyrtl's Jubilee," says the "British Medical Journal," "has been celebrated at Vienna, and several graceful addresses were received, including one from the *Verein deutscher Aerzte zu Prag*. Besides the celebrated work on Anatomy, Hyrtl has occupied himself of late years with philological work. In 1879 he published (at Vienna) *Das Arabische und Hebräische in der Medicin*, and, in 1880, the *Onomatologia Anatomica*. Professor Hyrtl has taught anatomy to two generations of medical men, and certainly deserves to enjoy his *otium cum dignitate* so well earned."

The Charity Organization Society held its annual meeting last Tuesday evening, the president, Dr. S. O. Van der Poel, in the chair.

The Small-pox in Montreal is reported to be increasing in prevalence, although it has not yet reached the proportions of an epidemic.

The New York Lying-in Asylum.—The annual meeting of the managers was held on Wednesday, the 15th inst., in the new building in Second Avenue. It ought only to be known that the cost of the new structure has somewhat crippled the financial resources of this most deserving charity to insure the immediate receipt of sufficient contributions to make the institution self-supporting.

The "American Journal of Neurology and Psychiatry" announces in its April number, which completes the third volume, that its publication is to be discontinued. The reason given is that a majority of the editorial staff have engaged in another undertaking, the prosecution of which will not leave them time to conduct the "Journal" hereafter.

The Death of Dr. Samuel Cabot, of Boston, a well-known surgeon, is announced as having taken place on Monday, the 13th inst., in the seventieth year of his age. He was a graduate of the Harvard Medical School, of the class of 1839, and one of the surgeons to the Massachusetts General Hospital.

The Death of Dr. Robert W. Hooper, of Boston, took place in Cambridge on Monday, the 13th inst., in the seventy-fifth year of his age. He was a graduate of the Harvard Medical School, of the class of 1836.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 5, 1885, to April 11, 1885:*

BIART, VICTOR, Captain and Assistant Surgeon. Leave of absence extended six months on surgeon's certificate of disability. S. O. 77, A. G. O., April 4, 1885.

COWDREY, STEVENS G., Captain and Assistant Surgeon. From Department of the East to Department of the Missouri. S. O. 77, A. G. O., April 4, 1885.

DE LOFFRE, AUGUSTUS A., Captain and Assistant Surgeon. From Department of the East to Department of Dakota. S. O. 77, A. G. O., April 4, 1885.

CRAMPTON, LOUIS W., Captain and Assistant Surgeon. From Department of the East to Department of the Platte. S. O. 77, A. G. O., April 4, 1885.

TORNEY, GEORGE H., Captain and Assistant Surgeon. From Department of the Missouri to Department of the East. S. O. 77, A. G. O., April 4, 1885.

ARTHUR, WILLIAM H., First Lieutenant and Assistant Surgeon. From Department of the Platte to Department of the East. S. O. 77, A. G. O., April 4, 1885.

WYETH, M. C., First Lieutenant and Assistant Surgeon. From Department of Dakota to Department of the East. S. O. 77, A. G. O., April 4, 1885.

CARTER, E. C., First Lieutenant and Assistant Surgeon. Granted one month's leave, with permission to apply for one month's extension, to take effect upon the arrival of another medical officer at his post. S. O. 30, Department of Arizona, March 23, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 11, 1885.*

BALDWIN, P. H., Surgeon. Chairman of board for physical examination of candidates for appointment as assistant engineers, Revenue-Marine Service. April 6, 1885.

VANSANT, JOHN, Surgeon. Chairman of board for physical examination of officers of the Revenue-Marine Service. April 11, 1885.

PURVIANCE, GEORGE, Surgeon. Granted leave of absence for one week. April 6, 1885.

STONE, G. W., Surgeon. Member of board for physical examination of candidates for appointment as assistant engineers, Revenue-Marine Service. April 9, 1885.

GODFREY, JOHN, Surgeon. To represent Service at annual meeting of American Medical Association. April 11, 1885.

GOLDSMITH, C. B., Passed Assistant Surgeon. To proceed to Pascagoula, Miss., as inspector. April 8, 1885.

CARTER, H. R., Passed Assistant Surgeon. Member of board for physical examination of officers of the Revenue-Marine Service. April 11, 1885.

Society Meetings for the Coming Week:

MONDAY, *April 20th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians, New York; Roman Medical Society (private), New York; Hartford, Conn., City Medical Association.

TUESDAY, *April 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association; Medical Society of Passaic County, N. J.

WEDNESDAY, *April 22d:* New York Pathological Society; American Microscopical Society of the City of New York.

THURSDAY, *April 23d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Hartford County, Conn., Medical Society; Roxbury, Mass., Society for Medical Improvement (private).

FRIDAY, *April 24th:* Yorkville Medical Association (private); New York Clinical Society (private); New York Society of German Physicians.

SATURDAY, *April 25th:* New York Medical and Surgical Society (private); Worcester, Mass., North District Medical Society (annual—Fitchburg).

OBITUARY NOTES.

Dr. Edward T. Ely.—As the result of a long and trying illness, Dr. Ely died on Sunday, the 12th inst., in the thirty-fifth year of his age. It is but two or three years since he was suddenly stricken down, when apparently in perfect health, with a pulmonary hæmorrhage, which was at once followed by such evident signs of extensive lung disease as to lead his friends to fear a speedy fatal termination. From that attack he rallied slowly, however, and became able to avail himself of a change of climate. He spent some months in Colorado, and returned to his former home, in Rochester, with his pulmonary trouble in a state of quiescence. A few months ago a complication appeared in the shape, as we understand, of a pelvic abscess, and the additional strain thus put upon his strength has at last terminated in his death.

Edward Talbot Ely, M. D., was born in Rochester, where his father was a distinguished practitioner of medicine. He received his academical education at the university in that city, and took his medical degree at the College of Physicians and Surgeons, in New York, in 1874. After serving on the house staff of Charity Hospital and the Presbyterian Hospital, he turned his attention to diseases of the eye and ear, although, so long as he was able to work, he never gave up general practice. He became associated in practice with Dr. D. B. St. John Roosa, and soon made his mark among the younger practitioners of New York. He was the author of an excellent paper on tobacco amblyopia, published in this journal, and among his more striking achievements was the devising of an ingenious operation for the deformity known as "flap ear," the efficacy of which he demonstrated in actual practice. Up to the time of his being disabled, he was one of the most active members of the New York Clinical Society.

Dr. Ely was highly esteemed by his colleagues, and his patients were warmly attached to him. Under a quiet and somewhat sedate demeanor he carried an [illegible] humor, which even the suffering incident to his disease could not quench. It is not too much to say that, in the decease, the profession has lost a most promising worker, and a [illegible]

personal knowledge of the present writer that rarely has there been witnessed such unfeigned grief as that with which Dr. Ely's friends learned of his untimely encounter with the great destroyer.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 2, 1885.

The President, Dr. A. Jacobi, in the Chair.

Newspaper Advertising.—The President referred to the evil done the public and the medical profession by sensational reports of striking operations or wonderful cures which now and then appeared in the public prints. Special circumstances sometimes justified a physician in giving expression to views regarding matters which concerned the public health, the value of which the public could readily appreciate; but what could and must be avoided was the appearance in print of reports of striking or rare cases, which could not possibly be of interest to the public at large, while they harmed the professional man, who was thus held up to public view, to be talked of in the morning, to be smiled over in the afternoon, to be forgotten with the new day.

Antipyrine and its Effects.—Dr. William H. Draper read a paper with this title. [See page 429.]

Dr. Leonard Weber had employed antipyrine in fifteen cases, including cases of pneumonia, bronchitis, scarlet fever, etc. In not a single one of the fifteen cases had he been disappointed in his desire to reduce the temperature. The first case was one of double pneumonia in a child, of severe type; the drug reduced the temperature from two to three degrees when administered either by the mouth or by the rectum. Resolution began to take place at the close of the fourth day of the disease. In another case he gave smaller doses more frequently repeated, and had no difficulty in keeping the temperature down to 101° or 102° F. He noticed a little nausea when the drug was administered in this manner. He thought it well to begin with relatively small doses, say seven grains, by the mouth or rectum in children, and fifteen grains in adults, before proceeding to give larger doses, as was at first proposed. The remedy acted quickly, and we should know within a short time after the administration of the first dose how the patient would bear it, and thus avoid producing too great and rapid lowering of the temperature.

Dr. H. J. Boldt had given as much as a drachm at a dose, and had found that in this large quantity antipyrine caused increased frequency with diminished strength of the pulse, prostration, and symptoms seen in carbolic-acid poisoning. The effects of the drug were noticeable within from three quarters of an hour to an hour, and continued only three or four hours. He usually began with from twenty to thirty grains, and increased the dose according to the indications. In two cases of puerperal septicæmia the drug had had no effect. A negative result was also observed in another case.

Dr. G. L. Peabody said, with regard to the variability in the effect of the drug, that doubtless it was sometimes due to adulteration. When he first began its use it never failed to reduce the temperature. In more recent cases it had failed in a number of instances, and this he thought was due to adulteration. He would emphasize the fact that by employing this remedy we at all events did our patients no harm; even though we failed to reduce the temperature, we did not diminish the force of the heart's action. It was also a matter of some interest to know that if the drug occasionally produced vomiting it could be administered subcutaneously without any injurious local effect. Dr. Peabody had employed antipyrine in almost all febrile affections, and only lately had he failed to reduce the temperature. He mentioned the case of a fleshy girl, suffering from typhoid fever, in whom the cold bath failed entirely to reduce the internal temperature, while antipyrine caused the vaginal temperature to fall even below normal.

Dr. Malcolm McLean had succeeded in reducing the temperature in a case of chronic pyæmia following puerperal fever, after all other antipyretic remedies had completely failed.

The discussion was closed by Dr. Draper, who said that in antipyrine we had a very efficient means of treating a symptom.

A Change in the Constitution.—The resolutions offered by Dr. V. P. Gibney at the last meeting of the society were then acted upon and adopted.

An Original Operation for Ruptured Perinæum.—Dr. A. C. Post then read a brief paper on this subject, and said that the operation had not been performed a sufficient number of times to entitle it to be regarded as established, but in the three cases in which he had performed it the result had been so satisfactory as to lead him to recommend it to the profession as worthy of trial. It was simpler in execution than the one ordinarily performed, and he thought it secured a more solid perineal body; it also had the advantage that there was no loss of substance in its performance, and consequently it might be easily repeated if for any reason the first operation should fail. An incision was made on each side of the vagina to the depth of half an inch or more. The incisions met in front in a manner to divide the parts into an upper and a lower segment. The upper segments were turned up, and formed the floor of the vagina, and were secured in position by a row of catgut sutures passed, not through the skin, but through the subcutaneous cellular tissue so as to turn the edges of the skin upward to form a ridge on the floor of the vagina. A second row of sutures, of silver wire, was passed from either side through the deepest part of the incisions where the upper and the lower segments met. The ends of these sutures were passed through glass beads and perforated shot, and after the flaps were brought into close contact the shot were compressed. The inferior edges were united by fine sutures, and an iodoform dressing was then applied. The integument on the inner side of the thighs should be protected from pressure by the shot and beads. The patient should be allowed to urinate without the use of the catheter, and the parts be washed with a solution of mercuric bichloride after urination. The sutures might be removed at the end of ten days or a fortnight.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of March 27, 1885.

The President, Dr. Edward E. Montgomery, in the Chair; Mary Willits, M. D., Reporting Secretary.

Laryngeal Diphtheria; Tracheotomy; Recovery.—Dr. Edward R. Stone reported the case of a male child, twenty-two months old, that he first saw on the second day of the disease, when it had moderate fever, with malaise and enlargement of the cervical glands, and the fauces, uvula, and tonsils were covered with grayish-white membrane. On the evening of the third day the voice became husky, and on the fourth day symptoms of laryngeal stenosis were rapidly developed, with incipient cyanosis and stupor. As an emetic did not give relief, tracheotomy was performed in the afternoon by the president. A large Trousseau-tube was inserted, and its opening was covered with gauze. Except for slight fever for three days, the patient progressed steadily to recovery. The tube was removed on the fourteenth

day, and the sinus closed rapidly. Full doses of corrosive sublimate (a twentieth of a grain) were given, together with tincture of chloride of iron and chlorate of potassium every two hours, five grains of quinine, by suppository, daily, and large amounts of whisky (four fluidounces in twenty-four hours) in milk. After the tracheotomy the temperature of the room was kept at 80° F., and the air was kept moistened by the almost constant use of carbolic acid and lime-water with steam atomizers. Insufflations of sulphur were frequently made to the throat. On the fifth day the tube was replaced by a smaller one, which allowed air to pass around it. At each daily dressing the opening was closed with the finger, to force the patient to draw in air through the larynx.

Intestinal Obstruction.—Dr. STONE reported this case also. The obstruction was probably due, he thought, to intussusception. A female child, two years and eight months old, after having had diarrhœa for three or four days, was suddenly attacked with pain in the abdomen, with the passage of bloody mucus, followed by complete cessation of the alvine evacuations and frequent vomiting. On the fourth day the face was pinched and anxious, the pulse small and rapid, and the tongue dry and red. The child lay on its back with its legs flexed, and showed no disposition to move. The abdomen was decidedly prominent, tender, tense, and tympanitic. The swelling was general, but most prominent at the umbilicus; no dullness or other sign of tumor could be detected; and nothing abnormal could be felt in the rectum. There was frequent vomiting of a brown fluid having a fæcal odor. The case was diagnosticated as one of intestinal obstruction, probably with intussusception of the ileo-cæcal variety, and resulting peritonitis. Full doses of opium were given, and careful and systematic efforts were made to relieve the difficulty with injections of warm water. These were unavailing, and the child died on the eighth day, of exhaustion, without having had a passage from the bowels. Among the points of interest connected with such cases, Dr. Stone mentioned the importance of early laparotomy after a fair trial of injections.

Dr. W. O'HARA said that the case of laryngeal diphtheria seemed to have been cured by tracheotomy rather than by the bichloride. The chlorides had always been used in diphtheria; was it the chlorine in the bichloride that did the good? There hardly seemed to be enough of it to destroy bacteria. It was hard to tell what the indications for tracheotomy really were He alluded to a case in which a consultant said that the time had passed for the operation to be of service, although great dyspnœa and recession of the epigastrium—the positive symptoms laid down as calling for the operation—were present. Instead, he suggested the use of cold compresses, to relieve the child, if possible, but thought it would die within four hours. As soon as the first compress was applied, the child gasped like a new-born child, and rhythmical respiration was kept up by repetitions of the application; the child finally recovered entirely. If we accepted Dr. Wood's and Dr. Formad's experimental evidence and their conclusions in regard to diphtheria, it seemed as if the local application of the bichloride ought to destroy the bacteria.

Dr. W. W. KEEN related the history of a case that had lately occurred—one of well marked diphtheria of the larynx in which tracheotomy had proved successful. In the after-treatment, the air of the room was kept moist by means of lime-water spray from an atomizer—a method that he thought preferable to that of slaking lime in the room, for the latter gave off little else than the vapor of water. Tracheotomy was an operation that did not endanger life, and it should be resorted to early, before pulmonary lesions had advanced to such an extent as to rob it of its power to save life.

In regard to the case of intestinal obstruction, Dr. Keen said that Hegar's method seemed to be the best for giving copious injections; it consisted in using an India-rubber tube, eighteen inches or two feet in length, having an ordinary rectal nozzle at one end and a glass funnel at the other, which allowed from four to six quarts of water to be injected slowly and painlessly in an adult. A fountain syringe might be used, the bag being hung about two feet above the patient. As a rule, no anæsthetic should be used, especially in children. The first indications of pain should be watched for; otherwise too much water might be injected, and the peritoneal coat of the intestine ruptured. In the case reported, if Dr. Stone's rules could have been carried out, laparotomy would have been performed. Experience with this operation would indicate that it involved little additional danger, and with it there was the possibility of a cure. In a recent case, seen in consultation with Dr. D. M. Barr, in which the vomiting indicated obstruction, three quarts of water were injected while the patient was under the influence of an anæsthetic. The patient was so hyperæsthetic that anæsthesia had to be induced. The entire injection was retained, and the next day another equally large was given, which brought away a great amount of fæcal matter.

Dr. O'HARA could not see that the first injection produced any effect, and thought that it must have been absorbed.

Dr. KEEN considered that the first copious injection probably moistened the fæcal matter, as it was not scybalous when passed, and, since the obstruction had existed for two weeks, it would have been so unless it had been moistened. In some cases the course of the intestine could be followed if the large intestine could be mapped out by the change in the percussion note.

Dr. O'HARA called attention to a case of fæcal accumulation, which had been going on for some time, seen by him and Dr. Keen together over ten years ago.

Dr. KEEN remembered the case. The patient was a child six or seven years old. There was a rigid mass in the abdomen, which might have been mistaken for muscular contraction, had it not been for its oblique direction. A large quantity of water was injected with a Davidson's syringe, and in a little while the child passed an immense quantity of fæcal matter and was relieved. The advantages of Hegar's method over the use of Davidson's syringe were that no long tube needed to be inserted into the bowel; the flow was continuous, not spasmodic; and a greater quantity could be injected. The height of the column of water should not exceed two feet, as that exerted a pressure of one pound to each square inch of the intestinal surface.

The PRESIDENT said that, about a year ago, he had presented a report of twelve cases of tracheotomy to the society, and, at the January meeting of this year, he had presented a patient who had been operated upon and had recovered. A large number of the operations were for membranous croup. In the first ten cases the operation was a last resort, and all the patients died—one of them lived until the ninth day, and then died of cardiac paralysis. The shortest period of life after the operation was thirty-six hours. One patient lived seventy-two hours after being operated upon, and at the autopsy the upper half of each lung was found collapsed. Free secretion had been established, but the child was too feeble to throw it off, and might be said to have been drowned in its own secretions. He now, when called to a case in which the operation would most probably be necessary, spoke to the parents at once in regard to it, so that they might be prepared, and valuable time not be lost when the case demanded the operation. Out of four patients operated upon since the ten, three had recovered. Three of the four were cases of diphtheritic croup. All were treated with the bichloride. Two of the cases, both diphtheritic, were seen with

Dr. R. S. Barton. One of them was the case that proved fatal; the operation having been performed largely because the parents were strongly in favor of it, having seen its success with the other child. The operation should be performed early, even though by so doing we might sometimes operate upon those who would recover without it. So soon as remedies seemed ineffectual to relieve the dyspnœa, we should operate. In diphtheritic croup the operation was demanded as soon as there was recession of the epigastrium. The use of chloroform as an anæsthetic caused less irritation and spasm of the larynx than that of ether. Very little chloroform was needed, as the dyspnœa was generally great. First lifting up a fold of skin, running across the trachea, and transfixing it, we could make the incision through it and the superficial fascia without much hæmorrhage. Then we should tear through the other parts until the trachea was reached. The incision should be made at about the middle of the neck, the head being well thrown back.

Dr. Stone said that the fact of some patients recovering without the operation of tracheotomy should not make any difference as to its performance, but, to be successful, it must be done early. Gaining the consent of the parents often depended upon the manner in which the doctor put the question to them; if he only half believed in the operation, it was hardly likely that he could gain their consent.

Dr. Keen's criticism in regard to the performance of laparotomy in the case of intestinal obstruction was just. The operation should have been performed, but the circumstances of the case were such that surgical interference was out of the question. Treves recommended anæsthesia in children, previous to a trial of injections, to overcome the tenesmic efforts of the patient to pass off the fluid. As a rule, it was well not to use force; but would the simple force of gravity be enough to do any good? Treves recommended a nozzle with a pad attached, so as to prevent the return of the fluid.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of April 7, 1885.

The President, Dr. F. W. Bartlett, in the Chair;
Dr. Frank H. Potter, Secretary.

Hoarseness and Loss of Voice.—Dr. F. W. Hinkel read a paper with this title. These symptoms, he said, were the only ones almost invariably present in laryngeal affections, and when present they always pointed to some involvement of the larynx. Of themselves they threw very little light upon the pathological conditions, but were danger-signals warning us to properly investigate the larynx to ascertain the reasons for their being. This rendered a familiarity with the use of the laryngoscope necessary. Every physician should know how to use this instrument for purposes of diagnosis, even if he did not wish to treat this class of cases. Hoarseness and loss of voice occurred frequently in this climate, and were produced by any direct or indirect impediment of the functional integrity of the vocal bands. Anything which caused inability of the bands to vibrate with sufficient rapidity to produce sonorous vibrations of the [illegible] caused aphonia. The causes of voice impairment varied from slight and temporary congestions to tubercular and malignant neoplasms, with all their attendant horrors.

Among the frequent causes of these symptoms might be mentioned subacute congestion of the laryngeal mucous membranes, and this if prolonged in degree, becomes an acute laryngitis. The vocal cords, red, tumefied, and irregular, were stiff with exudation and cell infiltration. The surrounding tissues were also swollen and distended. The voice was reduced to a whisper. There was fever, with general constitutional disturbance. In children a spasmodic element was often added, especially at night. In debilitated persons, and those suffering from blood-poisoning, œdema of the larynx might result, which was frequently fatal. A chronic laryngitis might proceed from an acute attack, or the disease might have a sluggish type from the outset. It was very important to give attention to the "dregs" of an acute attack, and assist the tissues to regain their lost tone, lest the seeds of the chronic forms should be left. The latter was also marked by congestion and infiltration, but the color was not so deep, and the infiltration tended more to the formation of connective-tissue elements. The voice impairment was about the same in this form, but the bands were relaxed rather than stiffened, and thickened rather than swollen. Chronic laryngitis did not tend to recovery, and, if neglected, might lay the foundation for structural changes in the tracheal and bronchial mucous membranes. These lesions might be grave, and among them were to be mentioned catarrhal pneumonia, and pulmonary and laryngeal phthisis.

Dr. Hinkel then devoted some time to the consideration of laryngeal phthisis. Without entering into a discussion of the causes of tubercle, he stated that in its first stages laryngeal phthisis was indistinguishable from simple catarrhal laryngitis, or, in other words, a primary simple laryngitis might, under certain local and constitutional conditions, terminate in phthisis of the larynx. Then followed the stage of pallor of the mucous membrane of the larynx and pharynx and thickening and œdema of the arytæno-epiglottic folds. This appearance of the folds was pathognomonic of laryngeal phthisis, though sometimes it was so imperfectly developed as not to be easily recognized. In this stage the disease was often curable, and hence the importance of an early recognition. The only marked symptom might be a slight hoarseness, and a laryngoscopic examination was necessary to distinguish the disease. Then followed the stage of ulceration, with the attendant dysphagia and often dyspnœa. Cases were rare that had reached the stage that admitted of nothing more than merely palliative therapeutics before they had been recognized—a result which would often be avoided by proper means of examination.

The subject of new growths was then presented as being causative of impairment of the voice. The treatment of these conditions was among the triumphs of laryngology. New growths in the larynx, as elsewhere, were divided into the benign and the malignant, the benign, fortunately, being the more frequent. The latter were generally the result of previous inflammatory action. Dr. Hinkel believed he had sometimes witnessed the inception of benign new growths which had been aborted by the use of astringent and alterative applications. Aphonia and dysphonia were the most frequent symptoms. Dysphagia might occur when the growth was on the epiglottis. There was often no symptom except some slight voice impairment similar to that occurring in chronic laryngitis. The laryngoscope alone could establish the diagnosis. The most frequent of the new growths were papillomata, which were unusually sessile, often multiple. They occurred in any part of the larynx, but were most common upon the vocal and ventricular bands. The other forms of benign growths were fibromata, usually pedunculated, angiomata, and myxomata. The last two were of rare occurrence. The malignant growths in their early stages were with difficulty diagnosticated from the benign growths. Epithelioma was the most common form of cancer, but sarcoma also occurred. Extirpation offered little or no hope, and the prognosis was of a lingering and horrible death. Hoarseness and loss of voice might be due also to a paralysis of one or more of the muscles which produce the various movements of the larynx. It might be either of central or of peripheral origin. Central paralysis was rare and was accompanied by paralysis of

other muscles and by other general symptoms. Peripheral paralysis might be due either to pressure or to inflammatory action. The first form was rare, except that due to pressure upon the recurrent laryngeal nerve. This might be caused by aneurysm, enlarged cervical glands, or even induration of the apices of the lungs.

The appearances produced by complete paralysis of this nerve were diagnostic and striking. The vocal bands hung midway between abduction and adduction, in the so-called cadaveric position. The power of phonation was lost, and coughing, sneezing, and clearing the throat were altered in character. Partial affections of this nerve would give rise to paralysis either of abduction or of adduction, according to the filaments affected. Paralysis of the abductors was rare, though of great interest, but did not immediately affect phonation.

Bilateral paralysis of the adductors, on the other hand, was more frequent. This might be hysterical in origin, though chronic laryngitis, previous nasal catarrh, lead poisoning, and the later stages of pulmonary phthisis had a causative relation to it. The voice was entirely lost, and during whispered speech there was shortness of breath, due to the waste of expired air through the wide-open glottis. Unilateral paralysis was usually the result of inflammation, either simple or specific. The voice was either hoarse, husky, or entirely lost. The arytænoideus might be alone affected, thus preventing the arytenoids being drawn together, and through the opening thus left the air escaped, preventing sufficient vibration of the ligamentous portions to produce sound. Lastly, the tensor muscles might be affected. The paralysis of the thyro-cricoid and thyro-arytenoid might be either bilateral or unilateral. The voice was gruff, monotonous, or suppressed. The thyro-arytenoid was often affected by inflammation of the mucous membrane of the larynx, on account of its superficial situation. As a result, there was a lack of tone about the vocal bands, and their approximation was imperfect. All these appearances, of course, were varied in partial or complicated paralytic conditions.

The treatment of hoarseness and loss of voice was the treatment of the causative diseases. The general principles of the treatment of inflamed mucous membranes were the same in the case of the larynx as in that of other parts. Their application varied with the conditions and the conveniences at hand. In acute inflammations, heat, moisture, and sedation in the form of steam inhalations, external compresses, etc., were of service. As the acute stage passed off, astringent stimulants, in the form of sprays, lozenges, and occasionally powders, were to be used. Chronic inflammations required stimulation from the first. The brush was occasionally of service for local applications. Stimulant sprays gave the best results. Galvanism externally, over the thyroid, was of benefit. Perverted conditions of the nose and pharynx would imperatively demand attention. Accurate localization of remedies and patience were the two prime factors of success.

New growths, when benignant, almost invariably demanded removal. This was best done by the forceps, the snare, or the cautery applied intra-laryngeally. When they were malignant, extirpation of the larynx was to be thought of, but palliation was usually all that remained to be done. In paralytic conditions, applications of the faradaic current, one pole over the thyroid and the other upon or near the affected muscle, usually gave good results. Inflammatory conditions must first be removed by topical applications. Whatever the remedies chosen, or the method of application adopted in a given case, the result would depend largely upon the accuracy of the diagnosis, and the care with which the remedy was applied to the exact seat of disease.

Dr. W. W. Potter reported a case of aphonia from paralysis of the intrinsic muscles of the larynx which he had relieved by external manipulation of the larynx according to the method of Henry K. Oliver, of Boston, as described in the "American Journal of the Medical Sciences" for April, 1870.

Dr. Van Peyma asked how old a child ought to be in order to make a laryngoscopic examination practicable.

Dr. Grosvenor asked whether tubercular phthisis could be a purely local disease.

Dr. W. S. Tremaine reported a case of paralysis of the adductor and abductor muscles on the right side, from a penknife wound of the throat. The puncture had wounded the eighth pair of nerves, and also some filaments of the spinal accessory. Electricity was tried without avail; the man finally recovered, however, after some months spent in out-door life.

Dr. Hinkel said he had made a laryngoscopic examination in a child two years and a half old. He hardly considered it practicable at that age, however, for the child could seldom be controlled sufficiently. He had seen cases of tubercular disease of the larynx where no other signs of constitutional infection could be found. It was possible, however, that there was present some constitutional disturbance, but of a latent character, which had as yet showed no other sign of its presence.

The President's Retiring Address.—Dr. Bartlett then read his retiring address, in which he reviewed the work of the year just passed, and again called the attention of the association to the advisability of dividing it into sections, as he had suggested a year ago. He thought that by this means more accurate work could be done than was accomplished under the present plan.

Officers for the ensuing year were then elected as follows: President, Dr. Charles G. Stockton; Vice-President, Dr. W. W. Potter; Treasurer, Dr. F. E. L. Brecht; Secretary, Dr. Frank H. Potter; Librarian, Dr. J. B. Samo.

CHICAGO MEDICAL SOCIETY.

Meeting of April 6, 1885.

The President, Dr. D. A. K. Steele, in the Chair;
Dr. Liston H. Montgomery, Secretary.

This was the thirty-fifth annual meeting, and was devoted to matters of business.

The Secretary's Annual Report.—After the disposal of various pieces of routine business, the meeting listened to the reading of an elaborate report by the secretary, recounting the work accomplished by the society during the year. It appeared by the report that fifty-eight papers had been read during the year, a number which exceeded that for any other year in the history of the society. The meetings had been attended by 759 physicians, while only 638 had attended the meetings of the preceding year. Fifty-one new members had been elected, being the largest number in any one year, the secretary thought. Abstracts of the proceedings of the meetings had been published in a number of the leading journals. The financial condition of the society was also reported as satisfactory, the funds showing a continued increase—"For what purpose?" the secretary asked. Various plans proposed in the past for their employment had been voted down, and the additional proposals were now made that they should be devoted to the ultimate purpose of obtaining possession of a hall, or to the establishment of a series of prizes for the best original papers read before the society.

The Annual Report of the Treasurer, Dr. E. F. Ingals, was then read. It showed a cash balance of $581.91.

The Library Committee submitted its annual report, from which it appeared that fifty-three volumes had been given to

the library by six physicians, and that a considerable number of volumes had been acquired by purchase.

Officers for the Ensuing Year were elected as follows: President, Dr. Charles T. Parkes; First Vice-President, Dr. Charles W. Purdy; Second Vice-President, Dr. James H. Etheridge; Secretary, Dr. Liston H. Montgomery; Treasurer, Dr. Harold N. Moyer. Dr. G. C. Paoli, Dr. E. F. Ingals, and Dr. D. A. K. Steele were elected a committee on membership and miscellaneous business, and Dr. F. C. Hotz was re-elected a member of the library committee.

Delegates to the American Medical Association.—The following-named members were elected delegates: Dr. A. Reeves Jackson, Dr. G. W. Webster, Dr. W. P. Verity, Dr. H. J. Reynolds, Dr. H. T. Byford, Dr. E. J. Doering, Dr. J. E. Walton, Dr. Edwin Powell, Dr. A. E. Baldwin, Dr. W. W. Allport, Dr. G. H. Chapman, Dr. W. W. Jaggard, Dr. F. E. Waxham, Dr. A. Goldspoon, Dr. C. T. Parkes, Dr. L. H. Montgomery, Dr. D. A. K. Steele, Dr. G. C. Paoli, Dr. L. L. McArthur, Dr. A. H. Tagert, Dr. J. H. Etheridge, Dr. R. E. Starkweather, Dr. D. R. Brower, Dr. J. H. Plecker, Dr. D. T. Nelson, Dr. W. E. Clarke, and Dr. C. W. Earle.

After a few remarks by the retiring president, the new president, Dr. Parkes, was inducted into the duties of his office. On motion of Dr. R. E. Starkweather, resolutions were adopted approving of the action recently taken by the Sanitary Council of the Mississippi Valley petitioning the President of the United States to convene the National Board of Health at once.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 4, 1885.

The Contagiousness of Tuberculosis was the subject of a paper read by Dr. W. H. Webb. After an interesting review of the literature of tuberculosis, the author said that in the early part of 1882 Dr. Robert Koch made his name immortal by giving to the world the result of the researches and experiments by which he swept away all false ideas that had existed in regard to tuberculosis for a period of over two thousand years. It was then that he made the announcement that tuberculosis was a specific, infectious disease, caused by a specific micro-organism —the *Bacillus tuberculosis*—which constituted, in fact, the true tubercle virus. This statement was one of the most remarkable, in its import, in the history of medicine. The labors of the illustrious Pasteur and of Koch were now well known. They were the leaders of a host of equally zealous investigators who had acquired more or less distinction through their efforts in this direction. Careful researches by De Quatrefages, Cook, Livingston, Rush, Budd, and others, seemed to prove that tuberculosis first appeared among the inhabitants of Europe, and gradually manifested itself in those parts of the world with which they had intercourse. If this was true, it was one of the best evidences of the contagiousness of phthisis.

A contagious or infectious disease could have but one cause, and this was eminently true of tuberculosis, which did not arise from a variety of causes, but was solely due to the tubercle bacillus. Wherever this bacillus found its proper nidus it would develop and multiply; and, if this was in living animals or human beings, the progress of the disease would be determined by the character and amount of food offered for the growth of this germ; thus, with a nidus rich and plentiful, we might have a case of acute phthisis not lasting more than thirteen days; and, on the other hand, if the pabulum was poor and scant, the case might be a chronic one extending over a period of twenty-five years.

The bacilli might enter the system through the lungs or by the stomach. The air we breathed, as well as the food we took, especially in the vicinity of the phthisical, might be laden with these germs. The air of the ventilating flues at the Brompton Hospital, when carefully examined, was found to contain tubercle bacilli in fair abundance. The sputa of tuberculous patients, drying upon our streets, was ground into an impalpable powder by the feet of pedestrians, and then disseminated through the air, to be inhaled alike by the healthy as well as those predisposed to tuberculosis. Such sputa, mixed with the dirt of the street, had been collected, dried, and powdered again, at frequent intervals during a period of several months. Guinea-pigs were then inoculated with this matter, and in a short time the animals thus treated died from tuberculosis.

To admit that the tubercle bacillus was a pathological product was to express a belief in spontaneous generation. It was asserted by some pathologists that other matter or irritant than the tubercle bacillus was capable of producing the disease. This idea was not a new one, for Richard Morton said: "Chalky stones that are preternaturally bred in the lungs, or nails, and other hard bodies, slipping down into the lungs, when persons laugh, are to be recorded among the causes of a consumption of the lungs"; and he narrated a case.

It was also maintained by a number of writers that certain callings or occupations might be a cause of tuberculosis, owing to fine particles of dust inhaled by those employed. Thus, coal miners, dry grinders, stone cutters, molders, operatives in cotton and woolen mills, etc., were apt to have the disease. But those who believed that the dust breathed by individuals engaged in these occupations might occasion phthisis were evidently oblivious of the fact that the air carried, in the form of germs, far more potent factors; and that, while the dust might have produced an irritation of the air-passages, the presence of the tubercle bacilli was essential to the production of the disease. The inhalation of irritants, or lowered vitality, occasioned by certain occupations, might cause the predisposition, but they were never the cause of the disease *per se*.

Not all the predisposing causes united could in any instance induce tuberculosis without the advent of the tubercle bacillus. That something more was needed was admitted by Pollock twenty years ago, when he declared that there must be "some subtle agent to precipitate, concentrate, and shape these elements of disease into tubercle." And Da Costa said, whatever it was, it was something special.

Experiments had demonstrated, beyond doubt, that it was impossible to induce true tuberculosis in any case where proper precautions had been taken to remove all living germs from the irritant used. This was now accepted as a fact by many of those who once held a contrary opinion.

Objections were also made to the opinion that these bacilli were the cause of tubercle, because they were not found in all the cases of tuberculosis examined by certain investigators. It was fair to presume that in these instances they must have escaped detection, since bacilli had been found in every case of tuberculosis examined by careful observers.

Many instances were recorded where foreign bodies had been carried into the lungs by gunshot wounds or otherwise, without occasioning much disturbance in the parts or seriously affecting the health. Rush, with his experience of the Revolutionary war, declared that he had never known a case of phthisis to result from wounds in the lungs, and this observation was supported by the Surgeon-General of the British army. A number of cases of gunshot wounds of the lungs occurred during the late war, but, as far as known, they were not the occasion of any death by phthisis. But, in cases where a predisposition existed, it might be still further developed by the presence of an irritant, just as a furuncle in one individual might be harmless, and in another the starting point of a cancer.

So certain diseases, occasioning an irritation or a lowered vitality of the pulmonary mucous membrane, had the reputation of being the indirect causes of tuberculosis. Measles, especially when occurring in children of phthisical parents, were liable to have consumption as a sequel. The mucous membranes were implicated in this disease, probably more than in any of the eruptive fevers; the epithelium was cast off, and the denuded membrane exposed to the direct contact of the tubercle bacillus.

It had been satisfactorily demonstrated that tuberculosis might be caused by inoculation in the human subject. Laennec, while examining a vertebra containing tubercle, slightly wounded one of his fingers with the saw-blade. In the site of this wound a small, rounded tumor subsequently appeared, which, upon investigation, exhibited all the physical characters of tubercle. It was destroyed by the application of an escharotic, and no bad effects resulted from it. Another instance was that of a fisherman free from tuberculosis, but suffering from gangrene of the toe, who was purposely inoculated. Thirty-seven days after the experiment he died, and the autopsy revealed a tuberculous deposit in the lungs and liver. But the most satisfactory evidence of the effects of inoculation of tubercle was presented in the case recorded by Dr. E. A. Tscherning. The subject, employed as cook in the family of Professor H., was a perfectly healthy woman, about twenty-four years of age, with a history exceptionally free from any hereditary taint of scrofulous or tuberculous affections. After a short illness the professor died of phthisis. The cook unfortunately broke the glass sputum-cup used by her employer, and a spicula from it punctured one of her fingers. Fourteen days afterward there appeared at this point what seemed to be a felon. This was treated at Professor Studgaard's clinic, and at the end of a few weeks the finger was much better; a little nodule, however, about half as large as a pea, was found to exist in the subcutaneous connective tissue, which after a while became tender and œdematous. This was now cut out, and the wound healed readily. About three months from the time of the accident, Professor Studgaard found that the sheath of the tendon was thickened, and two cubital and two axillary glands were enlarged. He disarticulated the middle finger, and the tendon, with its thickened sheath, as well as the enlarged glands at elbow and axilla, was dissected away. Upon examination, the sheath of the tendon was found to be filled with pale granulations. Sections of the sheath and of the extirpated glands were subsequently subjected to microscopic investigation, and numerous tubercle bacilli found in them, which positively established the peculiar character of the affection. Dr. Tscherning had observed upward of thirty cases of localized tuberculosis, and in each instance the microscopical appearances were the same as in this case. Many eminent men, by their constant attendance upon the phthisical, and by their close and frequent study of the post-mortem conditions of their cases, had been made victims to the disease themselves.

Much stress had been laid upon heredity as one of the chief causes of the vast mortality from this disease. It was the author's belief that phthisis was never transmitted from parent to child; it was simply a predisposition that was inherited. By predisposition he meant a greatly lessened power of resistance in the tissues, especially in the lymphatic system. If tuberculosis was inherited, we might expect to find some indications of it in the fœtus, but the observations of Guizot, Gluge, Heller, and Virchow had shown that this was not the case. In 1,300 fœtuses examined by Heller, there was no evidence of a tuberculous taint in any one of them, notwithstanding the fact that in one instance the patient died of phthisis with the fœtus *in utero*. Virchow, with his experience of more than fifty years, said he had not seen a single case of direct transfer in the fœtus. This also held true in regard to the offspring of animals which had been under observation while suffering from tuberculosis; there was no instance on record in which they had exhibited a trace of the disease. The presence of the disease in infants was undoubtedly due to the bacillus, or its spores, contained in the milk of the phthisical mother, or in the air it was constantly obliged to breathe. In other words, the disease was not transmitted, but it was acquired.

There were but few insurance companies that would accept as a risk any one whose family history is not clear of tuberculosis; hence it would seem that such careful exclusion would remove all questions of hereditary transmission in those losses which they might sustain by deaths from phthisis. One of the most conscientious companies in this respect was the Mutual Life Insurance Company, of New York. It was especially careful in excluding such risks, and would not only refuse to accept an applicant who had a phthisical history, howsoever remote, but would not regard an application in which there was the least evidence of a predisposition to the disease, no matter what the age of the applicant might be. Notwithstanding the exercise of an unusual amount of vigilance, they were, nevertheless, obliged to declare that consumption had been the occasion of more deaths than any other disease, giving a percentage of 17·61 of the total mortality; while deaths recorded under other headings, but properly belonging to this, would swell the number to 20 per cent. Here, then, was a freedom from hereditary taint as far as rigid examinations were capable of determining it. Under such circumstances the rate of mortality was surprising to those, at least, who had faith in the hereditary transmission of the disease. A few years previous to that in which this report was made, the death-rate from consumption in the adult male population of New York city was 30·17 per cent. This was but little over 13 per cent. greater than among those who were considered especially exempt from the disease.

It would be impossible to enumerate the so-called causes of tuberculosis. The disease had been attributed to every imaginable influence which could occasion a morbid condition of the system. This error was readily accounted for when it was understood that any influence which would bring about a lowered vitality would induce a predisposition to the disease, which was established by the presence of the *Bacillus tuberculosis*.

In looking over health reports and other statistics he had been surprised at finding records relating to the time of life when tuberculosis was most prevalent, which were entirely at variance with the ideas entertained by many practitioners. It was very generally believed that at the age of puberty, especially in those supposed to possess an hereditary taint, phthisis was most apt to manifest itself, and that the liability to contract the disease was lessened with advancing years. It seemed, however, that this was not the case, for in early childhood and at puberty the mortality was less than at any other period of life. There was reason for believing that the best way to determine the time of life at which the disease was most fatal was to compare the death-rate occasioned by it at certain periods of life with the number of living persons at the same age. This had been done by several reliable persons. A table prepared by A. Würzberg, the librarian of the Imperial Health Office at Berlin, went to show that at the two extremes of life, where vitality was at the lowest, thus lessening the power of resistance, the disease was most fatal.

It must not be forgotten that, among the many causes which led to a predisposition to tuberculosis, conditions of mental depression played an active part. Bad habits or immoral conduct, which led to bitter regrets, or domestic infelicity, occasioning long-continued fret and worry, will produce a depression of this character more or less marked.

The author then cited a number of cases that had come under his own observation, and went on to say that no one, not even the non-contagionists, could declare that the cases narrated were simply "coincidences."

If the most convincing proof of the truth of a comprehensive theory lay in its power of absorbing and finding a place for new facts, and its capability of interpreting phenomena which had previously been looked upon as unaccountable anomalies, he knew of no theory more truthful that the one advocated. It would fully explain every phenomenon connected with this malady, the universal mortality it occasioned in every part of the world, and why one member of a family after another, with no hereditary predisposition, had succumbed to its power. It was a singular fact that in all the recorded cases where the disease had been occasioned by close association with the phthisical, as in nursing, it had been unusually rapid in its course, frequently carrying off those unfortunates during the lifetime of those from whom the disease was contracted.

And what did all this teach us? Simply that our real strength in battling with this terrible disorder lay not so much in medication as in the application of hygienic and sanitary laws.

Like other disease germs, the tubercle bacilli were carried by the air, and would, of course, be found to be more plentiful in the vicinity of the victims of tuberculosis. A single bacillus might as surely induce the disease as a great number; and, since we were at no time free from the chance of inhaling this germ, our safety lay in avoiding a "predisposition" to lung troubles. In order to determine whether the bacilli might be readily found in the air of the street, or of places of public resort, he had constructed certain instruments, which were shown.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of January 8, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Epulis.—Dr. Walter B. Chase related the history of the case of a lady, about twenty years old, who presented herself in the winter of 1882, with a growth about as large as a small pea, springing from the lower jaw between the middle and the lateral incisor teeth on the left side. The growth was painless, but somewhat tender on pressure. It was removed with scissors, and the parts healed kindly. In November, 1884, it had returned, and was about as large as a small hickory-nut, but flattened, and rested between the teeth and the lip, where it was a source of considerable annoyance. The speaker again removed it, with a portion of the gum immediately contiguous, and cauterized the parts with chromic acid. Four weeks afterward he could find no sign of its return.

Pathological Photography.—Mr. J. M. Van Cott, Jr., read a paper on this subject, and illustrated it profusely by the projection of photographs, both gross and microscopical, upon a screen with the aid of a stereopticon.

Medullary Cancer of the Breast.—Dr. C. N. D. Jones showed a specimen removed from a married woman, thirty-nine years of age, a native of Ireland. The tumor had been of rapid growth; a small lump was first noticed in the left breast in December, 1883, and in May, 1884, it had reached the size of a small orange, and gave rise to some pain. After the operation, the wound healed slowly by suppuration. After it had closed, the axillary glands were found to be enlarged and indurated. The specimen was seen to form a rough, lobulated mass, varying in consistence in its several portions, and presenting a whitish-gray appearance on section. Microscopical examination showed a stroma of connective tissue in the form of alveoli, within which large, nucleated polyhedral epithelia were grouped. The connective tissue was scanty and fibrous in character, and the alveoli were of various forms and sizes. The disease would probably return within a year and soon prove fatal, judging of the degree of its malignancy by the rapidity of its growth and by its microscopical appearances.

Cerebral Tumor.—Dr. Landon Carter Gray presented a specimen, and related the history of the case.

Reports on the Progress of Medicine.

PSYCHOLOGICAL MEDICINE.

By J. LEONARD CORNING, M. D.

Monomania.—Bannister ("Amer. Jour. of Neurol. and Psych.") has presented a lengthy argument in favor of the theory which defines monomania as essentially constituted of a single delusive conception. It is not necessary, however, to limit the use of the term to the class of cases included under this definition. Indeed, the designation may conveniently be applied to all cases of insanity the essential characteristics of which are systematized delusions or imperative conceptions restricted to individual faculties, and not involving the mind as a whole. The fundamental idea conveyed by the term is that of a partial insanity—a condition of things in which the psychological mechanism is only involved in a fractional sense. There may be a slight degree of mental feebleness, but this is not the essential factor in the psychological picture. Where the delusions are not fixed or systematized, the insanity can not properly be classed under the head of monomania, but must rather be relegated to the group of "general" insanities. Logical ratiocination is not exclusively an attribute of monomania, but may also be present in simple melancholia and in the milder forms of acute mania. In a case of circular insanity observed by Bannister, the sufferer was in both stages so entirely conscious of his condition, and possessed of such a degree of self-control, "that he was able to keep his place in society and business."

The case of Guiteau was probably an example of what is known among German writers as "originäre Verrücktheit," and under the designation "Verrücktheit" they also include monomania. Delusions are not peculiar to monomania, and it is perhaps a matter of doubt whether many of the cases of secondary delusional insanity, even where the delusions are fixed and accompanied by a certain amount of mental weakness and confusion, are to be included under the designation. Whether Guiteau ever had a fixed delusion or any honest delusion appears open to question; but, on the other hand, his mental capacity was so inferior that he was entirely unable to estimate the significance and possible consequences of his conduct. His judgment was indeed to the last degree defective. So far as certain mutable delusive opinions, exhibited by Guiteau, are concerned, they may with perfect propriety be ascribed to the general condition of mental and moral degeneration and weakness. In corroboration of this view of the essential nature of the affection, an interesting case, occurring in his own practice, is cited by the author. Finally monomania is defined by him as "a partial insanity, consisting essentially of delusions or imperative conceptions, and not necessarily affecting the general intellectual or emotional life, except in the logical outcome of these." As the author remarks, this definition does not exclude the possibility of a certain degree of concomitant mental weakness. As a matter of fact, a certain amount of mental feebleness usually accompanies the delusions, but it is not the fundamental characteristic of the disease.

Communicated Insanity.—Montgomery (*Ibid.*) includes under this title the various types of the form of mental disorder known as *folie à deux*. From an analysis of a number of cases he arrives at the following conclusions: 1. Imitation by the passive recipient and domination by the creative personage, both play parts in the production of communicated insanity. 2. That at some time it may be found but just to examine the mental status of alleged conspirators from the standpoint of "communicated insanity." As to the question of the acceptance of

insane ideas, opinions are cited in favor of the theory which ascribes great importance to a morbid tendency to imitation. The passive recipient is not merely such, but is also the victim of a morbid inclination to imitate what appears to be especially remarkable. Besides these psychological elements there is, however, another potent factor. Usually the individual who attempts to impose the delusion is possessed of more commanding intellectual ability, and is, at the same time, accustomed to assume a dominating tone toward those about him. Thus Hagen cites the case of a sane but stupid mother who accepted the delusions of persecution entertained by her son as true, but ascribed them to sorcery. The acceptance of the delusions by the passive individual is, in such cases, the result of a desire to avoid the exertion of reasoning. Sometimes also, as in a case cited by Spitzka, the delusion is accepted in order to avoid annoyance.

Insanity and Cardiac Disease.—Kiernan (*Ibid.*) points out that, like other somatic features of insanity, the relations between insanity and cardiac disease are threefold in character. Thus, cardiac disease produces insanity, it is affected by insanity, and it affects pre-existing insanity. The influence of cardiac disease in the production of insanity has certainly been over-estimated by some, notably by the earlier alienists. Speaking in general terms, it may be said that the types of insanity which result from cardiac derangement are usually characterized by depression and emotional disturbance. Dickson has found that mitral imperfection is followed by transient lypemania; aortic disease by a more permanent type. With this opinion several authors are inclined to agree. When a patient, already insane, is affected with cardiac disease, Burman has found that sullenness and moroseness are produced, and Kiernan has also observed suspicion in such cases. The author then cites a case of katatonia as illustrative of the influence of insanity on cardiac disease. Griesinger states that murmurs, particularly of the aortic valves, are of frequent occurrence, without concomitant valvular lesion, in conditions of exaltation. The same author also states that observations conducted in the asylum at Vienna demonstrate that the heart-sounds are indistinct during great excitement, but become clear when tranquillity is restored. Taking into consideration the various cases narrated, the author feels justified in drawing the following conclusions: 1. That cardiac disease produces psychical symptoms: depression, hallucinations, as well as delusions. 2. That cardiac disease may modify co-existing insanity. 3. That insanity may produce cardiac symptoms.

Mental Derangements consecutive to Cranial Injury.—Hartmann ("Arch. f. Psych. u. Nervenkr.," xv, 1884) has made an elaborate study of the ætiological relation of cranial injuries to various forms of mental aberration. Among the various causes of psychic derangement, injuries about the head occupy a deservedly prominent position. The statistics as to the frequency of psychosis after cranial injuries are, however, quite contradictory. Among 500 cases of insanity, Schlager found 9·8 per cent. following upon cranial injury; Kraft-Ebing, among 4,062 insane patients, was able to trace 55, or 1·1 per cent., to purely traumatic causes, while Mitchell ascribes 2 per cent. of all the cases of idiocy in Scotland to cranial injuries. Schlager has also noted that in the majority of cases the location of the injury was either in the parietal or the occipital region. Next in frequency were injuries about the frontal and temporal bones. The immediate results of these wounds were in 21 cases entire unconsciousness or confusion of ideas, and in 12 dull headache. The age at which the injury was received showed considerable variation. The advent of the psychosis took place in 19 cases within one, in 10 within two, in 9 within three, and in 6 within five years. It is worthy of note that in four cases the mental derangement did not make its appearance till after the expiration of ten years. The prodromes are of various kinds. Sometimes they manifest themselves in psychic derangements; the subject complains of vertigo, accompanied by cerebral congestion, and evinces unusual susceptibility to alcoholic stimuli. Mental irritability and emotiveness are also very characteristic of the premonitory stage. Sensory disturbances, such as hyperæsthesia of the retina, amblyopia, photophobia, amaurosis, and tinnitus aurium are almost invariably met with. Of rarer occurrence are aberrations of the sense of smell, abolition of the power of speech, vomiting, diplopia, strabismus, uneven pupils, weakness of the extremities, paralysis of the bladder, and epileptic attacks. From an analysis of a considerable number of cases, Schlager, moreover, felt justified in formulating the following conclusions: 1. Concussion of the brain, accompanied by injury to the cranial bones and followed by insensibility or confusion of ideas, points with considerable probability to the occurrence of future mental disorder. 2. The older the individual the greater the probability of future mental trouble. During the first three years after injury the danger of psychic derangement is, relatively speaking, the greatest. 3. The location of the injury exerts no influence upon the character or occurrence of the psychosis. 4. The latter is characterized by powerful motor disturbances, and is of unfavorable prognosis. Skae was the first to establish a particular form of insanity after cranial injury (traumatic insanity), and, to a certain extent, Kaulbaum acknowledges the individuality of this species of mental derangement under the designation "cephalosic." After an elaborate sifting of the data afforded by various writers, the author arrives at conclusions which are, in many respects, at variance with those of Skae and Kaulbaum. For example, in his final *résumé*, he repudiates the idea that traumatic insanity represents a specific nosological form; but, on the other hand, he accepts the opinion of Schlager, that the character and location of the wound do not exert an influence upon the subsequent psychosis. The views entertained by the author with regard to the prognosis may be said to be unfavorable in the majority of cases.

Mind as a Social Factor.—Ward ("Mind," Oct., 1884) points out that, in spite of the fact that an enormous amount of energy has been expended in the study of the intellect, the true relation of the latter to social phenomena has been entirely lost sight of. Finally, there appeared the scientific philosophy which essayed to explain the nature of mind. The dependence of the latter upon organization in general and upon brain in particular was proved by scientific experimentation, and the domain of metaphysics became elevated to the dignity of psychology. The brain being the organ of the mind, its physical seat and cause, mental phenomena, must therefore be regarded as the natural products of evolution, and amenable to classification and study, like all other natural phenomena. The author proceeds to enter an energetic protest against the *laissez faire* doctrine which has permeated sociological science and, indeed, given color to all forms of scientific research. The origin of the doctrine in question is traceable to the "law of the survival of the fittest." Adherents of this, the prevalent mode of sociological thought, ignore, however, the fact that, in the development of mind, a virtually "new power" was brought into the world. To affirm this need cause no astonishment, since it is no more than has occurred on many occasions "in the course of the evolution of living and feeling beings out of the tenuous nebulæ of space." . . . "The great fact, then, to which I allude is that, in spite of all philosophy, whether mythologic, metaphysical, or naturalistic, declaring that man must and can do nothing, he *has*, from the very dawn of his intelligence, been transforming the entire surface of the planet he inhabits." [This is the fundamental idea of Mr. Ward's "Dynamic Sociology," published by D. Appleton & Co. No one at all conversant with modern philosophical thought can peruse the work in question without becoming convinced that it is one of the greatest if not the most important of recent contributions to sociological science. The article on "Mind as a Social Factor," from which we have taken the liberty of extracting some of the more important points, will be found to be an excellent introduction to Mr. Ward's great work. It is not, on the whole, surprising, though eminently gratifying, that the most important and *practical* recent contribution to sociological science should have been made by an American.—J. L. C.]

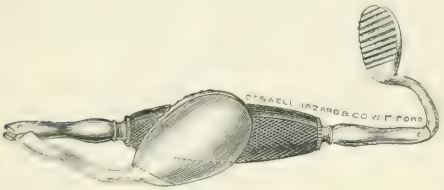
Insanity Defined.—Hughes ("Alienist and Neurologist," Oct., 1884) pertinently observes that the definition of insanity is a difficult subject, but that recent advances in the study of obscure forms of mental disease have done much to render the problem easier. Moreover, definitions of insanity have heretofore been embarrassed by hypothetical conceptions of the nature of the human mind and its operations in health. A correct definition can be reached only by a careful analysis of all available symptomatic data. "The essential fact to a correct comprehension of insanity has been demonstrated, and is beyond dispute, namely, that whatever conception we may hold as to the essential nature of mind, it is allied in all its manifestations to organism, and can not in life be dissevered from it. From Cœlius Aurelianus and Celsus

to Hippocrates, Broussais, Rush, and all the later reputable writers of our own time, mind deranged has been and is allied to an organism disordered." The true essence of insanity is, therefore, a subjective (?) morbid change in an organism (due either to ante-natal or post-natal conditions, but usually to both), in the nature of deranged organic or special sensation or impulse. Alienation is formulated by the author in the following proposition: "Morbid delusive conception or perception of subjective origin, causing change of mental character as compared with former self, or normal ancestral type, through organic conditions originating in disease within the system; external motives playing but a secondary part when they influence at all the mental conduct." [This paper is well conceived and well written, evincing close thought and mature powers of reflection.—J. L. C.]

New Inventions, etc.

A MODIFICATION OF TÜRCK'S TONGUE-DEPRESSOR.

The accompanying cut represents a double-end folding Tongue-Depressor, a modification of the well-known Türck instrument, devised by Dr. R. C. Brandeis.



There are two sizes of the tongue-portion of the instrument, which, when closed, fold against opposite sides of a hard-rubber handle, thus making a compact and portable instrument. The advantages of this over the original form, which has three interchangeable tongue-pieces, are obvious. It is made in a neat and substantial manner by Mr. W. F. Ford, of Messrs. Caswell, Hazard & Co.

Miscellany.

An Operation for Abdominal Aneurysm.—We learn from the "British Medical Journal" that Professor Loreta, of Bologna, who has already achieved worldwide renown by the introduction of a new operation for dilating the orifices of the stomach in cases of stricture, has recently adopted with success the bold expedient of cutting down upon a traumatic abdominal aneurysm, and introducing several inches of silver wire into the sac. The pulsation ceased in three weeks, and within three months the patient returned to his work.

The Late Dr. Louis Elsberg.—At the last regular meeting of the Medical Board of Charity Hospital, held April 1, 1885, the following resolutions were passed:

Whereas, our late associate, Dr. Louis Elsberg, has been removed from us by death; therefore,

Resolved, That we, the Medical Board of Charity Hospital, express deep sorrow at the loss of one associate, whose interest in medical subjects led him to advance medical science, and who constantly kind and courteous demeanor toward his patients, as well as colleagues, won our esteem and admiration.

Resolved, That we express our appreciation of the services rendered to the hospital by the deceased and our acknowledgement of his unselfish devotion to duty in the performance of his hospital duties, when former health and bodily weakness required freedom from professional cares.

Resolved, That the death of Dr. Elsberg deprives this community of one of the most useful citizens, and the branch of medical science which he so successfully cultivated of one of its most efficient promoters and highest authorities.

Resolved, That a copy of these resolutions be sent to the family of the deceased and to the medical journals of this city.

[Signed.] J. Lewis Smith, M. D., William T. White, M. D., } *Committee.*

Fessenden N. Otis, M. D., *President.* J. Blake White, M. D., *Secretary.*

The Health of Michigan.—It appears from an abstract of the returns made to the State Board of Health, for the five weeks ending April 4th, for a copy of which we are indebted to the board's secretary, Dr. Henry B. Baker, that for the month of March, as compared with February, remittent fever and rheumatism increased in prevalence; and that, as compared with the average for the month of March in the seven preceding years, rheumatism and neuralgia were more prevalent, and intermittent fever, diphtheria, measles, scarlet fever, influenza, and pneumonia were less prevalent. Diphtheria was reported from thirty-two localities.

THERAPEUTICAL NOTES.

Arsenic in the Treatment of Lymphoma.—Karewski ("Berlin. klin. Woch."; "Ctrlbl. f. Chir.") insists that it is highly important to decide whether a glandular swelling is innocent in character, or has a malignant tendency, since in the latter instance the arsenical treatment is of no avail. He reports four cases which were treated with Fowler's solution, partly given internally in doses of from six to twenty drops, and partly administered by the method of parenchymatous injections, the solution being introduced directly into the glands. In three cases the cure was complete. It is significant that the number of the white blood-corpuscles was increased rather than diminished during the treatment. The writer does not attempt to explain the manner in which the drug acts.

The Palliative Treatment of Epithelioma of the Cervix Uteri.—Biddle ("Brit. Med. Jour.") speaks highly of injections of corrosive sublimate and glycerin in cases of epithelioma attended with great pain. He uses a quarter of a grain of the sublimate to half an ounce of glycerin. This is added to a pint of water for an injection into the vagina, to be used twice a day. The anæsthetic, as well as antiseptic, properties of this solution are said to be great.

Jequirity in Skin Diseases.—Dr. Shoemaker, of Philadelphia ("Practitioner"), has used this drug in the treatment of lupus and rodent ulcer, and reports several successful cases. He adds the caution that the applications (of the emulsion) must be made with great care, on account of the tendency of jequirity to cause erysipelas.

Salicylate of Sodium in the Treatment of Migraine.—Cutierrez ("Paris méd."; "Lyon méd.") recommends this drug very highly, fifteen grains being administered in two doses, with an interval of a quarter of an hour. He states that speedy relief is experienced after taking the first dose, and that when the second one is taken the pain vanishes completely.

An Ophthalmic Antiseptic Solution.—In a recent discussion at the Paris *Académie de médecine* ("Union méd.") M. Panas stated that, in a large practice in ophthalmic surgery, he had never had any cases of erysipelas after the use of the following mixture:

Bichloride of mercury, Chloride of ammonium,	each	5 grains;
Glycerin		3 drachms;
Water		3 quarts.

The parts are washed with the solution, and after the operation a piece of linen dipped in the fluid is applied to the affected eye.

An Antiseptic Vaginal Injection.—The "Bulletin général de thérapeutique" states that the following formula is habitually employed in the Lariboisière *Maternité*:

Biniodide of mercury, Iodide of potassium,	each	1 grain;
Water		1 quart.

The temperature of the injections is about 113° F.

Original Communications.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.

BY ALEXANDER J. C. SKENE, M.D., BROOKLYN,
PROFESSOR OF GYNÆCOLOGY IN THE LONG ISLAND COLLEGE HOSPITAL.

(*Concluded from page 466.*)

OPERATION FOR THE RESTORATION OF THE SPHINCTER ANI AND PERINÆUM.

It has been already stated that the chief object of all plastic operations upon the pelvic floor should be to restore the muscles that have been injured. This is pre-eminently so in the operation to be described, because the sphincter ani is the most difficult to restore, and the results of failure are so apparent that neither the surgeon nor patient can possibly believe that the operation is a success when it is not—a delusion often indulged in regarding the plastic operations upon the lesser injuries of the pelvic floor.

In order to comprehend the position and relations of the surfaces to be vivified, it must be borne in mind that when the sphincter ani is ruptured the severed ends are drawn outward and backward by the retraction of the muscle until they lie on either side nearly on a line with the posterior walls of the rectum. This may be better understood by referring to Fig. 23. The dark spots on either side are the ends of the muscle which are drawn down below the surface.

The process of vivifying should be begun by seizing the end of the muscle on the patient's left. With the scissors remove a strip of tissue from that point around the tissues between the rectum and vagina, and downward and outward to and including the end of the muscle on the right. When this is done, it will sometimes be found that the softer tissues rise above the depressed end of the muscle, so that a fossa is formed on each side. Should this be so, more of the most prominent tissue should be removed. The denudation is then carried upward upon each side to the point where the laceration began. If there is much relaxation of the parts, the denuding may extend even higher.

The sutures are introduced according to the methods already described, but special care is necessary in introducing the first two, which are employed for the purpose of bringing the ends of the sphincter together.

In introducing the first suture, the point of the needle should be entered at the inner and lower point of the vivified surface, then carried outward around the end of the muscle, then inward through the lower margin of the recto-vaginal wall, and finally around the other end of the muscle, directly opposite the point where the needle was entered. This requires skill and practice, and is often difficult; and I have found it easier to pass the needle around the ends of the muscle and bring it out within the margin of the mucous membrane of the vagina, re-introduce it on the opposite side, and carry it round the other end of the muscle. The objection made to this method is that the central portion of the suture is exposed upon the rectal mucous membrane; but if it is not passed through the mucous membrane, but above it, the suture is completely buried in the tissues when it is tied. Certainly it is better to introduce the first suture accurately in this way than to attempt the more difficult way and fail to get it right, a result usual to those who are not accustomed to this operation. When the first suture is passed in the way last described, the second suture may be introduced according to the first description. The remaining sutures are employed in the way described in the operation for restoring the laceration in the first degree. Fig. 23 shows the sutures in place.

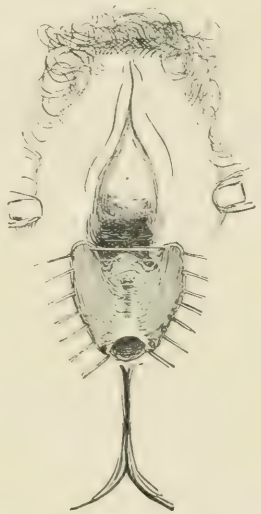


FIG. 23. Operation for complete rupture: stitches in position.

Further details of the operation will be brought out in the following history of cases:

TYPICAL CASE OF LACERATION EXTENDING THROUGH THE SPHINCTER ANI.—The patient was twenty-six years old when she was confined with her first child. The labor was tedious, and she was delivered, with forceps, of a very large child, which died during delivery. She made a rather slow recovery, owing to the extensive injury to the floor of the pelvis. Five months after confinement I saw her for the first time. She was then in very good health, but suffered pain in the region of the injury, especially when she walked, and she had very little control of the rectum. When constipated, she suffered very little; but, when the bowels were free and when there was flatulence, she was obliged to remain secluded.

I found that the laceration involved the sphincter-ani muscle, and evidently had extended upward into the wall of the rectum and vagina; but union had taken place, by a little intervening scar tissue, down to the sphincter, or within a quarter of an inch of it. The muscles of the pelvic floor, excepting the sphincter and transversalis perinei, acted well, and held the divided sides well upward. The end of the rectum was also drawn upward and forward, so that the distance from the vestibule to the posterior margin of the anus was less than normal. This brought the posterior wall of the vagina up to the anterior, so that the vagina was closed. It was only by placing the finger

in the rectum and pressing it backward that the full extent of the laceration became apparent. She was constipated, and her tongue slightly coated, at this time. Pil. hydrarg., gr. x, and pulv. ipecac., gr. j, were given at bedtime, and a wine-glass of Hunyadi Janos water an hour before breakfast next morning. This moved the bowels freely, and they were kept free for the following two weeks with the following:

Fluid extract of podophyllum	℥j;
Tincture of colocynth	℥ij;
Tincture of belladonna	℥j;
Glycerin	℥ss.;
Syrup of acacia and compound tincture of cardamom, Of each	℥j.

A teaspoonful of this noon and evening before meals. When this acted too freely, only one dose was given.

During these two weeks the nurse passed the finger every day into the rectum and pressed the parts back toward the coccyx, maintaining the traction steadily for several minutes. This was done for the purpose of restoring the elasticity of the tissues, and also elongating the divided sphincter muscle as much as possible. Menstruation then began, and no further local treatment was employed until after it stopped, when it was resumed. Four days after the menses ceased, the operation was performed in the prescribed way, silk sutures being used. For twenty-four hours before the operation, and for three days after, she had only fluid food—beef-tea, strained soups, whey, and water. After the third day, peptonized milk, strained oatmeal and barley gruels, and raw oysters were added to the diet list.

There was sufficient pain during the first three days to require ten drops of liquor opii comp. to be taken every four hours. On the fourth day she suffered from flatulence, which was relieved by catheterizing the rectum, using a silver catheter; this had to be repeated the following day. On the eighth day (and before the sutures were removed) half an ounce of sulphate of magnesium in peppermint-water was given before breakfast and toward noon; when the patient felt the bowels inclined to move, half a pint of solution of ox-gall and water were used as an enema. When this had been retained about twenty minutes, the nurse assisted the evacuation of the bowels by making pressure upon each side of the wound opposite the first suture, and, with the index-finger of the other hand in the vagina, she made gentle and interrupted pressure downward and outward. In this way it was hoped that the rectum could be evacuated without disturbing the wound. There was not the slightest trace of hæmorrhage, which gave reason for believing that no harm had been done.

On the ninth day all the sutures were removed, and on the tenth day the bowels were moved in the same way as before. During all this time the catheter was used to draw the urine. After this the patient was permitted to urinate in the prone position. Every second day until the twentieth the bowels were moved, the same care being taken by the nurse to guard the wound during the evacuation. On the twentieth day the wound was carefully examined, and there was apparently perfect union throughout, including the mucous membrane. The function of all the muscles of the pelvic floor was restored, except that of the sphincter ani. The function of that muscle was sufficiently restored to give the rectum retaining power, but it did not act as a perfect sphincter muscle. When it acted, the contraction was not equally toward the centre, but rather toward the point of cicatrix that had been restored. The posterior portion of the perineal body acted like a fixed point, toward which the muscle contracted. I am inclined to believe that this is the best result that can be obtained by this operation. After the new reparative tissue which is developed during healing has fully contracted, the function of the muscle becomes more nearly restored. Indeed, it is in many cases quite perfect so far as controlling the rectum is concerned, but it rarely, if ever, acts exactly as it did before injury—i. e., by a perfect concentric contraction.

A Case illustrating Partial Failure of the Operation; a Second Operation completing the Cure.—The patient was thirty-five years old, and had had three children. The youngest was eighteen months old at the time when this history was taken. Her first labor, five years and a half ago, was complicated. The patient stated that the doctor in attendance said that there was a shoulder presentation, that the child was turned and delivered feet first, and that the forceps was used to deliver the after-coming head. From that time onward she had no control of the rectum, and the only way she was able to take care of herself was by being extremely constipated, the bowels never moving except in response to medicine, a dose of which she usually took about once every week. The extent of the injury was exactly like the case last given, excepting that there was union of a thin band of vaginal mucous membrane, which extended outward to the upper margin of the sphincter-ani muscle. There were also two hæmorrhoidal tumors, formed by hyperplasia of the rectal mucous membrane, located at each side of the anus. These hæmorrhoids, that are not uncommon in this injury, were removed one month before the restoration of the lacerated parts was undertaken. The mode of operating was by seizing the tumors in a Péan forceps and making traction sufficient to raise the mucous membrane, then passing the hæmorrhoid-clamp (see Fig. 24) beneath the forceps, and slowly constricting the pedicle by tightening the clamp. A ligature of prepared silk was applied to the pedicle under the clamp. The



Fig. 24.

forceps and clamp were then removed, the tumor clipped off far enough outside of the ligature to prevent its slipping, and the stump touched with carbolic acid. The ligatures came off in less than a week, leaving a very minute spot to heal. She was then submitted to about the same preparatory treatment as in the last case related, and the operation was performed as before described. The diet was gruel and peptonized milk, with beef-tea. On the second day half an ounce of Rochelle salt was given, followed in three hours by an enema of half a pint of a solution of ox-gall, and, one hour later, a large enema of soap-suds. This did not move the bowels; on the following morning half an ounce of castor-oil was given, and in the afternoon the enema repeated as on the previous day; the enema came away, but the bowels did not move. The next day, ordered a mixture composed of a decoction of senna, one ounce to a pint of water, with one ounce of Rochelle salt. Of this, two ounces were given every hour until she had taken three doses. It produced a free evacuation, without causing pain in the wound or doing it any harm. The mixture was repeated in the same way with a like effect, and was again ordered a third time, but, by an oversight of the nurse (the case was in the general hospital), it was not given. Another mistake was made the following day, the nurse giving two drachms in place of two ounces of the medi

cine. On the eighth day after the operation the medicine was given correctly; but, when the bowels were about to move, the nurse, who should have supported the parts, was absent, and the patient got out of bed to the commode, and had a free movement, attended with pain and some bleeding. Up to this time the wound had progressed quite well in healing, but that unfortunate movement of the bowels, unaided by the nurse, tore the ends of the sphincter-ani muscle apart, and spoiled the operation to that extent. On the tenth day the sutures were removed. There was perfect union, excepting the ends of the muscle. The operation was a complete failure, so far as its main object was concerned. She was kept in the hospital for two days more, when it was found that, although her bowels were easily kept regular—a great improvement on her former state—she had very little more control of the rectum than before the operation.

Three months after this she was again persuaded to try to obtain relief, and she was placed under the care of a more competent nurse, who followed directions regarding preparatory treatment, including the manipulation daily of the sphincter ani, and at the end of a week another operation was performed to restore the sphincter. The stretching of the muscle backward with the finger in the rectum as practiced by the nurse was more effectual than in cases in which the rupture is complete. The part of the pelvic floor which was restored by the operation gave some support to the severed ends of the sphincter, so that when traction backward was made the muscle became considerably elongated; and when the second operation was undertaken the parts were sufficiently relaxed to facilitate the necessary manipulations.

The patient, well anæsthetized, was placed in Sims's position, a small speculum introduced into the rectum posteriorly, and traction made backward, while with a strong tenaculum, fixed in the margin of the anus anteriorly, the ends of the muscle and the intervening tissues were brought into view. The end of the muscle of the left side was seized in the tissue forceps and denudation made from the left to the right-side end of the muscle. The vivifying included both ends of the muscle and extended upward on the anterior rectal wall about half an inch. The sutures, three in number, were introduced in the same way as in the first operation. Some trouble was experienced in curving the needle round through the tissues, but with the aid of an assistant, who passed his index-finger into the vagina and everted the rectum in front, all the sutures were accurately introduced.

On the third day after the operation a dose of the senna and salt was given in the morning, and at noon the bowels were moved in a rather novel way. An apparatus constructed upon the principle of that used by Professor Bigelow for evacuating fragments of stone from the bladder was employed to wash out the contents of the rectum.

Two nurses use this instrument as follows: One passes the tube into the rectum, carefully making continuous pressure backward to avoid pressing upon the edges of the wound, while the other nurse, closing the escape tube and opening the stop in the fountain syringe, instills the solution of soap and water. When half a pint has been introduced, the supply is cut off and the evacuation tube opened. If the contents of the rectum do not flow out, the bulb is pressed and relaxed after the manner of using a Davidson's syringe. This process is repeated until the bowels are freely evacuated. The bowels were moved in this way until the twelfth day (the sutures were removed on the ninth); after that the bowels were moved daily by the senna and salts. At the end of three weeks the restoration of the muscle was as perfect as could be, and she was dismissed with complete retaining power.

This case illustrates the danger there is of the ends of the sphincter muscle being torn apart when the bowels are moved. A skilled nurse, well used to the management of such cases, can do much to avoid this unfortunate accident, and yet when all care is exercised it will often happen. In order to avoid this, several ways have been tried. Keeping the bowels confined for ten or twelve days was the fashion for a long time. More recently some operators have kept the bowels free by laxatives that rendered the contents fluid and procured an evacuation every day after the second day from the operation. I have tried both, and now prefer the reflux-catheter evacuator when a nurse can be obtained who knows how to use it. When this is not possible, I prefer to render the bowels soluble and to move them every second day—beginning on the third day after the operation.

When union is obtained, excepting of the sphincter muscle, as in the case just related, and a second operation is performed, some operators prefer to begin *de novo*, dividing the united portion and then proceeding as in the primary operation. I much prefer to keep all that has been gained and to restore the sphincter in the way already described. I was first induced to adopt this method in a case that had been twice operated upon before she came to me with the result of restoring all but the sphincter. So much tissue had been removed that I dared not risk a possible complete failure, hence I attempted to restore the sphincter in the way just described, and with success. My second case of this kind was one in which complete laceration occurred in her labor: primary union, without sutures, of the perineal body took place, but not of the sphincter. Since then I have repeatedly operated successfully in such cases of partial failure in my own practice and that of others.



FIG. 25.—A is a hard-rubber rectal tube bifurcated at B C; B, which is the supply tube, is attached to a fountain syringe, and C is the evacuator, composed of a soft rubber bulb, D, with an escape tube, E. In other words, it is a large reflux catheter with a rubber bulb in the escape tube for the purpose of facilitating the outflow.

OPERATION FOR RESTORATION OF THE PELVIC FLOOR IN SUBCUTANEOUS LACERATION BETWEEN THE VAGINA AND RECTUM.

This operation is the same as when the laceration involves the skin and mucous membrane also, excepting that the whole of the skin and mucous membrane occupying the position of the perineal body is removed. Before beginning the denudation the tissues in front of the sphincter should be seized between the thumb and finger. This will indicate the extent to which the tissues should be removed. While the parts are thus held in the finger and thumb, cut with a tissue forceps, the whole mass should be removed with one sweep of the curved scissors. After this is done, if there is still some loose tissue lying over the muscular structures below and on either side, it should be removed

The sutures are introduced as in the ordinary operation, special care being taken to pass the sutures deep into the muscular tissues, and to use plenty of them. At the present time I see accounts in the journals of restoring the perinæum with one suture. I have seen some of this so-called restoration, and found the results utterly useless.

A Typical Case of Subcutaneous Laceration, belonging to the Second Class described in the Classification.—This patient was the wife of a physician; I give the history as I obtained it from her husband.

The patient was thirty-three years of age, the mother of two children; the first born on March 29, 1880, and lived eleven hours; second born September 9, 1881, now living; and one miscarriage since the operation in February, 1884.

The first labor was tedious, lasting from Friday at 8 A. M. till Monday at 2 P. M.—seventy-eight hours, but accompanied with no after ill-effects of any note. In the second labor, though normal in duration, from its inception until the completion of the first stage it was observed that the presenting head was very low in the pelvis, resting upon the posterior wall of the vagina with the cervix looking toward the hollow of the sacrum, and unevenly dilated, the anterior lip being much thicker than the posterior. As the head descended toward the vulva the recto-vaginal tissues were pushed before the head and extended beyond the vulva on the perinæum. The anterior segment of the cervix, descending in front of the head and tightly grasping it, had to be pushed upward in the interval between the expulsive pains and held until complete extension occurred and the delivery was completed. Nothing of note transpired during the lying-in period of sixteen days, excepting great difficulty in moving the bowels.

Upon taking an upright position, it was found that the protrusion or prolapse which was noticed at the time of delivery was still present, and complaint was made of the feeling that "everything was falling out"; from this time onward defecation could only be accomplished by pushing the protruding mass well back into the vagina. Her subsequent health was bad; rapid loss of flesh and strength followed; nervous prostration, impaired digestion, and loss of appetite supervened, totally incapacitating her for her usual duties. One month after confinement she had a very painful attack of mastitis, which, however, did not go to the stage of suppuration, but further prostrated her, accompanied as it was by aphthæ, ulceration of the cornea, facial neuralgia, etc. These sequelæ, together with over-lactation, carried on for fourteen months, naturally first retarded and then prevented the proper involution of the pelvic organs; and the prolapse of the recto-vaginal wall, dragging down the heavy uterus, caused constant distress, pain, and suffering, physical and mental. Constipation of the most intractable kind now existed, and the bowels could only be evacuated by liquefying their contents with purgatives aided by enemas.

Examination made twelve months after confinement revealed a slight prolapse of the anterior vaginal wall, bladder, and urethra, extensive prolapse of the posterior wall, which caused the rectum to be drawn forward through the ostium, forming a sac-cele. The uterus was three and one fourth inches in depth and retroverted. The mucous membrane of the vagina and the integument of the pelvic floor presented no appearance of having been ruptured at any time, but there was not a sign of any muscle or tissue in the center of the space between the vagina and rectum.

May 19, 1883.—The operation was performed in the way described above. The following is added to the doctor's report by the author:

After rallying from the anæsthetic, great pain at the seat of the upper stitch was complained of, necessitating the free use of opium to allay it. For eight days the urine was drawn by catheter, the patient being unable to void it at any time when lying in the dorsal position. Twenty-four hours after the operation the bowels were readily moved by a single enema, and for several days acted without resort to any provocative. Two of the sutures were removed on the eighth day and the balance on the tenth day, with perfect union throughout, and three weeks from the day of operation the patient was up and around the room.

From this time on the improvement in every particular has been rapid and uninterrupted, with an entire disappearance of the prolapse, though the uterus remains considerably retroverted, which position it had held for years before the marriage of the patient. At this time, fourteen months after the operation, there has been no return of the former trouble, though she performs all her domestic duties and can exercise without fatigue or distress. At the time of making this report she weighs over twenty pounds heavier than she did one year ago, and to every appearance is in perfect health.

Central Laceration down to the Sphincter Ani, complicated with Temporary Relaxation of all the Muscles of the Pelvic Floor, and Prolapsus of the Recto-vaginal Walls.—The patient was twenty-seven years old, well developed, and in good general health. She had been married four years. She had had two children, the first sixteen months old and the second five months. Her second labor was tedious and difficult; the cause unknown. Two weeks after her last confinement she entered actively upon her household duties, and very soon afterward began to suffer from pelvic tenesmus, which was much aggravated by the erect position. Being of an active disposition, she persisted in attending to her duties until her discomfort became so great that she was obliged to seek relief. When first examined, she said that in standing and walking she was tormented with a feeling of dragging downward in the pelvis, and lately had felt "something protruding from the vagina while in the erect position." Her bowels had usually been regular, but lately she noticed that they moved with difficulty, as if there was some loss of expelling power, and when voluntary efforts were made to evacuate the rectum the recto-vaginal walls protruded.

All these symptoms were much relieved upon lying down. She weaned her child when it was three months old, because she had not much milk and her friends made her believe that her suffering was due to nursing. At the fourth month she menstruated, but, not being any better, she sought advice. The laceration was found to be as already stated. The transverses-perinæi muscles were still attached to the sides of the laceration, and by drawing the parts outward the vagina was distended laterally as well as antero-posteriorly. The distance from the vestibule to the anus was increased by the downward and backward displacement of the posterior portion of the pelvic floor. The posterior rectal wall and the anterior vaginal wall were found lying down upon the sphincter-ani muscle, and when the patient coughed or strained down they protruded a little beyond the line of the anus. There was also commencing prolapsus of the base of the bladder and anterior vaginal wall. By passing a large sound into the rectum it was found that the recto-vaginal walls, immediately above the sphincter-ani muscle, were very thin, indicating that the muscular coat of the vagina had been torn longitudinally, or else its attachment to the muscles of the pelvic floor had been severed; perhaps both injuries had occurred.

The patient was prepared for the operation in the same way as in the case just related. The denuding was made in the usual manner, but was carried upward on each side nearly half an

inch above the outline of the scar of the original laceration and about three quarters of an inch broad from without inward. The mucous membrane was also removed upon the vaginal wall up to the point where it came in contact with the anterior vaginal wall; that was made the apex, or most prominent point of the vivifying. This was much beyond the limits of the laceration. The object in vivifying the tissues so high up on either side was to secure the ends of the bulbo-cavernosus muscle in the wound in order to reunite them, and for a like reason the vivifying was made high upon the vaginal wall in the hope of uniting its muscular coat to the muscles of the pelvic floor. When the parts to be united were vivified it was found that all that remained of the vaginal wall at that point had been removed, leaving nothing but the rectal wall. This was not owing to having removed too much tissue, but because the muscular coat of the vagina had been destroyed by the original injury. There was free hæmorrhage, especially from the veins in the deep portion of the wound, but the sutures controlled it. The first suture was passed round wholly within the tissues, but the next ones were passed deep in on one side, then out and across in front of the rectum, and finally through the other side, the object being to bring the sides of the wound together in front of the rectum. The fifth and sixth sutures were passed through each side and through the middle coat of the vagina, and the seventh through the sides only.

After tying the sutures and placing marine lint over the wound, an abdominal bandage was applied, and a narrow perineal bandage attached to it and fastened rather firmly. When the patient recovered from the ether she had vomiting, which lasted into the night; she also had sharp pain, which, toward the morning of the following day, was accompanied with severe rectal tenesmus. This prevented her from sleeping, and made her quite weary. The pain and tenesmus were caused, I am sure, by the fact that one or more of the sutures must have been passed through a portion of the rectal wall. I took pains to avoid the rectum, but must have failed to do so altogether. A suppository of morphin. sulph. and ext. belladonnæ, each a fifth of a grain, was used night and morning to relieve the pain, which did not subside wholly until the morning of the fourth day. She took very little nourishment—nothing solid until the fifth day. On the evening of the fourth day she had a dose of pulv. glycyrrhizæ comp., and at noon on the fifth day an enema; it moved the bowels, and from that time they were kept regular by the same means. After the second day the perineal bandage was removed altogether and the lint dressing continued. On the fifth day after the bowels moved there was a slight discharge from the vagina containing traces of pus. She was then ordered a vaginal injection of sulphate of zinc, sixty grains to a quart of warm water, given with the fountain syringe at low pressure, so as not to distend the vagina too much. This was continued once a day until the eighth day, and after that twice a day for another week. She was unable to urinate, and hence the catheter had to be used until the tenth day after the operation. This gave rise to a slight cystitis; it was treated by a teaspoonful of sweet spirits of niter in a small glass of flaxseed-tea every five hours, continued for three days. The sutures were removed on the tenth day, and union appeared to be complete. She was not permitted to leave the bed until the eighteenth day. The vaginal douche of zinc solution was continued up to the next menstrual period, and resumed after it stopped, and continued for two weeks longer.

She was examined two months after the operation, and the result was found to be perfectly good.

Laceration of the Levator-ani Muscle and Laceration in the First Degree in the Median Line of the Pelvic Floor.—The patient was thirty-four years old, and had three children—the eldest ten and the youngest three years of age. The last child was delivered with forceps, and she dates the beginning of her trouble to that time. She gave the symptoms of displacement of the pelvic organs in a marked degree. Standing and walking caused great distress. She was constipated, and had great difficulty in evacuating the bowels. She felt that the rectum had lost its expelling power, and, when she made voluntary efforts during defecation, the vaginal walls protruded.

The laceration in the median line was not more than half way down to the sphincter-ani muscle, but the parts were relaxed, and both vaginal walls prolapsed. The uterus was also retroverted and low down. There was complete separation of the transversalis-perinæi muscle, and the bulbo-cavernosus muscle was either lacerated or else overstretched, so that it was functionally imperfect. The posterior half of the pelvic floor was displaced downward, and the levator-ani muscle did not contract on being stimulated. The touch also showed that the levator had apparently become atrophied. Rest in the recumbent position for two weeks, and support of the pelvic floor and uterus by a tampon in the vagina and a perineal bandage, did not restore the tonicity of the pelvic floor sufficiently to encourage a continuation of that treatment. It was now evident that the levator ani could not be restored. I then decided to operate with the hope of restoring the bulbo-cavernosus and transversalis-perinæi muscles and indirectly uniting them to the sphincter-ani muscle, to compensate, as far as possible, for the loss of the levator.

The operation was the same as that performed for subcutaneous laceration in the median line, excepting that all the tissues were removed down to the sphincter ani, and the denudation was carried high up in the posterior vaginal walls and on each side. Care was taken to support the pelvic floor during the healing process, and the nurse protected the parts with counter-pressure when the bowels moved. Good union was obtained, and at the end of a month it was evident that the muscles had been restored, excepting the levator ani. The loss of this muscle was, to a considerable extent, compensated for by the restoration of the other muscles, but there was still sagging of the posterior part of the pelvic floor. The patient was not permitted to walk or stand much for a month, and the retroverted uterus was kept in place with a pessary. She was greatly relieved, but, at the end of a year, she still was unable to take her full share of active exercise without supporting the parts with a perineal bandage. With the aid of this support her usefulness was nearly restored, but she was not cured completely.

Atrophy and Permanent Paralysis of the Muscles of the Pelvic Floor.—The patient was forty-three years old when first treated; she had had two children, the youngest fifteen years old, and a large number of miscarriages. Her first labor was tedious and instrumental, but she made a fair recovery. When first seen there was a general sagging of the pelvic floor, great distension of the vulva, rectocele and vesicocele, and prolapsus of the uterus. There had been a very slight median laceration of the skin and mucous membrane, and evidently complete subcutaneous laceration of the muscles at the median line. At that time, fourteen years ago, I did not understand the nature of such cases, hence I followed the authorities and treated her in the usual way. She was placed in bed and the pelvic organs kept in position, and, when the parts had apparently improved in nutrition sufficiently to give prospects of healing, the usual operation was performed. The result was apparently all that could be desired when the sutures were removed. So far as the shape and quantity of tissue was concerned, the perineal body was restored, but it proved to be functionally useless. As soon as the patient returned to her usual habits of

life the vaginal walls and uterus began to descend and put the central portion of the floor upon the stretch, which caused pain in the scar tissue, so that she suffered more than before the operation. The perineal body became thinned by distension until it was only a band not more than a quarter of an inch thick, stretching across from one side of the distended vulva to the other. Traction upon this band, of scar tissue mostly, caused by the protruding vaginal walls, gave such acute pain upon standing or walking that it was necessary to incise the parts. It is needless to say that she was not improved by the treatment. She passed from under my observation, but I learned that about a year afterward she was again operated upon by another surgeon with no better results. Nearly five years after my treatment she was found among the incurables.

Rigidity of the Muscles of the Pelvic Floor from Inflammatory Sclerosis.—The patient was a delicate blonde, twenty-five years old. She had measles at twelve years of age, and at that time had some inflammation in the region of the pelvic floor which terminated in a discharge of pus from the vagina. Ever since then she has had leucorrhœa. At puberty the menses appeared, and have continued normal. She was married six months before I first saw her. Coitus was found to be impossible, and all efforts to accomplish it caused her great pain. An examination revealed the fact that she had catarrh of the cervix and a vaginitis such as occurs in the strumous diathesis. The muscles of the pelvic floor were rigid and tender to the touch. It was presumed that, when the inflammatory disease of the cervix and vagina was relieved, she might be capable of fulfilling her social functions, but such was not the case. Nitrous-oxide gas was used to produce anæsthesia, and, with a Sims's speculum, the vulva was distended sufficiently to temporarily paralyze the muscles. Some laceration of the mucous membrane at the vulva also occurred, but when this healed the rigidity and tenderness of the pelvic floor were sufficiently relieved to permit the sexual function. About two months afterward the tenderness and rigidity of the muscles returned to a slight extent, but were promptly and permanently relieved by a repetition of the forcible distension with the speculum. Several years have passed since this treatment was employed, but there has been no return of the trouble.

THE USE AND ABUSE OF THE TAMPON IN ABORTION.*

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The tampon as a means of arresting hæmorrhage from the cavities of the body or from wounds has been known to the profession for many years. It seems a very natural thing, when blood is escaping with dangerous rapidity, to apply a plug of some sort to stop the leak. There are some things to be guarded against, however. That the bleeding is actually arrested, and not merely diverted into another channel, is of primary importance. Again, there are conditions in which the plug may do mischief. As applied to uterine hæmorrhage, these two elementary principles are so well known that no one will question the correctness of either. A woman with the vagina firmly plugged may bleed to death into the cavity of the uterus. A tampon allowed to remain too long may do harm in various ways. A tampon injudiciously applied may precipitate the catastrophe it was intended to avert. Of this injudicious application of the tampon in cases of threatened abortion it is the purpose of this paper to treat. It is not proposed to present any novel views upon the subject, or to attack the position taken by our text-books, but simply to emphasize the teachings of the books and to invite retrospection of individual practice with a view to ascertain whether we have followed our teachers, or whether, in departing from them, we have acted wisely. This thoughtful retrospect may result in the salvation of valuable lives. It may reveal to us that by our untimely interference noble men and virtuous women have been lost to society. There are no doubt many living to-day who were once threatened abortions. If, through the caution inspired by this paper, this number is increased even by a single unit, the writer will feel that it has not been written in vain.

A generation yet unborn may rise up and call us blessed because we refrained from the use of the tampon in a critical period of their existence.

It is gratifying to note that the authorities, however diverse in their teachings upon other points, are quite unanimous regarding the use of the tampon in abortions. They agree that its use should be limited to two indications: 1. Hæmorrhage compromising the safety of the mother; 2. When the abortion is inevitable. They also agree that the use of the tampon renders abortion probable, if not inevitable. As to symptoms of inevitable abortion, however, there is considerable diversity. Perhaps it will render these points more tangible and the conclusions it is intended to base upon them more convincing, if the views of some of the leading authors are presented in brief.

Leishman (p. 124 *et seq.*) says: "In the first three months the only danger is hæmorrhage, and this not alarming." "If it is so, plug the vagina." "Avoid plugging, if possible, unless all hope of saving the fœtus is gone. It is a source of reflex contraction, and may hasten labor in a hopeful case." He further states that there is no danger of internal hæmorrhage before the sixth month, and considers plugging admissible even in the sixth month. He also advocates plugging in hæmorrhage due to retained placenta.

Playfair (pp. 222, 225 *et seq.*) says: "When the abortion is inevitable, we may plug the vagina for hæmorrhage." "The plug itself is a strong excitant of uterine action." "If we find the os beginning to open—if we are able to insert the finger through it so as to touch the ovum—especially if pains also exist, we are justified in considering the abortion as inevitable."

But he also uses the plug (p. 225) when the os is not dilated.

Tyler Smith (pp. 193, 195 *et seq.*), speaking of the general treatment of abortion, says (p. 193): "It must always be borne in mind that, in diet and medicine, any agents which excite contractions of the uterus may arrest the hæmorrhage for the moment, but with danger of exciting further separation of the ovum." Uterine contractions are also excited by "the linen plug, if it be large enough to irritate the vagina mechanically." "The indications which should make us abandon all hope or intention of saving the ovum are: sudden losses of blood to such an extent as to imperil the life of the mother, or such a continuous drain as seri-

* Read before the Buffalo Obstetrical Society, March 24, 1885.

ously to endanger her health, it being also certain, or nearly so, that the ovum is diseased or already dead. If, on examination, we can feel the ovum at the os uteri, or within the cervix uteri within reach of the finger, we may be certain that its expulsion is only a question of time. As a rule, there is little hope of saving the ovum after the rupture of the membranes and the discharge of the liquor amnii. I have, however," he avers, "seen at least one case in which gestation went on to full term after the discharge of the liquor amnii at the fifth month. Fœtid discharges, particularly in early abortions, are a pretty sure sign of the death of the ovum."

He recommends plugging for serious hæmorrhage if the os is so tight that the finger can not enter. "If, however, it is necessary to continue the plugging for any length of time, the uterus becomes excited by the mechanical irritation and throws off its contents."

He advocates, in cases of inevitable abortion, the immediate emptying of the uterus by means of the finger, if possible to enter it; if not, to dilate with a tent, which at the same time serves to check hæmorrhage.

Schröder (pp. 151 *et seq.*) says that in certain cases "the hæmorrhage renders the tampon necessary, in consequence of which the cervix is dilated and the remains of the ovum expelled."

"It is an important point in the treatment never to give up the idea of preventing the abortion as long as a part of the ovum has not already passed out of the external os." "Even if the cervix is already dilated, and the ovum felt penetrating into it, the hope of stopping the abortion must not be given up." But, when profuse hæmorrhage threatens the life of the mother, "immediately the tampon should be applied to the vagina."

Schröder evidently takes a more sanguine view of the possibilities of arresting the abortion than Tyler Smith or Playfair. According to the latter, in nearly every case where abortion is imminent it is inevitable.

Cazeaux (p. 574) takes the ground that "abortion is inevitable only when the fœtus has ceased to live or when the separation of the placenta and the rupture of the utero-placental vessels are so extensive that the remaining utero-placental attachments are unequal to the support of the fœtal respiration." This is much the same as saying that abortion only becomes inevitable when the fœtus is dead or about to die. He considers, however, that the escape of the amniotic fluid or a copious hæmorrhage renders abortion inevitable. He advocates the use of the tampon to arrest hæmorrhage if dangerous, and to excite uterine contractions (p. 384) even into the fifth month. He adds: "it should be remembered that its use is almost always followed by abortion, and that it should be had recourse to only when the latter seems to be inevitable."

Verrier says of the tampon as a means of arresting hæmorrhage: "Before tamponing, all other means should have been used. The tampon is a plug stopping the flow and facilitating the formation of coagula, which increase the energy of the contractions and inevitably promote the abortion."

"As long as the ovum is intact there is no danger of the blood filling the uterine cavity; but, if the membranes are ruptured and the fœtus expelled, the tampon can not be used." "The tampon should only be employed when we can not possibly check the abortion, or when the mother's life is in danger from hæmorrhage."

Verrier agrees with the other authors in treating every doubtful case as though the abortion could be arrested. Could we be sure in a given case that the fœtus was dead, the indications would be clearly to empty the uterus as speedily as possible. But the death of the fœtus can only be inferred in most cases. There are no positive signs of fœtal death prior to the fifth month, and even after this time the absence of signs of life is not always proof of death, and from the fourth month onward the danger of the occurrence of abortion rapidly diminishes. Again, as to when hæmorrhage becomes dangerous the books are quite at one. All seem to give assent to what Schröder writes, that hæmorrhage to syncope does not portend death or impaired health to the mother. It is rare that a woman dies of the hæmorrhage of abortion. "It may go on to the highest degree of anæmia, syncope, and pulselessness, but is very seldom followed by death. As a rule, the bleeding is stopped by the syncope." Yet, "the hæmorrhage may sometimes, even in the beginning of abortion, more frequently after the expulsion of the ovum, be so considerable that her life is endangered."

Lusk, in speaking of the treatment of abortion, uses the following language: "In cases of ascertained death of the fœtus and in those of inevitable abortion, all measures calculated to retard the emptying of the uterus should be at once abandoned. In the first four months there are no unequivocal signs of the death of the fœtus. From the middle of pregnancy onward death may be assumed if, after repeated examinations, the absence of the fœtal heart-sounds and fœtal movements is confirmed. The signs of inevitable abortion are profuse hæmorrhage, clots discharged from the uterus, dilatation of the cervix from the descent of the ovum, and a patulous condition of the os externum. Other symptoms consist of persistent uterine contractions, escape of the amniotic fluid, and the presence of the embryo or portions of the ovum in the discharged clots." He admits that the ordinary signs may be delusive, and cites a case reported by Scanzoni where there was profuse hæmorrhage in the third month, with the discharge of a great number of clots. The abortion being apparently inevitable, ergot was used in large doses, a tampon was placed in the vagina for thirty-six hours, a sound was employed to explore the uterus, and finally, as the bleeding persisted for three weeks, a solution of perchloride of iron was injected into the uterus. Eight weeks later the patient quickened and presented the characteristics of pregnancy advanced to the sixth month. Cazeaux, Tyler Smith and others have recorded cases of arrest of the threatened abortion under conditions equally hopeless.

Lusk uses the tampon in cases of rupture of the sac with the os undilated. He implies, if he does not so assert, that the hæmorrhage of abortion is seldom dangerous, and, when it is so, can be controlled better by other means—hot water especially. In the class of cases men-

tioned he employs it for three ends—to check the bleeding, excite contractions, and give time for an exhausted patient to rally.

Now, out of this mass of authority, sometimes conflicting but generally unanimous, what deductions are to be drawn?

That the tampon is to be used as a last resort, and only where the hæmorrhage is dangerous or the abortion clearly inevitable. We have, moreover, the observation of so experienced an obstetrician as Schröder, that the hæmorrhage of abortion is seldom dangerous and scarcely ever fatal—a view which Lusk seems to share. Of course, in their hospital experience, a physician is always at hand to meet any emergency, while in private practice, and especially in the country, another condition of things prevails. Yet it seems that enough has been said to indicate plainly that the routine practice of plugging, in threatened abortion with but slight hæmorrhage, merely as a precautionary proceeding, has no countenance from the authorities. Practitioners' views as to when hæmorrhage becomes dangerous, or as to when an abortion is inevitable, naturally vary. We have seen that it is upon these points only that the authors cited fail to agree.

Besides the natural bias of the physician's mental make-up—his individual, personal equation—his views will vary as his experience has been large or small. To a beginner, the loss of a slight amount of blood from the uterus of a pregnant woman is fraught with direful forebodings. As his experience widens, hæmorrhage will become dangerous less frequently, abortion will take its place under the inevitable class with much less facility, and the tampon will be employed only to fulfill its two legitimate indications.

The young practitioner is not the only offender in the over-free use of the tampon. His older brother may well look to the well-worn grooves in which his practice moves more or less smoothly to discover whether he, too, is not a devotee of the tenet that the fœtus has no rights which the physician is bound to respect.

In conclusion of this imperfect exposition of a really important subject, let the axiom be laid down that the tampon is legitimately employed only when for good and sufficient reasons it is necessary to terminate gestation.

CASES BEARING UPON CERTAIN MOOTED POINTS IN SYPHILOLOGY.*

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THE EXCISION OF SYPHILITIC CHANCRE.

Case I.—In 1884 a medical gentleman from a neighboring State called at my office to show me a small pimple situated upon the middle portion of the integument of the dorsum of the penis. The lesion was an acuminated papule, not capped by a pustule. The epidermis was unbroken. The color was slightly livid. The size about three-sixteenths of an inch at the base. There was no appreciable induration. Indeed, the lesion had no pronounced specific character. It was not painful. There was no inguinal glandular engorgement. The lesion had appeared during the afternoon of the day before I saw it. It was less than twenty-four hours old, and the patient ascribed it to suspicious sexual contact dating back two weeks. The integument of the penis and of the rest of the body was normal, the general health good.

A diagnosis was impossible, although the general appearance of the lesion suggested an accidental papule, and would have justified a favorable prognosis as to syphilis. Yet the patient was solicitous that something should be done.

Cocaine as a local anæsthetic was just coming into use, and I proposed to him excision with the aid of this agent. He gladly accepted the test. I washed the unbroken surface with a powerful solution of bichloride of mercury, one in two and a half, dried it, injected five minims of a four-per-cent. solution of cocaine, caught up the little papule, with a full margin of the ample soft integument around, and with scissors curved on the flat excised an abundant fold, including the lesion and considerable healthy tissue around. Two catgut ligatures upon bleeding veins and three catgut sutures promptly finished the operation and left the wound absolutely dry. The patient had not experienced a particle of pain. On his return home the doctor visited the suspected person, and found that she had a syphilitic eruption.

The wound healed promptly by first intention on the sixty-second day. After three or four days of premonitory fever, no medicine having been taken, the patient observed a mild roseola, which promptly disappeared. Fourteen days later he visited me. He had lost eight pounds in weight. In one groin were two indolent indurated glands, and there was one in the other groin. The site of the excised chancre was soft and perfectly well, showing only a faint linear white scar. There was intense rheumatism, worse at night. There were scabs in the scalp, and the hair was falling. A profuse general papular syphilide covered the entire trunk, the face, and both the palms. Mucous patches abounded in the mouth. The eruption was brilliant and abundant; the patient pallid.

The disease had not been interfered with by any medical treatment, and was a plain instance of a sharp attack of syphilis which had not seemingly been in any degree modified by the excision of the initial lesion, although executed under unusually favorable circumstances.

This case I consider worthy of record because it fulfills the most exacting conditions for testing the question, still under consideration in the profession, as to whether syphilis is or is not already a constitutional disease when the chancre appears.

I do not care to tabulate statistics of the excisions practiced by various operators. The *résumé* of Dr. Morrow,* in December, 1882, covered enough cases to allow generalization, and nothing which I have seen since that date has modified the conclusion he seemed justified in drawing—namely, that the excision of chancre does not attenuate the poison of syphilis or modify the general symptoms.

Berkeley Hill's case,† it appears to me, carries more weight than any other reported before or since. A man tore his frænum during intercourse at 4 A. M. At 3.30 P. M. on the same day—less than twelve hours after the exposure—Hill destroyed the entire raw surface with fuming nitric acid. An eschar separated, and the wound healed. A

* Read before the New York surgical Society, April 14, 1885.

* "Journal of Cutaneous and Venereal Diseases."

† "Syphilis and Local Contagious Disorders," Hill and Cooper, 1881, p. 76.

month later the cicatrix indurated and general syphilis followed.

My own opinion has been strongly opposed to the belief that local excision of chancre would prevent or modify general syphilis. I have offered the treatment to many, but, as I never felt conscientiously at liberty to promise any advantage as a result of the operation, my proposition has been declined. I would not have operated in this case except to test the cocaine, and because the patient, being a physician, earnestly desired it.

My case is quite analogous in its history and result to one reported by Dr. R. W. Taylor,* where a papule was excised upon the day on which it appeared, with no advantage to the patient, whose general symptoms came out in two weeks. It is on a par with others where early excision was practiced in vain (Mauriac—forty-eight hours).†

I have recently also encountered another case in point (unpublished):

Case II.—X., aged thirty-seven, came to me in January, 1885, stating that in November, 1883, he noticed a small chancre on the penis. This was excised on the first day, and the wound promptly healed. In six weeks he had a general roseola. He is now in his second year, having had numerous eruptions, and been plentifully treated in various ways, including forty-five-grain doses of the iodide of potassium three times a day, and a course of eight weeks at the Hot Springs, during which time ten ounces of blue ointment were rubbed into him. He came to me for some small gummatous tubercles upon the face, and is still under treatment. In this instance surely the excision did not formally modify the intensity of the disease.

A medical friend, who wishes to be nameless, has recently reported to me a case of excision within twenty-four hours of the appearance of the lesion, in which general symptoms (roseola) appeared upon the thirty-second day. In other words, it has not been my good fortune to meet with any case where excision was practiced with a favorable result.

I think it not difficult to understand how apparent success may follow excision when we remember the multiple sources of possible error in diagnosis; and particularly is this the case in Germany, where the best results are alleged (30 to 50 per cent.), for there the advocates of excision are all unicists (notably Auspitz and Kaposi), and are doing their best to return all primary venereal sores into that chaos from which Bassereau and the French school have endeavored to deliver them.

The sources of error to which I refer are:

1. Inflammatory induration of lesions not syphilitic.
2. The small ulcerated gumma of the penis.
3. Non-specific sores which resemble the infecting chancre.
4. Cases of delayed syphilis.

I need not cite instances of the first two classes mentioned above. We are all familiar with the local sore of unknown incubation, with a hardness so nearly typical that we can not ignore its peculiar quality, yet where observation without treatment has proved the absence of any true venereal taint.

The localized gumma commences as a tubercle under the skin, has all the essential hardness, and sometimes the inguinal indolent adenopathy. Its physical characters might deceive any one. It may come upon one in seemingly vigorous health, and be the only lesion present. The patient may have forgotten his old syphilis, the last symptoms of which occurred, perhaps, ten years before. I have had more than one such case. If, now, this individual has had suspicious sexual contact a month before the sore appears, his is very apt to be considered a case of re-infection. These localized gummata (pseudo-chancres) have a marked partiality for occupying the site of the original chancre—but this is not an invariable rule.

Of the third class, a sore resembling but not being a specific ulcer in any poisonous sense, I have seen a number of examples. The most striking is the following. I have no theory upon which to explain it, but can affirm that I have never seen a more typical excoriated induration as a starting-point of syphilis than was this simple inflammatory hardening:

Case III.—A young man came to me about two years ago with a tight foreskin and a contracted prepucial orifice, from which a moderate amount of pus exuded. In the substance of the prepuce, at about its right lateral center, was a hard disc with clearly defined margins, insensitive, giving to the fingers about the feel one would expect to get from a disc of gutta-percha set into the foreskin. The patient could retract the foreskin formerly, and assured me that he had seen an ulcer on the inner surface of the hard spot so long as he could expose it to view, which of late had become impossible. The sore had appeared one month after intercourse. There were two or three indurated glands in each groin.

This boy had consorted only with one female. She would not allow herself to be examined. She shared her favors among a set of young men of whom several had been patients of mine for various disorders not syphilitic. These young men continued to consort with this woman before, during, and after the date of the alleged experience in this case. All remained well excepting one, who acquired mild urethritis from intercourse too near the menstrual epoch. After a local treatment of several weeks I was enabled to retract the foreskin and inspect the lesion. It proved to be a simple livid excoriation upon a sharply defined induration. There had been no true ulcer. The whole physical appearance of the lesion was that of infecting chancre. I concluded that it must be due to mediate contagion.

No internal treatment was ever given. I watched the case several months. The excoriation healed, the induration disappeared, and no symptoms of syphilis followed.

This case is unique in my experience. I believe it to have been an unusual form of simple inflammation, traumatic in origin, due primarily to the tightness of the foreskin. If it was syphilis, it was delayed syphilis.

I have seen a number of other traumatic lesions which might have been mistaken for the starting point of syphilis, but nothing so seemingly typical as this case. In any event such cases are not common.

DELAYED SYPHILIS.

Case IV.—A gentleman of thirty-seven called upon me in September, 1883. He stated that he had had an ulcer on the penis in August, 1880, which appeared three months after ex-

* "Venereal Diseases," 1883, p. 510.

† "Ann. de derm. et de syph.," July, 1881, p. 523.

posure. This was the first venereal symptom he had ever observed. The sore was treated locally. It healed within two weeks. No symptoms followed.

In April, 1883, more than two years and a half after the alleged chancre, he fell into a sort of stupor, with fever and rheumatic pains, especially of the feet. After three weeks a spotted eruption came out upon his palms which was pronounced to be syphilitic. Then his throat got sore, ulcers appeared in the mouth, the hair fell out freely, and, having been taking antisyphilitic treatment already for a few weeks, he became alarmed and went to the Hot Springs. There he was treated actively. In July he had some ocular trouble, which improved at the Hot Springs. At my examination I found two characteristic palmar desquamating spots and some mucous patches in the mouth.

This case, of course, allows of a suspicion of a new infection in March, 1883, but the patient, who was absolutely free in giving his history, disclaimed it.

Case V.—X., aged thirty, visited me in November, 1883, stating that five years previously he had a local set of lesions on the penis, for which he received no internal treatment. He remained well one year. Then painful lumps appeared under the scalp, the throat ulcerated, the bones of the nose came away, the middle ear suppurated, rupial eruptions, scaling spots, and papulo-squamous patches came out upon various parts of his body. Then he got heart flutterings, dyspnœa, vertigo, and dyspepsia. The patient denied any venereal malady up to the time of the sores first mentioned above.

Anything so irregular as these two cases, of course, is a matter of suspicion, but the unexpected element in syphilis is so common, and irregularities from the normal type are so constant, that I think it possible to accept them as instances of irregular or delayed syphilis.

These last-described forms of disease, capable of causing error in the diagnosis of syphilitic chancre, are very uncommon; the first two, inflammatory hardening of chancroid and local cutaneous gumma resembling chancre, are very common. Whether it is possible that observers so renowned as the German advocates of the excision theory could be mistaken in their diagnosis in such a large percentage of cases, I can not affirm. It seems improbable, yet it is more improbable that success should follow an excision practiced upon a chancre several days old, with the inguinal glands already involved, as has been alleged, and that failure should occur in cases like those I have narrated at the beginning of this article.

MEDIATE CONTAGION OF CHANCROID.

The mediate contagion of true syphilis is notoriously not impossible, several authentic instances of it being recorded. I do not remember to have seen the report of any case of the mediate contagion of chancroid, and therefore bring forward the following:

Case VI.—X., aged twenty, visited me in August, 1883, with an ulcer upon the penis behind the corona glandis, having a hard base. There was one hard gland in the groin, slightly sensitive. His history was as follows: After two months of continence he had cohabited with a woman who had formerly been syphilitic, but had remained free from symptoms for five years. This woman was the mistress of a friend. On the morning following intercourse the patient noticed an excoriation, which on the third day swelled up and discharged. It was then burned by a physician, whereupon the base hardened and the ulcer began to grow larger. I saw it on the twentieth day, when it had all the appearance of chancroid with an inflamed base.

Five days after exposure the patient had the woman examined. She was declared sound, except as to leucorrhœa. I pronounced the sore a probable chancroid, and urged a further search as to cause. The search developed the following facts: On the night before the day on which my patient had cohabited with the woman she had had intercourse with another person, and had remained partly intoxicated and lying quiet thereafter until my patient had cohabited with her. The man in question was followed up, and found to have a well-marked chancroid under treatment. This sore he possessed at the date of intercourse with the woman.

My patient's ulcer healed after six weeks. No syphilis followed. The woman did not acquire any sore, nor did the man who habitually lived with her.

THE HUTCHINSONIAN TEETH.

The test teeth of inherited syphilis are the two central permanent incisors in the upper jaw. They are known as the Hutchinsonian teeth, after the distinguished Englishman who first accurately described them.*

The broad, rather shallow groove on the cutting surface is the feature which distinguishes them. These teeth are often convergent or divergent, but may be straight, and they are often narrowed on the cutting edge, but not necessarily so.

I have here two casts of the upper set of teeth, showing the characters usually believed to indicate inherited syphilitic disease. (Fig. 1 and Fig. 2.) I present with them Hutchinson's original plate and photograph of the woman whose teeth are pictured in Fig. 2, showing the macular syphilide which was upon her when I first saw her. The patient whose teeth are represented in Fig. 1 had inherited syphilis. The patient possessing the teeth represented in Fig. 2 showed no sign of ever having had inherited disease, and came to me with fully marked secondary syphilis, which she had acquired from her husband. I think the case is interesting as illustrating the fact that teeth very closely if not identically resembling the test teeth of Hutchinson may

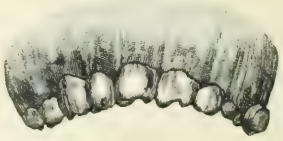


Fig. 1.

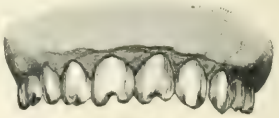


Fig. 2.

* "Illustrations of Clinical Surgery," London, 1876, Fasciculus III, Plate XI.

be possessed by a patient who has not inherited the disease. The cases are briefly as follows:

Case VII.—(To this case belong the teeth of Fig. 1. One of the outer incisors was crowded out of line by the contraction of the jaw, and appeared behind the alveolar border. It is not represented in the cast, which was taken by the husband of the patient, a plasterer by trade.) In 1878 I first saw this patient, fourteen years old, with a large gumma in the right axilla, then two years old. Her mother, who brought her, had an old syphilitic ulcer on the leg, at the bottom of which was a necrosed portion of the tibia. The child had also a large node on the left tibia. She had strabismus and bad headaches, with some scabs in the scalp. When five weeks old an eruption came out over the entire body, worse on the feet, and she has suffered from mottled, livid scaling spots and rheumatic pains ever since. Her treatment had been more or less constant since birth. The child was plainly a victim of inherited disease. The mother was frankly syphilitic, and had miscarried once and produced two dead children before the birth of this child. The father was also syphilitic (ulcers and nodes).

This patient had a variety of disorders, among which was sudden blindness for half an hour at a time; but she recovered of everything, even of her strabismus, under treatment; married at the age of seventeen, produced a healthy child, then took to drink, developed a well-marked tubercular syphilide on the arms, with ulcers on the scalp; miscarried five times in succession, and finally died.

Case VIII.—(To this case belong the teeth of Fig. 2.) Mrs. X., aged thirty-one, visited me in February, 1884, showing flat, mottled patches of a recent papulo-erythematous syphilide, covering the trunk and extremities, with a few spots on the face. She related that her husband had a sore upon his penis, and had given her a similar ulcer upon the vulva some weeks previously. The sore was well at the date of her visit to me. She showed also mucous patches in the mouth, indurated glands, falling of the hair, etc., and the teeth as seen in the cast.

Her father and mother are alive and well, she says. She herself has always been healthy. She has no scars, no syphilitic countenance, no history and no evidence of any inherited disease. She is robust and well formed, has had five healthy children, and laughs at the idea of having suffered from any inherited malady. Actually she has recent syphilis. In March, 1885, one year later, she returned, still under treatment at the hands of her own physician, and presenting well-marked clusters of tuberculo-squamous syphilide in patches upon various parts of the body. The photograph shows the appearance of the first eruption on the chest.

THE ADMINISTRATION OF THE IODIDE OF POTASSIUM IN MILK.

I wish to add a word in favor of milk as a most suitable vehicle in which to administer the iodide of potassium, notably in cases where large quantities of the drug have to be used. Several years ago a patient first called my attention to the fact that he could take his dose of iodide of potassium in milk without minding the taste, which otherwise was very offensive to him.

I adopted the suggestion at once, and found it of great service in many cases. Ten grains or more of the iodide in a gill of milk (cold) makes a very palatable drink, and imparts only a mild metallic taste to the fluid, which most patients find not at all disagreeable. I have used this method in a routine way with the happiest result in several instances in those desperate cases where some portion of the nervous system gives out, food is unpalatable or can not be taken, and the indication is, disregarding all else, to push the iodide rapidly to the point of tolerance. In such a case no time can be lost, and a fixed routine system which shall accomplish all the needs of nourishment as well as medication is a very valuable factor in the treatment. I will cite one illustrative case out of a number in which I have used the method:

Case IX.—In the summer of 1883 a gentleman was referred to me from another city with precocious malignant syphilis (rupial in type) and a feeble stomach. He could not digest the iodides well, as they deranged his stomach and caused disfiguring acne, a twenty-grain dose of the iodide of sodium being too much for him.

His symptoms gradually disappeared, he returned home, and for about a year did more or less well and badly until his physician, one of the most thoroughly competent gentlemen in the profession, concluded that the antisyphilitic treatment was keeping his stomach so constantly deranged that he was suffering more from treatment than the disease. He therefore omitted medication for a time, and again sent the patient to New York to see me.

He came to the city and remained in his hotel two days, not calling upon me and feeling rather better, but being much excited at night and sleepless. His only active symptom was one ulcer on the arm. On a given day, at noon, while lying quietly on a lounge in his room, he got up to cross the floor. Having accomplished his object upon the other side of the room, he turned to go back, but, when half way across the floor, without warning or pain, he suddenly fell in a heap upon the floor (his age was thirty-six), without loss of consciousness, and found himself unable to get up or to speak. I saw him shortly afterward, and found him totally paralyzed upon the right side and aphasic. He had no heart disease of any kind, and the only premonition of the attack had been a certain recurring numbness of the fingers and toes of the *left* side during each of several days before the attack. I procured a day and a night nurse, and ordered quiet and the cessation of all habitual food, drink, and medicine, and instructed the nurses to give him each hour, night and day, ten grains of the iodide of potassium in a claret-glass of milk.

He took it all, nearly three quarts of milk and 240 grains of the iodide of potassium, in the first twenty-four hours. A laxative was the only other thing allowed. I increased the daily dose two drachms each second day, and after a week employed also inunctions of mercurial ointment, which I pushed rapidly until the gums were mildly touched.

During the second week his daily dose reached an ounce and a half of the iodide. He took no food whatever except the milk in which his medicine was given, and he took an occasional laxative. His tongue cleared, the acne disappeared from his face, and early in the second week he began to move his arm and leg spontaneously. Electricity and massage were now added, and in one month from the date of the attack he left the city, walking with a cane and dragging his foot slightly, but talking about as naturally as ever and looking exceedingly well. The daily dose was then ten drachms taken in four separate portions, for as he got better I gave up the hourly medication, and allowed him to eat.

The patient is still under observation, doing well, taking ten drachms of the iodide a day, which he has been continuing for several months, and promising nearly, if not quite, a perfect recovery.

1 Park Avenue, New York. *April 14, 1885.*

HEREDITARY CHOREA.*

By CLARENCE KING, M. D.,

MACHIAS, N. Y.

Chorea is a term applied to a functional disease of the nervous system characterized by "an irregular convulsive action of the voluntary muscles of a clonic kind, especially of the face and extremities, these movements being either entirely withdrawn from the control of volition, or but little under the direction of the will." The hereditary type is a quite rare form of the disease, and has received little or no attention from authors on medical subjects, especially those of an early period. But the uniformly grave nature of the disease and its marked tendency to direct transmission from parent to child seem to demand a more thorough and extended study of its pathology and mode of treatment than it has yet received.

The causes giving rise to its development are yet clouded in obscurity. Probably they were the same, originally, as those which are followed by the ordinary St. Vitus's dance, modified, perhaps, by a peculiar disposition of the individual, by some pre-existing malady, or by some unexplainable intellectual influence, self-indulgence, bad education, and the like. And it is even possible that marriages between persons of a weak or deranged nervous organization, continued for several successive generations, may so intensify the original defects as to result in the disease under consideration. And it is in this way that it may first make its appearance, and, finding like soil in the offspring, favored, perhaps, by another improper marriage, the hereditary tendency is developed. The difficulties of ascertaining the original causes of this disease will not be ignored if we consider that it is not until nearly the thirtieth year that it shows itself in the offspring, thus satisfactorily demonstrating its hereditary character. To trace back at that late day the course of the parental disease and seek out its blind or hidden causes is a task of no trivial proportions.

The tendency to heredity, when it has become fully developed, presents a sad, yet, to the medical man, interesting theme for study. It may be that only one child of a family of several with a parent thus affected will fall a victim to the disease, but that child's children may all have hereditary chorea when they arrive at a proper age. In this way it may pass through several generations, until, at length, it may disappear entirely, either from one generation escaping it, or from the last generation dying childless. And it appears, from my own research and from what authority I can find on the subject (with the exception of the letter of Dr. Waters published by Professor Dunglison),† that when an individual of an affected family escapes, his children and descendants are forever free from chorea, unless developed anew as an original disease. Dr. Huntington, of Long Island, affirms that in the choreic families observed by him, with his father and grandfather, also physicians, it was never known to overleap a generation to appear in the next. There has come to my notice a family in which this disease has prevailed for at least four generations, and from which most of the observations of my own are drawn. The first patient known to have had hereditary chorea was the great-grandfather of the patients now living. To him were born ten children, four of whom became sufferers from this disease. Concerning three of this number I am unable to obtain any history further than that they each had children who finally developed hereditary chorea. Of the fourth child the history is complete. He had nine children, and only one of the number had the disease. Of the eight who escaped, each has had children, and, although they have all reached the age at which the symptoms usually appear, none of them show any indications of a choreic character. But to the unfortunate one of this family who had the disease five children were born, three of whom were attacked and are the patients now suffering from it. These three patients have no children, and, in all probability, upon their death the disease will become exterminated, at least so far as this branch of the original family is concerned. The two other children are married, but their progeny have not reached the age at which hereditary choreais developed.

Of the pathology of the disease little is known. From the similarity of the hereditary form to the ordinary non-hereditary variety as it appears in children, it seems to me that we are justified in considering the pathology of the hereditary as nearly identical with that of the non-hereditary form. But the pathology of the ordinary form is not so clearly understood by students of morbid anatomy as we could wish; yet, from the unusual interest manifested by investigators in this branch of medical science, we are led to the conclusion that this field will not remain long unexplored.

I have been unable to obtain any record of a post-mortem investigation of the hereditary form, but consider that the lesions found would not differ essentially from those of ordinary chorea. Numerous examinations have been made of this latter form, and, until the contrary is shown, we had better consider the pathological conditions as the same. Of the nature of the disease we are unable to give any statements further than that it is a functional disorder of the nervous system; but whether of the brain, or spinal marrow, or both, we do not know. On this pathologists do not agree. Dissection throws no light on the subject; the most careful scrutiny is usually rewarded with only negative results; but, in other cases, various lesions have been found, although, from their infrequency, we can hardly call them choreic. As hereditary chorea is a disease but seldom met with, it affords few opportunities to the practitioner for study and investigation. As the patients affected live for a long period of years unless death occurs from some other cause, and as their latter days are attended by disturbances of the nutritive, the respiratory, and the circulatory systems, and by a low form of mental derangement or insanity (which might be considered a proof of its cerebral character), the difficulties of ascertaining its primary pathological lesions seem almost insurmountable.

If we consider for a moment the hereditary character o

* A Thesis to which was accorded an "Honorable Mention" at the Thirty-sixth Annual Commencement of the Medical Department of the University of Buffalo.

† Dunglison's "Practice," 3d ed., vol. ii, p. 216. See, also, von Ziemssen's "Cyclop.," vol. xiv, p. 423.

this disease, we are led to the conclusion that its diagnosis is attended with no serious difficulty. Such, indeed, is the case. When an individual of adult life, one or both of whose parents are known to have suffered from this disease, begins, without any assignable cause, to develop visible clonic twitchings of certain muscles which increase in severity from month to month, we may be almost certain that they are the manifestations of hereditary chorea. Indeed, in such a case, the patient would generally make a correct diagnosis before his physician or friends were aware of its existence. But in other cases, as in those instances where the parental history can not be obtained, the diagnosis is more difficult and may call for considerable delay before it can be made with certainty. The disease, perhaps, with which hereditary chorea is the most liable to become confounded is progressive locomotor ataxia; but, by the exercise of ordinary judgment in considering its history and symptoms in differentiation from those of chorea, a mistake of this kind will not readily be made.

The clinical history of hereditary chorea presents many interesting features, some of them differing widely from its more common form. It is a disease pre-eminently of adult life. Its first indications are developed, in the majority of cases, between the twenty-fifth and the thirty-fifth year; and cases occurring as late in life as the fiftieth year must be extremely rare, if they ever occur. In the family whose history I have been enabled to obtain, three of the children of the first generation mentioned as being known to have had the disease showed signs of its commencement at about the thirtieth year; the other one is reputed to have shown no indication of it until his fiftieth year; yet I am inclined to believe that he had it, but slightly developed, for years before that age.

If there are any premonitory symptoms to this disease they must be vague and ill-defined. The first indications are the twitchings of the muscles of the arms or face, at first so slight as not to attract the attention of the patient's friends; and these may continue for months unnoticed by any one except the sufferer himself.

It may be that only one muscle or group of muscles is the first attacked, and, its spasm being so feebly marked and so much under the control of the will, it may be considered by those unacquainted with its nature as a habit only, unconsciously acquired. Gradually these spasms become more and more severe, and, extending to other muscles of the face and extremities, draw these parts into all manner of ludicrous and ungainly distortions. But in all stages of the disease these spasms, whether light or severe, cease entirely, as in the ordinary form of chorea, during the period of sleep.

At this time the bowels may be more or less constipated, yet the evacuations show no marked deviation from the normal appearance. The appetite is good, and the process of digestion seems to be carried on in a healthy and perfect manner. The patient generally retains his usual flesh; but if in any case there is a loss in weight it is slow and gradual and not well marked. The pulse presents no perceptible variation from the healthy standard, and, so far as I am enabled to judge, is normal in character. There is no pain in the head complained of, no vertigo, nothing at all indicating any disturbance of the cerebral organs. The mind, as yet, appears clear on every subject, although the patient, recognizing the character of his disease and the future doom that surely awaits him, is generally sad and downcast, and, in consequence, seeks seclusion. It is during this stage of the disease that the patient may attempt the destruction of his own life.

A lady, afflicted with hereditary chorea, who came under the observation of the writer, has twice, through shame and mortification, attempted suicide. And it would appear that this is by no means an unusual circumstance during the early course of the disease.

This stage of mental depression lasts for a longer or shorter period. Sooner or later it is followed by a gradual weakening of the mental powers, which finally becomes so marked as to incapacitate the patient from pursuing his ordinary business affairs. And I have noticed in the three cases under my observation, at least, that, in direct proportion as the mental disease progresses, the aversion to society diminishes. By the weakening of the mind the sense of shame and pride is destroyed, and the patient then, no longer restrained by these, does not hesitate to go to any place his fancy may suggest. Perhaps, considering the loathsome condition to which this disease finally brings its suffering victim, it is a providential design of the All-Wise One to so blunt his susceptibilities as to enable him the better to bear his infirmities.

As the disease progresses, the twitchings of the muscles slowly but gradually increase. At a quite early period the muscles of the larynx and tongue become affected, producing more or less difficulty in the articulation of speech. The tone of the voice is changed and varied, differing greatly, perhaps, in the different portions of a single sentence. The words are spoken by a jerking effort, from one to half a dozen or more at a time, after which the patient is obliged to stop and wait until he can again control the vocal cords. The difficulty of speech gradually increases from its earliest manifestations till death, being so severe in the latter stages that it is only with the greatest effort that even the patient's friends can understand his conversation. The respiration is interfered with in the same manner as the voice, being broken and irregular; but as we have already noticed that the spasms of the muscles cease during sleep, so, owing to their quietude, is the breathing at these times more smooth and regular.

In the latter course of the disease the twitchings of the muscles become so severe that locomotion is accomplished only with great difficulty. The patient's attempts at walking resemble, to a superficial observer, those of a drunken man, and it is by no means an uncommon circumstance for him to be stopped by an officer, mistaking his disease for intoxication. This difficulty of walking, like the others attending this disease, grows worse year by year. Finally, it becomes so great as to make it difficult for the patient to walk without falling. A peculiar gait is developed, almost characteristic of the disease, which, although interesting to study, is difficult to describe. The patient takes three or four steps in quick succession, moving the limbs forward in

an awkward and peculiar manner, and then suddenly stops. The knees are pressed back, the body slightly bent forward, and in this position the patient will stand for some moments, the muscles of his whole body jerking incessantly with excited action. He then throws his body forward as if about to fall on his face, but, instead of falling, takes a step or two, thereby gaining his balance, when he can walk for a short distance in a comparatively natural manner. But his gait becomes faster at each successive step, and finally, with three or four quick steps, he again suddenly stops, and goes through all the various muscular movements and distortions as before. In this way he manages to travel from place to place until at length locomotion becomes impossible, and he is obliged to take to his bed. At about the same time deglutition becomes difficult, owing to the excessive impairment of the muscles employed in swallowing, and, in consequence, the patient rapidly loses strength and flesh. The blood as it passes through the lungs is poorly aërated, owing to the imperfect and irregular respiration, and this is undoubtedly another cause which tends to reduce the strength of the patient rapidly after the muscles of the larynx become seriously affected. The mind, which has been progressively failing since it was first attacked, now differs but little from that of an idiot. The whole care of the body, from this time until death, falls to the lot of his friends and those who nurse him. In this way he may live for some time, but grows weaker and more emaciated, week after week, until death finally comes to his relief.

The prognosis of this disease is extremely unfavorable. When it has once become fully developed it clings to its victim with unrelenting tenacity till death. The redeeming feature of not a single instance is on record (so far as I can find) in which this disease has ceased after it has once appeared; and any reputed cases of cure, unless substantiated by the most positive evidence, I should regard with suspicion. Yet I would not say that marked improvement or recovery is impossible after the disease has become developed, but, if it ever does occur, it must be much more rare than in the latter stages of phthisis or carcinoma; and hence, considering the infrequency of the disease, recovery is practically impossible. The course of the disease generally extends over a period of from twenty to thirty years, the patient rarely dying, unless from some other cause, before the fiftieth or fifty-second year of life. The mode of dying is by asthenia or the gradual failure of nutrition.

Since writing the foregoing, I have learned that a brother of the three patients I have cited has begun to show evidences of chorea. This gentleman, when a child, had the ordinary form of chorea, from which, however, he made a perfect recovery. He is now about thirty-five years of age, has led an active life, and, although recognizing the possibility of an attack of the hereditary type, has never given himself undue uneasiness about it. But when these latter manifestations came on it so frightened him that he has had to quit his former business engagements, and is now living in comparative idleness. He hopes by absolute rest to ward off the disease for the present, knowing well that at his age the tendency to its development rapidly diminishes with each successive year. But this course I should regard as a very injudicious procedure, tending rather to favor its development than to ward it off. There can be no doubt that the anxieties and perplexities of a business life might hasten the development of this disease in one already predisposed, but, to my mind, it is also certain that, if despondency and fear obtained entire control of a person thus situated, the disease would likewise be more rapidly developed. An individual known to be of a choreic family should have some light employment not giving rise to fatigue, either of body or mind, and the more imperative is this at about the usual age for the development of the disease. A person whose mind is unoccupied by thoughts of the world without, with an apprehension of the fate which was threatening him, would very likely suffer from loss of sleep, of appetite, and finally of health in general, and become a fit subject for heredity to work its baleful influence upon.

The therapeutic indications would be simple but by no means unimportant. Rest at night should be secured by means of opiates. The bowels should be kept regular by mild laxatives. If the patient is anæmic, tonics should be administered—quinine and iron. Strychnine or arsenic as a nerve-tonic should be given, continued for a long time, and, in a certain proportion of cases, improvement would undoubtedly follow. But I would lay particular stress on the hygiene and surroundings of the patient. He should be in a healthy locality, have plenty of wholesome diet and at regular hours, take moderate exercise in the open air daily, and at night have at least eight hours' undisturbed sleep.

But, after the disease has become fully developed, there is little or nothing we can do that will give any benefit to the patient. The free use of tonics will probably give as much benefit as anything. Electricity has been employed as a spinal tonic, but without favorable results. In the last stage we should nourish the patient as best we can, perhaps giving cod-liver oil, and keep him as quiet as possible, treating on general principles other indications as they arise.

THE PEROXIDE OF HYDROGEN.*

By WILLIAM A. DAYTON, M.D.,

SURGEON TO THE EYE, EAR, AND THROAT DEPARTMENT OF THE HARLEM DISPENSARY, ETC.

Recent experience in the use of the peroxide of hydrogen in diseases of the middle ear (notes on which have been prepared for the "Archives of Otology") affords me an opportunity to accede to the request, viz., that I extend something of interest or importance regarding pulmonary consumption.

Dr. B. W. Richardson, of London, has long since written of the physiological effects of this combination; and, still later, Hensel, the eminent German chemist, instituted some remarkable experiments with it, which prove beyond doubt its germicidal power.

* Remarks offered in the discussion, at the Clinical Society of the New York Post-Graduate Medical School and Hospital, on the subject of "Phthisis," February 7, 1885.

In October last, Mr. Paul Treutler (late chemist at Berlin, now of this city) translated, with the writer, Hensel's work on the peroxide of hydrogen. The scientific spirit in which the subject was treated, together with Hensel's convincing arguments, led to personal investigation. The therapeutic value of this hydrogen compound in pulmonary phthisis, *per se*, may be introduced by other contributors to the discussion at hand; therefore my observations are limited to its application in diseases of the *nose, ear, and throat*, complicated with tubercular infiltration of the lungs.

At my clinics and in private practice alike I have treated certain diseases of the nose, ear, and throat, until the patients were discharged without having derived the slightest benefit, and notwithstanding the most approved treatment.

Among the most intractable cases, in which one or all of the above-named parts were implicated, it is remarkable that the subjects were victims of pulmonary tuberculosis.

Inspired with confidence by the writings of Dr. Richardson, Mr. Hensel, and Dr. C. E. Shelly (the latter contributing to the "Practitioner" of March, 1884), I began, in October last, to employ the peroxide of hydrogen, not only as a topical application, but also through the circulation. From the earliest trial I began to realize all that had been claimed for it, and more too.

The following are my notes on the first case in which I employed the hydrogen solution:

Mr. ——, aged twenty-four, unmarried; family history of phthisis pulmonalis. Was obliged to abandon occupation as agent for an insurance company in consequence of extreme debility. Patient examined by a number of physicians, said to have advanced phthisis, and had visited health resorts without benefit.

Came under observation for "nasal catarrh and buzzing in the ears" on November 7, 1884, stating that all previous treatment for the same, at the offices of specialists and also at clinics, had been unsuccessful.

The mucous membrane covering the middle and inferior turbinated bones was much thickened, the faucial orifices of the Eustachian tubes were swollen (presenting the appearance to the writer of a congested os uteri), there were vegetations in the pharyngeal vault, while below these the pale back wall of the pharynx was studded with enlarged follicles. Both drumheads were sunken; light spots faint; C tuning-fork heard twice as long and twice as loud through the bone; with watch, H. D. R. $= \frac{8}{48}$. H. D. L. $= \frac{1}{48}$. Hearing for ordinary conversation about two feet.

After a careful inspection of these parts, I was about to begin the familiar treatment by spray, etc., when my patient very politely, but emphatically, declined to submit to "any more of that business," insisting that such measures could be of no avail. For an instant I wavered between expressing my indignation and an appeal to his reason; then decided to test the exhilarating effects of peroxide of hydrogen as an expedient as well as an experiment. It proved to be a happy dispensation, as the following details show:

I prescribed six ounces of a two per cent. solution of the peroxide, to be taken in tablespoonful doses, three times daily. The patient was also directed to use a weak solution of salt in warm water in the nostrils, morning and night.

Contrary to instructions, my skeptical client did not return until "his medicine was all used up", but he did come at the end of nine days with, as he expressed it, "a soul full of hope." He came to tell me that his appetite was improved, his bowels were more regular, his sleep was more refreshing, his "cough was looser," and the expectoration was much lessened. His appearance tended to corroborate his statements. I had won his confidence by what he called "the water cure," and he cheerfully consented to any future plan of treatment that I chose to adopt. Accordingly, I scraped out the vegetations in the vault of his pharynx with a curette which I have devised for that purpose, then applied a mixture of ergotin, Monsel's solution, and glycerin to the part, and ordered a repetition of the peroxide.

One week later I removed two gelatinous masses, situated at the posterior extremity of both inferior turbinated bones, with a Jarvis's snare; this had the effect of restoring free nasal respiration.

The patient was seen twice each week until January 3, 1885, and during that period, about eight weeks, he continued to take the peroxide regularly three times daily. The local treatment consisted in spraying the naso-pharynx with a two-per-cent. solution of the peroxide, and the insufflation of zinc oxide and quinine tannate, triturated with starch.

Previous to this treatment, inflations of the middle ear were very unsatisfactory: but during the second week a vapor of camphor and iodine passed freely through a Eustachian catheter into the tympanic cavities. The condition of this patient when he left me for the purpose of traveling was certainly flattering. He had gained about fifteen pounds in weight, the cough was less annoying, the naso-pharynx was in good condition, the husky voice had disappeared, the tinnitus aurium was not complained of, while the hearing distance for the watch had increased as follows: H. D. R. $= \frac{18}{48}$. H. D. L. $= \frac{6}{48}$.

On January 12th a case with the following history came under observation:

Mrs. Dorothy W., aged thirty-two, eight and a half months pregnant. "Mother died of consumption." Patient, under the care of a fellow-practitioner, said to be "full of tubercular disease." For two days and two nights she had been suffering "untold agony" from an acute inflammation of her left middle ear. Everything but leeches and hot water had been used for her relief, and, of course, without any diminution of pain.

When this patient came into my office she was in a state of extreme nervous exhaustion, and, while I was making an otoscopic examination, she told me between her cries of pain that "she felt as if her child was being born through her ear." I never saw a drum membrane so distended with pus as this one was. The "throbbing" was not only subjective, but objective. The sight of my paracentesis knife was the signal for objections to interference and cries of "O ——! I can't let you do that!" Two instillations of cocaine hydrochlorate (four-per-cent. solution) so affected the part that, in the course of three minutes, the woman wanted to go home. To quote her own language, "This is the first moment of peace I've had in forty-eight hours."

However, I urged the necessity for an incision and gained an unwilling consent. Slowly I passed the knife through the lower anterior segment of the tympanic membrane, making an incision about one eighth of an inch in length, and, as I sat watching the pus oozing out into the external auditory canal, the patient said: "Please, doctor, hurry up and cut it; I'm getting awfully nervous." After a gentle inflation of the diseased ear with a catheter, I poured into the canal a twelve per cent. solution of peroxide, wiped out the coagulum that formed, then repeated the instillations until the parts were thoroughly cleansed. During the following week inflations were practiced daily, the ear was kept clean with an eight per cent. solution of peroxide, and a two per cent. solution of the same was exhibited in tablespoonful doses. On the eighth day after operation the drum-

head had healed; come what may, there had been no sign of a discharge since.

This patient gave birth to a healthy-looking child on February 2d. This was her fifth labor, and she tells me that she "never felt better in her life," that "her breast-milk is richer and more abundant than ever before," and her confidence in the virtue of "her medicine" (peroxide) is so great that she continues to take it regularly.

The difficulty of checking *chronic* suppurative inflammation of the middle ear in consumptives is well known to all aurists. Without stopping to cite cases, let me say that I have used a twelve-per-cent. solution of the peroxide in the ears of such sufferers, together with the internal administration of a two-per-cent. solution of the same, with most gratifying results.

In ozæna, which is frequently associated with the "tubercular diathesis," sprays of this solution of varying strength have proved more efficacious than any application with which I am acquainted.

Again, in two cases of tubercular laryngitis which I have lately been treating, spraying with a three-per-cent. solution of the peroxide afforded positive relief. The peroxide not only destroys pus, cell-life, etc., but it is, to a certain extent, a local anæsthetic. . . .

A word as to the internal administration of the peroxide. Occasionally patients have complained that even a two-per-cent. dilution induced an irritation in the fauces and pharynx when swallowed, but this unpleasant effect can, I think, be obviated by administering the preparation in milk. . . .

That the peroxide of hydrogen has a future among our most trusted resources in the materia medica I have no doubt. It is a potent deodorizer, it is an eligible antiseptic (in [?] and *out* of the circulation), and it is an effective remedy in a large class of diseases in which mucous-membrane tissue is chiefly involved.

For cleansing purposes it has no equal in any known agent. In operations on mucous membrane where the secretions and hæmorrhage often embarrass the surgeon, the use of a strong solution of the peroxide (twelve per cent.) facilitates progress by decolorizing the blood and by its cleansing, styptic properties. . . .

The foregoing lacks, very probably, the scientific detail necessary to prove the *positive* value of the hydrogen peroxide, but I present these hurried notes on *its observed effects*, faithfully yet unassumingly, in the hope that others will take up the thread of investigation, and in the belief that it is really "a good thing."

In the treatment of phthisis and all its complications there can be no royal road. Cod-liver oil, the preparations of iron, nutritious diet, and pure air are not to be replaced by novelties; but, when it is considered how important is the demand for oxygen in these cases, may we not hope to find a reliable adjunct to established principles of practice in the peroxide of hydrogen?

The peroxide of hydrogen was discovered by M. Thénard in 1818. It is, therefore, not a new drug, and I am inclined to believe what the celebrated Dr. Rush, of Philadelphia, said many years ago, viz.:

"Perhaps all the discoveries of future ages will consist more in a new application of established principles, and in new modes of exhibiting old medicines, than in the discovery of new theories or of new articles of the materia medica."

121 West 125th Street.

INABILITY TO GARGLE AND INCO-ORDINATE BACKWARD MOVEMENTS,

ADDITIONAL SIGNS OF CEREBRAL AND POSTERIOR SPINAL SCLEROSIS.

Note by C. H. HUGHES, M. D.,
st. louis.

Impaired (minus) states of the reflexes and inco-ordinate movements are the most special and distinctive symptomatic evidences of cerebral and posterior spinal sclerosis. One after another of the normal reflex functions has been noticed and described as impaired or abolished, in tabes dorsalis especially, until but little remains in this direction to be described. The knee phenomenon or quadriceps extensor femoris lost reflex, the lost or impaired cremasteric reflex, the damaged reflexes apparent in the pharyngeal and laryngeal crises, have all been sufficiently noted. The rectal and visceral reflex impairment existing in these cases has been more or less obscured by the not uncommon enteric, hepatic, and vesical torpidity.

Difficulty of swallowing in advanced stages of ascending posterior spinal sclerosis, and in descending cerebro-spinal sclerosis, is not uncommon, but the *inability to gargle when the power has been formerly possessed, in recent cases, has not been, in the writer's experience, an early symptom.*

The present case is that of a gentleman in business for himself in the conduct of a drug-mill. He is aged forty-eight and married, and has children.

His symptoms appeared—with embarrassed intellection, finding himself confused and making mistakes at figures, vertigo, clumsy walk, and embarrassed speech—about one year ago. The pupillary reflex is now impaired and the pupils are consequently contracted. *The tendon reflex is lost in the left leg*, and, while improvement has occurred in all of his symptoms *except that the power to gargle liquids is lost*, the leg pains have subsided under galvanism and static electricity, and the melancholia which troubled the patient has also gone. This patient had, about three years ago, considerable business annoyance, and, upon attempting to jump down to the ground from a door-step, three feet above it—a thing he had done very often for years—stumbled and fell, without vertigo or the slightest loss of consciousness. Hyperæmia cerebri, as in the pre-ataxic stage of all the cases of cerebral sclerosis which have come under the writer's observation, preceded this patient's present trouble.

Inability to walk backward has been noted in advanced stages of locomotor ataxia, but *the sign* in these cases is *not the inability, but the clumsy* backward movement. In a case now under treatment, sent me by Dr. Fry, of Mattoon, Ill., the patient walks backward, but can not walk steadily if he tries to plant his feet firmly on the ground—the ball of the toe and the heel simultaneously and without spreading the legs apart; nor can he walk with the usual spring if he attempts to go backward on his slightly flexed tarsals. This is a good test. Well men do not walk well backward, and

the effort tests the co-ordinating power if we suspect the ataxia to have its pathological seat in the lower dorsal spine.

I have come latterly to seek for both of these signs in my examinations of suspected ataxia. They are of equal value with other evidences of inco-ordination and impaired or abolished reflex.

It is a wise precaution in these examinations to inquire always if the power to gargle or to walk backward has been formerly possessed in good degree—a line of inquiry I have insisted on heretofore in regard to absent tendon reflex, for *it is the loss and not the mere absence of these functions which points to ataxia.* There are healthy people who have but slight reflex excitability in some of the ordinary normal reflex arcs, especially in that of the quadriceps extensor femoris, and by some healthy persons it seems never to have been possessed at all.

Note.—It will be observed that I draw no pathological line between cerebral and posterior spinal sclerosis. Posterior spinal sclerosis is not always a disease that begins low down in the dorsal region of the cord and progresses upward. It may appear in distant parts of the posterior columns of the cord at the same time, or at different times, without the necessity of progressing by contiguity of tissue. The location determines the difference in name and symptoms without a necessary difference in the nature of the morbid process.

The anomalies of posterior spinal sclerosis are many and singular. For example, a case of locomotor ataxia has come under my observation since the foregoing was written, in which the gastrocnemii reflex could not be elicited, while the knee phenomenon did not appear on percussion.

3000 CHESTNUT STREET, ST. LOUIS.

Book Notices.

A Practical Treatise on the Diseases of the Ear, including a Sketch of Aural Anatomy and Physiology. By D. B. ST. JOHN ROOSA, M. D., LL. D., Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School, etc. Sixth Edition, Revised and Enlarged. New York: William Wood & Co., 1885. Pp. xxii–702.

DR. ROOSA'S classical work is so well known to the profession that any praise of it now would be only a repetition of what has often been expressed before. When the author states that he has thoroughly revised the last edition, we need no further assurance that the present volume is fully up to date. The general arrangement of the book remains the same as in previous editions. The section on anatomy has been enriched by the introduction of several new illustrations, as well as by additions of fresh matter in the text.

A number of new ideas will be found scattered through the book, all of them expressed in the author's usual happy style. We note several additions to the section on the internal ear and its diseases. Dr. Roosa has made a careful study of this abstruse part of his specialty, and makes several original deductions. Eight pages are devoted to the effects of quinine on the labyrinth, the opinion being given, as the result of a number of experiments and clinical observations, that "the tinnitus aurium and impairment of hearing following the use of quinine depend upon congestion of the ultimate fibers of the auditory nerve in the cochlea, and that the redness of the drumheads is merely an index of the former condition." From late observations on boiler-makers' disease, Dr. Roosa concludes that the lesion is either in the membranous labyrinth or the trunk of the auditory nerve. His experience in the treatment of nervous deafness by electricity has been negative. "I fear," he says, "that we must abandon the hopes entertained by some of the powers of this subtle agent in those as yet mysterious diseases, the affections of the internal ear."

The book closes with an interesting chapter on the examination of deaf-mutes, containing an elaborate series of tables. Disease of the middle ear is inferred to be the cause of deafness in the majority of such cases.

Human Osteology, comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone, and its Development. By LUTHER HOLDEN, Ex-president and Member of the Court of Examiners of the Royal College of Surgeons, etc., assisted by JAMES SHUTER, F. R. C. S., M. A., M. B. Cantab. Sixth Edition. New York: William Wood & Co., 1885. Pp. ix–276. [Wood's Library of Standard Medical Authors.]

IT is unnecessary to repeat the words of commendation which have so often been bestowed upon this admirable and now classical work. Generations of medical students will recall with gratitude the aid which they received from this book, into which the author has infused so much of his own enthusiasm. We venture to predict that it will be long before "Holden's Osteology" is superseded either in England or in America. The present volume does credit to the publishers, who, considering the cheapness of the edition, have succeeded remarkably well in following the original. The plates are, of course, the main feature in a work of this kind, and, upon comparing those of the English edition with those in the book before us, we have in most cases nothing but approval to offer. A few of the smaller cuts, especially those in the section upon the microscopic structure of bone, are not fortunate in their details, but the larger plates are good. Altogether we congratulate the publishers upon such a good introduction to their "Library" for 1885.

BOOKS AND PAMPHLETS RECEIVED.

A Guide to the Diseases of Children. By James Frederick Goodhart, M. D., F. R. C. P., Assistant Physician to Guy's Hospital, and Lecturer on Pathology in its Medical School, etc. Revised and edited by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 738. [Price, cloth, $3; sheep, $4.]

On the Wasting Diseases of Infants and Children. By Eustace Smith, M. D. Lond. Fourth Edition. New York: William Wood & Co., 1885. Pp. xx–278. [Wood's Library of Standard Medical Authors.]

The Osteology of Amia Calva, including certain Special References to the Skeleton of Teleosteans. By R. W. Shufeldt. Washington: Government Printing-Office, 1885. Pp. 94. [Extracted from the Annual Report of the Commissioner of Fish and Fisheries, for 1883.]

London Water Supply. Report, etc. No. XLVIII and No. XLIX.

Le basiotribe Tarnier. Par le Dr. A. Pinard, Professeur agrégé à la Faculté de Médecine, etc. 11 figures et 2 planches en chromo-lithographie. Paris: G. Steinheil, 1885. Pp. 66.

First Annual Report of the Buffalo Hospital of the Sisters of Charity.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 25, 1885.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

In the comparatively uneventful course of things medical in this country—speaking with regard to the quasi-corporate capacity of the profession—a meeting of the American Medical Association is always noteworthy from other points of view than that which takes account of the mere advancement of medical science. As concerns this latter aspect, to be sure, the occasion is one of moment, for, save for the international congresses, it is doubtful if any other periodical gathering of men engaged in the study of Nature brings together so great a number of persons whose daily life leads to their pursuing their observations under such diverse, and therefore mutually corrective, circumstances. In our remarks upon previous meetings of the association we have called attention to some of the material drawbacks that the organization has to sustain in consequence of the immense territory from which it draws its membership, and it is a pleasure to be able to say that those disadvantages are abundantly offset by the profitable comparing of notes that takes place between Maine and Texas, Oregon and Florida. Looked at from this standpoint, we fear it must be said that we of the North have hardly anything special to contribute as the result of our particular field of study, and that we are likely to get deeper and deeper in debt to our Southern brethren. Relying upon their proverbial chivalry, however, we may repose full trust in the thought that they will never claim payment, and especially may we feel this assurance on the present occasion, for the meeting is to be held in the greatest city of the extreme South, and in his own home the Southerner's amiability is unalloyed.

We are confident that the meeting which is to be held in New Orleans on Tuesday, Wednesday, Thursday, and Friday of next week, although, we regret to say, the indications point to a slim attendance from the older of the Northern States, will be amply representative of the whole country. All who can possibly make the long journey, of those who are qualified to attend as delegates or as permanent members, will, we are persuaded, be present, and that, too, quite independently of the attractions of the fair now in progress at the place of meeting. We look, also, to see a harmonious and profitable meeting. There will of course be some clashing of views and interests, but we see no reason to apprehend any occasion for acerbity. Prominent among the matters that seem likely to come up for discussion and action in the general meeting, there are two upon which we may be allowed to express our feeling.

The first of these is a proposition which, it is understood, will be made to vary for the time being the order of rotation of the places of meeting. By a rule now in force, every second meeting is held in Washington, but in the regular routine the next Washington meeting will not come in the same year in which the ninth International Medical Congress is to hold its session in that city. There are those, we are informed, who will seek to modify the rule in such manner as to make the two meetings coincide. Any such action, it seems to us, would be injudicious. Let the American Medical Association and the International Medical Congress each stand on its own bottom. Neither can add luster to the other, and any attempt at a fusion or blending of the two would, we feel sure, result in spoiling both.

The other matter upon which we would express an opinion concerns the management of the association's "Journal." It is understood that its present editor, who may justly be called its founder, as well as the "father" of the association, feels unalterably constrained to put an end to his editorial connection with the "Journal." All who have watched his judicious management of the publication must lament his decision, but everybody must also admit that the association has no moral right to insist upon overruling it. But, since a change is necessary, let it be as slight as possible; let the editorial chair be filled by some one who is thoroughly imbued with the ideas that have enabled Dr. Davis to launch it on its present creditable career. Let him be a Chicago man if possible, for even so non-essential a matter as a change in the place of publication may play a great part in leading to a deviation from the past management of the "Journal" that all who are interested in its success would deeply deplore sooner or later.

It may be that other questions will arise capable of leading to dissension, but we are firm in the faith that disagreement can not proceed to any marked extent under the presidency of the genial and kindly Dr. Campbell, the error of whose rulings, if any is made, we all know will be in the direction of forbearance. All things considered, we count upon recording the meeting as one of the most satisfactory in the history of the association.

THE STUDY OF CHEMISTRY IN MEDICAL SCHOOLS.

The "British Medical Journal" contains an article upon this subject, which defines almost exactly the position of American medical schools with reference to this branch of science. It has been wisely proposed by the English Medical Council to omit chemistry entirely from the regular scheme of first-year studies, and to place it among the number of preliminary subjects included in the entrance examination. Reference is made to the superficial and unsatisfactory manner in which the science is taught in medical institutions, where it serves simply as a distraction from the more important branches of anatomy and physiology. We cordially agree with our English contemporary in its suggestion that general chemistry should be banished from the curriculum, and that, in its stead, there should be introduced practical instruction in physiological chemistry, toxicology, and materia medica, subjects in which our students are sadly deficient. We are aware that this will be regarded as a bold innovation, but the idea is one which we have frequently

heard expressed by medical graduates whose opinions were entitled to respect. They have, almost without exception, deplored the time spent in a study which, extremely important as it is in itself, only assumes a practical interest for them at the time of examination, being speedily forgotten afterward.

Without discussing the subject of entrance examinations, on which we have often expressed decided views, we can not urge too strongly the importance of the medical student being well grounded in physics and chemistry at the very outset of his course. It is a mistake to suppose that he can supply the deficiency subsequently, when his interest is naturally centered upon the studies which bear directly on the practice of his profession. It is in vain to expect men to profit by the most elementary instruction in anatomy and physiology when they have never learned the principles which underlie these branches; and it is equally unscientific to teach them the elements of chemistry while at the same time they are listening to lectures which presuppose a considerable knowledge of that science. We believe that the change will eventually be made by a natural process of evolution, and that chemistry will come to occupy its true place, that of the foundation and not that of the imperfect superstructure of the student's knowledge.

MINOR PARAGRAPHS.

THE DRINKING-WATER OF PHILADELPHIA AND CHICAGO.

New York, it may be suspected, is not alone in the possession of a water-supply that is not above the suggestion of impurity. In Philadelphia, not only is apprehension felt about the quality of the water, but—far worse than that—if the "Sanitary News," of Chicago, is correctly informed, the Common Council of Philadelphia has so far lost its sense of decency as to pass a vote requesting the chief engineer of the water department to maintain silence in regard to the insanitary condition of the water. In Chicago, according to the same journal, some of the members of the Citizens' Association report that they have observed discoloration of the water, extending from the mouth of the river in a fan-shaped area entirely surrounding the crib. From the comments added by the "News," however, we infer that the defilement of the water is more apparent than real, being due to a temporary stoppage of the pumps for purposes of repair.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 21, 1885:

DISEASES.	Week ending Apr. 14.		Week ending Apr. 21	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	3	4	0
Scarlet fever	79	15	70	17
Cerebro-spinal meningitis	8	4	1	2
Measles	183	17	174	27
Diphtheria	67	23	48	20

The Late Dr. James L. Little.—A copy of the following resolutions has been received at this office:

Whereas, The Northwestern Medical and Surgical Society has, since its last meeting, lost by death one of its most valued members, James Laurence Little, M. D., formerly president of this society—a man who was endeared to every member by his upright character, personal amiability, professional acquirements, and genial manners; therefore be it

Resolved, That in the death of Dr. Little this society deplores the loss of a most honored and valued colleague—one who by his experience and knowledge contributed largely to the interest of every meeting, and enriched each reunion by his sound sense and practical views.

Resolved, That in our intimate relations with him we learned to respect the able surgeon, the patriotic citizen, the devoted husband, father, and friend, the good and charitable physician, and the honest man; striving steadily, perseveringly, and successfully to elevate himself and all coming under his influence unto a higher and nobler sphere of thought and action.

Resolved, That, while deeply deploring our own loss, we offer our sincerest sympathy and condolence to Mrs. Little and her family, and, in thus recording our love and regard for the departed, divide with them the sorrow for his too early demise.

Resolved, That an authenticated copy of these resolutions be sent to the bereaved widow and family, and to the "New York Medical Journal" and New York "Medical Record," and that they be entered upon the minutes.

[Signed.] Mark Blumenthal, M. D., Edward C. Harwood, M. D., Edwin F. Ward, M. D., *Committee.*

Thomas H. Burchard, M. D., *President.*

J. Henry Fruitnight, M. D., *Secretary.*

A Lecture on Animal Plagues, with special reference to their influence on health and property and the means of their prevention, was given by Dr. D. E. Salmon, chief of the Bureau of Animal Industry, on Wednesday evening of this week. The lecture was the third of a series given under the auspices of the Association of the Alumni of the Long Island College Hospital, and took place at the college building.

An Association of the Graduates of the New York Woman's Hospital.—A preliminary meeting of the graduates of the Woman's Hospital residing in New York was held on Wednesday evening, the 22d inst., for the purpose of organizing an alumni society. Dr. G. S. Winston was called to the chair, and the work of organizing the society was referred to a committee consisting of Dr. Winston, Dr. Bache McE. Emmet, Dr. Clement Cleveland, Dr. James B. Hunter, Dr. Henry C. Coe, and Dr. A. P. Dudley. It is expected that the objects of the society will be both scientific and social. The first regular meeting of all the members will be held in May.

Small-pox.—The press reports are to the effect that there has been a considerable increase in the disease in Montreal, and it has lately broken out at several places in Michigan. At the annual meeting of the Michigan State Board of Health, held on the 14th inst., the secretary, Dr. Henry B. Baker, to whom we are indebted for a summary of the proceedings, reported that during the quarter preceding the meeting an outbreak at South Boardman had been suppressed, but that a case had been reported at East Saginaw, two at Grand Rapids, four at Battle Creek, and five at Bellevue. An interesting connection is traced between the outbreaks at these various places.

Cheese Poisoning.—At the same meeting, Dr. Vaughan reported verbally the results of his further investigation of the subject of cheese poisoning, and said that he had certainly secured, in a crystalline form, a small quantity of one poison from poisonous cheese, which would produce the symptoms of cheese poisoning in man, but other poisons might be present also. He had not yet fully studied the poison he had obtained.

but it gave reactions like those of a ptomaine. He thought it probable that butyric acid had something to do with causing cheese poisoning, and the lack of a rancid odor would not prove the absence of all forms of butyric acid.

The Reported Outbreak of Cholera in Spain no longer seems to admit of doubt, and some criticism has been expressed of the course of the Spanish physicians in delaying to give information of its true nature. It is announced now that France, Holland, Portugal, and Turkey have declared quarantine against Spanish arrivals.

The New Indiana Medical Law.—The Governor has signed a bill providing that any person desiring to practice medicine or surgery shall procure from the clerk of the Circuit Court a license, to secure which he must file an affidavit showing his graduation from some reputable medical college; or else he shall present the affidavits of two reputable freeholders that he has practiced medicine in the State for ten years. It is said that the law does not apply to midwives.

The Croton Water.—Every New Yorker will feel a heightened confidence in his own senses of sight, smell, and taste at the announcement that an investigating committee has reported that the water he drinks is contaminated with village sewage; but we are all chiefly interested in the question as to what is to be done about it.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 12, 1885, to April 18, 1885:*

Brown, Harvey E., Major and Surgeon. Leave of absence extended two months. S. O. 83, A. G. O., April 11, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 18, 1885.*

Yemans, H. W., Assistant Surgeon. Detailed as medical officer Revenue Steamer Corwin, during cruise. April 16, 1885.

Battle, K. P., Assistant Surgeon. When relieved, to proceed to New Orleans, La., for duty. April 13, 1885.

Brooks, S. D., Assistant Surgeon. Granted leave of absence for ten days. April 16, 1885.

Society Meetings for the Coming Week:

Monday, *April 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Lawrence, Mass., Medical Club (private).

Tuesday, *April 28th:* American Medical Association (New Orleans—first day); New York Surgical Society; New York Dermatological Society (private); Buffalo, N. Y., Obstetrical Society; Boston Society of Medical Sciences (private); Medical Societies of the Counties of Putnam, N. Y., Hunterdon, N. J. (Flemington), and Litchfield, Conn.

Wednesday, *April 29th:* American Medical Association (second day); Auburn, N. Y., City Medical Association; Medical Society of Gloucester County, N. J.; Berkshire District, Mass., Medical Society (Pittsfield); Middlesex North District, Mass., Medical Society (Lowell); Cumberland County, Me., Medical Society (Portland).

Thursday, *April 30th:* American Medical Association (third day).

Friday, *May 1st:* American Medical Association (fourth day); Practitioners' Society, New York (private).

Saturday, *May 2d:* Manhattan Medical and Surgical Society, New York (private); Clinical Society of the New York Post-Graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

Letters to the Editor.

A WARNING AGAINST AN IMPOSTOR.

A man, about thirty-five years old, of Jewish type, rather good-looking, with short, black hair and high-colored cheeks, of slender build, lacking the left central incisor of the upper jaw, hard of hearing, and shabbily clad, visits physicians and proposes to sell them instruments or books, or find good purchasers for books they want to dispose of. In this way he has obtained both books and cash from me, and the addresses of his residence and place of business have proved to be fictitious; wherefore I warn others not to allow themselves to be cheated by this dangerous individual.

Doctor.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 14, 1885.

The Vice-President, Dr. Charles McBurney, in the Chair.

Mikulicz's Operation.—Dr. A. G. Gerster presented a patient upon whom he had performed Mikulicz's operation on the 17th of January, 1885, and who was now able to walk with only a very slight limp. The man was a professional nurse, forty-eight years of age, who in May, 1881, had an attack of erysipelas in the region of the heel and foot, for which he was treated in Bellevue Hospital. A large abscess formed, the calcaneum became involved, superficial necrosis followed, for which the bone was scraped out, and he was finally dismissed from the hospital, but not improved. In 1883 he came under Dr. Gerster's care in the German Hospital, with epithelioma in the situation of the ulcer upon the heel, of about the size of a trade dollar, which had never healed. The character of the new growth had been determined by a number of microscopical examinations. It was sessile and firmly attached to the calcaneum. Dr. Gerster removed it, and at the same time exsected the entire tuberosity of the calcaneum, hoping thus to gain sufficient space for the use of a skin-flap formed from the sole of the foot to cover the defect with, but succeeded in covering only about one half of it. Necrosis of this flap followed, due to the compressive dressings used and to the atheromatous condition of the arteries. The remaining defect was cicatrized over completely within the next three or four months, and ultimately a scar remained, extending from the planta pedis up to the insertion of the tendo Achillis, with the foot in the position of pes equinus. The cicatrix frequently ulcerated, especially in cold weather, and finally the ulceration became almost permanent, so that the patient pleaded for an amputation. Dr. Gerster proposed, however, instead of amputating the leg, to perform Mikulicz's operation, after having taken into consideration the advisability of a plastic operation according to the usual method of cutting out a flap from the other limb and transposing it to the ulcerated surface, holding the limbs by means of plaster splints in such apposition as to permit the flap to come in contact with the denuded surface, and afterward separating the pedicle of the flap when the circulation in its new attachment had become sufficient to maintain nutrition. In view of the man's atheromatous arteries, necrosis of a flap raised for such a plastic operation seemed almost certain, wherefore partial exsection of the tarsus was decided upon. The principle of the operation was as fol-

lows: In cases where the heel was denuded of its integument, Mikulicz thought that the length of the limb could be preserved and made available for motion without the assistance of complicating apparatus, if the calcaneum and astragalus were removed and the anterior portion of the foot saved and brought in contact with the tibia and fibula. The first incision was made almost in the same manner as for Pirogoff's or Syme's operation, cutting down to the bone, beginning a little anterior to and below the malleolus of one side, carrying it across the planta pedis to the corresponding point upon the other side. The incision was then extended up to the center of the malleolus and carried round the leg to a point behind corresponding to the insertion of the tendo Achillis. Through this latter incision the posterior aspect of the ankle joint was exposed and the same was entered and dissected up until the head of the astragalus was denuded, and then the astragalus and the calcaneum were severed from their last connections, as in Chopart's operation. When this had been done the remnant of the foot, containing the scaphoid, the cuboid, the cuneiform bones, the metatarsals, and the toes, was hanging by a flap, situated on the anterior portion of the limb, the nutrition of which was sustained through the dorsalis pedis artery. The tibia and fibula were then sawn through at the malleoli, and also the cuboid and scaphoid bones were separated from the soft parts sufficiently to permit the saw to be carried through them on a vertical plane. In this way two rather extensive bony surfaces were left, which were brought together and rendered immobile by driving a nail in a slanting direction through the scaphoid into the spongy portion of the tibial epiphysis. Finally the cutaneous edges were united by a continuous catgut suture, and the limb was swathed in an antiseptic dressing.

The patient presented was the second one upon whom he had performed the operation, and the result was the better of the two. So far as his knowledge extended, these two operations were the eighth and ninth which had been performed. In the other case the final result would be satisfactory. In that case the limb was lengthened half an inch, so that the patient would be obliged to have an elevated shoe upon the opposite side. In the case of the patient presented, Dr. Gerster had removed a trifle too much of bone, and produced a shortening of a quarter of an inch, which was so slight a matter that the patient was able to walk with scarcely a perceptible limp. On account of the free removal of the scaphoid and cuboid bones, he had come very near the joint between the scaphoid and the cuneiform bones—in fact, so near that the ligaments fastening that joint were detached, and the mobility present was due to mobility at that articulation, but this was rather an advantage than otherwise.

When the Esmarch bandage was removed the blood-vessels did not bleed at all, and he was somewhat startled at the thought of the possibility that the atheromatous condition of the vessels and the constriction to which they had been subjected might seriously interfere with the circulation, but, when the foot was brought into its normal position, free hæmorrhage set in—so free that it became necessary to apply nearly twenty-five ligatures to arrest the hæmorrhage. After this was done the bones were brought into apposition, and, as previously mentioned, a long nail was driven through the remnant of the scaphoid bone into the tibia, which gave firm apposition of the sawn surfaces. An antiseptic dressing was applied, and a correct healing of the wound took place, with primary union of the sawn surfaces. By the 2d of February the nail could be withdrawn; its vicinity never showed any evidence of reaction. The track of the nail secreted a little sero-purulent matter for a few days after its removal, and then closed up. Very soon afterward the patient was ordered to walk about. Mikulicz had said that he had been obliged to perform tenotomy of the short flexor to allow of super-extension of the toes, but in this case Dr. Gerster had not found it necessary, and, by the aid of a shoe with the heel somewhat elevated, the patient was able to walk very comfortably, and with a good deal of elasticity.

In reply to a question Dr. GERSTER said the line of section extended vertically through about the middle of the scaphoid and through the posterior portion of the cuboid.

Cases bearing upon Certain Mooted Points in Syphilology.—Dr. E. L. KEYES read a paper with this title. [See page 464.]

Dr. A. C. POST asked if any irritation of the kidneys was produced by the large doses of iodide of potassium.

Dr. KEYES replied, Not a particle.

Dr. R. J. HALL asked if the percentages in Dr. Keyes's statistics included chancroids or only indurated chancres.

Dr. KEYES said they included only chancres which had initial sclerosis; he did not think it had ever reached quite fifty per cent.

Dr. GERSTER asked Dr. Keyes, with regard to selection of cases by the Vienna men, if among the unicists excision was not practiced indiscriminately.

Dr. KEYES replied that it was. He thought the first statistics given were based on the fact that only initial sclerosis was excised.

Dr. GERSTER believed that the position taken by the unicists was rational and logical, inasmuch as they admitted that there was something with reference to venereal sores which they did not know, but which the dualists professed to know and did not know. It was frequently the case that a soft chancre occurred, which remained soft, and yet was followed by syphilis, and one such well authenticated observation was sufficient to overthrow the whole doctrine of dualism.

Dr. KEYES said, Yes, one such authenticated case was sufficient to overthrow the entire theory of dualism if syphilis was always ushered in by hard chancre, a view which no dualist at the present time, so far as he knew, entertained. The induration of a primary chancre was very constant, but it might be entirely simulated by conditions which were not induration, so that all dualists had dropped the view that the initial lesion of syphilis was always indurated. In other words, that a given lesion was syphilitic simply because it was hard, and that it was not syphilitic simply because it was soft, was not held to-day by any dualists. But that the initial lesion was generally hard was what the dualists did uphold. The absence of inguinal engorgement might as well be alleged by the unicists as one of the irregularities in the expression of syphilis. Nor did the dualists believe that the indurated chancre was necessarily a syphilitic chancre, but that it was very frequently. The sore might be soft, the inguinal glands might be suppurating, and still the patient have syphilis. It had not been Dr. Keyes's experience to encounter a sore occurring within ten or twelve days after exposure which had turned out to be a syphilitic sore. The incubation period was one which required great care in deciding its exact limit, and was, Dr. Keyes thought, a more valuable symptom of syphilis than the induration of a given sore.

Dr. GERSTER said his remarks had not referred so much to the practical study of the question as to the statement made by Dr. Keyes that the dualistic theory had brought order out of chaos. He thought that chaos had been much more firmly established by the doctrine of dualism, that the dualistic theory was artificial and not based upon the natural history of the disease, and that it was unphilosophical. It was practically useful in most cases, to be sure, but it did not give a real and satisfactory explanation of the relation of the initial sore to the subsequent phases of the disease.

Dr. Keyes said it certainly produced practical care, and he should be very glad to put the word practical before the words which he had used in his paper. Practically, it reduced the matter to a chaotic state to say that all sores, whether soft or hard, were syphilitic, and it reduced the surgeon logically to the necessity of treating the patient with mercury because of the fear of the development of syphilis. This was much less philosophical and less useful than the dualistic theory, which involved the use of mercury in the treatment of only one class of cases.

Dr. Gerster believed that, inasmuch as it had been taught by Sigmund that syphilis should be treated symptomatically—that is, not until it manifested itself unmistakably—the objection set forth by Dr. Keyes fell through.

Dr. Keyes said it would fall through except that the natural sequence of the statement that all chancres were syphilitic would be to treat them as for syphilis. The logical conclusion of unicism, as it seemed to him, was that all sores should be treated as if they were to be followed by syphilis, which would be an error, and would have a deplorable effect upon patients in general.

Dr. Gerster said that that was an error, certainly, but what we were after was the truth, and not the effect which it would produce upon the community.

Thrombosis of the Brachial Artery, occurring from Pressure of the Weight of the Body.—Dr. Post presented a specimen of this sort. The patient was a feeble man, fifty-eight years of age, who had been bedridden for nine months with myelitis and paralysis, and loss of power over the urine and fæces. Two days before death he slept with his right arm under the back, and awoke with pain and a feeling of tingling and numbness. About an hour later the arm was seen to be white, and was cold and pulseless. On the next day there was discoloration about the elbow, which in the evening had extended to the shoulder. The specimen had been presented to him by Dr. Waitzfelder, and showed the upper third of the brachial artery distended with a firm clot.

Fixation of the Bones after Resection of the Knee Joint.—Dr. C. K. Briddon described a method which he had used, consisting in the driving in of four nails, each about three inches in length, two in the sides of the lower end of the femur and two in the sides of the upper end of the tibia, and suturing them with copper wire. The nails should be driven in about half an inch from the cut surface, and they should be left projecting about an inch and a half, to prevent the copper wire from becoming buried in the integument. It was also important to approximate the skin-flaps before driving in the nails. The nails were held firmly in position by making a figure-of-eight loop around them close to their heads, and in the two cases in which he had employed this method immobilization was complete.

The Vice-President said the method appeared to do away with one objection which had been urged against nails, as it seemed applicable to cases in which the ends of the bones had been largely excavated by abscesses.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 16, 1885.

The President, Dr. A. Jacobi, in the Chair.

Announcements were made as follows: That Dr. E. G. Janeway had been appointed by the Council to deliver the anniversary address in November next; that Dr. M. H. Henry had been appointed by the President to read a memoir of the late Dr. Louis Elsberg, and Dr. D. B. St. John Roosa to read a memoir of the late Dr. James L. Little; that Dr. L. Putzel had been chosen chairman of the Section in Neurology, the meetings to be held the second Friday of each month, the first meeting to take place in May; and that Dr. A. L. Loomis had been chosen chairman of the Section in Theory and Practice, the time of meeting to be announced in the future.

Presentation of a Portrait of Dr. Fordyce Barker.—Dr. T. M. Markoe made the presentation speech. He said: "It is my pleasant duty on this occasion, in behalf of the generous donors, to present to you, Mr. President and Fellows of the Academy, this beautiful portrait and admirable likeness of our former President, Dr. Fordyce Barker. . . . The gift itself is a costly and valuable one. To us, however, far above its cost lies its greater value in what it suggests of warm and kindly appreciation on the part of the great world outside of the profession of the aims, motives, and achievements of the medical science of to-day. The gift means no chance suggestion or accidental impulse to do a praiseworthy deed. It means much more. It means a well-considered and an intelligent conviction of the worthiness and success of our efforts for the relief of human suffering, and a most gratifying assurance that those efforts are, at least in some degree, appreciated by an interested and generous public. We should not, however, overlook the testimony which the gift bears to the personal regard of the distinguished givers, Mr. and Mrs. Astor." Dr. Markoe then referred to the eminent services rendered the Academy by Dr. Barker during the three successive terms he had served as President, and particularly to the dignified and impartial manner with which he discharged his duties during the exciting controversy about codes and the allegations against his personal character.

The President, on the part of the Academy, accepted the beautiful gift, and expressed pleasure at the fact that it had come from the midst of the public, which had taken an interest in the best of the profession. Being the portrait of Dr. Barker, it certainly was a well-merited honor.

Dr. A. C. Post said he had no doubt the Academy would highly prize this gift as an unusually beautiful work of art, and as a remembrancer of one who during a series of years had presided over the deliberations of the Academy with extraordinary dignity and grace, and he therefore moved that the thanks of the Academy be presented to the generous donors. Carried unanimously.

Dr. H. N. Heineman moved that the thanks of the Academy be extended to Dr. Markoe for his presentation speech. Carried unanimously.

Endometritis Fungosa; its Pathology, Diagnosis, and Treatment.—Dr. James B. Hunter read a paper with this title. He first gave a brief review of the early descriptions of the disease and the bibliography. There was some confusion as to the exact meaning of the term fungosity. Dr. Hunter thought there was an error when authors spoke of fungosities of the cervix; the disease did not invade the cervix. He had seldom found fungosities of the lining membrane of the uterus exceed five millimetres in length. They were not easily broken down under the finger, and their number and size were not in proportion to the amount of hæmorrhage which they excited. Three varieties were spoken of by Dr. Mundé, including what he called the hyperplastic form. Dr. Hunter, however, regarded all cases as consisting simply of hypertrophy of the mucous membrane, assuming a pedunculated or a sessile form, or constituting papillary growths, with a very free blood supply. They were not friable like granulation tissue, and showed no tendency to degeneration. On section they were found to contain a good deal of fibrous tissue, and to be covered by a single layer of epithelial cells. The question naturally arose, Why should the hæmorrhage be so great from a cause apparently so trifling? The

hæmorrhage would not be found so excessive if we took into consideration the greatly increased extent of the mucous membrane as it followed all the irregularities of surface presented by the fungosities. The superficial area of the uterine cavity was much increased by these growths, and the menorrhagic flow from the congested mucous membrane was consequently exaggerated.

A positive diagnosis of fungosities by a microscopical examination was difficult; indeed, it could not be made positively from the appearances of a single specimen, especially if it was fresh. A number of specimens should be examined and the clinical history taken into consideration. The principal symptom was menorrhagia. Dr. Hunter had found pain to be a rare consequence of fungosities. The menstrual period, instead of lasting not longer than five days, might continue for from eight to twelve days. A long train of symptoms naturally followed, but not differing from those due to anæmia from other causes. In some cases, instead of a hæmorrhage, there was a constant sanious discharge, with symptoms of loss of blood.

Fungosities seemed to result generally from chronic congestion of the uterus due to any cause, more especially subinvolution, retroversion, or retroflexion, and from moderate amounts of uterine congestion or mild endometritis long continued, rather than from the acute disease. Fungosities had no connection with gonorrhœa or syphilitic affections, so far as could be ascertained. They occurred usually during the childbearing period, and, as a rule, between the ages of twenty-five and forty. One cause of hyperæmia of the uterus was fibroid tumors, and this explained the frequent existence of fungosities in these cases.

The conditions to be borne in mind in making a differential diagnosis were, among benign growths, submucous polypi, adenoma of the uterus, villous degeneration of the endometrium, spoken of by Goodell (which, however, was probably either cancer or simple fungosities), and placental remains; of malignant growths, the round-celled or diffuse sarcoma. Medullary carcinoma of the body of the uterus was so different in its clinical and microscopical history that there was little danger of confounding it with fungosities. The author gave at some length the points of difference between fungosities and sarcoma, a condition which he believed not to be very uncommon.

The treatment of uterine fungosities was very simple and satisfactory. To cure the condition which gave rise to hyperæmia of the uterus might be very difficult and very tedious. In the treatment of the fungosities it was not necessary to dilate the cervix, as the presence of any growth within the uterus tended to produce a patulous state of the cervix. The surface of the uterine cavity was wiped with the applicator wrapped with cotton, and then scraped with the blunt curette, after which the cotton was again used to remove the last of the fungosities and cleanse the cavity of the uterus. An application was then made of Churchill's tincture of iodine, or of a strong solution of carbolic acid, then a small tampon was applied to the cervix, and the patient was put to bed. If there was any pain after the operation, morphine might be indicated. The operation might be done without an anæsthetic, but it was almost always painful. The patient should be told not to expect immediate improvement, as it was often not until the second or third curetting that the menstrual flow became diminished.

Curetting should never be performed in a case of recent pelvic inflammation, or in cases in which the uterus was so sensitive that it would not tolerate the passage of the sound. In such cases the patient should be prepared by the use of hot water to undergo the operation. Regarding the curette itself, it should be blunt and made of copper or other soft metal, admitting of ready bending of the shank; it should be about nine inches long. Two sizes should be at hand.

Dr. W. Gill Wylie accepted a part of the paper read by Dr. Hunter, especially that which related to the pathology of endometritis fungosa. He also agreed with Dr. Hunter that hæmorrhage was seldom of any consequence after curetting for fungosities, and he therefore could not understand why Dr. Hunter made use of a tampon. Dr. Wylie thought the use of the tampon was a violation of one of the first laws of surgery, namely, to secure perfect drainage. If a vessel was wounded and caused considerable hæmorrhage in uterine surgery he would secure it with a wire, or use some styptic, such as hot or cold water, etc. As to dilating the cervix before curetting, he did so for the purpose of securing plenty of room and to establish free drainage. Dilatation should be performed with Sims's dilator. As to Sims's curette, he did not think it could properly be called a sharp curette, although it was made of steel. Two sizes with the handle of a given form had been employed by Dr. Sims during the latter years of his life, and Dr. Wylie thought they could be used with safety and with greater efficiency than the blunt curette. With the dull curette the operation would oftener fail than with Sims's, for it seemed only to macerate the fungosities and not to bring them all away.

Dr. P. F. Mundé said, with regard to his previous statements concerning the frequency of sarcoma of the uterus, referred to by the author, that he had since seen a number of cases, and believed the affection to be more common than it was then thought to be. There could be no doubt of the existence of an endometritis hyperplastica which gave rise to the same symptom, menorrhagia, and required the same treatment, as endometritis polyposa or endometritis fungosa. He dwelt upon the importance of remembering the order of sequence of the pathological conditions leading up to endometritis fungosa, laceration of the cervix, subinvolution, chronic areolar hyperplasia, and hyperplastic endometritis in its various forms. These symptoms should be treated in the inverse order of their occurrence, first scraping the cavity of the uterus and removing the vegetations, restoring the endometrium and entire organ to a more nearly normal condition by applications of iodine, and the use of antiphlogistic remedies, and then uniting the lacerated surfaces. With regard to the symptoms, with rare exceptions menorrhagia constituted the symptom, but in a few cases there was amenorrhœa followed by dysmenorrhœa. The use of the blunt curette had become widely popular, and its popularity had been brought about not a little by himself; yet he had of late years found cases in which the sharp curette, as stated by Dr. Wylie, was necessary in effecting a cure of this condition. He would not, however, employ a rigid handle, as there might be danger of perforating the uterus. There might be considerable hæmorrhage after the use of the curette, especially if there was marked subinvolution, and he would then plug the vagina and the uterus, removing the tampon within forty-eight hours. Usually it was not necessary to dilate the cervix. Keeping up the treatment for three or four weeks by applications of iodine, we certainly could pronounce the patient cured, at least temporarily.

Dr. C. C. Lee agreed in the main with Dr. Hunter. Regarding the symptomatology, the characteristic symptom was menorrhagia, but now and then there was metrorrhagia as well. He generally put the patient through a course of preparatory treatment before curetting. He was unhesitatingly on Dr. Hunter's side of the question as to the choice of curette to be used. He believed that, except in the most skillful hands, Dr. Sims's curette was quite as likely to do harm as good, and he could not see why the sharp curette need be employed even by persons who were capable of using it skillfully. In preparing the patient for curetting he took great pains to diminish the chances of secondary hæmorrhage. He always employed an anæsthetic

if possible. He never had found it necessary to employ a dilator. He washed out the uterus first with a weak solution of carbolic acid, and again after the curetting. He then applied a solution containing one part of a saturated solution of chromic acid and four parts each of alcohol and strong tincture of iodine.

Dr. B. F. Dawson was strongly in favor of the blunt curette, as opposed to the sharp instrument. He, too, had not found it necessary to dilate the cervix. He expressed himself as a strong opponent of what might be termed the ferocity of modern gynæcology.

Dr. Hunter, in closing the discussion, said he applied a light tampon of antiseptic cotton in contact with the cervix to encourage drainage and not to prevent it. He had not found it necessary to employ a tampon to check hæmorrhage. As to dilatation of the cervix, he found that the small curette would pass where the sound could be made to enter. Regarding Sims's curette, advocated by Dr. Wylie, it was certainly sharp, had a rigid handle, and was dangerous. He did not deny the existence of the form of endometritis referred to by Dr. Mundé, but it did not fall into the class of endometritis treated of in the paper. He was inclined to think that if hæmorrhage occurred after the curetting it was due to fungosities not removed. The blunt curette was a quite efficient means for removing all fungosities. If the original cause was not removed, such as subinvolution, etc., the fungosities were liable to return. He thought the strong tincture of iodine employed by him had had something to do with the arrest of hæmorrhage.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 8, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Cystic Kidneys with Dilated Ureters were presented for a candidate by Dr. Northrup.

Bayberry Tallow in Microscopical Work.—Dr. W. M. Carpenter called attention to the value of bayberry tallow as a medium for imbedding tissues. The material had been employed in the laboratory of the University of the City of New York by Dr. Miller and himself. It was of special value as being free from some of the disadvantages of celloidin, paraffin, and other imbedding materials. Bayberry tallow was not soluble in alcohol at the ordinary temperature, but was readily soluble in warm alcohol and in some other substances. The piece of tissue was allowed to remain in melted bayberry tallow for about fifteen minutes, by which time it became completely permeated by the tallow, and was then, after Dr. Miller's method, put upon a piece of cork, where it was allowed to remain until it cooled, when more tallow was added, to hold it in position. It was now ready for section. The bayberry tallow could then be removed by immersion in either warm alcohol or benzol, care being taken to avoid raising the temperature of these agents to the point of coagulation. The advantages of bayberry tallow, therefore, were, that it admitted of rapid work, it could be removed thoroughly and easily from the tissue to be examined, it allowed of section with a great deal of precision, and its cost was trifling. Dr. Carpenter then exhibited a section of a bronchial tube prepared with bayberry tallow.

Dr. F. M. Parmly thought the method of imbedding described by Dr. Carpenter would prove of great practical value in laboratory work.

Exsection of the Tibia.—Dr. Weissenberger presented specimens from a case of exsection of the upper part of the tibia for necrosis in a child two years and a half old. During the course of the exsection it was necessary to open the knee joint, which was found to be involved. Over two inches of the upper portion of the tibia were removed. The bone was reproduced from the periosteum, so as to leave a shortening of only half an inch, with capability of extension, and of flexion to an angle of 45°.

Extra-capsular Fracture of the Neck of the Femur; Thrombosis of the Middle Cerebral Artery.—Dr. L. E. Holt presented a femur removed from the body of a woman seventy-three years of age, who slipped and fell upon the floor, sustaining a fracture of the upper end of the bone, afterward found to be extra-capsular. On the fourth day after the injury she became unconscious, and had hemiplegia of the right side. She died comatose seven days after the injury. Death was found to be due to thrombosis of the middle cerebral artery on the left side, and marked atheroma existed in the arteries throughout the brain. The aorta showed patches of atheroma. The natural angle at the junction of the neck with the shaft of the femur was much greater than usual, being about 120°. The angle existing after the fracture was about 110°.

Gunshot Wound of the Left Frontal Bone.—Dr. Van Gieson presented specimens obtained in the case of a woman who shot herself twice with a pistol just anterior to the left parietal region, during a state of delirium caused by typho-malarial fever. The pistol was of ·32 caliber. There were two wounds of the scalp anterior to the junction of the frontal and parietal bones, about an inch and a half apart, apparently wounds of entrance and of exit. Between the two holes the probe came in contact with a bullet imbedded in the bone. Subsequently hernia cerebri formed, and two months after the injury exfoliation of bone took place. The wound healed completely in about five months, and after that the patient had frequent attacks of pain, starting at the point of injury and running to the back of the neck; she was also "queer" at times, and very stubborn. She died in March, about a year after the injury, after an attack of acute rheumatism and pericarditis. The autopsy revealed thickening of the meninges, and new-formed tissue and congestion at the seat of the wound. There was also adhesion of the brain to the dura, and of the dura to the skull, and about the edges of the gunshot wound the brain was in a state of yellow softening. Several pieces of lead were imbedded in the skull at the inner and upper side of the bullet-hole. A negative point of interest was the fact that the wound was in the neighborhood of the speech center, but that there had been no signs of aphasia.

Intussusception.—Dr. J. Lewis Smith presented the intestine of a child six months old, artificially fed, a sufferer from colic for several weeks prior to its last illness. Intense pain and tenderness over the abdomen, vomiting, and constipation, with the passage of some blood *per rectum*, pointed to intussusception, which was treated by large clysters repeated several times for two or three days, but without the effect of reducing the invagination. About the beginning of the third day laparotomy was suggested, but was refused by the parents. Consent, however, was obtained by the following morning, when Dr. Sands was called in consultation. The fact that he could not discover an abdominal tumor, and also the fact that a little fæces came away with the finger during rectal examination, raised some doubt as to the exact condition present, and an operation was not performed. The child died rather suddenly twelve hours later. The invaginated portion of intestine was found to consist of the ileum and a portion of the large intestine, and had apparently been partially reduced by the injections of tepid water.

Dr. Smith remarked that within the last year or two he had succeeded in relieving symptoms of intussusception in several cases by injections of tepid water, but he did not persist longer

in the present instance for fear of rupturing the gut. The reason why the tumor had not been felt was that it lay just beneath the left extremity of the liver, in the median line, well back, and was covered by a collection of fæces above and one of water below.

Dr. Holt remarked that one of the British medical journals recently contained an article in which the author advised against distension of the gut continued longer than the third day through fear of rupture, and stated that laparotomy should then be resorted to and reduction be effected by traction.

The President would resort to laparotomy twelve or twenty-four hours after the development of symptoms of intussusception, although the diagnosis might not be quite positive.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of April 2, 1885.

The President, Dr. B. F. Baer, in the Chair;

Dr. W. H. H. Githens, Secretary.

An Ovarian Cyst of Rapid Growth was shown by the President. An unmarried woman, twenty-six years old, a patient of Dr. A. G. Walls, of Lock Haven, Pa., with whom puberty had been established at the age of fourteen, who had always been well, being of a remarkably fine physique, tall and robust, felt some pain and uneasiness in the ovarian region three months ago. She was examined by Dr. Walls, who found the right ovary enlarged to the size of a large orange. She soon after found that her abdomen was increasing in size.

On March 9th, when the President saw her, she was beginning to show facial signs of ovarian disease in slight emaciation, pallor, and the peculiar distress of countenance. The menses were regular; the abdomen was distended to the size of the eighth month of pregnancy and was perfectly symmetrical, pyriform in shape, dull on percussion, with a resonant corona extending around from one flank to the other; and there was marked fluctuation. The vagina was virginal, the cervix uteri pointing slightly forward, the body retroverted and mobile. The lower border of the abdominal tumor could be touched *per vaginam*. The uterus was not affected by movement of the tumor. An ovarian cystoma was diagnosticated, and its immediate removal advised. Assisted by Dr. Walls, Dr. Hayes, and Dr. Lichtenthaler, and in the presence of Dr. Watson and Dr. Ball, he made an incision two inches and a half long. The fat in the abdominal wall was at least an inch in thickness. The cyst, which contained a bucketful of a thick fluid of the color of pus, was removed in a collapsed state through the small incision. There were no adhesions. The pedicle, which was short, was tied and dropped. The left ovary was found to be as large as a walnut and undergoing polycystic degeneration; it also was removed. The incision was closed with six silk sutures. The patient recovered without any outward symptom.

The rapidity of the development of this tumor was remarkable. The other ovary was a beautiful specimen of beginning polycystic disease. It was a curious fact that, of his last six ovariotomies, in not one of them had the period of development extended over nine months from the time the disease was first discovered. One of them had grown only three months, as just reported, from the time it was found by Dr. Walls to be of the size of an orange. They were all good sized tumors, two of them weighing nearly forty pounds each.

The Bromide of Ethyl as an Anæsthetic in Labor. Dr. Montgomery read a paper with this title. Reviewing the various anæsthetics, he said that chloroform was objectionable in that it caused inertia utori and tedious labor, and increased the danger of post partum haemorrhage. The relative infrequency of fatal cases under its use in surgical practice, and the still greater rarity of serious results from its use in obstetrics, did not warrant its habitual use. The use of ether in natural labor was infrequent, because to relieve pain the patient must be profoundly etherized. Partial etherization only destroyed the ability to bear pain without obtunding sensation. Besides, Tait had demonstrated that ether passed rapidly into the circulation of the fœtus, endangering its existence. The mixture of nitrous oxide and air advocated by Klikowitsch required a special apparatus and was unwieldy. The ideal anæsthetic was one that was safe for both mother and child, certain in its effects, rapid in relieving pain without producing loss of consciousness, and the effects of which passed off quickly. All these demands were met by the bromide of ethyl. He mentioned one hundred and twelve cases in which it had been used, twenty-nine of which were in his own practice: none of the mothers died, and but three of the children. In none of the latter could death be attributed to its use. It was administered during the second stage of labor by placing a napkin wet with a few drops of the ethyl over the face at the advent of each pain, and withdrawing it as the pain subsided. Unless a drachm was used, the sensation of pain was obtunded without arresting consciousness. The process of labor was carried forward vigorously and quietly, the patient ready to exert or withhold voluntary aid, as her attendant might direct, and the expulsion of the head was attended by no greater pain than accompanied the evacuation of obstinately constipated bowels. His experience did not lead him to believe that its use would induce inertia uteri or increase the tendency to post-partum hæmorrhage.

Dr. D. M. Baer was much interested in this subject, and thought from this report that the indications for the usefulness of bromide of ethyl were favorable. He would like to know to what degree the patient returned to consciousness between pains. He would use bromide of ethyl as an experiment, but he would say that his old combination still gave him the very best effects with perfect safety. He had continued to use it in almost every case of labor since he made his report on Anæsthetics in Labor ("Med. and Surg. Reporter," March 13, 1880). He would feel some hesitation in using the bromide of ethyl, as it was dangerous, even if not so much so as chloroform. How would it act if mixed with ether? The objectionable qualities of chloroform and ether balanced and overcame each other, and the addition of alcohol to the mixture prevented their explosive action, so to say, for the sudden effect of a full and deep inspiration of the strong vapor of the anæsthetics was prevented by the admixture of alcohol in the proportion of chloroform one part by measure, ether three parts, and alcohol two parts. If a portion of this mixture was placed in a saucer and heated, it would all evaporate together—the ether did not pass off from the alcohol. This mixture soothed the pain and made the patient happy. The excited or drunken stage of etherization was avoided, and the danger from chloroform was avoided. Unconsciousness was unnecessary, and was not produced. If bromide of ethyl had any of the dangers of chloroform, they were not checked by admixture with arresting agents. Dr. Barr related the particulars of a case in which he had employed his mixture, to show how kindly it acted in cases of suspected functional heart disease. In this case its administration was continued for nine hours; the pain was relieved, there was no vomiting, and there was no effect upon the pulse.

Dr. R. P. Hayes remarked that chloroform was considered perfectly safe as an anæsthetic in labor. Playfair in his last edition advocated it on this ground; but there had been fatal cases. The danger of an anæsthetic could only be ascertained after it had been used and reported upon in many instances, so as to get an average. Some men were careful and cautious, but

all were not. The use of mixed anæsthetics was becoming more general in England.

Dr. W. M. Welch, upon invitation by the president, remarked that he had had no experience with bromide of ethyl, and but very little with other anæsthetics. He had given ether in one case, and a troublesome condition of intoxication had been developed. He was applying the forceps, and the patient suddenly seized one blade, and, wrenching it out of the vagina, tore the vulva. He preferred to get along without the use of anæsthetics.

Dr. Henry Seaman, upon invitation by the president, said that he also had had no experience with the bromide of ethyl. He did not hesitate to use ether in bad cases of labor, but he did not employ it when he could avoid it. He was not yet convinced that the use of anæsthetics in natural labor was advisable. There had not yet been formulated a satisfactory definition of natural labor. He was now engaged in studying that subject. He had observed in private practice most of the postures described by Engelmann in his papers on primitive obstetric practice. The sympathetic system in labor reacted upon the cerebro-spinal system, and produced the condition of nervous excitement which was seen in the patient, and which often extended to her friends, and even to the doctor. After close observation of over six hundred cases, he thought labor could be as natural a physiological operation as respiration, or the circulation of the blood, or any other function of the body, with this one difference, that, whereas the ordinary performance of function was pleasurable, in labor pleasure was replaced by pain. He was not in favor of the use of anæsthetics merely to remove or obtund this pain, as it was natural; and anæsthetics might interfere with the natural process and cause relaxation, or retard involution, resulting in that root of endless misery, subinvolution of the uterus. He had been making careful studies with a dynamometer, which measured the available pressure. He believed that it gave the sum of the pressure applied to the ovum, expressed in the projection of the advancing part, against which it rested. He would continue these studies, which were not yet complete. The action of the accessory muscles, such as the diaphragm and the abdominal muscles, took no real part in the expulsion of the fœtus, but merely embraced the uterus, preventing any rebound or loss of force when the ovum impinged against the pelvic walls or perinæum. Their action was to sustain or hold the uterus closely to its work. The entire force exerted was not nearly so great as was usually supposed. The force of labor did not exceed that of the actual pressure, which he thought was about six pounds. The exit of the child was not violent, but gradual. It was a popular belief that a majority of labors occurred at night, but, of his six hundred carefully recorded births, an equal number took place between 6 A. M. and 6 P. M., and between 6 P. M. and 6 A. M. There were, however, two acmes, one at 11 P. M. and another between 7 and 8 A. M. These two periods corresponded to the times of greatest blood-pressure. He ranged himself on the side of those who believed in the non-necessity of the use of anæsthetics in natural labor.

Dr. W. H. Parish would like to hear more particularly from Dr. Montgomery, in his closing remarks, respecting the safety of bromide of ethyl as an anæsthetic. A few years ago it was introduced into surgical practice in Philadelphia, and was abandoned in consequence of its dangerous character. If it was dangerous in surgery, why should it not be dangerous in obstetrics also? Chloroform, which was at one time considered perfectly harmless in the latter practice, had been found to be no safer there than in ordinary cases. He had established for himself three rules respecting the use of anæsthetics in obstetric cases: 1. In easy, normal cases no anæsthetic was required. 2. If the patient was nervous, excited, and uncontrollable, he gave chloroform at the beginning of each pain, to quiet the excitability and take off the sharpness of the pain without producing unconsciousness; during the intervals between pains the chloroform was withheld. 3. Whenever he considered that unconsciousness, full anæsthesia, was necessary, he employed ether, so as to avoid the depressing effects of chloroform. Bromide of ethyl might be used in place of chloroform, as indicated in his second rule, if it was shown to be equally safe; but he would not consider it proper to use it to produce complete relaxation, as required for version or the application of the forceps. Professor Wood, in his experiments, found bromide of ethyl more dangerous than chloroform. Dr. Parish did not now use it, and he feared it would go hard with any physician before our courts if he had a fatal accident occur during its use.

Dr. Barr thought Dr. Seaman's estimate of the force required to extrude a full-term fœtus was far below the mark. A child weighing seven pounds or over was pushed through a curved, horizontal, resisting passage with irresistible power, and sometimes rapidity. A force of six pounds would not lacerate a perinæum. In some cases there was but slight resistance, and the force required was small and the pain not severe. He had seen cows moaning from the severity of their pains during parturition. In one case recently a cat was delivered of its first kitten after severe and prolonged pain, and the second kitten required three hours for its extrusion. The pains of labor were more easily alleviated than the pains of surgery by anæsthetics, and with no increase, if not a diminution, of danger.

Dr. Montgomery, in closing, said that, as to danger from the use of bromide of ethyl, he thought there was none if a pure article was carefully used. The patient was not completely narcotized, consciousness was not lost: the administration of the drug was interrupted. The patient could co-operate, although relieved of suffering. She could answer questions. Professor Müller was the only one who had failed in obtaining good effects, and this was probably due to impurity in the drug. Bromide of ethyl did not take the place of chloroform, nor did it produce muscular relaxation, or relaxation of the uterus as required in version. Its use could be pushed to complete unconsciousness, but that was not necessary, as pain would be relieved without that, while the contractions of the uterus and respiratory muscles were fully as effective as without an anæsthetic. Labor was undoubtedly a physiological process—as much so as respiration or defecation, but it did "hurt." It was the type of the most severe and agonizing suffering, and we as physicians were called on to relieve that suffering and prevent the waste of vital force to as great an extent as we could by preventing pain—long-continued pain. Bromide of ethyl was apparently entirely safe when given as he had used it. Experimental physiologists did not all agree with Professor Wood as to the comparative danger of this and other anæsthetics.

BUFFALO OBSTETRICAL SOCIETY.

Meeting of March 24, 1885.

The President, Dr. W. W. Potter, in the Chair.

The Use and Abuse of the Tampon in Abortion.—Dr. J. W. Kelly read a paper with this title. [See page 162.]

Dr. R. J. Bantz said that he had not found the danger of inducing abortion by the use of the tampon so great as Dr. Keene and the authors he cited had stated. He formerly used the tampon if he found a woman losing a thimbleful of blood. Now, if he had plenty of time, he let it flow, but, if he was obliged to leave the patient, he tamponed. Much depended on the judgment of the physician: the older he grew the less he would fear hæmorrhage.

Dr. FREDERICK believed the indications for the use of the tampon were as stated by Dr. Keene. He considered the colpeurynter preferable to the old-fashioned tampon, and used it in his practice.

Dr. INGRAHAM said that, if a woman did not flow much, he felt at liberty to go away. He did not think the tampon always produced abortion.

Dr. STOCKTON had been rather frequently called upon to consider whether or not he would use the tampon. In the paper it had been pretty well stated when it should be used; but the question of using the tampon occurred at other times than those mentioned, for instance, after the escape of the fœtus, when there was retention of the secundines.

Dr. HARTWIG would say that, if the tampon was to be used, the indications for its use had been correctly given. He was of the opinion that the tampon should be given up almost entirely. He had used it in some cases. He fully believed, as Schröder stated, that a woman would not bleed to death from abortion before the fourth month. The old-fashioned tampon would certainly excite uterine contractions; and the same might be said of the colpeurynter if sufficiently dilated to check the hæmorrhage. There were, however, other ways of tamponing, as with compressed sponge. Another way was to tampon the cervix through a speculum. He thought he would do the latter if he tamponed at all. But in hæmorrhage during pregnancy, and after the expulsion of the child, he had decidedly come to the conclusion that a tampon was unnecessary, because, if the bleeding was slight, the woman could bear it. Small doses of ergot, or even large doses—which never of themselves produced abortion—would check the bleeding. The life or death of the child ought to be decided with a good deal of probability. If the woman had bled much, and the cervix was patulous, we could be sure that the baby was dead. As a scientific ruling, he would put forth the idea that the tampon should not be used at all. Its real value consisted in exciting uterine contractions.

Dr. TREMAINE was very glad to hear these views expressed. He did not practice obstetrics, except in consultation. Some years ago he used to do a great deal of midwifery. He never used a tampon but once, and never would again if he could help it. He thought it one of the most barbarous, unsurgical, and nonsensical things ever invented. Dr. Hartwig had expressed nearly his own ideas. He could not see any possible use for the tampon. He used to see much hæmorrhage, and was accustomed to control it by injecting alum-water into the uterus. He had never seen a death from post-partum hæmorrhage. When there was much bleeding, abortion was sure to take place. About the surest way to bring it on was to give opium.

Dr. LOTHROP said that how these gentlemen practiced obstetrics and dealt with abortion in the second and third months without the use of the tampon he did not understand. It was an absolute necessity. He very seldom used it unless the life of the embryo was destroyed. How these gentlemen could see the woman lose such a large amount of blood when they could stop it with a simple plug he did not understand. When he had been compelled to use the tampon it had almost always been from retention of the secundines after the expulsion of the fœtus. He could not get along successfully in abortion without the use of the tampon. His way of using a tampon was to pack the vagina with cotton pledgets by means of a Sims's speculum. As for septic infection following the use of the tampon, it had never occurred in his practice. There were two symptoms he looked upon as important in abortion—pain and hæmorrhage—and the two things he recommended were opium and a tampon.

Dr. GIBNEY had an opinion on this subject, and was willing to give it for what it was worth. He had had many cases of hæmorrhage of this character, and had tried many means to check it. When he found the os partly dilated and the cervix softened, he was satisfied of the death of the fœtus, and that the best procedure was to bring on rapid contraction and prevent further hæmorrhage. He believed the tampon in nearly every case would bring on abortion; so he would not use it while there was any chance that the fœtus was alive. If the physician was satisfied that the child was dead, he did not see that he could do better than to tampon.

The PRESIDENT said it was difficult for him to understand the import of the paper. In a general way, he inferred that its bearing was against the use of the tampon. He used the tampon himself, and had never yet used it, in more than twenty-six years, when he regretted it. He used the tampon for two purposes: first, in extreme cases, to save life, and more especially to avoid the loss of blood. He thought gentlemen made a mistake when they allowed their patients to bleed one ounce. He would say that no man should undertake to practice obstetrics in this day and age and permit his patient to bleed. If he did not succeed in the use of the tampon, it was because he did not use it right. He was certain that in case of violent hæmorrhage the only way to control it was to put the patient in Sims's position, and pack the vagina so tight that there could be no hæmorrhage. If he was called to a case of threatened abortion, and found the os open and the fœtus not accessible, he would not commence by tamponing if he lived near by; but, if he lived ten miles away, he would tampon the woman for her own safety, and he would be pretty sure that, on removing the tampon the next day, the fœtus and secundines would drop into his hands. After the escape of the fœtus and retention of the secundines, his practice would be to remove them if he could. If he could not do so with tolerable ease, he would tampon. He would not allow the patient to suffer the loss of four ounces of blood. In reference to ergot, gentlemen might give it, if they pleased, in threatened abortion with a hope that it would prevent hæmorrhage; but they should not rely on it. He had come almost to think it nearly useless. He did believe in the use of the curette in removing detritus, and then brushing over the cavity with Churchill's tincture of iodine; then, if there was any danger of hæmorrhage, the vagina should be tamponed.

Miscellany.

The State Charities Aid Association.—In a circular lately issued by the Board of Managers the statement is made that the chief value of the work of the association lies in the improved condition of the institutions visited by its local committees, in the stimulus given to public interest in such institutions, and in the progressive enlightenment of public views concerning them. In counties apparently the most hopeless, where the administration of the poor laws was formerly a disgrace, reforms have been effected, says the circular, which have raised their institutions to a level with the best. The managers believe that the value and the need of unofficial visitation of public charities are recognized by the community at large, and that the practical methods adopted by the association to this end are approved of wherever they are thoroughly understood. We are glad to learn that the work of the association is so highly appreciated, for it is a most deserving organization.

Midwives in Erie County.—The "Buffalo Medical and Surgical Journal" gives a summary of the provisions of a bill now before the Legislature for the licensing of midwives in Erie County, and expresses the opinion that the provisions of the bill are an improvement upon the midwife, so conservative of her best interests as to [illegible] imposing onerous requirements, that it will probably not meet with any [illegible]

midable opposition. The bill was drawn by a committee of the Buffalo Medical and Surgical Association, and has the indorsement of the Medical Society of the County of Erie. It provides that on or after July 1, 1885, the County-Judge shall appoint an examining board of five physicians, and prescribes the method of filling vacancies in the board. It designates the officers of the board as a president, a secretary, and a treasurer, and requires the adoption of rules for the conduct of the examinations. The board is to meet on the first Tuesdays in April and October in each year, for the examination of all candidates who present themselves, provided they are of lawful age and of good moral character. The fee for the examination is to be $10, and shall be applied toward defraying the expenses of the board. A successful candidate shall be designated as a midwife, and shall receive a certificate entitling her to attend any case of normal labor, but it is provided that she shall not use instruments, attempt version, or administer any dangerous drug, except when the attendance of a physician can not be procured. The revocation of the certificate for cause is provided for, and after December 31, 1885, midwives are forbidden to practice, except in accordance with the provisions of the bill, under penalty of a fine of not less than $50 or more than $100.

The Virginia State Board of Medical Examiners, made up of three physicians from each congressional district and two from the State at large, nominated by the State Medical Society and confirmed by the Governor, began its first meeting on the 10th inst, and conferred licenses to practice on nineteen candidates.

The Treatment of Whooping-Cough.—In his summary of treatment, in a clinical lecture delivered at the Philadelphia Hospital ("Medical News"), Dr. John M. Keating emphasizes the value of the steam spray and the atomization of medicated solutions, among which he ascribes value to Dobell's solution, eucalyptol, and thymol. With the bichloride he advises caution. Corrosive sublimate, which is now used for almost everything, he says, has also been applied here in the form of the spray. He remarks that it is a dangerous drug to put into the hands of an inexperienced person, and, as we have so many other useful remedies for this affection, he thinks it wise to avoid the use of corrosive sublimate. He has used listerine extensively with good results in the treatment of whooping-cough. He employs it in the strength of one drachm to two ounces of water, with an ordinary hand-atomizer, directs the nurse to apply it twelve or more times a day, and finds that little children, even babies, do not object to it. He adds to it tincture of belladonna, potassium carbonate, or ammonium bromide, as the case may demand. Chloride of ammonium he also finds of great service in the form of spray.

The Biarritz International Congress of Hydrology and Climatology will hold its first session at Biarritz from the 1st to the 8th of October, 1886. M. Durand-Fardel will preside, with the Minister of Commerce as honorary president. A number of interesting questions connected with balneology and climatology will come up for consideration, and excursions will be made to various health resorts in the Pyrenees, for the purpose of studying the operation of the establishments.

THERAPEUTICAL NOTES.

Resorcin in Skin Diseases.—Cattain ("Monatsh. f. prakt. Dermatol."; "Dtsch. Med.-Ztg.") uses the following ointment with great success:

Resorcin	30 to 60 grains;
Vaseline	5 drachms.

He speaks highly also of application of a one-per-cent. solution of resorcin in scrofulous bed-sores and even epithelioma of the skin. In the latter he applies to the affected parts, every three hours, compresses wet with a two or three per cent. solution.

Citrate of Iron in the Treatment of Cholera.—Ciaramelli ("Riforma medica"; "Dtsch. Med.-Ztg.") recommends the subcutaneous injection of a ten- or twenty-per-cent. solution of citrate of iron in the algid stage of cholera. A few drops, at most, should be injected at a time, and the process should be repeated two or three times a day until the temperature rises above the normal (to 102° F.), as soon as it becomes subnormal the injections should be resumed. He reports thirty-five cases treated by this method, in twenty-eight of which it was successful. The caution is added that it may be necessary to dilute the solution of iron in order to avoid abscesses at the points of injection.

Chrysophanic Acid in the Treatment of Psoriasis.—Besnier ("Morgagni;" "Dtsch. Med.-Ztg.") proposes the following modification of Auspitz's treatment of psoriasis: After the scales have been removed by washing with black soap, the affected parts are penciled with a solution of three drachms of chrysophanic acid in three ounces of chloroform. When the coating has evaporated, a second application is made with a mixture containing three drachms of gutta-percha and three ounces of chloroform. Two applications a week are generally required.

Injections of Turpentine in the Treatment of Malignant Tumors.—Professor Vingt ("Revista de las Ciencias Médicas"; "Dtsch. Med.-Ztg.") has employed deep injections of a mixture consisting of one part of turpentine and two parts of alcohol, the needle being introduced into the tumor as far as possible. A local inflammatory process results, which is followed, the writer states, by a partial or complete disappearance of the growth.

Andira Inermis.—Midy ("Nouveaux remèdes") speaks highly of the decoction of this plant as an anthelmintic. On account of its smart narcotic effects, it should be administered at first in small doses, which can be gradually increased. The occurrence of nausea is a proof that the maximum dose has been attained. The writer directs that an ounce of the bark be boiled in a quart of water until the decoction assumes a wine color. Two ounces of the liquid should be given to an adult, and two teaspoonfuls to an infant. The active principle is a glucoside, *andirin*.

A Urethral Ointment for Gonorrhœa.—Unna ("Dtsch. Med.-Ztg.") recommends the frequent introduction of a sound smeared with the following:

Nitrate of silver	30 grains;
Peruvian balsam	60 "
Yellow wax	1 to 2 drachms;
Cocoa butter	6 ounces.

Pills for Spermatorrhœa.—De Sinéty ("Union méd.") proposes the following pill:

Extract of belladonna, Powdered belladonna-root, each	3 grains;
Confection of rose	q. s.

Divide into ten pills. One to three pills should be taken before going to bed.

The following pill also is efficacious, according to the same writer:

Camphor	1 grain;
Lupulin	2 grains.

This treatment is specially adapted to seminal emissions resulting from spasm of the seminal vesicles; if, however, the spermatorrhœa is due to atony of the parts, the author prefers to give this mixture:

Powdered ergot	6 grains;
Powdered nux vomica	1 grain.

Divide into three pills. One to be taken morning and evening, before eating. Cold douches and applications of camphor liniment to the small of the back are to be employed at the same time.

A Remedy for Corns.—Tavignot ("Courrier méd."; "Dtsch. Med.-Ztg.") commends the daily application of phosphoreted oil (1 part to 300) as a radical cure for corns.

An Application for Chilblains.—Vigier ("Lyon méd.") recommends the following:

Tannin	8 grains;
Glycerin (30 per cent.)	5 drachms;
Rose-water	3 ounces.

The Treatment of Conjunctivitis. Abadie ("Prog. méd.") recommends the following lotion for simple conjunctivitis:

Boric acid	5 drachms;
Distilled water	20 ounces.

To be used five or six times daily.

Lectures and Addresses.

AN ADDRESS

DELIVERED AT THE MEETING OF THE

AMERICAN MEDICAL ASSOCIATION

IN NEW ORLEANS, APRIL 29, 1885.

BY HENRY D. DIDAMA, M. D., SYRACUSE, N. Y.,
CHAIRMAN OF THE MEDICAL SECTION.

THE prescribed duty of the chairman of the Medical Section is to acquaint you with the progress made during the past year in materia medica and the practice of medicine. A literal compliance with the mandate would subject you to a wearisome recital of facts and fancies which have been gathered already by enterprising medical journals, and scattered broadcast throughout the world. The spirit of the injunction may be honored by the omission of minor and as yet unestablished additions to our armamentarium, while a few comments are made on the two recent discoveries which have not entirely escaped popular and professional attention: comma bacillus and hydrochlorate of cocaine.

The prompt and unprejudiced experiments made with the new local anæsthetic, the cordial, enthusiastic, and universal acknowledgment of its merits, are a sufficient refutation of the charge that the medical profession is hampered by a blind and dogged conservatism. The drug is still in its infancy. Its anæsthetic properties are so remarkable that its use has been limited mainly to surgery, and especially to operations on the eye. But, that it has a valuable future in medicine also, there can be no doubt. Its ability to produce contraction of congested blood-vessels and pallor of the mucosa early suggested its probable utility in various pathological conditions. Used as a collyrium in conjunctivitis, and in the form of spray in acute and chronic nasal and laryngeal catarrh, it has been of greatest service, not only as an adjuvant, but as the principal remedy. Speakers and singers afflicted with sudden and even persistent hoarseness and aphonia have found speedy relief and a restoration of vocal functions. It is not improbable that, used with the atomizer, it may mitigate the severity of the paroxysms of pertussis, and alleviate the dreadful distress of tubercular laryngitis. Internally—if its price shall not continue to forbid its general employment—it may be found serviceable in gastric irritation and catarrh; and, like the leaves from which it is extracted, it may prove to be a quick and powerful muscular invigorator.

The brilliancy of the discovery of the comma bacillus by the already immortalized Koch is universally admitted; but the claim that this microbe is the pathogenetic factor in cholera is stoutly denied by some eminent observers. This denial is echoed by many worthy people who are constitutional doubters, and who habitually substitute prejudice for patient investigation. It is asserted, on the one hand, that the comma is not pathognomonic of Asiatic cholera, being found in the dejections of cholera morbus, and even in healthy oral secretions; and, on the other hand, that in many cases of Asiatic cholera it is entirely absent, and that if it happens to be found its presence is a harmless coincidence. So confident has been this skepticism that its devotees have actually indulged in cholera dejections, swarming with bacilli, as a beverage. Surviving the somewhat repulsive experiment, the inference has been drawn that these microbes have no infectious properties. Klein and others have demonstrated that the tank-water in various parts of India is fairly alive with these punctuating bacilli, and that the natives drink it and them with avidity and impunity. The poor, maligned comma microbe seems now in a fair way to have a reputation for innocence fully established.

His brother, the bacillus of tubercle, had a similar checkered experience. Miliary tubercle, it was asserted, identical with that caused by the bacillus, could be produced by inhalations of glass-dust or by inoculations with any inert substances. One zealous doubter hastened to proclaim that the microbe was a base impostor; that what seemed to be a living organism was simply a masquerading fat crystal. But more extended observations, and experiments which excluded former sources of error, have so established the morbific character of this microbe that the affirmation may be made with some assurance: *every tubercle comes from a bacillus.* In regard to the comma, Klein, in a recent discussion, admits that while this bacillus in and of itself is harmless, it yet does excrete or produce a virus or poison which causes cholera; so that, after all, the comma is actually essential to the existence of cholera; and the formula is justified: *no comma bacillus, no cholera.* Let it be admitted that the harm is done not by the living microbe, but by some dead excretion. Still, as there can be no excretion without an excretor, the comma can not be allowed thus to shirk responsibility. The common law maxim, *qui facit per alium facit per se,* will hold the principal liable for all the legitimate actions of its representatives. It is admitted by Klein and his supporters that the poison produced by the bacilli is self-multiplying. Then it must be alive; for a dead excretion has no power of propagation. And if it be alive it must itself be a microbe, the vicious offspring of the amiable comma. So that at last the contending parties occupy the same platform, one party laying the blame upon the mother microbe, the other party insisting that guilt rests on the wicked daughter.

Too much admiration can not be felt for the army of patient and zealous investigators who brave danger, who sacrifice ease, who spurn lucrative pursuits in their devoted hunt among uncanny objects for some new minute enemy of the human race. They deserve all the plaudits which they receive. But does not truth compel the sad confession that bacteriology, with all its brilliant discoveries, has furnished little help to what is of the greatest practical importance to physicians and patients: the art of healing? The fatal march of consumption has not been arrested, nor its treatment has not been even modified by the discovery of the bacillus. The dreadful disease still continues to kill one sixth of the human race, and its ravages would not cease even if the bacillus could be exterminated. But consumption exists and runs its deadly course where no bacillus is present.

No new remedy has been suggested by the discovery of the cholera microbe. It is known that this bacillus thrives in alkaline soils, and has its growth and propagation hindered or arrested by acid conditions. But the acid treatment of cholera was employed with some success more than a decade of years before it was known whether the cause of the disease was shaped like a comma or an interrogation-point.

Ague yielded to Jesuits' bark ages before the *Bacillus malariæ* was dreamed of; and the knowledge that vegetable germs are the fountain and origin of the complaint has not added one jot to our ability to manage it. These facts are admitted, but they do not detract from the merit of the germ-seekers.

No practical—certainly no commensurate—good has come from Arctic explorations. But Franklin and Kane and Greely, and all their noble associates, deserve honor and reward, not for what they achieved, but for what they attempted. Let the spirit of inquiry suffer no discouragement. The ugly duckling becomes at length the beautiful and graceful swan. The helpless and useless babe grows into vigorous manhood in time. Through untold ages the sun has been sending to us line upon line ardently acknowledging our good mother earth as his beloved daughter. The messages were unseen by dull mortal eyes till the Bavarian optician, Fraunhofer, came. He discovered the affectionate hieroglyphics in the solar spectrum, but he could not decipher them. He did what he could. He patiently observed and measured and honestly recorded five hundred and seventy-six apparently meaningless lines. And then he waited for the advent of some Champollion capable of furnishing an interpretation. For forty-five years the epistle remained untranslated. Then Kirchhoff, another German, after much patient search, revealed to us the kinship of things terrestrial and celestial. Some good, let us hope, will yet come from the cruel and murderous Arctic explorations.

In some way mycology may aid in preventing and curing disease. Let us labor and wait. But may we not, with all due humility and deference, suggest to our friends, whose eyes are worn out looking through their fiftieth-inch objectives, that the shape of the microbes, or even their behavior in cultivation fluids, is no longer of supreme importance? Is it not time that a little more attention be directed toward discoveries in prophylaxis and therapeutics? Already the antiseptic precautions introduced by Lister have been of incalculable benefit to surgery. Those who decry Listerism, and even that cleanliness is sufficient, actually pay tribute to the genius of the great antiseptic apostle. Dirt is harmful only because it contains noxious germs; cleanliness to the extent that it excludes these germs is aseptic ism; and aseptic ism is Listerism. We await the advent of some medical Joseph who shall discover a germicide which is not a [illegible] at the same time.

[illegible] are introductory to my brief and fragmentary [illegible]

The microbe is credited to claim that a legion of diseases [illegible] Included among them are the exanthemata, typhus, typhoid, and yellow fevers, diphtheria and croup, tuberculosis, venereal infections, and cholera asphyxia. Included also are complaints like pneumonia, whose contagiousness is not generally admitted, and rheumatic and malarial fevers which are non-contagious. It is not pretended that the specific *contagium vivum* of every one of these complaints has been demonstrated by propagation experiments. But as the spirillum of anthrax, the micrococcus of diphtheria, the bacillus of phthisis and cholera have been captured and exhibited and caused to multiply, the inference—conjecture, if you choose—does not seem forced that all diseases which resemble these specified in having contagious properties, or a period of incubation, or a definite cycle, or capabilities of preventing subsequent attacks, have as their causes certain minute, even if undiscovered, organisms. Further observations will be made. Alleged discoveries will be subjected to rigorous investigation. The false will be brushed away. The truth will be established. Carping criticism will yield to peaceful acquiescence.

The neurologist is confident that a multitude of complaints have their origin in the nervous system. And he has good grounds for his opinion. Fever as a neurosis is the subject of an able paper by an eminent writer at this very session of our Association. That a high temperature —the highest recorded—has resulted from injuries of the spinal cord—and where the influence of microzymes is excluded—is not a matter of question. In one instance the temperature reached 122° F., and remained for seven weeks between 108° and 118°. The patient was a lady; the result was recovery. An incidental inference, which I will not press, is that if recovery can take place after a continuous average temperature of 115° for nearly two months, it is not the fever which kills or produces rapid softening of the heart and other organs in fatal cases of typhoid. Whether there are special calorific nerves which may be stimulated, in moderately severe spinal injuries, to increased production of heat, or whether, from continuous compression of the nerves, heat is produced by increased resistance —as in the galvano-cautery—are questions which may merit investigation. Fever, so far as it consists in elevation of temperature, can be a simple neurosis.

That rheumatism involves the nervous system, even if it does not originate in it, may be inferred from the erratic behavior of the joint affections in rheumatic fever, and from the causes of arthritis deformans, which are often grief, care, prolonged anxiety, and injury or disease of nervous centers, as shown by Charcot, and ably presented by Ord at the last meeting of the British Medical Association. Many cutaneous affections, notably zoster, urticaria, and eczema, are of nervous origin. Pneumonia sometimes arises from injury of the brain. Diabetes, both the glucose and the insipid varieties, can be produced, as is well known, by irritating certain nerve-centers. Some kidney diseases and liver complaints are the result of persistent nervous disturbance.

The humoral pathologists still adhere to the belief that our physical ailments arise from disorders of the blood. Plethora has its numerous attending evils, congestions, hæmorrhages, cardiac disturbances. Anæmia is the prolific parent of a thousand aches and pains, of indigestions, pal-

pitations, mental and physical debility. Blood containing an excess of a certain element causes diabetes. Contaminated with another, it occasions Bright's kidney and diseases of the urinary tract. Rheumatic fever, with endo- and pericarditis and permanent valvular disease, is produced by the ingestion or injection of a certain acid, and its absorption into the blood, as shown by the experiments of Richardson and Foster. This acid is produced normally from certain elements of the food. It is transformed before reaching the systemic circulation. Produced in excessive quantity, or failing to be transformed, it poisons the blood—as it does when introduced experimentally—and causes rheumatic joint affections and cardiac lesions. As is well known, these endocardial disturbances and valvular injuries are limited almost exclusively to the left heart. The right heart escapes because the acid is normally present there, and so an accustomed stimulant. The transformation is effected in the lungs. In failure of this transformation, the acid passes into the general circulation, and, being an unaccustomed stimulant, poisons the left heart and works its well-known mischief. Many dermatologists believe that certain cutaneous affections are caused by impure blood. Eczema is one. The solidists pin their faith to cellular pathology.

We need not be confused by this conflict of opinions. Neither of the views is exclusively true; neither is wholly false. Living foreign organisms; the nervous system; effete impurities of the blood; disorder of the minute cells of which every part of the human frame is constructed—each of these may be a factor in the origination of disease, each may be first or midway or last in the vicious circle of causes —the ætiological round robin. Germs may develop a countless brood and contaminate the blood, either by their own abnormal presence or by a poison which they exude. This poisoned blood stimulates or obstructs the nervous system and the heat of fever is developed by the correlation of forces. The presence of certain microbes is made known to the nervous centers. A mandate is sent to the vaso dilators of the lung; congestion and pneumonitis result. Some irritation at the origin of the vagus produces hyperæmia of the liver, over-production of sugar, impairment of the transforming power, disturbance of the kidney, and diabetes. From disordered digestion an abnormal condition of the blood may result; the nervous system may become involved. Gout may be a product, sometimes appearing in its true character as a torturing joint affliction, and sometimes masquerading as eczema or asthma.

The blood, the nerves, the cells, the microbes are thus seen to have a pathogenic partnership harmony, and to be interdependent. Without the aid of the nervous system there could be no fever. But the nervous system alone can never originate any specific fever, typhoid, or rheumatic, or pneumonic. Rheumatism is intimately associated with a poison in the blood, but the excessive production of the poison and its circulation in unwonted vessels are the result of abnormal nervous influence.

From the ovum to the cadaver, man is constantly exposed to this conspiracy of morbific influences and agents to destroy him. There are foes without and foes within: foes which march up in front and boldly smite him in the face; foes which approach insidiously and undermine him; foes which are so attractive that he counts them as friends, till he finds himself dangerously smitten under the fifth rib. The destructive influences and agents are in the air he breathes, the food he eats, the water he drinks, and a hundred-fold more in the substitutes for water which he imbibes. These foes are the accidents and sudden dangers which he encounters; the misplaced switch of the railroad; the lurking miasm, the infected air, the defective drainage, the insufficient light which sap the foundations of life. They are the seductive habits and vices which sparkle and smile, and then bite like the serpent and sting like the adder. These morbific foes find access to the citadel of life through sometimes one avenue and sometimes another. This one comes in through the blood which it poisons, that one along the path of the nerves which it throws into abnormal vibrations, and the other creeps from cell to cell, corrupting and enfeebling every fiber and tissue. Whatever the manner of entrance, the result is the same: nerves and blood and cells all become at length involved in the mischief.

To counteract these ruinous influences and agents—to fight with greater or less success against the open and concealed enemies, many means of defense and attack are provided. There is wisdom gained by observation and experience. There is the obtainable skill of the sanitarian and physician. There are certain inherent powers of resistance and recovery which, ever on the alert, are more potent protectors than that human wisdom which often sleeps; than that human skill which sometimes gropes and sometimes blunders.

We are familiar with what is called the *vis medicatrix naturæ*. It is a power which is sufficient in many—perhaps most—cases of disease to effect a cure. Sometimes it brings relief while the physician simply watches or gives inert drugs—and claims all the credit. Sometimes it corrects disorders with the well-timed aid of the doctor. Sometimes it triumphs over the combined attack of the disease and the blundering medicine-man. This reparative power is the best friend and ally of the wise physician. It may be too weak to accomplish its purpose, and so may need timely and sufficient aid. It may overdo the matter, and so need wholesome restraint. It may be irregular in its action, and so need careful guidance.

Now, while we are familiar with this reparative power, we may not be so attentive to another conservative force which is especially important: the resisting power. From the *vis medicatrix* this power differs essentially. One is a restorative force—a tendency to come back to the normal condition after departure from it. The other is the conservative force, which *prevents* departure. A steel spring yields readily to external force, but its elasticity—after the disturbing cause is removed—enables it to resume its original condition. This is the *vis medicatrix*. Granite rock is not easily affected by external violence. Its power of resistance is great. When the force brought to bear upon it is strong enough to cause it to yield, it goes to pieces, having no recuperative power. There may be great toughness combined with great resisting power. The iron-clad vessel, when struck by ponderous ball or steel bolt, may be

perforated, but it is not hopelessly shattered. This resisting power is akin to what is called inertia in physics—the tendency of a body in motion to keep going; of a body at rest to remain quiet for ever. Light bodies with little substance are easily set in motion, and easily deflected from their course, or arrested in it. A feather can be wafted or stopped by the lightest breath. A cannon-ball, an avalanche, are turned aside by no obstacle; they move onward to their destination.

Every human being has more or less of this resisting power. It may be feeble and yet so united to a recuperative force that the individual possessor manages to get along fairly well. Any trifling mishap or exposure may prostrate him, as a reed may be shaken in a moderate wind; but his elasticity, like that of the reed, brings him up promptly when the storm ceases. He has his frequent ups and downs—we all know many such cases; he is delicate of constitution; he may be like an estimable old lady of my acquaintance, at the point of death at odd spells for thirty years; and yet he lives on by virtue of the *vis medicatrix*, of which he seems to be composed, till all his acquaintances have passed off the stage of action.

On the other hand, this resisting power may be like that of the granite. Its owner may violate all sanitary laws, may laugh to scorn all counsel about what he should eat or drink, or wherewithal he should be clothed. He may expose himself unprotected to cold and wet. He may go without sleep and food. He may tax stomach and brain and muscle to the utmost. And yet he may remain undisturbed. We know such men—men who guzzle poor whisky every day, and live to be a hundred years old. We know men of granite constitutions who prowl around late at night when they should be snugly in bed; who gormandize, who exercise vigorously all the vices; and yet who remain a standing refutation—as superficial observers think—of all rules for preserving good health. But when some overwhelming calamity comes they are stricken down for ever; their first illness is their final one; they crumble to atoms.

In every community are those whose resisting power is so feeble from inheritance or so thoroughly impaired by excesses that they are but walking dead men—apples of Sodom, perhaps—fair to look upon, but ashes or putrefaction at the core. They yield to influences which are trivial in their nature, and go into the hands of the undertaker before their neighbors have even heard of their illness.

There are children of old or debauched or scrofulous parents, whose resisting power is so nearly *nil* that their aspirations to stand with the angels receive early gratification, in spite of all that love and skill can do to keep them away from their heavenly home. We name the messenger who summons them, cholera infantum, or tuberculous brain disease, or white swelling; and as parents, while we wonder at the mystery, we bow submissively to Him who gives and who takes away so soon. But as physicians we are not surprised that diseased and mushroom cells should hasten to carry destruction. No man liveth for himself alone. The good constitution, the strong resisting power of the temperate and upright man, is not only a sure personal defense against disease and a guaranty of longevity; it is transmitted to his offspring down to many generations. The dissolute man, broken down with diseases acquired while sowing his wild oats, suffers not alone. If he did, we might view the transaction with mitigated sorrow. He had his coarse enjoyment, and he can afford to reap corruption. But the evil that he does lives after him in the blighted and wretched lives of his innocent children and his children's children. A priceless inheritance is a strong resisting combined with a vigorous recuperative power. He who has it and preserves it and fortifies it, living a clean and active life, eschewing bodily and mental excesses, and clings to the Divine promises, may bid defiance to disease in its multifarious forms. He need not be afraid for the pestilence that walketh in darkness, nor for the destruction that wasteth at noonday. Free from fear—the greatest depressant—he shall walk unscathed through all perils. A thousand may fall at his side and ten thousand at his right hand, but disaster shall not come nigh him. And, even when the onslaught of disease can not be wholly warded off, the wounds inflicted shall have speedy healing.

Original Communications.

NOTE ON ANTIPYRINE.*

By GLENTWORTH R. BUTLER, M. D., Brooklyn,

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The conservative physician is apt to regard new remedies with distrust. The list of therapeutic novelties is practically endless, and the catalogue of failures well-nigh as long. Out of the mass of novelties, however, there is sometimes evolved a trustworthy therapeutic resource. This statement applies to antipyrine. There is a remarkable unanimity of opinion in the published reports of the not inconsiderable number of those who have made it the subject of clinical observation. The stage of experiment is obviously past, and only a larger clinical experience is needed to positively outline its indications and uses. During the past two months of my service as visiting physician to the Department of Diseases of the Chest in St. Mary's General Hospital, a trial of the new antipyretic was suggested by Dr. B. F. Westbrook, the head of the department, whose attention was drawn to it by a perusal of Gutmann's monograph. The interest manifested was such that I feel justified in presenting a *résumé* of the acknowledged properties and uses of antipyrine, with a very brief summary of results obtained by its administration in some cases under our observation.

To Dr. Knorr, of Erlangen, belongs the credit of producing antipyrine. It is an artificial product, a synthetical alkaloid, obtained from coal tar, being chemically a dimethyloxyquinine, and occurring in the form of a chloride. It is a grayish white powder, with a slight tarry odor, and

* Read before the Medical Society of the County of Kings, March 17, 1885.

a somewhat bitter but not positively disagreeable taste. It dissolves easily in alcohol. It is soluble in one part to three of cold water, but requires only half its weight of warm water to make a solution from which it will not deposit, or but very slightly, on cooling. Alkalies added to the solution will liberate it, perchloride of iron will cause a reddish-brown color to appear, and potassium chlorate produces a yellow deposit. Nitrous acid will color it green in a solution as dilute as 1 in 10,000. The powder will darken by long exposure to light.

Its physiological action has been investigated by Demme, of Berne, in frogs and rabbits. A large single dose (five grains for the former, twenty grains for the latter) will cause death in half an hour by paralysis. With small continued doses (frogs, half a grain; rabbits, seven grains), irritation of the central nervous system and vaso-motor centers was produced, manifested by tetanic muscular spasm and rise of arterial pressure. If the administration was still continued, paralysis of these centers as a result of over-irritation was observed. It was evidenced by loss of reflex muscular excitability, and, notwithstanding the healthy condition of the heart-muscle, lowering of the blood-pressure.

Filehne, of Erlangen, was the first to use antipyrine in the practice of medicine, and since then numerous others have employed it. Its particular utility lies in the treatment of fever as a symptom, without regard to its ætiological relations. The statement can be made positively that the administration of antipyrine will cause a prompt and decided reduction of the body-heat, without any but the most trifling disadvantages, and in the great majority of cases without unpleasant results. A concomitant improvement in the frequency and force of the pulse takes place. The respiration becomes slower and deeper. Patients will express themselves as feeling remarkably well, and there is a decided brightening of the intellectual faculties. The original method of administration advised by Filehne is to give, in adults, a first dose of thirty grains, followed in an hour by thirty grains more, and, if necessary, at the end of the third hour an additional dose of fifteen to thirty grains. The fall of temperature commences in half an hour from the ingestion of the first dose, and continues until the fifth hour, when it gradually rises. The fall will last from seven to twenty-four hours, a fair average being twelve hours. The lowering of the temperature is sometimes accompanied by sweating, but during its subsequent rise no chill occurs as with kairine. The amount of the fall varies from 2° to 6° F., according to the height of the fever and the amount of the drug ingested.

The disadvantages pertaining to its use are slight. In spite of the rapid reduction of the body-heat, in only four or five out of the large number of reported cases was there any depressing effect produced on the heart, and then only when the doses were rather large. Demme reports a case of typhoid fever in a child of two years and a half, where, through mistake, two hourly doses of four grains were given. The temperature fell to 95° F., with fluttering pulse. Péribran mentions a case of collapse in a tuberculous patient with pneumothorax where one drachm had been given, and May one in a weak person with small pulse. All these patients recovered. The hypodermic use of caffeine will counteract the slighter grades of poisonous effects. Profuse sweating is seldom observed, and still less frequently an erythematous eruption resembling measles, attended with itching, and continuing three to five days. Vomiting occasionally occurs, but not so frequently as with quinine, and the drug can be readily given by the rectum or hypodermically. On the other hand, it does not produce ringing in the ears, deafness, dizziness, and fullness in the head, such as result from quinine and salicylic acid. It is free from the inconvenience, shock, and uncontrollable action of the cold bath. Although antipyrine has been used in a number of febrile diseases, its best effects have been manifested in typhoid fever, phthisis, and pneumonia. In typhoid fever it causes the longest apyrexia, and apparently shortens the duration of the disease. The intellect remains notably clear, and the appetite continues good. In the great majority of cases no relapse or complications occurred.

In phthisis it prolongs life by preventing rapid tissue-waste consequent upon high temperature, and improves the appetite greatly. It is by all odds the most efficacious means of reducing the temperature in this very obstinate class of cases.

In pneumonia, while not abridging the duration of the disease, it increases the probability of a successful recovery. It decidedly lessens the subjective distress and dyspnœa, the respirations lessening in frequency, but the pneumonic pulse-respiration ratio still existing. In intermittents the fever is frequently arrested, but, as the new drug is an anti-pyretic, not an anti-periodic, its reappearance is not prevented.

It has been used with good effect in erysipelas, pleurisy, scarlatina, and acute rheumatism, and, indeed, in all diseases, both surgical and medical, attended with high temperature. In diphtheria, if used at all, it should be given with caution, on account of the great debility of the heart in that affection.

It may be administered in powder or solution. If prescribed in powder, it is best to dissolve it in wine at the time of use, otherwise the coloring-matter of the wine is precipitated by it. A solution made with water can be used, but the best excipient, and the one which we have used at St. Mary's, is syrup of tolu. The slightly bitter taste of the drug is completely disguised, and children take it very readily. It can be given by the rectum. Its use hypodermically has caused no local irritation. A solution of antipyrine in half its weight of warm water will produce no deposit on cooling, and is suitable for subcutaneous injection. As to the dose, the general rule is to give it in double the usual quantity of quinine. In children under one year of age, three grains, under five years, seven grains, in adults, thirty grains can be administered, and followed by two doses, of half the quantity of the first dose, at intervals of one, two, or three hours, according to indications. It is preferably given in the afternoon, so as to anticipate the usual evening exacerbation. In tuberculosis it is often advantageous to give it earlier, as the temperature frequently rises by the middle of the day. Knowing the usual prompt and sure effects of the drug, it is generally easy to individu-

alize each case, and vary the quantity and time of administration accordingly.

Antipyrine was used in fifteen cases in the chest wards of St. Mary's. I do not propose to give any account of our observations except in the most general way, as they confirm with the utmost precision all the published reports. The cases embraced two of croupous pneumonia and one of broncho-pneumonia in children, and twelve cases of phthisis in adults, attended with high temperature and rapid tissue waste. In the first case of lobar pneumonia, in a child of five years, the initial evening temperature on January 20th was 104·5° F. The administration of antipyrine was commenced at midnight, in four-grain hourly doses repeated four times. At 9 A. M. on the 21st the temperature had fallen to 101°. The evening temperature of the 21st was 103°. Antipyrine was resumed as before, bringing the thermometer down to 100° at 9 A. M. on the 22d. On the evening of the 22d the temperature was 104°. Antipyrine was given as before. At 9 A. M. on the 23d the temperature was 98°, with slight sweating. From this time on the temperature rose only once beyond 100°. Convalescence commenced on the seventh day, and was remarkably speedy and perfect. The second case, in a child of six years of age, was a counterpart of the first, except that one subnormal temperature of 97° was registered on the fifth day, and was coincident with, and probably caused by, defervescence setting in and acting with the antipyrine to depress the body-heat. Slight stimulation brought it to the normal, and recovery was prompt and rapid. These two patients received no medication besides antipyrine. The third case, one of broncho-pneumonia, in a child of five years of age, exhibited before the administration of antipyrine an average temperature of 102°. The drug was given every afternoon, in three doses of ten grains each, at intervals of two hours. The temperature afterward averaged 100°. On the seventeenth day convalescence began, but has progressed slowly, the patient being congenitally weak and ill-nourished.

In the twelve cases of phthisis, sweating due to the drug was noticed three times. Its effects have been uniformly favorable in reducing temperature, increasing appetite, and producing a sense of well-being. It is extremely interesting to observe the abrupt drop in the temperature curve, coincident with the administration of antipyrine. A forty-grain dose in one case brought the body-heat from 105·5° to 102·5° in one hour, a fall of three degrees. In another, thirty grains lowered the temperature from 102·5° to 99·5° in two hours. In our experience, neither vomiting, erythematous eruption, nor any other bad effect has been produced.

I am indebted to Dr. W. F. Gardiner, and Dr. J. C. Bowker, house physicians, for careful observations and records of cases, and to the latter for verifying the most convenient test for antipyrine in water and in urine, viz., the addition of perchloride of iron, which produces in watery solutions a reddish-yellow, and in urine a reddish-brown coloration.

To summarize:

1. Antipyrine is a certain, safe, and powerful antipyretic in almost all diseases attended by high temperature, but it is not an antiperiodic.

2. It is especially useful in typhoid fever, pneumonia, and phthisis, producing the apyrexia of quinine, salicylic acid, and cold baths, without the concomitant unpleasant effects of the latter.

3. The reduction of temperature occurs rapidly, and persists for an average of twelve hours.

4. Its dose is double that of quinine. Three grains for a child under one year of age, seven grains under five years of age, and thirty grains for an adult form the usual maximum dose. Half the quantity may be given subsequently at intervals of one, two, or three hours, according to indications.

COCAINE AS A LOCAL ANÆSTHETIC IN THE USE OF THE THERMO-CAUTERY.

By HENRY B. MILLARD, M. D.

Though many courageous patients bear even the thorough application of the thermo-cautery with fortitude, there are constitutions that can not endure it, even lightly applied, without intense suffering or nervous shock. I have in the latter class of cases usually employed an anæsthetic internally, but it has often happened that some difficulty of the heart has rendered this impracticable. I have recently employed the cautery in two of these cases, pain being entirely prevented by the local use of cocaine.

The first was that of a gentleman suffering from chronic cervico-occipital neuralgia with congestion at the base of the brain; there was cardiac neuralgia with feeble and irregular action of the heart. I injected into the neck near where I intended to apply the cautery four drops of a four-per-cent. solution of Merck's cocaine, and painted thickly, with several coats of it, the surface to be cauterized; coldness and numbness of the skin were produced. Light applications were freely made with a blunt point of Paquelin's apparatus, the operation being entirely painless; it was, of course, *followed* by burning.

The other instance was that of a very delicate lady who also suffered from heart troubles, rendering the ordinary anæsthetics inexpedient; the case was one of neuritis, the external cutaneous nerve of the arm being affected, causing great pain, some swelling, and loss of power of the arm and of the radial side of the forearm. Three drops of Merck's four-per-cent. solution were injected near where the nerve perforates the coraco-brachialis muscle, and the integument over the region of the biceps was painted with several coats of the solution, producing coldness and numbness of the skin. The cautery was freely used, the patient not suffering in the least.

There is every reason why, in such cases as cauterization of the superficial layers of the skin, cocaine should be of special use, since by it cutaneous insensibility can be easily induced. As regards the desirableness of some pain being felt during the operation, this can be graduated by the quantity of cocaine used. The burning, erythema, congestion, etc., are just as great afterward, however, as if cocaine had not been employed.

March 26, 1885.

ANTEFLEXION OF THE UTERUS, WITH STENOSIS OF THE INTERNAL OS: ITS CAUSE AND TREATMENT.

By P. F. CHAMBERS, M.D.,
ASSISTANT SURGEON TO THE WOMAN'S HOSPITAL.

ANTEFLEXION is normal in the fœtus, dependent either upon the imperfect development of the anterior wall at that age, or on the thinness and softness of the body, coincident with the thickness and rigidity of the neck. The congenital form of anteflexion is due to a continuance of this fœtal condition.

Of the two forms of anteflexion, where not congenital, the most frequent is flexion of the neck, and is supposed to be produced at puberty by an unequal development of the body and neck. The body being slightly inclined forward, normally, the cervix, unduly developed, comes in contact with the posterior wall of the vagina, and is deflected downward, thereby causing the flexure. Or it may be due to a variety of other causes, such as a weakened muscular condition brought on by habits of indolence; parturition or miscarriages; weights above or traction from below; enfeebled uterine supports; habits of dress; sudden cessation of the menstrual flow; accidents, such as falls, a sudden misstep, etc.

Anterior displacements are, as obtained from the statistics by the best authorities, found to be by far the most frequent, and, as they are usually of long standing when first seen, their results are the most serious, and the procedure necessary to produce a cure more severe.

It is not that I have to propose anything new or original as to diagnosis, cause, or pathology, but simply to attract attention to one complication of anteflexion and its treatment by the operation of trachelotomy and the use of the glass stem, its practicability and methods of procedure, the objects to be gained, and the dangers attending the operation.

In cases of long standing, where the general condition of the patient has suffered by the loss of power of locomotion, often the gravest anxiety is expressed, and an excessively hyperæsthetic, hysterical condition is superinduced. At an early stage of the flexure, the sound could have been passed with comfort, but it would now cause the most excruciating agony; and, while then a simple reduction, with at most the use of the anteflexion pessary—such as recommended by Dr. Hewitt or Dr. Thomas—would have been all that was necessary, now these measures would not only be of no service, but, in the majority of cases, would be productive of more harm than good by setting up an inflammatory action of the surrounding parts.

The operation is not resorted to by any one in every case of anteflexion, and I think should not be in any case, no matter how severe the displacement, provided it can be relieved by any easier procedure. The milder methods should always first be tested, and especially in cases where the stenosis is slight. There are undoubtedly many cases in which, upon the first examination by the best manipulants, the organ seems so badly flexed and tightly constricted in the canal at the angle of flexure that an operation appears absolutely necessary, but, upon a subsequent trial of patience and skill, is found not only pervious, but easily reducible, and with the canal of sufficient caliber. In these cases a cure can be effected without an operation, and, of course, so much the better. But as an overweaning fondness for operative procedures is bad, so is a failure on the part of the surgeon to do his duty through timidity equally culpable.

Of the sixteen cases operated upon by Dr. T. Gaillard Thomas, within the last eighteen months, in which I acted as his assistant and had the exclusive care of afterward, a cure was effected in every case. They were all of the class especially referred to in this paper, and I have no doubt are often met with in the experience of every general practitioner: A marked anteflexion with a resisting stricture of the internal os at the angle of flexure; the passage of Emmet's silver probe or Simpson's sound causing a sharp, agonizing pain, described by the patients as very similar, though in an exaggerated degree, to the pain caused by the dentist in extracting the nerve from a tooth; and the uterus being found fixed and with great difficulty partially replaced.

The operation as performed, though of a much less severe character than that practiced by Simpson and by Sims, and generally accepted a few years ago over Europe and this country, is nevertheless of much severity, requires such nicety, and is attended with so many risks, that a minute description of its methods and a comparison with the others will not be out of place.

In 1844 Professor Simpson, of Edinburgh, invented his metrotome for incising the internal os, and following him came a number of other inventors, and in Great Britain the operation became very popular. From Great Britain, in 1860, it was accepted on the Continent, and in this country its great advocate, Dr. J. Marion Sims, first performed it in 1857; and with the indorsement of such a great authority it was generally accepted. Afterward, however, the pendulum began to swing in the opposite direction, until, for a while, the operation was almost entirely abandoned. Dr. Emmet, I believe, was the first to cry out against it, and in 1876 Dr. Peaslee wrote an article against it as performed by Simpson and Sims, and, instead, recommended an operation of the same nature but much milder. The operations performed by Simpson of deep lateral incisions, and by Sims of a deep posterior incision through the posterior lip of the cervix back to the vaginal junction, were found to be frequently attended by immediate dangers, and not seldom productive of serious remote consequences, to wit: profuse hæmorrhage, peri-uterine inflammation, occasionally forming abscesses, and general peritonitis; sterility, if not previously existing, and a tendency to miscarriage, should pregnancy by any chance ever take place. Dr. Simpson often performed the operation at his consulting-room in the manner before described, and then sent his patient home in a cab. To-day we not only recognize the danger his patients ran, but are fully aware that there is no operation in gynæcology for which the patient should be better prepared and after which she should be more closely watched.

For the operation as performed by Dr. Thomas, a thorough examination is first made, and, if any pelvic inflammation is found, the operation is postponed till all traces of it have disappeared. Everything being in readiness, the bowels are well moved a few hours before, and a hot vaginal douche is given immediately before the operation is to be performed. The patient being etherized—and, by the way, the operation should never be attempted unless an anæsthetic is given, for absolute quiet is necessary to enable the surgeon to exercise the most delicate touch and exactness—she is put in the Sims position, a Sims's speculum introduced, and the vagina thoroughly swabbed out with a sponge saturated in a solution of bichloride of mercury, 1 part to 1,000 parts of water. Throughout the operation thorough disinfection should be used. The uterus is then



Fig. 1.

held firmly with a tenaculum, and the flexible silver probe is passed, in order to find the exact direction of the canal. The long, probe-pointed blade of the Sims knife being set at the right angle (Fig. 1), it is passed through the constricted portion as the probe is withdrawn, and, on withdrawing it, a straight incision about 3 mm. in depth is made in an anterior direction through the stricture and external os. The blade is again introduced, but at an opposite angle, the incision made in the posterior direction to the same depth, and the process repeated two more times, cutting in the lateral directions, so that at the finish the stricture and cervical portion will have been cut as in Fig. 2. The next process consists in



Fig. 2.

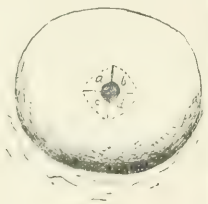


Fig. 3.

snipping off with a pair of scissors the four teat-like processes, *a*, *b*, *c*, *d*, as shown by the dotted lines in Fig. 3.

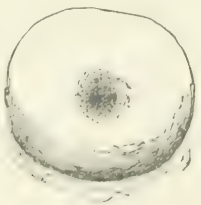


Fig. 4.

The cervix then has the appearance as in Fig. 4. A Peas[illegible] is then passed to see whether the stricture is thoroughly cut through, for, should there be the slightest obstruction to its free passage, the incisions are to be deepened.

We have now reached the last stage of the operation, viz., the introduction of the glass stem and stem-sustaining pessary. But, before proceeding, a word or two in description of these. The stem as seen in Fig. 5 is of pure

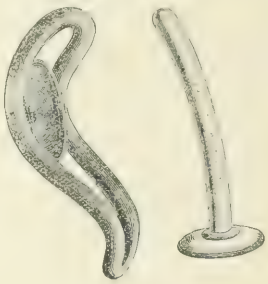


Fig. 5.

glass, 6 cm. long and 18 or 20 mm. in circumference, the size of a No. 18 or 20 male sound (French scale), and slightly curved; the base is of the circumference of a twenty-five-cent piece, but twice as thick and with rounded edges. The pessary is of hard rubber, in shape the same as an Albert Smith retroversion pessary; but fitted between the side-bars in the first curve is a shallow hard-rubber cup, of sufficient size to admit the base or bulb of the glass stem. The incisions in neither direction having gone deeper than 3 or 4 mm., no arteries are injured, and, as a consequence, the hæmorrhage is trivial; but, such oozing as may have taken place having been washed away with the bichloride solution, the stem is inserted, and, this being held in position by Hunter's depressor, the pessary is readily introduced, so that, after removing the depressor, the base of the stem will just fit into the cup. The patient is moved from the table to the bed and kept there for ten days, and quietly on her back for the first forty-eight hours. Should no unpleasant symptoms set in, nothing in the way of treatment will be necessary but the free use of the hot vaginal douche of carbolized water, night and morning. Occasionally a hypodermic injection of Magendie's solution of morphine (m̃x) will be advisable as the patient is coming from under the ether. But should violent pain continue, or come on at any time later, accompanied with any rise of temperature, the stem should be removed at once, opium administered in sufficient quantity to relieve pain, a vaginal douche given, and, if necessary, intra-uterine injections, and the coil applied to the abdomen should the temperature reach 101° F. I have never had any disagreeable consequences follow the operation, but I feel satisfied that I should have had had I not resorted at once to the forementioned prompt measures. Should everything pass off pleasantly, at the end of the tenth day the patient is allowed to sit up, but must act with great prudence, and especially so during her next period, when it is really better that she should again go to bed. After the first period the stem is to be removed, cleaned, and reintroduced. The length of time necessary to wear the

stem varies in different cases, but the average is about three months, as by that time the womb will be found in its normal position, will have regained its natural size, all inflammation will have subsided, and all contraction of the stricture will have ceased. There may be slight dysmenorrhœa and leucorrhœa as long as the stem is worn, but both will disappear on its removal. In the mean time, however, the patient can go about as usual, and suffer no more inconvenience than from the wearing of an ordinary pessary; but the douche ought to be kept up during the entire time, and, in fact, for several months after the stem has been removed. No patient should, however, be allowed from under the immediate observation of the surgeon without having first been well instructed how to remove the stem and pessary upon the first indications of trouble. In the great majority of cases, all that will be necessary will simply be to withdraw the pessary, and the stem will come with it. Should that fail, however, to remove it, by pressing the fore and middle fingers up into the vagina, the bulbous end will readily be reached and the stem removed.

The stem has for a long while been recommended in cases of anteflexion, but of late has gone almost entirely out of vogue, and I think for the following reasons: At the union of the neck and body of the uterus, the point at which the flexure most frequently occurs, the deep layers of muscular fibers form the sides in circular bundles, constituting a sphincter. This muscle, from being at first not in the least sensitive, becomes, from the constant irritation at that part, hyperæsthesic and contractile—so much so that, without being first cut through and its action for the time being paralyzed, it makes it impossible for the stem to be worn; hence the failure in many cases.

The objects of the operation are therefore threefold:

1. To *replace* a displaced uterus.
2. To relieve a stricture.
3. To correct mal-menstruation. And in the great majority of cases it so efficiently accomplishes its ends that I think there ought to be no question as to its propriety.

In accomplishing the two first, the third will surely be achieved, for in the same way that the canal has been constricted by the flexure so also have the blood-vessels; for, the arterial blood flowing to the uterus with a superior force to that of the venous, the body of the uterus is kept in a congested, hyperplastic condition. The straightening of the organ allows the veins to disgorge themselves, the circulation becomes more perfect, and a healthy menstruation takes place. The body becomes smaller and lighter, and, as a consequence, more readily assumes its normal place. If the trouble is congenital, the anterior wall is lengthened, the angle of flexure fills out, and the wall becomes of the correct consistence, density, and strength. There are two causes of pain (dysmenorrhœa) in these cases. First, obstruction on the part of the stricture to the free flow of blood, thereby allowing it to form clots, to be expelled by uterine contraction; second, a neuralgic condition set up by the inflamed, hyperæsthetic stricture. Both of these causes are at once relieved by the operation.

I do not claim for Dr. Thomas priority in the use of the intra-uterine stem for antefexion nor for the operation of trachelotomy, but simply as the first to apply the two combined, and for his method a superiority over the others in the following points: It restores the uterine canal to its normal dimensions, neither larger nor smaller than it should be in the healthy parous woman. There is no danger from hæmorrhage, and, as the deep tissues of the womb are not wounded and the stem is movable with every movement of the organ, there is much less danger of any inflammatory action. The stem, being made of pure glass, does not corrode, is non-irritating, and, being easily removed, allows all discharge to escape, thereby preventing septic absorption. The tendency of the operation is not to favor sterility, but to overcome it, and does not in the slightest degree predispose toward a miscarriage. It is less apt to fail in relieving the stricture than any of the others, for the uterus, being an organ that readily repairs any injury done it, heals very rapidly after an incision, and, in many cases when the attempt has been made to do without the aid of the stem, I have seen a deep incision so thoroughly healed within a few days that it was as impossible to introduce a Peaslee's sound as it had been before the operation was performed. Dr. Simpson and Dr. Sims, being perfectly aware of the fact, purposely made their incisions much deeper than they wished the canal to be, and ran the risk of all the dangers of hæmorrhage and inflammation, because they knew their work would be in a great measure repaired, and the canal would be again lessened.

Of the sixteen cases above referred to, in two the operation had to be repeated because the stem was removed too soon, the second attempt placing them among the fourteen other successes. Three were for sterility in married women, two of whom have since become pregnant.

The operation of trachelotomy is undoubtedly of great service, and there are many cases that can not be cured by any other means; but, in closing, I will again repeat that, with all its recommendations, it is an operation that should be very carefully performed and most closely watched, and I would advise no one to attempt it who is not thoroughly conversant with uterine surgery, for, of all the minor uterine operations, there is none attended with more danger.

Since writing the foregoing we have tried divulsion, as recommended by Dr. Goodell, in several cases, and, so far, very satisfactorily. But as to the result we are unable to say, the length of time since the use of the divulsors not being sufficient to compare the method with that of cutting. The procedures of the two are the same, with the exception that, instead of using the knife, the divulsors, as described by Dr. Goodell, are used, the use of the stem and subsequent treatment being the same.

596 Lexington Avenue.

A CASE OF FRACTURE OF THE TRANSVERSE PROCESS OF THE ATLAS.

By L. C. ARMSTRONG, M. D.,

Instructor in [illegible]

H., an American, aged thirty two years, while attending a political meeting on the night of October 29, 1884, became heatedly fell into an altercation with an individual, and friends standing

by interfered and prevented any serious occurrence at that instant.

H. moved on through a densely crowded street, and had gone about one hundred and fifty feet when he was overtaken by his pursuing antagonist coming up from behind with a heavy bludgeon, generally supposed to be a base-ball bat or wagon-spoke, with which he struck a violent blow, felling him instantly to the ground.

I was at once called to the dying man, and, my office being located not exceeding one hundred and seventy-five feet from the occurrence, I reached him within forty seconds after he was struck. There was no respiration after I reached him, the pupils of the eyes were widely dilated, and the pulse ceased beating within one minute and forty seconds after receiving the blow.

On manipulating the head, I was satisfied at the time that the neck had been dislocated.

Immediately after death the body was removed to the house of a friend, and on the following morning I was requested by the prosecuting attorney of the county to hold a post mortem on the body of the deceased. At nine o'clock, together with two assistants, I proceeded to the room where the body had been kept over night. On a thorough examination of the body, there were no perceptible marks of violence. But it was evident to all the physicians present that the atlas or axis had been dislocated, and we at once proceeded with the autopsy. In order to reach the dislocated vertebra, a vertical incision was made, beginning at the spinous process of the seventh cervical vertebra and extending to the occipital protuberance; also transverse incisions were made, beginning at the spinous process of the fourth cervical vertebra and extending on each side to the posterior border of the sterno-cleido-mastoid muscle, which enabled us to reflect the four quadrangular flaps made by these incisions, exposing the muscles in this region.

On dividing the integument and the superficial and deep fascia, all appeared perfectly natural; but, when the muscles were detached from the occiput and processes of the upper vertebræ, an unusual amount of semi-fluid blood was discovered. Without doubt this unusual quantity of semi-fluid blood in this particular locality was due to the rupture of the vertebral vein, as will doubtless be perceived in a further description of this case. After removing by absorption with sponges the blood which obstructed the vision, we proceeded to examine the vertebræ and their ligaments, and, taking hold of the spinous process of the second cervical vertebra, at the same time taking hold of the posterior arch of the atlas and manipulating the second cervical vertebra, it was readily perceived, from the extensive movement possible between these vertebræ, that there was a stretching of the atlo-axoid ligaments sufficient to permit displacement, which had compressed the cord so as to entirely destroy the functions of the phrenic nerve.

But, in order to more fully understand the injury done these parts, the atlas and axis were removed by dividing the ligaments and disarticulating them from their connectives. After the removal of the atlas and axis, on a close examination, it was discovered by manipulating the right transverse process of the atlas, that it was completely fractured at its base.



This process was held in its natural position by the ligaments, but, on the removal of the ligaments, it was found to be completely separated from the body of the vertebra, as will be seen from the cut.

As stated, H. was walking at the time he received the blow. The person who dealt the blow approached from behind and struck H. one violent blow with some kind of instrument, supposed to be a base-ball bat or wagon-spoke by persons near the occurrence. Evidently, in striking this blow, the stroke was upward and lateral, and the instrument must have been round or oval, with a smooth surface, otherwise there would have been more or less abrasion of the skin.

This case is a most remarkable one on account of its extreme rarity and the almost inexplicable manner in which the fracture was produced. Dr. Hamilton, in his work upon fractures and dislocations, reports but a single case of fracture of the transverse process of the atlas, and this fracture resulted from a gunshot wound.

It is not difficult to understand how this fracture might occur in various ways from gunshot wounds, but it is most difficult to perceive just how it was produced by a blow struck at random with any kind of instrument, and a fracture of this process, doubtless, would not occur again in a thousand similar cases of dislocations of the vertebræ in this region.

Book Notices.

Practical Anatomy. A Manual of Dissections by Christopher Heath, F. R. C. S., Holme Professor of Clinical Surgery in University College, London, etc. Sixth Edition, Revised by Rickman J. Godlee, M. S. Lond., F. R. C. S., Demonstrator in Anatomy in University College, London, etc. With 24 Colored Plates and 274 Engravings on Wood. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–567. [Price, $5.]

In welcoming a new edition of this excellent manual we need add but little to the commendations which have already been bestowed upon it. There are no essential changes in the book, except as regards the directions for dissection, which have been somewhat extended by Mr. Godlee. Some new woodcuts have been added, but we notice several which should properly be either re-drawn or replaced by new figures, since they have become much worn.

The great excellence of Heath's manual lies in its conciseness and clearness. While no point is slighted, all unnecessary details are omitted, so that the book is pre-eminently a guide to dissecting. While the illustrations may not always be so clear as could be wished, considering their size, they are not surpassed by those of Holden or Ellis. The author is a practical surgeon, and he has introduced into his little book a number of useful hints upon operative surgery which are calculated to add to the interest and zeal with which the student works over his anatomy. For these and other reasons we prefer this manual to its more ambitious rivals.

BOOKS AND PAMPHLETS RECEIVED.

Intermediate Hospitals for the Treatment of Acute Mental Diseases. By John Van Bibber, M. D., Baltimore. [Reprinted from the "American Journal of the Medical Sciences."]

Massage, the latest Handmaid of Medicine. By Benjamin Lee, M. D., Ph. D., Philadelphia. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MAY 2, 1885.

THE TECHNICAL TERM FOR RICKETS.

A PUBLIC dispute has lately arisen in Germany as to the proper way of spelling the scientific term for rickets—whether *rhachitis* or *rachitis*. Dr. Kocks, of Bonn, contributes to the "Centralblatt für Gynäkologie" for March 21st an article, entitled "Rhachitis oder Rachitis?" in which he gives most cogent reasons why the former spelling should be preferred. Our readers must have noticed that this journal has followed that spelling, and, when Dr. Kocks's article appeared, we were gratified to find that some one had taken the trouble to write in its favor in so convincing a manner and in such an influential publication, for we have looked upon the question as involving something more important than a mere display of erudition, and it will be seen in this article that we were right in our impression, for, by their omission to preserve the aspiration of the *rho* in the Greek term which they adopted as the scientific name for rickets, Glisson and his associates led the way to their being misinterpreted by no less a man than Professor Virchow.

Kocks's argument has been assailed by two writers in the "Centralblatt," Dr. Stenger, of Mannheim, and Dr. Bode, of Dresden, both of whom maintain that the Glissonian term rhachitis (spelled *rachitis* in Glisson's book) was not derived from *ῥάχις*, but was formed from the English vernacular *rickets*. Dr. Bode quotes Virchow as follows: "Ich schreibe, dem alten und erst in der neuesten Zeit in Abnahme gekommenen Gebrauche gemäss, Rachitis nicht mit dem griechischen *ῥ*. Bekanntlich hat Glisson dieses Wort nach der vulgären englischen Bezeichnung the rickets gebildet, dessen Abstammung unbekannt, aber möglicherweise germanisch ist. Er selbst und fast alle späteren Hauptautoren schrieben auch Rachitis und nicht Rhachitis, welches offenbar verwirren kann. Selbst Buchner (Tract. de rachitide perfecta et imperfecta, Argentorati 1755), der Rachitis geradezu durch Morbus spinalis übersetzt und die Rachitischen Spinosi nennt, hat die alte Orthographie beibehalten."

If by "die alte Orthographie" Virchow means anything else than Glisson's own erroneous spelling, we think he is in error. Kraus says: "Rachitis, richtiger: Rhachitis." Blancard says: "Rachitis, vide Rhachitis." Castellus says: "Rachitis. Vide Rhachitis." The late M. Littré says, in his "Dictionnaire de la langue française," under "Rachis": "Il vaudrait mieux écrire avec une *h* rhachis et les mots qui en dérivent; . . . ou bien il faudrait, généralement, supprimer ces *h*, qui n'indiquent qu'une étymologie grecque." In his "Dictionnaire de médecine," prepared in conjunction with Professor Robin, the same author says: "Rachitis . . . synonyme de rachitisme," and "Rachitisme ou mieux rhachitisme." Gerhardt writes Rachitis, but (in his "Lehrbuch der Kinderkrankheiten") quotes Guérin, Friedleben, Ritter von Rittershain, Bohn, and even Virchow himself as having written Rhachitis.

Although it is only under a cross-reference that Littré enters his protest against rachitis, it is to be borne in mind that the French have in general been less careful to preserve the original marks of their words of classical origin than either the English or the Germans, and it may readily be understood that he should not have felt called upon on all occasions to stem the tide of popular carelessness. It is noteworthy, however, that he says: "Rachialgie ou mieux rhachialgie," "Rachidien . . . ou mieux rhachidien," "Rachis ou mieux rhachis," "Rachisagre ou mieux rhachisagre," "Rachitique ou mieux rhachitique," and "Rachitome ou mieux rhachitome." As for the Italian and Spanish languages, they are a law unto themselves, and scarcely make any attempt to indicate the precise origin of their words. In English, however, and particularly in German, the endeavor is pretty constantly discernible. We are surprised, therefore, that one of the great leaders of German thought should have allowed himself to cite Buchner's inconsistency as strengthening his own position, and we can not admit that there is any justification for those who look upon rhachitis as derived from *ῥάχις* in writing it rachitis.

Thus far, we have discussed only the matter of dropping the aspirate, supposing the word to have been of Greek origin. The next question is, Was it of Greek origin? Virchow says it was not. We think, however, that he can scarcely have come to that conclusion as the result of personal investigation. It is abundantly evident that the reason he gives for dropping the *h* was not an original observation of his own, for Trousseau alludes to it, in his "Clinique médicale," in the following words: "Que cette dénomination ait eu dans le principe une prétention scientifique; que, ainsi qu'on l'a dit, Glisson, frappé de la déformation de la colonne vertébrale chez la plupart des sujets, ait été chercher son étymologie dans la Grèce, *νόσος τῆς ῥάχεως* (maladie du rachis), dont il aurait fait *ῥαχίτις*, comme de *νόσος τῶν πλευρῶν* (maladie des plèvres), on avait fait *πλευρίτις* (la pleurésie); que cette dénomination n'ait eu d'autre but que de rappeler l'expression vulgaire de *rickets*, la chose importe peu." Moreover, Roth, the most recent German medical lexicographer, says: "Rachitis (so benannt von dem Engländer Glisson, mitte des 17. Jahrh., weil sich dieser Name im Klang ziemlich an die in England volksthümliche Bezeichnung *the rickets* . . . anschliesse und zugleich auf die in hervorragender Weise betheiligte Wirbelsäule hinweise)," etc.

It is to be inferred from all this that a vague impression has been current that the term rhachitis was not of classical origin. Let us inquire of its authors. We say authors, for it was not Glisson alone who prepared the treatise that is commonly known as his, but a commission made up of two others besides himself. We have before us an old vellum-bound copy of the third edition of the book. The title page reads as follows: "De rachitide, sive morbo puerili, tractatus: *Opera* [illegible] *Francisci Glissonii Doctoris, & publici Professoris Medicinæ in alma Cantabrigia Academia, & Socii Collegii Medicorum* [illegible]

dinensium, conscriptus; *Adscitis in operis Societatem* Georgio Bate, et Ahasuero Regemortero, Medicinæ quoque Doctoribus, & pariter Sociis Collegii Medicorum *Londinensium*. *Editio tertia, priori adcuratior longe, & emendatior.* Lugduni Batavorum,

Ex Officina { Cornelii Driehuysen & Felicis Lopez, 1671."

On page 5 we find the following passage: "Dum hisce satisfacere satagimus, aliquis nostrum casu quodam in nomen incidit quod sibi & cæteris quoque postmodum arrisit. Fuit autem *νόσος ῥαχίτις*. vel etiam *ῥαχίτης* (siquidem illa terminatio non plane abhorret à communi genere) morbus spinalis, item *νόσος τῆς ῥαχεως*, morbus spinæ dorsi. Est enim spina dorsi inter partes primo hoc morbo affectas princeps. Deinde nullus alius morbus aut symptoma nomen hoc ei præripuit: Præterea nomen hoc familiare est ac facile. Denique videmur hoc nomine Anglicum nomen tanto populi consensu receptum, viz., *the Rickets*, à barbarie liberare. Absque enim torsione vocis nomen *Rickets* à voce *ῥαχίτις ῥαχίτης* deduci prompte potest, modo habeatur ratio mutationis quæ propter vulgarem pronunciationem accidere solet vocabulis quando ab una ad aliam linguam transferuntur." Besides this definite statement, the pictorial frontispiece shows two hunchbacks, if not three (one being so seated as not to show the deformity), and a prepared spinal column showing lateral curvature. There seems to us to be plenty of evidence scattered through the volume that the authors did look upon the spinal manifestations as an important feature of the disease, and that the name they adopted for it was thought by them to give expression to that view; the features of the frontispiece that we have mentioned may count for what they are worth.

The passage that we have quoted seems noteworthy from several points of view. In the first place, neither Glisson nor either of his associates coined the word rhachitis, for they found it already in existence—"Fuit autem *νόσος ῥαχίτις*." They simply dropped the noun and retained the adjective in the feminine, making it a noun to suit their purpose. This is precisely what has been done hundreds of times, and is still being done, in scientific nomenclature; we no longer say *tunica conjunctiva*, *membrana mucosa*, or *arteria innominata*, for instance, but only *conjunctiva*, *mucosa*, and *innominata*, and there are indications that this process is to be carried still farther, for not only does no one now ever write the full expression *diametros conjugata vera*, but even *conjugata vera* is getting to be thought too cumbersome, and of late the brief word *vera* has been found doing duty alone.

The next point that attracts our attention is the evident appreciation of Glisson and his associates of the unfortunate fact that *νόσος* was a feminine noun and required *ῥαχίτις* instead of *ῥαχίτης*—"vel etiam *ῥαχίτης*." They say "(siquidem illa terminatio non plane abhorret à communi genere)". Had they felt at liberty (as they seem to have been tempted) to use the word rhachites instead of rhachitis, they would not have been constrained to have committed themselves to a definite inflammatory pathology of the disease as well as to its localization in the spine—a refinement of which they have undoubtedly had the credit, perhaps with the effect of stimulating the zeal of those who have sought to disprove their intention of naming the disease with any reference to the spine.

Finally, some color is given to the notion of their having simply aimed at clothing the word rickets in classical garb by their remark: "Denique videmur hoc nomine Anglicum nomen tanto populi consensu receptum, viz., *the Rickets*, à barbarie liberare." But this was undoubtedly an after-thought—a sort of apology for a word with which they do not seem to have been very well pleased, as they make use of it but very few times in the whole book, but usually say *hic morbus* or *hic affectus*. Especially must the remark not be allowed to conceal their belief in the spinal nature of the affection, for it follows close upon the declaration: "Est enim spina dorsi inter partes primo hoc morbo affectas princeps."

The Glissonian treatise, then, affords no justification for writing rachitis instead of rhachitis, and we are unable to see that an excuse for suppressing the *h* is to be found in any consideration more respectable than laziness. We maintain, therefore, that the word should be spelled *rhachitis*.

THE MEETING AT NEW ORLEANS.

As will be seen by our dispatches, the meeting of the American Medical Association that has just been held in New Orleans encountered some snags, and we are very much mistaken if it is not generally thought that it did not struggle with all of them successfully. One thing is certainly to be mentioned to its credit—that it refrained from making any change in the management of its "Journal." As to the question of allowing the sections to choose their own officers, perhaps no great harm will result from continuing to deny them that privilege, provided the hint thrown out by Dr. Davis is heeded, namely that the Committee on Nominations should not nominate as officers of sections men who have seen little or no service in those sections.

In the regular order of things the next meeting should be held in Washington. By resolving to hold it elsewhere the association plainly foreshadows—if any additional indication were needed—that it means to take the International Medical Congress under its wing. We shall see. The phenomenal assurance with which the meeting proceeded to assume that its business in the matter did not end in the issue of the invitation is refreshing. In an evil hour Dr. Billings consented to give his splendid abilities in the service of the association. He reaped his reward when he stood before the meeting in New Orleans, and was pelted by those who seem to have felt that they were slighted at the Copenhagen meeting of the Congress. By so doing he showed that he is possessed of one virtue that heretofore there has been no occasion for him to display—patience. Whether, in the end, he and his committee will consent to be dictated to by the additional thirty-eight whom the New Orleans meeting had the effrontery to provide for, with power to overrule all that has been done, seems to us to admit of

some doubt, and we do not regard it as altogether certain that the thirty-eight themselves will stomach the work that has been put upon them. In the choice of its officers for the ensuing year, too, it seems to us that the association has been ill-advised, for among the general officers we do not recognize one who is widely known as a representative of the American profession.

A NEW JOURNAL OF THERAPEUTICS.

We have received the first issue of a new French journal of therapeutics, entitled "Les nouveaux remèdes." It is edited by Dr. G. Bardet, chief of the therapeutical laboratory at the Hôpital Cochin, and M. Delpech, a pharmacist, formerly president of the *Société de thérapeutique*, assisted by M. Egasse, formerly adjunct professor of chemistry in the *École de médecine navale* at Rochefort, M. Portes, chief pharmacist of the Lourcine Hospital, Dr. Campardon, and M. Midy, a pharmacist. The journal is to be published semi-monthly, and is to be devoted to medical chemistry, pharmacology, therapeutics, and hydrology. The initial number, dated April 1, 1885, contains twenty-four pages of reading matter, including a commentary on the new French pharmacopœia, by M. Delpech; a lecture on the therapeutical properties of the synthetical products of the aromatic series, by Dr. Bardet; the first part of an article on the medical use of the oleates, by M. Egasse; a note on the *Andira inermis*, by M. Midy (to which we lately made reference); and an article on the rotatory property of wines, by M. Portes. The appearance of the journal is very creditable.

AN EXPLOSION OF LYCOPODIUM.

Many of our readers are doubtless aware of the interesting facts that were brought out some months ago, in connection with an explosion in a Western flouring mill, going to show that substances that are not explosive under ordinary circumstances may become so when reduced to a state of exceedingly fine mechanical division. An occurrence that is probably to be explained in like manner is cited in a recent issue of the "Gazzetta degli ospitali." A person employed in a pharmacy in Strassburg was engaged in pouring some lycopodium from one vessel into another, when the dust that rose from it took fire from the gaslight and gave rise to a slight explosion. Thereupon the frightened workman dashed the vessel to the floor, and at once a dense cloud of the fine powder spread through the place and exploded, injuring the man to some extent about the face and shattering the glassware and the windows.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 28, 1885:

DISEASES.	Week ending Apr. 21.		Week ending Apr. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	4	0	2	5
Scarlet fever	70	17	80	17
Cerebro-spinal meningitis	1	2	4	2
Measles	174	27	184	15
Diphtheria	18	20	46	28

The Cholera is stated in a press dispatch, dated April 25th, to have broken out again in Cairo, seven deaths from the disease having occurred up to the date mentioned.

A Sanitary Conference, in which some of the officials of New York, Brooklyn, Philadelphia, Baltimore, Boston, and New Haven took part, was held in New York on Thursday of last week, with special reference to the adoption of precautions against the cholera. In spite of all the abuse that has been heaped upon the Surgeon-General of the Marine-Hospital Service for his stringent exclusion of rags from sources that might prove dangerous, it is reported that the conference decided to maintain a close quarantine against them, and to insist on their disinfection by heat.

"Rough on Rats" is reported to have caused the death of another human being, this time by the suicide of a resident of Coshocton, Ohio.

The Board of Health has replied to certain criticisms of its course by the Sanitary Aid Society by making a public statement of the number of inspections made by its officials during the three months ending March 31st, amounting to 11,603.

Measles.—It is stated that since the 1st of January there have been 1,700 cases of this disease, and seventy deaths from it, reported in Brooklyn.

St. Mary's Free Hospital for Children.—The annual reception was held on Saturday afternoon of last week, and, as we are glad to learn, was exceedingly well attended.

The Ladies' Health Protective Association and the Seventeenth Ward Aid Society are acting in concert with the Sanitary Aid Society in the endeavor to stimulate the Board of Health to the efficient performance of its duties.

The Brooklyn Pathological Society.—On Thursday evening, April 30th, Dr. Daniel Ayres gave a lecture on "Interpretations of the Microscope," with illustrations, at the Brooklyn Eye and Ear Hospital, being the second lecture of a course given under the auspices of the Brooklyn Pathological Society.

Lusk's "Midwifery" has been translated into French, and, as we learn from the "Union médicale," a copy was lately presented to the *Académie de médecine* by M. Charpentier, in behalf of M. Doléris.

The New York Hospital Training School for Nurses.—The graduating exercises of the school were held at the hospital on Monday evening, April 20th, when an excellent address was delivered by Dr. George L. Peabody, of the hospital staff. The graduating class was made up of the following named ladies: Miss Mary K. Howell, Miss Ella F. Woods, Miss Leila V. Jones, Miss Mary Abbie Adams, Miss Annie C. Bouck, and Miss Hindela E. Whitehead.

The New York Orthopædic Society.—At the meeting held on Thursday evening, April 30th, Dr. E. H. Bradford, of Boston, read a paper on "The Forcible Treatment of Inveterate Cases of Club-Foot, with an Analysis of Fifty Cases"; Dr. H. L. Taylor related the history of a case of congenital talipes equino-varus cured by mechanical treatment after failure with tenotomy, and Dr. A. B. Judson showed a new apparatus for the treatment of talipes calcaneus.

The Death of Dr. Joseph C. Batchelder, of Templeton, Mass., is announced as having taken place on Sunday, April 26th. The deceased was nearly seventy-six years of age, and had practiced in Templeton for nearly thirty years. He was a member of the Massachusetts Medical Society, and during the late war he served as assistant surgeon of a Massachusetts regiment. At one time also, while living at Topsfield, he represented that town in the State Legislature.

The Death of Dr. James B. Kissam, a retired practitioner, took place on Sunday, April 26th, in the seventy-fourth year of his age.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 19, 1885, to April 25, 1885:*

McParlin, T. A., Lieutenant-Colonel and Assistant Medical Purveyor, U. S. Army. Sick leave extended three months on surgeon's certificate of disability. S. O. 88, A. G. O., April 17, 1885.

Smith, Joseph R., Lieutenant-Colonel and Surgeon; Billings, John S., Major and Surgeon; McElderry, Henry, Major and Surgeon. Detailed to represent Medical Department of the Army at annual meeting of American Medical Association, to be held at New Orleans, La., April 28, 1885. S. O. 91, A. G. O., April 21, 1885.

Crampton, L. W., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon, Fort Bridger, Wyoming Territory. S. O. 33, Department of the Platte, April 22, 1885.

Borden, William C., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Douglas, Utah Territory. S. O. 33, Department of the Platte, April 22, 1885.

Robertson, R. L., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 43, Department of Texas, April 16, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 25, 1885.*

Sawtelle, H. W., Surgeon. When relieved, to proceed to Detroit, Mich., and assume charge of the Service. April 23, 1885.

Urquhart, F. M., Passed Assistant Surgeon. To assume charge of Cape Charles Quarantine Station. April 23, 1885.

Williams, L. L., Assistant Surgeon. When relieved, to proceed to Norfolk, Va., for temporary duty. April 23, 1885.

Society Meetings for the Coming Week:

Monday, *May 4th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Medical Association (annual); Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; St. Albans, Vt., Medical Association.

Tuesday, *May 5th:* New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Hudson (Jersey City) and Mercer, N. J.; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *May 6th:* Medical Society of the County of Richmond, N. Y. (Stapleton); Essex North District, Mass., Medical Society (Haverhill); Plymouth District, Mass., Medical Society; Penobscot County, Me., Medical Society (Bangor).

Thursday, *May 7th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans, N. Y. (Albion); Medical Society of Ocean County, N. J. (Tom's River); Boston Medico-Psychological Association.

Friday, *May 8th:* Yorkville Medical Association, New York (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *May 9th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held in New Orleans, Tuesday, Wednesday, Thursday, and Friday, April 28, 29, and 30, and May 1, 1885.

Tuesday's Proceedings.

The meeting was called to order at Tulane Hall, at 11 A. M., by the chairman of the Committee of Arrangements, Dr. Samuel Logan. A prayer was offered by the Rev. B. M. Palmer, D. D.

The Address of Welcome was then made by Dr. Logan, who intended, he said, to make his expressions of welcome as warm as the weather with which the meeting opened. He deplored the absence of the late Professor Samuel D. Gross, of whose memory he spoke in the most feeling terms. As regarded the association, it was a pleasure to reflect that Dr. Gross's love for it had been most abundantly gratified during his lifetime.

The President's Address.—At the close of his remarks, Dr. Logan introduced the President of the association, Dr. Henry F. Campbell, of Augusta, Ga., who proceeded to deliver his address. He spoke first of the high appreciation that the great Southern State which he represented had felt when it was first made known that upon one of its citizens had fallen the choice of the honorable position of President of this association. He then alluded to the notable progress that had been made during the year in the science and art of medicine, both in our own country and abroad, and expressed the hope that the future might be as golden as the past—a hope that was abundantly promised by the large attendance that he saw about him, including that of a great number of the younger men, from whom chiefly were to spring the efforts that should bring glory to the association and to the profession in the future. He, too, would refer to the late Professor Gross and the other giants that had been prominent in the affairs of the association; but the dead needed no monuments or mausoleums of our building. Coming to those who were still living, there were many among those whom he saw before him who were familiarly known for their faithful stewardship in the past, but he dared not mention their names, for fear of being pronounced unparliamentary. Some there were among them who were here now just as they were here thirty years ago, and he would make haste to honor these Nestors of the profession. Let us pour into their manly hearts words of commendation, for to-morrow they might not stand prominent before us in the magnetism of their living presence.

He then contrasted the New Orleans of certain former times, brought low by pestilence and death, with the prosperous and beautiful Crescent City that now welcomed them within her hospitable limits. What magic metamorphosis was this? Here were the products of agriculture, of the loom, and of the mine, all collected in one interminable panorama for us to look at with unbounded interest and enjoyment. Warmly grateful should we be to the people of this great city, at whose feet the Father of Waters poured his libations.

He dwelt at some length upon the work that should be done in the different sections, a work that had already attained well-nigh to perfection so far as it went. Reverting to the work of the association at large, there was room for it, he said, to exert its influence in inducing national legislation for carrying out the purposes of sanitary science. Reference was then made to the creditable weekly journal that had now taken the place of the

cumbrous yearly volume of former days. In no respect was the change to be regretted, but on all accounts the association and the profession were the gainers by it. The journal might now be regarded as having been firmly established. He prophesied that in the course of a comparatively short time it would be found to have led to the organization of the entire profession, and the greatest praise should be accorded both to the editor and to the board of trustees.

The next topic touched upon the speaker characterized as one the complexity of which it was difficult to unravel or expound. He referred to the problems involved in the relations of physicians to judicial inquiries. When the medical man was brought before the tribunal of the law, whether as a skilled witness or as an ordinary witness, he labored under peculiar disadvantages, and oftentimes the light of scientific truth shed by him was not appreciated. A striking instance was cited of this state of things; a woman was on trial for murdering her husband by poisoning him with arsenic, and the testimony showed that that poison was found in the stomach and in the tissues, but an expert in chemistry and pharmacy so succeeded in befogging the jury that they acquitted the alleged murderess almost without leaving their seats. But it was not as a witness alone that the medical man suffered in courts of law—malevolent and unfounded suits for malpractice were far too common. The surgeon who was arraigned for malpractice had a blight cast upon his reputation and suffered severely in the costs; moreover, cases of the kind might frequently result disastrously to him. Unfortunately, these facts and their bearing were but too widely known, and evil-minded persons were not lacking to take advantage of such knowledge. Forensic medicine was the province of none of the departments of science individually, but was more or less allied to all of them. In conclusion, he recommended that a committee be appointed for the purpose of rehabilitating the Section in Forensic Medicine, for posterity would wonder why we had not done so.

On motion, a vote of thanks was passed to the President, and the address was referred to the Committee on Publication.

A Proposed Section in Forensic Medicine.—Dr. QUIMBY moved that a committee of five be appointed to which should be referred that portion of the President's address relating to forensic medicine, with reference to the propriety of establishing a section in that department. Carried.

The late Professor Samuel D. Gross.—Dr. J. G. RICHARDSON, of Philadelphia, in behalf of the special committee appointed at the last meeting to take action with regard to the death of Professor Gross, read a written report embracing a survey of his life extending from the year 1852 to the time of his death, and including an elaborate eulogy prepared by Dr. Austin Flint, of New York. On motion, the report was accepted and referred to the Committee on Publication.

The Proposed New Medical Building in Washington.—Dr. JOHN S. BILLINGS, of the army, in the absence of Dr. Austin Flint, Sr., presented two special reports, the first of which related to the subject of requesting Congress to provide for the erection of a fire-proof building in Washington for the Army Medical Museum and the Library of the Surgeon-General's Office. The report was adopted and referred to the Committee on Publication.

The International Medical Congress of 1887.—The second report presented by Dr. Billings had reference to the coming International Medical Congress, to be held in Washington. It recited the resolution by which the association had originally invited the congress to hold its next meeting in this country, and included a letter on the subject that had been addressed to the President of the association. On motion of Dr. Keller, the report was made the special order for Wednesday, at 12 o'clock.

The Rush Monument.—On behalf of Dr. ALBERT L. GIHON, of the navy, the secretary stated that he was prepared to present the report of the committee on the erection of a monument in Washington to the memory of Dr. Benjamin Rush.

Dr. J. M. TONER, of Washington, moved to postpone action on this subject until Friday morning. Carried.

Invited Guests.—By resolution, the following-named gentlemen were invited to take part in the meeting as guests: Dr. Edward Jones, Dr. A. B. Miles, and Dr. A. J. Beckman, of New Orleans; Dr. J. G. Gunthereaux, of Welcome P. O., St. James Parish, La.; Dr. J. N. Scarborough, of Clinton, Hickson Co., Ky.

A Communication from the South Carolina State Medical Society was presented by Dr. R. A. KINLOCH, on the question of the claims of various alleged discoverers of the anæsthetic properties of sulphuric ether. On motion of Dr. BEVERLEY COLE, of San Francisco, the communication was referred to the Committee on Practical Medicine and Materia Medica.

Wednesday's Proceedings.

A number of telegraphic messages were received—among them one from an ex-president of the association, Dr. W. O. Baldwin, of Montgomery, Ala., expressing regret at the necessity of his being absent. The secretary announced the Nominating Committee.

The Address in Medicine was then delivered by the Chairman of the Section in Practical Medicine, Dr. H. D. DIDAMA, of Syracuse, N. Y. [See page 485.] The address was referred to the Committee on Publication.

The Outgrowth of the First Operation of Ovariotomy.—Dr. R. S. SUTTON, of Pittsburgh, Pa., read a short address with this title. In McDowell's first operation, performed in December, 1809, the woman was to be the subject of an experiment which involved her life. It was, of course, before the days of anæsthetics, and she submitted with fortitude. She recovered, and lived thirty years afterward. McDowell did the operation in his own house, with only one assistant. The atmosphere was that of a border town; no sponges were used within the abdomen, and the pedicle was dropped. The next operation was done in 1820. Up to 1862, but one success had been reported in Scotland, the case being one of Thomas Keith's; up to 1843, eighteen cases had been reported as having been operated upon in America; up to 1863, over three hundred cases had been operated upon in the United States; in 1885, every conceivable method had been tried in the management of the pedicle. Of late, ligation and the use of the cautery had given almost the same results. The author then dwelt upon the necessity of care in the sponging, and of the use of broad, flat sponges under the abdominal wall while the sutures were being adjusted, as had first been done by Keith. He closed with a tribute to the genius of the late Dr. Marion Sims, "the great, good, grand, noble" Sims, who, like McDowell, had a genius for investigation. A vote of thanks to the reader was passed, and the address was referred to the Committee on Publication.

Peninsular and Sub-peninsular Air and Climate.—Dr. W. C. VAN BIBBER, of Baltimore, read a paper with this title, the object of which was to give information as to winter resorts for invalids. Where should a place be built for the sick? He referred to Florida as one of the six principal peninsulas of the world, and compared its climate to that of Spain, Italy, Portugal, and France. Florida, however, was superior to all the others, and the author proceeded to give an elaborate description of the features of the State. The physicians of Florida often asked why it was that their brethren of the North sent patients there in the advanced stage of phthisis. The answer

was that the patients went there of their own accord, for they had observed that even in that stage the progress of the disease was sometimes arrested by the action of the Florida climate. But Florida would never be complete as a health resort without a hygienic city built in the sub-peninsular portion of the State.

The International Medical Congress.—Dr. Keller, of Arkansas, moved to proceed to the special order, relative to the next meeting of the International Medical Congress.

Dr. John V. Shoemaker, of Philadelphia, rose and protested against the committee's report being received, alleging that the association's delegates had been wholly ignored by the Committee on Invitations at the Copenhagen meeting, but that the new-code men present had openly threatened that they would prevent the acceptance of the invitation unless they received full recognition; as a consequence, they had been recognized, as was shown by the fact that they had been given some of the prominent positions with reference to the Washington meeting.

Dr. F. E. Daniel, of Texas, offered a resolution that the Committee on Nominations be instructed to nominate a president and other officers for the approaching International Medical Congress.

Dr. Billings denied Dr. Shoemaker's statement absolutely and point-blank. His position was embarrassing; he spoke, not for the committee, but for what the committee had done—they had made no bargain with the new-code men. [Hisses.] No new-code member had been consulted by the committee, unless Dr. Moore, of Rochester, N. Y., was to be considered a new-code man, and his fidelity to this association stood in no need of argument. The resolutions had been drawn at Washington, with the view of arranging for a necessary meeting at which to complete the preparations for the congress. The speaker then read the resolutions referred to, also the names of the members of the organizing committee.

A member from Ohio said that the delegates had not been consulted—they had not been informed that any meeting was to be held. He was at Copenhagen for eight days; the Americans were not invited to advise with the Germans, and were ignored.

Dr. Quimby said it was not a matter of men, but a matter involving serious principles; the committee had usurped power, and had gone beyond their authority from the association, assuming executive and legislative functions, nominating officers, and the like. He closed by asking that the matter be referred back to the American Medical Association.

Dr. Keller thought that ninety-nine out of a hundred of the members of the association believed that the committee were the creatures of the association, and that they had exceeded their authority. He offered as a substitute for Dr. Daniel's resolution a motion that the President of the association should appoint a committee consisting of thirty-eight members, representing the army, the navy, the marine-hospital service, the District of Columbia, and the territories (to be nominated by State delegations); this committee to meet the original committee to [illegible], alter, and amend the latter's action as it might deem best.

Dr. Cole, of California, seconded Dr. Keller's substitute with pertinence. He would not charge the committee with having deliberately done anything directly in conflict with their understanding of their duty, but he believed they had erred egregiously. He believed the new code had been established for the purpose of preventing the so-called malcontents of the association from securing the election of some of the men on the committee might be arrogant from their having been made conspicuous.

Dr. Bates, of Missouri, thought that this association could not question the acts of the committee. He hoped the new thirty-eight would kindly cut the throats of the new-code men.

Dr. Shoemaker repeated that his statement was true, and said that new-code men had been appointed.

Dr. Daniel would not accept Dr. Keller's substitute. Texas had been ignored in the formation of the committee. He thought it would be a fatal mistake to establish the precedent of clothing this committee with the appointing power.

Dr. Sanders, of Tennessee, made the point that this meeting was trying to undo the work of the committee. He moved that the committee's work be indorsed, with the proviso that they leave out the new-code men.

Dr. Roberts, of Philadelphia, spoke in favor of Dr. Sanders's resolution. This would place the American Medical Association in higher esteem in Europe.

Dr. Smart, of Michigan, said that the committee had substituted legislative action for its executive duties—perhaps not willfully; it had unduly transacted some of the duties which should have been relegated to this body. He suggested that each State should make its own nominations, as had been aimed at in Dr. Keller's motion.

Dr. Ghent, of Texas, wished to indorse that part of the committee which did not include new-code men.

Dr. Cole spoke charitably of the committee; the gentlemen composing it were eminent in the profession.

The secretary read Dr. Sanders's resolution. It was lost by a vote of eighty-eight to one hundred and twenty-nine.

Dr. Keller's substitute was then put, and carried by a vote of one hundred and thirty-one to ninety-two.

Thursday's Proceedings.

The Manner of electing Officers of Sections.—Dr. W. W. Potter, of Buffalo, moved that Dr. Foster Pratt's motion, offered last year, to so amend the by-laws as to allow each section to elect its own officers, be now taken up.

Dr. C. J. Lundy, of Detroit, said that to adopt this amendment would destroy harmony, and split the association into small bodies.

Dr. N. S. Davis, of Chicago, thought that this proposition should not be adopted. The only objection to the present method of choosing the officers, by the Nominating Committee, was that the committee had sometimes appointed men as officers to sections who had not worked two years consecutively in them. The amendment was premature. The Nominating Committee should be more careful. He moved as an amendment that the matter be postponed for one year. Carried.

Report of the Standing Committee on Meteorological Conditions and their Relations to the Prevalence of Disease. Dr. N. S. Davis read the report, and said that the Superintendent of the Signal Service Bureau had kindly given him information of meteorological observations in seventy-two cities for the year 1884. The committee had advised their observers to inquire into the geographical distribution of diseases, their prevalence in certain places, and their ætiological factors in other respects.

The Collective Investigation of Disease.—Dr. Davis said that an international committee sitting in London, representing Denmark, Norway, India, Ireland, Great Britain, Hungary, Switzerland, and the South American and various other countries, had appointed an international sub-committee to decide upon the subjects to be investigated, so that each country would have the same subject to discuss, and harmony would prevail in its discussion. His name had been placed on the international sub-committee, and he would now report that the committee recommended that State societies be urged to take action in the matter. Illinois had done something in this direction for the past two years, and so had Pennsylvania.

The Code of Ethics.—Dr. Davis also made a report in behalf of the special committee appointed at the last meeting to consider certain suggestions that had been made in the annual address of the President (Dr. Austin Flint, Sr.), as to the advisability of giving an authoritative exposition of some of the features in the code that seemed to have been misunderstood. The committee, having given the subject due consideration, respectfully submitted its report in the form of the following preamble and resolutions:

"*Whereas*, Persistent misrepresentations have been and are still being made concerning certain provisions of the code of ethics of this association, by which many in the community, and some even in the ranks of the profession, are led to believe that these provisions exclude persons from professional recognition simply because of differences of opinions or doctrines; therefore be it

"*Resolved*, That clause 1, Art. iv, in the National Code of Medical Ethics is not to be interpreted as excluding from professional fellowship on the ground of differences in doctrine or belief those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

"*Resolved*, That a voluntary disconnection or withdrawal from the medical profession proper is constituted by indicating to the public a sectarian or exclusive system of practice, or by belonging to an association or party antagonistic to the general medical profession.

"*Resolved*, That there is no provision in the Code of Medical Ethics in any way inconsistent with the broadest dictates of humanity; and the article which relates to consultations can not be correctly interpreted as interdicting under any circumstances the rendering of professional services whenever there is a pressing or immediate need of them—on the contrary, to promptly meet the emergencies occasioned by disease or accident, or to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, by both the letter and the spirit of the entire code; but no such emergencies or circumstances can make it proper to enter into professional consultation with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution."

The report, which was signed by N. S. Davis, A. Y. P. Garnett, H. F. Campbell, Austin Flint, and J. B. Murdock, was unanimously adopted.

The Address in Anatomy and Surgery.—Dr. Duncan Eve, of Nashville, chairman of the section in surgery and anatomy, then gave the address. Attention was called to the improvements that had been made in surgery in the nineteenth century, and the principal operations were reviewed, among which was a novel procedure by Professor Henry B. Sands for œsophagotomy. Reference was made to a case of lumbar colotomy in which death ensued one hundred and thirty-seven days after the operation. Operations for facial neuralgia and the procedure of cholecystotomy were then referred to; also the removal of calculi impacted in the urethra, the use of the woven-wire corset, the reduction of a dislocation of the seventh cervical vertebra, without fracture, thirty-six hours after the injury, and recent advances in the treatment of wounds. The speaker then mentioned some of the more important contributions that had been made to the literature of surgery during the year, and closed with a touching allusion to the late Dr. Gross. The address was ordered to be printed.

The Treasurer's Report, of which a summary was read by the secretary, showed a balance of $932.11 in the treasury; $17,093.26 had been paid in during the second year of the publication of the "Journal," to the subscription list of which one hundred and twenty-five names had been added during the year. The report was referred to the editor of the "Transactions," without being read.

The Report of the Committee on Publication was then read by Dr. J. M. Toner. The "Journal" year dated from the 1st of July; therefore the report embraced the last quarter of the first year and the first, second, and third quarters of the second year. After setting forth the committee's high appreciation of the services of the editor, the committee now announced, at the close of the second year, that the "Journal" was free from debt, and promised soon to be the foremost in the land. The number of subscribers at the close of this, the third quarter of the second year, was thirty-nine hundred. One hundred and twenty copies were required for exchanges. The total income was over $21,000. The cost of publishing, including the editor's salary, was $12,021.20. The committee had promised aid to the editor, and recommended that the publication should continue to be made in Chicago. They had unanimously requested Dr. Davis to continue as editor. Dr. Davis had replied that he would accept the superintendence of the 'Journal" for another year. This great body needed an organ commensurate with its great reputation, and yet it should be kept clear from debt. In ten years the "Journal" would compare favorably with any association journal in the world. There would be money enough in the treasury, besides, to carry on any investigation that might be designated. On motion of Dr. Quimby, the report was accepted, and a vote of thanks tendered to the editor.

Prizes.—Dr. R. H. Reid, of Ohio, offered the following:

"*Whereas*, There is not sufficient stimulus offered by the association for original research, therefore be it

"*Resolved*, That a first and second prize be offered for the best and second-best papers showing original research in each section at the next meeting of the association; that three judges shall be appointed, no two of whom shall be from any one State, to judge of the merits of said papers; and that no paper shall occupy over thirty minutes in its reading."

Dr. Reid said, in reply to a question, that it was not intended to renew the prize system. The resolution was carried.

The Rush Monument.—The committee on the erection of a monument to Dr. Benjamin Rush submitted its report, including a short biographical sketch of Dr. Rush. The report closed with a resolution that the association erect the monument. The fund, it was recommended, should be raised by means of dollar subscriptions among physicians and medical students. The report was adopted.

The Committee on Forensic Medicine was announced as follows: Isaac N. Quimby, of New Jersey; X. C. Scott, of Ohio; F. E. Daniel, of Texas; J. V. Shoemaker, of Pennsylvania; Eugene Foster and H. F. Campbell, of Georgia.

Officers for the Ensuing Year.—The Committee on Nominations reported as follows: For president, William Brodie, of Michigan; for first vice-president, Samuel Logan, of Louisiana; for second vice-president, J. Y. P. Garnett, of the District of Columbia; for third vice-president, Charles Alexander, of Wisconsin; for fourth vice-president, G. W. Peck, of Iowa; for permanent secretary, W. B. Atkinson, of Pennsylvania; for assistant secretary and treasurer, R. J. Dunglison; for librarian, C. H. A. Kleinschmidt, of the District of Columbia. For chairmen of sections: Practice of Medicine—Chairman, J. T. Whittaker, of Ohio, secretary, B. L. Coleman, of Kentucky. Obstetrics and Diseases of Women—Chairman, S. C. Gordon, of Missouri, secretary, — Paine, of Texas. Surgery and Anatomy—Chairman, N. Senn, of Wisconsin, secretary, H. M. Madd, of Mis-

souri. Ophthalmology, Otology, and Laryngology.—Chairman, Eugene Smith, of Michigan; secretary, J. Fulton, of Minnesota. Diseases of Children.—Chairman, W. D. H. Ager, of Tennessee; secretary, W. B. Lawrence, of Arkansas. Oral and Dental Surgery.—Chairman, J. Marshall, of Illinois; secretary, A. E. Baldwin, of Ellinois. State Medicine.—Chairman, J. H. Rauch, of Illinois; secretary, F. E. Daniel, of Texas. Committee on Necrology.—J. M. Toner, of the District of Columbia. Judicial Council.—R. A. Kinloch, of South Carolina; — — Sanders, of Tennessee; T. G. Richardson, of Louisiana; G. A. Ketchum, of Alabama; George Beard, of West Virginia; J. M. Toner, of the District of Columbia; and A. M. Pollock, of Pennsylvania. The next meeting to be held in St. Louis, the first Tuesday in May, 1886, and the succeeding Wednesday, Thursday, and Friday.

NEW YORK CLINICAL SOCIETY.

Meeting of February 27, 1885.

Dr. J. H. Emerson in the Chair;

Dr. W. Duncan McKim, Secretary.

Scirrhus of the Breast; Softening of the Spinal Cord.—Dr. L. Bolton Bangs presented a specimen of scirrhus of the breast, which had been removed on the 26th of November from a woman, forty-one years old, in whom examination failed to show the presence of any other disease. On the 17th of December the wound had healed, and the patient was feeling perfectly well. On the 19th she complained of weakness in the legs. On the 22d she was unable to walk. On the 24th she was unable to micturate, there was pain in the lumbar region, both legs were paralyzed, and the sense of touch was lost up to the umbilicus in front and up to the junction of the dorsal and lumbar portions of the vertebral column behind. With paralysis of the bladder and rectum, there was pain around the waist. On the 26th the temperature was 101·5° F., and cough and expectoration were present, together with mucous râles in the upper lobe of each lung. On the 28th there was pneumonia of the left lower lobe. On the 31st she died.

Autopsy.—The lower lobe of the left lung was found solidified, and the upper lobe congested. The lower lobe of the right lung was congested and œdematous. The spleen was slightly enlarged. The kidneys were normal. On the anterior surface of the liver, near its lower border, a circular grayish white body was found, hard and fibrous on section, and as large as an acorn. In the substance of the liver several such bodies were found, the largest of which was of the size of a walnut. The pia mater of the brain was congested, and the subarachnoidean fluid increased in amount. Nothing was noted in the upper portion of the spinal canal; in the lower dorsal and the lumbar portions there was a quantity of bloody serum. In the lower dorsal region the cord was found broken down into a soft, yellowish mass stained with blood, the softening extending completely through the cord for a distance of two inches.

Malarial ? Convulsions in a Child.—Dr. J. Williston Wright gave an account of the case of a child, three years old, which, after having been somewhat indisposed for several weeks, suddenly became very cold on the morning of February 23d and had severe convulsions. At breakfast, before the attack, she had eaten several olives. The temperature was 101° F., the pulse 120, and the respiration 24. There was no evidence of pneumonia or of scarlet fever, no tenderness of the abdomen, and no heat of the head. The child was stupid and constantly twitching. The temperature remained unchanged through the day. The next morning the temperature was 99°, the pulse 120, and the respiration 24. On the 24th there was a rapid rise of the temperature to 103·5°, and there was much twitching. A dose of castor-oil was given, also twenty grains of quinine by the rectum. On the 25th the evening temperature was 99°; on the 27th the temperature was 100·25°. Still there were no physical signs, but three or four large, watery evacuations from the bowels took place. During the preceding summer the child had had a malarial attack, at New Brighton, Staten Island, and the seizure which he had just related Dr. Wright thought was probably also malarial, of a remittent type.

Dr. A. A. Smith had seen many cases of malarial fever in children in which a convulsion had taken the place of the usual chill and been followed by fever and sweating. In these cases the convulsions were often due to something else besides the malaria; in Dr. Wright's case that something else was doubtless the olives. In such cases it was well to give large doses of opium, such as ten drops of McMunn's elixir, but, when the convulsions had been subdued, quinine should be given.

Dr. E. G. Janeway thought that in many such cases it was quite impossible to ascertain the cause of the convulsions, even when the temperature was as high as 105°.

Insidious Tuberculosis in a Child.—Dr. Janeway mentioned the case of a child, four months old, which, after a little cough and some colicky pains, died suddenly, with a flow of blood from the mouth and nostrils. There had been no previous signs of disease. At the autopsy, the trachea and the bronchial tubes were found full of blood, and there was a tubercular ulcer at the bifurcation. There was pleurisy of the left side, and tubercles were found in the lungs, the kidneys, and the spleen, with abundant bacilli. The hæmoptysis had evidently been due to the tuberculosis, and the case was an instance of the insidious character of that disease in children.

Cystic Tumor of the Vesico-vaginal Septum.—Dr. Smith related the case of a young lady who suffered from great depression of spirits, whose urine was diminished in quantity and of high specific gravity, and who was obstinately constipated. She was advised to take a Turkish bath once a week, and a mercurial cathartic, alkaline diuretics, and regulation of the diet were also prescribed. At the end of two weeks she seemed to have improved, and returned to her home, in another city, where a physician who saw her announced that she had acute Bright's disease. She afterward returned to New York, with symptoms of urethral obstruction. Within the bladder, at its base, a fluctuating growth was felt, about an inch in diameter, extending into the urethra. By pressing the growth firmly against the pubic bone, by a finger in the vagina, he was able to squeeze out its contents. The evacuation of the tumor had been accomplished in this manner six times; at first the contents were seropurulent, but on the last two occasions they were grumous. Under this treatment micturition had become less frequent, and the patient had improved in every way, especially with regard to her mental depression, while the growth had been reduced to about one sixth its former size. She declined to have the urethra dilated.

Dr. Frank P. Foster thought the case very obscure, but suggested that the mass might be a cystic dilatation of a persistent Gartner's canal.

Dr. R. J. Hall thought that Gartner's canal opened too close to the lower orifice of the urethra for this to be possible.

Dr. Foster was of the impression that the canal might extend down to almost any point between the cervix uteri and the meatus urinarius externus. He thought that vaginal cystotomy would be advisable in Dr. Smith's case, if any further interference was found to be necessary.

Dr. Wright thought that either rapid dilatation of the urethra or vaginal cystotomy was to be recommended.

Dr. SMITH thought that he would draw off the contents of the cyst, and then inject some irritating fluid.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Washington, Tuesday, Wednesday, Thursday, and Friday, April 21, 22, 23, and 24, 1885.

The President, Dr. WILLIAM T. BRIGGS, of Nashville, in the Chair.

Tuesday's Proceedings.

The President's Address.—After calling the meeting to order, in the Army Medical Museum building, the President thanked the association for the honor conferred upon him. Reviewing the work accomplished by the association, he thought it compared favorably with that of any like organization. He then spoke of the notable absence of one who, like Saul, had stood head and shoulders above his brethren. The death of Dr. Samuel David Gross had removed a pathologist, a surgeon, and a medical philosopher, the acknowledged peer of any one in the world. It could justly be said, not only that he was the greatest American surgeon, but also that he was a great man. He had taken great interest in the foundation and progress of this association, and it became the duty of his survivors to maintain it in all its vigor.

The President then made a number of suggestions. The association was of a representative and national character, and, in order that this feature might be maintained, he considered it essential that every reputable surgeon in the land, who fulfilled the requirements of the constitution, should be embraced in its fellowship. Of course, the election of members should not be indiscriminate, but the association should not have the character of a close corporation. The addition of new members would tend to add new vigor and strength to the organization. On several occasions surgeons who were recognized as the peers of any had been ostracized by the ballot. He would go further and, if it was necessary, would favor such alteration of the constitution as would permit all qualified surgeons to become members. Every member should consider it his duty to attend each annual meeting and be prepared to take part in the discussions. The meetings should not be allowed to degenerate into simply social gatherings, but this feature should be made subservient to the scientific work of the association. For several years the annual session had been held in April or May. Originally it had been the design to hold the meetings during the heated period. He suggested that hereafter they be held in August or the early part of September, and also that they might with profit be held at some seaside or inland resort, so that rest and recreation might be combined with scientific work. He also referred to the remissness of the readers of papers in not sending their manuscripts to the publication committee, and thus delaying the issue of the last volume of the "Transactions." The constitution provided for the election of honorary members, but so far no foreign names had been placed on that list, and he thought it would be proper for the Council to suggest the names of some eminent foreign gentlemen for this honor, but care should be exercised not to cheapen it by promiscuous distribution.

The meeting then went into executive session. The report of the secretary and that of the treasurer having been read, the suggestions of the President were referred to the Council for consideration.

A Device for Atmospheric Purification was then described by Dr. DAVID PRINCE, of Jacksonville, Ill. After a brief resume of the use of antiseptics and disinfectants, he went on to speak of the purification of the air of operating rooms. Was it not practicable, he asked, in view of the effect of rainy weather upon the number of microbes floating in the atmosphere, to subject the air entering an operating-room to the influence of artificial showers, so as to precipitate to the ground the whole or the greater part of these organisms? They were known to be heavier than the air, because they entirely disappeared from the air within a tight box which had been for several months in one position, but the principle of rest was impracticable. The same was true of dry filtration, by means of cotton or other like substances used to entangle matter floating in the air, on account of the rapidity with which it was necessary for the air to enter and leave the room in order to displace the germs. If, however, we could cause the air entering the room to pass through several showers of water, we had an expedient which might entangle these objects and carry them to the ground. The speaker then gave an elaborate description of such a device, spray being used in an apartment beneath the operating-room, through which the air could be made to pass before entering the room.

The Field and Limitation of the Operative Surgery of the Human Brain.—The afternoon session was opened with the reading of a paper with this title, by Dr. JOHN B. ROBERTS, of Philadelphia. The complexus of symptoms called "compression of the brain" was not due so much to displacing pressure exerted on the brain substance as to some form or degree of intra-cranial inflammation. The conversion of a simple fracture of the cranium into a compound fracture by incision of the scalp was, with the improved methods of treating wounds, attended with very little increased risk to life. The removal of portions of the cranium with the trephine or other cutting instruments was, if properly done, attended with but little more risk to life than amputation through a metacarpal bone. In the majority of cranial fractures the inner table was more extensively shattered and splintered than the outer table. Perforation of the cranium was to be adopted as an exploratory measure almost as often as it was demanded for therapeutic reasons. Drainage was more essential in wounds of the brain than in wounds of other structures. Many regions of the cerebral hemispheres of man might be incised and excised with comparative impunity. Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses should be treated like similar lesions of like structures in other localities. The results of the study of cerebral localization were more necessary to the conscientious surgeon than to the neurologist.

An elaborate table was then given of the proper points for trephining for various cerebral lesions, and the principles which the reader had maintained were stated to be applicable as follows: A. CRANIAL FRACTURES.—*Simple fissured fractures:* 1. No evident depression, no brain symptoms; no operation. 2. No evident depression, but brain symptoms; incision of the scalp and possibly trephining. 3. Evident depression, but no brain symptoms; incision and possibly trephining. (He would be inclined to trephine if the depression was marked, or if the fissures were sufficiently numerous to make the fracture approach the comminuted character.) 4. Evident depression, with brain symptoms; incision and trephining. *Simple comminuted fractures:* 5. No evident depression, and no brain symptoms; incision and probably trephining. (He would trephine unless the comminution was found to be inconsiderable.) 6. No evident depression, but brain symptoms; incision and trephining. 7. Evident depression, but no brain symptoms; incision and trephining. 8. Evident depression and brain symptoms; incision and trephining. *Compound fissured fractures.* 9. No evident depression, and no brain symptoms; no operation, but treatment of the wound. 10. No evident depression, but brain symptoms; trephining. 11. Evident depression, but no brain

symptoms; possibly trephining (the same remark applying as in the third case.) 12. Evident depression and brain symptoms; trephining. *Compound comminuted fractures:* 13. No evident depression and no brain symptoms; probably trephining (the same remark applying as in the fifth case). 14. No evident depression, but brain symptoms; trephining. 15. Evident depression, but no brain symptoms; trephining. 16. Evident depression and brain symptoms; trephining. *Punctured and gunshot fractures:* 17. In all cases and under all circumstances, trephining. B. Intra-cranial Hæmorrhage.—Trephining for the removal of the clot and arrest of bleeding when the probable seat of the hæmorrhage was ascertainable and the clot was believed to be localized. C. Intra-cranial Suppuration.—Trephining and, if necessary, exploratory punctures in all cases of abscess. D. Epilepsy following Cranial Injury.—Removal of a portion of the cranium in selected cases. E. Insanity following Cranial Injury.—Removal of a portion of the cranium in selected cases. F. Cerebral Tumor.—If its situation could be ascertained, and if it was probably superficial, removal of bone and excision of the growth, if it was found.

Dr. Hunter McGuire, of Richmond, said that this branch of surgery was still in its infancy and no one could tell what the future had in store for the surgery of injuries and diseases of the brain. Looking over the synopsis of the paper, he found that the only two cases in which operations were not recommended were those numbered 1 and 9, where there was no evident depression and no brain symptoms. Under all other conditions we were told to trephine, probably trephine, or possibly trephine. The adoption of such rules would take us back about a hundred years in the history of surgery, to the times when a man would boast of the number of holes he had in his skull, and the surgeon would boast of the number of holes he could make without killing the patient. These doctrines were most dangerous to send out to the world. To advise trephining in all these injuries of the brain and skull would be most injurious, especially to the younger practitioners. The truth was that no set of rules could be laid down which would apply to all cases. Every case must stand by itself. With regard to the first view advanced, he would like to ask how Dr. Roberts accounted for the almost instantaneous presence of symptoms of compression of the brain after an injury. He could not see how it would be possible to explain them on the theory of inflammation. In regard to the second proposition, in reference to the risk following the conversion of a closed fracture into an open one, he could not agree with him. It was either Cooper or Hunter who had said that there was between the trephine of the surgeon, the patient, and eternity only a thin sheet of paper. How the reader could have come to the conclusion that the operation of trephining was so simple was beyond his comprehension. In regard to drainage, he concurred in what had been said. In his last case of trephining he had removed a portion of the scalp as large as the trephine, so that the drainage might be perfect. He had with him a specimen showing the correctness of the statement that in the majority of cranial fractures the inner table was more extensively shattered than the outer one. It was taken from a man suffering from epilepsy due to a punctured fracture of the skull. This had been going on for two or three years, and the mind was becoming affected. There was no depression, and the only guide was the scar in the scalp. On the inner table a spicule of bone was found to which the arachnoid and dura mater were attached. When these were separated there was a free escape of the cerebro-spinal fluid. This man recovered from the operation, but the case was too recent to permit us to give an opinion as to the final result. Another case in which he had trephined was that of a colored man in the Central Insane Asylum of Richmond. No history of the case could be obtained. The man sat crouching in one position, never saying a word to any one. The skull was trephined and the depressed bone removed. A few hours later the man asked, "Where is the army to-day?" He said to him, "Where was the army yesterday?" He replied, "It was at Manassas." He alluded to a period nine years previously. At that time he was fishing with a companion, when the latter advanced toward him with a boat-hook. From that time until after the operation his mind had been a complete blank. That man was now working as a day-laborer.

Dr. Moses Gunn, of Chicago, said that three years ago he had covered some of the ground gone over to-day. At that time he advocated the more frequent use of the trephine, and endeavored to establish the proposition that in fracture of the skull with depression, where the injury was unaccompanied with laceration of the scalp, the rule should be to elevate the depressed bone, as had been the universal rule in compound fractures with depression. The advanced methods of treating wounds gave us such advantages that we could with immunity convert a simple fracture into a compound one. The proposition met with considerable opposition, but he had no hesitation in saying that such a simple fracture should be made a compound fracture. At that time Dr. McGuire made almost precisely the same objections as he had made to the paper of to-day. The speaker was very glad that Dr. Roberts had presented this paper, and he would criticise it very lightly. He believed that, if the rules which had been given were applied with sound judgment, they could be followed not only with safety but with great benefit. There was one point referred to by Dr. McGuire in which he coincided. That was in reference to the first proposition. This proposition was true, he believed, in the large majority of instances. Many of the symptoms spoken of as due to simple compression were the results of irritation and inflammation. So far as compression of the brain was concerned, he did not consider it an important condition. As the president had said three years ago, if this were the only symptom produced by a depressed fracture, he would never use a trephine. In a short time the brain would accommodate itself to the mechanical effects of compression. The danger was, however, from the irritation and inflammation excited by such injuries. The inflammation of the bone in healing led to augmentation of bone tissue and the formation of osteophytes. He would not say that there was no such thing as mechanical compression from the depressed bone. Where the symptoms followed the injury immediately there was no time for the occurrence of inflammation.

Dr. Charles B. Nancrede, of Philadelphia, said that there were many points on which he agreed with the writer of the paper, but there were others on which he could not agree with him, while on others he was not willing to go so far as he did. In regard to the first proposition, he agreed with the previous speakers. If he used the term secondary compression, he would agree that it was due to some form of intra-cranial inflammation. As to what was the true nature of those cases in which symptoms of compression immediately followed the injury, the question had not been positively settled. The experiments of Fischer, of Berlin, might help to solve it. Where irritation of a sensory nerve of the scalp or of some distant point was produced, it was followed by a spasmodic contraction of the vessels of an area of the brain, with abolition of its function. He did not believe that any one who would look at the subject in a proper light could doubt that the conversion of a simple fracture into a compound one, even under modern methods of treatment, did add to the danger of the injury. The third proposition was true if no accident happened, but there were liabilities to certain accidents in trephining which were not met with in amputation

through the hand. Injury to the brain membranes was possible under the best of care. He must dissent from the fifth proposition, but in regard to the question of drainage he agreed with the reader. He must differ with him on the seventh proposition.

In regard to injuries to the sinuses, his rule was, when there was reason to suspect that one of the sinuses had been wounded, to act as if it had been wounded. He was cognizant of two cases, in good hands, where the patient perished because this was not done. In one of the cases alluded to by Dr. Roberts, that of a patient of Dr. Hopkins's, he was acquainted with the particulars. This was in the person of a brakeman supposed to have been thrown from his train by a bridge. There was a fracture of the upper portion of the parietal bone. When he saw the case he suspected that the longitudinal sinus was injured, and suggested to Dr. Hopkins that he proceed on that view. This he did. When the disc of bone was removed, there was a sudden gush of blood, which was readily controlled by pressure. Several attempts were made to tie the vessel, but, when the tenaculum or forceps was removed, the bleeding began again, but was finally checked by means of pads of lint sprinkled with iodoform. That patient was now well.

The speaker had devoted considerable time to the question of cerebral localization. All that he was prepared to say was, that we were fairly well acquainted with the motor centers. Great care should be exercised in trephining for irritation of the sensory centers. These were probably more deeply situated than the motor centers. A short time ago he had seen a case in which, if there had been a head injury, the troubles might have been ascribed to such injury.

In regard to the treatment of fractures of the skull, he divided cases into three classes. In one of them there was such concomitant injury to the brain that, whether we trephined or not, the patient would die, although the elevation of the fragments might help to prolong life. These deaths were constantly recorded in statistics as due to trephining, and this was one thing that made these statistics so unreliable. There was a second class, at the other extreme, in which the lesions were so slight that the patient would probably recover, if the secondary effects produced by the depression could be prevented. Between these two there was a third variety of doubtful cases where trephining was indicated. Patients did sometimes recover without operation, but few of them were well ten years later. The reader had cited statistics showing that the mortality after trephining was only 3·6 per cent. He could not understand how those statistics were obtained. He had carefully reviewed the literature of the subject, and found that there was 10 per cent. of deaths. The reader had referred to the puffy tumor of Pott as indicating suppuration. It indicated osteomyelitis, which frequently was associated with suppuration.

In regard to subnormal temperature, in the cases that he had seen, where there had been a pure cerebral abscess, the temperature had been normal or subnormal, and this had been the case when the abscess had followed suppurative ear disease. In a case of simple fracture, he would wait for symptoms of irritation before applying the trephine. Reference had been made to foreign bodies. In such cases the patients often got well without the foreign body being removed, but few of them remained perfectly well. Where the body had been removed, the proportion of recoveries was larger and the improvement of the mental and physical condition greater.

Dr. Washington F. Peck, of Iowa, said that his experience had led him to coincide with the majority of the opinions expressed by the reader. The first thing to determine in these cases was whether or not there was a solution of continuity of the skull, and, in the second place, whether or not there was pressure on the cranial contents. He believed that the pressure of bone was capable of directly producing symptoms of compression, although the latter were more commonly the consequence of pressure from inflammatory products. Some years ago he had attended a brakeman who had been struck on the temporo-maxillary region. He saw him twelve hours after the accident, and found him suffering with the symptoms of compression. There was a fracture, and he made two holes with the trephine, removing two square inches of bone. The man gradually recovered consciousness. Four days later he had a convulsion. An abscess of the brain was then found, which was incised, giving vent to over an ounce of pus. From that time, recovery was uninterrupted. A boy was shot in the frontal bone. There were immediate symptoms of compression. He was trephined, and there escaped a large clot of blood. The boy was now perfectly well. In a third case, a child was struck with a piece of coal, causing a fracture with depression of half an inch. There were no symptoms, and he did not trephine. The child was still entirely well.

Dr. T. F. Prewit, of St. Louis, thought that the propositions presented were entirely too sweeping. Compression certainly depended on other causes than inflammation. It might take place from depressed bone, and frequently resulted from a collection of blood, although then it took place more slowly. It seemed to have been overlooked that the results of a blow on the head were not due entirely to the fracture, but depended upon the amount of injury inflicted upon the brain and its membranes. Although under antiseptic precautions we were able to control inflammation, he did not consider it proper to convert a simple fracture into a compound one without good reason. In cases of simple depression without any symptoms, unless the character of the injury was such as to make us believe that the inner table was driven in sharply, we could afford to wait. In regard to hæmorrhage, where there was much hæmorrhage going on, and so pressing upon the brain as to destroy the life of the patient, it would be advisable to operate; but, unless such was the case, it would be wise to wait, for the blood would certainly be absorbed.

Dr. Charles T. Parkes, of Chicago, described a case illustrating the amount of injury which might be inflicted on the brain without the production of positive symptoms. A man received three fractures of the skull, one being a depressed fracture of the vault. This was trephined and a drainage-tube introduced. On the fourth day there ensued a free flow of cerebro-spinal fluid. The only explanation of this was the possibility of a laceration of the brain substance communicating with the ventricles. In similar cases reported by Dr. Lucas, this condition was found post mortem. In reference to injuries of the longitudinal sinus, in a case which he had seen, where a ligature could not be applied, he checked bleeding by stitching the edges of the vessel together. The patient recovered. One case bearing on the localization of the injury had been reported. In this case a compound fracture of the parietal bone was produced, with considerable escape of the brain substance. The trephine was applied, and the finger introduced into the wound came across the sight of a pistol, the weapon with which the injury had been inflicted. This was removed, and a large portion of the brain tissue in contact with the tentorium cerebelli came away, yet the patient presented no symptoms of interference with sensation. The man got well.

Dr. J. Collins Warren, of Boston, said there was great difficulty in securing free drainage in wounds of the brain. He would give some cases showing the difficulty of diagnosis. The first was that of a child with a depressed fracture. No symptoms were presented for a week, when complete deafness was noted. The child soon died, and at the autopsy pus was found

in the fourth ventricle. In a second case the patient was unconscious and delirious for four weeks before death. At the autopsy no lesion of the brain could be detected, but a considerable quantity of clotted blood was found in the peritoneal cavity. He had also seen symptoms simulating those of injury of the brain arise from periostitis and possible cellulitis at the back of the neck. Another case would serve to illustrate some of the remarks made in reference to the localization of cerebral lesions. It was one of injury of the head in which there was at first paralysis of the lower extremities, then paralysis of the arms, and finally paralysis of the face. These succeeded each other in regular order, and, as they disappeared in the same order, they were attributed to an effusion of blood into the upper part of the cranium, which gradually gravitated, producing the symptoms referred to.

Dr. Louis McLane Tiffany, of Baltimore, wished to refer to one or two points which had not been alluded to in the paper. The first was that we must draw a line between the fractures occurring in childhood and those occurring in adults. In children he had seen the depressed bone resume its normal position, the child showing no bad effects from the injury. The second point was in regard to the differences between the white and negro races. In the latter, fracture of the skull, and in fact any injury, was less serious than in the white race. There was no doubt about the different course that inflammation took in the two cases.

Dr. S. W. Gross, of Philadelphia, considered drainage of wounds in the brain as more essential than in wounds of other portions of the body, because the pressure of inflammatory products interfered with the proper function of the brain. It was exceedingly difficult to drain the brain. Dr. Noyes, of New York, had done it several years ago by making a counter-opening and passing a drainage-tube through, and the patient recovered. The question of trephining in gunshot injuries had not been referred to. This was important from a medico-legal standpoint. We should apply to these injuries the same principles which governed us in the treatment of injuries of the soft parts in other situations. Reference was then made to the case described by Dr. Fluhrer in a recent number of the "New York Medical Journal."

Dr. E. M. Moore, of Rochester, thought that one of the most successful improvements in the treatment of wounds was drainage. The idea of using drainage-tubes was of modern origin. In the cases of gunshot injury which he had seen he had uniformly found that the ball traversed the brain, usually with force enough to pass at a reflected angle a little away from the point where it impinged. In his last case he had trephined over this latter point and found the bullet. He then attempted to pass a drainage-tube through the wound, but was unable to do so. It seemed to him that this was the proper plan to pursue.

Wednesday's Proceedings.

The discussion of Dr. Roberts's paper was resumed.

Dr. David Prince, of Jacksonville, Ill., was in general accord with the teachings of the paper. From being one of the most dangerous operations, the use of antiseptic methods has made trephining one of the safest. The comparison of trephining to the amputation of a finger was probably an exaggeration, but it was a case to prevent putrefactive changes in the one as in the other. If, however, such changes took place in an amputation wound, they did not necessarily endanger life, while if they occurred in trephining wounds loss of life was almost certain. An important element in the success of these operations was rest, which could be enforced absolutely.

Dr. John H. Brinton, of Philadelphia, thought that in all cases of compound fracture of the skull with depression, with or without symptoms, the treatment was clear. The only cases in which there was doubt was where there was a simple depressed fracture without symptoms or with only slight ones. In such cases the patient was exposed to certain dangers, and to avoid these he would use the trephine.

Dr. T. McGraw, of Detroit, would take exception to the statement that compression in itself was not such a very bad thing, and that the brain would accommodate itself to pressure. This was undoubtedly true of children, but he did not think it was true of adults.

Dr. P. S. Conner, of Cincinnati, said that, if, in a depressed fracture, we removed the bone, we gave the patient a chance to avoid the consequences which might come. The operation was not a trivial one, the mortality following it in cases of epilepsy amounting to some ten per cent. We could not tell how much splintering there had been of the internal plate, and it was not the part of wisdom to leave the patient to the dangers of meningitis. Of course, as had been stated, the conditions in children were different.

Dr. B. A. Watson, of Jersey City, related a case illustrating the accommodation of the brain to pressure.

The President thought these questions were among the most vexed in surgery. There was one point to which the paper had not referred. There might be a diffused injury of the skull, as where a person fell from a height, striking the head. In such a case the injury was not limited to the cranial walls, and trephining was of no service. In another class the injury was localized, and only slightly affected the brain. It was only in these cases that trephining was of service. In cases of compression from depression he thought that, except in rare instances, the trephine was unnecessary; the symptoms were due to other causes than the depressed bone. In the case of hæmorrhage it was proper to use the trephine to relieve the pressure, but in the majority of cases it was useless. In abscess, it should be used on the same principle that we gave vent to pus in other parts of the body. The proper purpose of trephining, in his opinion, was to remove points of irritation produced by spicules of bone, and it should be resorted to at the earliest possible moment, before pathological conditions had appeared which could not be cured. In regard to the conversion of a simple fracture into a compound one, it had always been his practice, where there was any doubt about the nature of the injury, to make an incision down to the bone and examine it carefully. This had never been followed by any bad consequences. The danger of trephining depended on circumstances. The simple removal of a button of bone he did not think could be attended with much danger. The danger depended on the associated injuries.

Dr. Roberts said there were many points in the discussion to which he would not attempt to reply. The speakers had confounded the terms compression and pressure. Compression he used in the same sense as squeezing. The conditions found in the skull prevented the possibility of compression from a circumscribed depression. The symptoms immediately following depressed fracture he would ascribe to laceration, contusion, or possibly the obscure condition termed concussion. He thought that inflammation might develop with great rapidity in the brain, as it did after injury of the eye. Closed wounds were better than open wounds, but he preferred trephining to obscurity in head injuries.

He cited statistics showing that the mortality of trephining was 3·5 per cent., while the mortality of amputation of the finger was 4 or 5 per cent., thus authorizing the statement made in his second proposition. He then referred, at some length, to Dr. Fluhrer's case, described in the "New York Medical Journal." He admitted that in children and negroes the effects of

depression were not so marked as in adults of the white race, and described an illustrative case. He did not advocate trephining in all cases, as would be seen by a careful reading of his propositions. He thought that in the course of a few years the views which he had presented would not meet well the opposition which had been shown to-day.

Nephrectomy: its Indications and Contra-indications.—This was the title of the next paper, by Dr. S. W. Gross, of Philadelphia. He had collected the statistics of two hundred and eleven cases of extirpation of the kidney, with one hundred deaths, or 47 per cent. The operation was a grave one and was done too frequently. The intention of his paper was to point out the indications for different operations on the kidney. The lumbar operation was safer than the abdominal, its mortality being 11·5 per cent. Nephrectomy was indicated in cases of sarcoma in adults. In fifteen cases, six patients had recovered, four living an average of thirty months. One was alive at the end of five years. It was indicated for benign tumors of the kidney. It was indicated also in early tuberculosis of the kidney. In twenty cases, twelve patients had recovered, and lived twenty months on an average. It was indicated in rupture of the ureter. Where there was subcutaneous laceration of the kidney he recommended exploratory incision and drainage, reserving extirpation as a final operation. Where the kidney protruded, other measures should first be adopted.

In recent wounds of the kidney or ureter, in such operations as hysterectomy and ovariotomy, he thought extirpation should not be done as a primary operation, on account of the danger from the combined shock. In suppurative affections of the kidney, nephrotomy had better be resorted to. In independent cysts of the kidney, nephrectomy had been performed thirty-two times, with fourteen deaths; nephrotomy had been resorted to thirty times with four deaths. In this operation the patient was, however, subjected to the risks of urinary fistula. In renal calculus, nephrectomy had been performed three times; all the patients recovered. Nephro-lithotomy had been resorted to twenty-one times, with two deaths. In floating kidney there had been twenty-two nephrectomies, with thirteen recoveries.

The operation was contra-indicated in sarcoma of the kidney in children. There had been thirteen cases, with four recoveries; in these cases recurrence took place in four, six, nine, and eighteen months, respectively. Carcinoma of the kidney was another contra-indication. Twelve cases had been operated on, with two recoveries, one patient living forty-four days, the other sixty days. In the advanced stage of tubercular disease it was also contra-indicated. In such cases there was tubercular disease of other organs.

Nephro-lithotomy.—Dr. L. McLane Tiffany, of Baltimore, read a paper on this subject, in which he described an operation in which a stone weighing five hundred and fifty-six grains had been removed. An extended account was given of the indications of the operation in general and of the technical details. The author thought the best plan was to make the opening into the kidney at the point which was exposed. He did not think it well to disturb the organ more than was necessary.

The subject was discussed by Dr. Gross, Dr. Gouley, Dr. McGraw, Dr. Conner, Dr. Prewit, and the author of the paper.

It was decided to omit the afternoon session, and devote the time to visiting the Johns Hopkins University at Baltimore.

Thursday's Proceedings.

The Healing of Arteries after Ligature.—Dr. J. Collins Warren, of Boston, read a paper on this subject, in which he described a large number of experiments which he had performed on various animals, and exhibited many specimens illustrating the views which he advanced. The various pathological changes in and around a vessel from the time the ligature was applied until the process of cicatrization was fully completed showed that the artery was invested by a protective layer of new tissue formed from the surrounding tissue, which, if well developed, gave great security against hæmorrhage until the permanent cicatrix had grown sufficiently strong. This might be likened to the provisional callus of bone. There was also an internal growth or callus formed from several sources, namely, from the intima to a slight extent, from the media more largely, also from cells finding their way from the surrounding tissue at a late stage through the retracted ends of the vessel. The thrombus was a mere passive structure, taking no part in the growth, but was protective, and afforded an excellent medium for the new tissue to germinate in. When the provisional part of the internal callus had disappeared we found remaining a cicatrix closely resembling the three coats of the artery, and affording, by virtue of its peculiar structures, an equally effective resistance to the pressure of the blood-column. The ligament which united the two ends of the vessel represented in part the residue of the external callus, but also a portion of the walls of the vessel which had been absorbed during the inflammatory process. A vessel successfully ligatured in its continuity could not, therefore, be said to have been "ulcerated" into two separate portions, but must be conceived of as a tube which had solidified into a columnar mass of tissue, a considerable portion of which subsequently shrank into a cord.

Dr. N. Senn, of Milwaukee, said that it was apparent from the drawings and specimens that a large amount of traumatism had been produced, and that antiseptic precautions had not been taken. The specimens showed the use of more force than was necessary in an ideal ligature, and he thought that the presence of the external callus was to be attributed to this excess of force. Such an amount of force was unnecessary, and was indeed harmful. The ideal result of ligature was secured by bringing the parts simply into approximation. If the vessel was tied with a temporary ligature, capable of being absorbed, it was not necessary that it should be divided. The ligature would hold the parts in contact while the process of granulation went on. It was different when a permanent ligature was employed. In such cases, even if the tunics were not divided by the pressure produced by the ligature, they were divided by absorption, or, in the event of suppuration, necrosed and were thrown off. Dr. Warren had compared the process of cicatrization in vessels to that in bones in fracture—a happy comparison. He would carry it a little farther. In fractures, if the parts were kept at rest and in perfect apposition, there would be a minimum amount of callus. So in ligature of a vessel, if a temporary ligature was employed under antiseptic precautions, a minimum amount of callus would form. The presence of muscular tissue in the cicatrix was a new idea, and he hoped that further research would confirm this observation. He must say, however, that it lacked the support of analogy. When muscular tissue was divided in other parts of the body it united by connective tissue. He would suggest that the pre-existing muscular tissue might have been displaced by cicatricial contraction and drawn into the cicatrix. Dr. Warren had wondered why aneurysm was so infrequent after ligation. He would say that after ligation the artery was put at rest. The muscular tissue was put at rest, underwent fatty degeneration, and was replaced by connective tissue, which is unyielding and prevented aneurysm better than muscular tissue would.

Dr. Warren said that in his illustrations he had shown those specimens which presented the appearances in the most marked degree. Even where the least force was used, and under antiseptic precautions, this external callus was present,

although not to the same extent, sometimes being so slight as to require careful examination to reveal it. In regard to the question of analogy as bearing upon the development of muscular tissue, he would call attention to the fact that there was a difference between striped and unstriped muscular tissue, and to the development of muscular tissue in the uterus during pregnancy and in the development of myomata. In reply to a question by Dr. Prewit, he said that the clot took no active part in the process of cicatrization, but served a valuable purpose in protecting the vessel while healing took place.

Some Points in the Surgery of the Hypertrophied Prostate was the title of the next paper, by Dr. J. W. S. Gouley, of New York. He gave a full *résumé* of our knowledge of the subject, under the following heads: 1. The determination, by physical exploration, of the size of the hypertrophied prostate, and the character of the obstruction to urination. 2. The circumstances under which medicinal treatment possesses value. 3. The selection of catheters. 4. Certain accidents of catheterization, especially false routes. 5. Evacuative catheterization, its good effects and its dangers. 6. Vesical irrigations to combat cystitis, their use and abuse. 7. Prostatotomy and prostatectomy, their indications and contra-indications. He presented many forms of catheters and instruments for removing portions of the prostate through the urethra. He advocated the exclusive use of soft catheters. On emptying the bladder in cases of retention he insisted upon the gradual removal of the urine, and the subsequent injection of a solution of boric acid. He described the operation which he had first done, and for which he claimed priority. This consisted in reaching the prostate through the perinæum and incising it. This was similar to the operation since described by Harrison.

Dr. Gross considered the operation through the perinæum to be much better than one through the urethra.

Dr. Prewit indorsed the recommendations of Dr. Gouley.

Dr. Moore likewise agreed with Dr. Gouley in his statements. He also referred to a plan which he employed in cases of contracted bladder where there was frequent desire to urinate. This was to advise the patient to try to restrain his desire. By so doing the tolerance was increased, so that after a time the patient could hold the urine for four hours at a time. He described a case in which he had been called on to relieve retention in a man ninety-five years of age. The use of a catheter was required for some time, but finally the patient gained control over the bladder and lived to the age of one hundred and five years. This was the oldest patient he had anything to do with.

Dr. Gunn had also employed the method described by Dr. Moore, and had hit upon about the same period, that of four hours.

Dr. Gouley had also employed the same plan.

Dr. Ernst, of Boston, presented a number of cultivation tubes, showing the micrococci from various surgical affections, and microscopical slides were also exhibited, showing these micrococci, the bacilli of tuberculosis, cholera, and cholera morbus.

Dr. Warren described the clinical histories of some of the cases referred to by Dr. Ernst.

On motion, Dr. Ernst was requested to prepare a paper, giving the results of his experiments, to be read at the next meeting.

An Experimental and Clinical Study of Air-Embolism.—This was the title of the next paper, read by Dr. N. Senn, of Milwaukee. After giving a full account of his own experiments and those of others, he presented the following *résumé* of his investigations:

"1. The presence of adventitious air in the vascular system during life gives rise to air embolism. 2. Each air embolus constitutes a mechanical source of partial or complete obstruction to the flow of blood in the vessel in which it is located. 3. Aspiration during the inspiratory movements of the chest is the direct or exciting cause of the ingress of air into a wounded vein or sinus. 4. Elevation of the head is the sole predisposing cause of the entrance of air in wounds of the superior longitudinal sinus. 5. In veins, the predisposing causes consist in (*a*) Elevation of the part wounded, (*b*) Pathological or anatomical conditions which prevent collapse of the vein when it is wounded. 6. Insufflation of a fatal quantity of air into a vein produces death by (*a*) Mechanical over-distension of the right ventricle of the heart and paralysis in the diastole, (*b*) Asphyxia from obstruction to the pulmonary circulation consequent upon embolism of the pulmonary artery. 7. A given quantity of air introduced into arteries is less dangerous than when introduced into veins. When death is produced in this manner it results from (*a*) Acute cerebral ischæmia, (*b*) Secondary venous air-embolism, (*c*) Intense collateral engorgement of the vessels of the brain and spinal cord, the manner of death being determined by the amount of air injected and the direction in which the injection is thrown, as well as the time which has elapsed between the operation and the fatal termination. 8. Air injected into arteries is readily forced through the systemic capillaries into the venous circulation and right side of the heart by the powerful contractions of the left ventricle. 9. Air-embolism of the pulmonary artery is relieved in a comparatively short time, provided the contractions of the right ventricle continue unimpaired for a sufficient length of time to force the air through the pulmonary capillaries into the general circulation. 10. The prophylactic treatment consists in proximal or double compression or ligation of the vein which is endangered by the operation. 11. The indirect treatment has for its objects (*a*) Prevention of the admission of air, (*b*) Administration by inhalation or hypodermic injection of cardiac stimulants, (*c*) Venesection. 12. The direct or operative treatment by (*a*) Puncture and aspiration of the right ventricle, (*b*) Catheterization and aspiration of the right auricle, which is proposed to obviate the direct causes of death by the removal of air and spumous blood, thus relieving directly the over-distension of the right ventricle, and at the same time to guard against a fatal embolism of the pulmonary artery. 13. The results obtained by experiments on animals warrant the adoption of the operative treatment of air-embolism in practice as a last resort, in all cases where the indirect treatment has proved inadequate to meet the urgent indications."

The discussion was postponed until Friday.

Officers for the Ensuing Year.—The association then went into executive session, and elected officers as follows: President, Dr. Moses Gunn, of Chicago; Vice-Presidents, Dr. Christopher Johnston and Dr. Thomas P. Russel, of Baltimore; Secretary, Dr. J. R. Weist, of Richmond, Ind.; Recorder, Dr. J. Ewing Mears, of Philadelphia; Treasurer, Dr. J. H. Brinton, of Philadelphia. Dr. L. McLane Tiffany, of Baltimore, was added to the Council.

It was voted to hold the next meeting at Washington, beginning on the Wednesday preceding the meeting of the American Medical Association.

New Members were elected as follows: Dr. J. Edwin Michael, of Maryland; Dr. Roswell Park, of Buffalo; Dr. W. H. Carmalt, of New Haven; Dr. J. Ford Thompson, of Washington; and Dr. Theodore R. Varick, of Jersey City.

Honorary Members were elected as follows: Sir James Paget, Mr. John Eric Erichsen, and Sir Joseph Lister, of London; Professor Annandale, of Edinburgh; Professor Esmarch, of Kiel; Professor von Langenbeck, of Berlin; Professor Volkmann, of Halle; Professor Czerny, of Heidelberg; Professor

Billroth, of Vienna; Professor von Nussbaum, of Munich; Professor Verneuil, of Paris; and Professor Ollier, of Lyons.

Friday's Proceedings.

The discussion of Dr. Senn's paper was taken up.

Dr. WARREN, of Boston, thought the lesion was of more importance in obstetrical than in surgical practice. The entrance of a certain amount of air into veins was not rare, but alarming symptoms were not frequently met with. He presumed that it was of importance only when some large venous sinus was opened. It was in obstetrical practice where we met with this accident in all its hideousness. Several cases of air-embolism had occurred in Boston, and had been due to efforts to produce abortion. The paper seemed more valuable in acquainting us with the mode of development of the condition, and thus showing us how to prevent it, than in telling us how to help the patient after the occurrence of the accident. It had been stated that in these cases the only function of the physician is to be present at the autopsy and confirm the diagnosis, and this about expressed the truth. Theoretically, aspiration seemed to be indicated, but probably there would never be such a consensus of circumstances as would enable the operation to be practiced. Such accidents were like a stroke of lightning; the patient was dead the moment the accident was recognized.

Dr. SETH C. GORDON, of Portland, was introduced by Dr. Moore, and related an interesting case in which the accident had resulted from the unskillful use of an aspirator in a case of pelvic abscess.

Dr. C. B. NANCREDE, of Philadelphia, said that Dr. Senn had referred to the fact that in the horse the injection of large quantities of air was required to produce a fatal result, and had ascribed this to the strength of the right ventricle in that animal. A better explanation, the speaker thought, was the fact that the pulmonary capillaries in that animal were larger than in most other animals. It had been shown that the one thing chiefly necessary for free capillary circulation was a proper density of the blood. As a result of the admixture of air with the blood, its density was suddenly altered and it would not circulate through the lung capillaries. He thought the fact that spumous blood would pass through the pulmonary capillaries of the horse was to be explained by the size of the vessels. He did not think that death was a simple matter in air-embolism. The chief cause was anæmia of the center of respiration. In the experiments which have been related large quantities of air had been introduced, and the heart was distended with air; but this was not the case in the accidental entrance of air during an operation. In such cases, the heart is frequently not distended with air, and often beats with great force after the cessation of respiration. Death resulted from the want of arterial blood in the center of respiration. This was probably produced by the alteration in the physical conditions of the blood interfering with its power to close the cardiac valves, so that it was churned from ventricle to auricle. Under such circumstances, aspiration might be valuable.

In regard to the causes of the entrance of air, there were some that had not been mentioned by Dr. Senn. In operations on the neck or axilla, the constrained postures in which the body was sometimes held might tend to hold the vein open and permit the entrance of air. Traction on a tumor while dividing its last attachments would do the same thing. There was another rare condition, namely, the division of a vein in the angle of the wound, so that when the flap was raised the vein was held open. Dr. Senn had remarked, in regard to the cases in which air had been supposed to have been generated in the blood, that in all the cases on record free hæmorrhage had occurred, and that there might possibly have been an open vessel. He must demur to this, for he had had a case in which this explanation could not have been correct. There were several other instances on record, especially in cases of septicæmia, where the cellular tissue was full of gas.

As had been said, the preventive treatment was of far more importance than the curative. In operating in a position where there was danger of the entrance of air he always adopted certain precautions. He considered complete anæsthesia of great importance. In removing tumors from the neck, he usually tied the deep attachments or secured them with forceps before removing the tumor. If possible, he never made a cut when there was any tension on the neck or axilla, unless a finger was placed on the vein on the cardiac side. When the accident had occurred, artificial respiration in the recumbent position was of great importance. The further entrance of air was to be prevented by ligating, or, if this could not be done, by squeezing a sponge into the wound. Besides the use of the ordinary remedies to sustain the action of the heart, he would recommend that of atropine. With atropine the pulmonary capillaries could be dilated to their fullest capacity, and it also stimulated respiration. It had been shown that, if the patient could be kept alive for a short time, he might recover temporarily. After such recovery, however, a form of pneumonia usually appeared which was to be treated like the ordinary form.

Dr. SENN, being absent, was given permission to write out his reply and have it printed in the "Transactions."

The Ætiology of Tetanus was the subject of the next paper, by Dr. P. S. CONNER, of Cincinnati. There was a lack of evidence, he said, to support the view that the disease had its origin in inflammation of the nervous structures. It was doubtful if we could accept the common impression that injuries of the hand and those of the foot were especially likely to give rise to tetanus. In fact, all the theories that had been broached were unsatisfactory. Perhaps we should look for the solution in a changed state of the blood, which might be due to infection, but this would scarcely account for the idiopathic cases.

The subject was discussed by Dr. MOORE, Dr. NANCREDE, and several others, an interesting point brought out being the frequency of tetanus after wounds of the hand with the toy pistol. Dr. Nancrede stated that nitrite of amyl had seemed to give marked relief in one case of tetanus under his observation.

Dr. PREWITT referred to two cases of recovery after the use of bromide of potassium, chloral, and five-drop doses of Fowler's solution every three hours, for two weeks in one case. He thought there was a special tolerance of arsenic in those affected with the disease.

A paper on the immediate cure of fistula in ano, by Dr. Stephen Smith, of New York, was read by title, and the history of a case of cholecystotomy, by Dr. C. T. Parkes, of Chicago, was read by Dr. Gunn.

Phosphorus Necrosis of the Jaws.—Dr. J. EWING MEARS, of Philadelphia, read a paper on this subject, which closed with the following conclusions: 1. That the disease was a local expression of the constitutional condition produced by the inhalation of the vapor of phosphorus, and by particles of the agent taken into the system with the food by operatives in match factories who did not give proper attention to cleanliness of the hands. 2. That the introduction of the agent into the system was, as a rule, very gradual and in such small quantities as to avoid the production of symptoms of acute poisoning. That in this way the chronic toxic condition of the system was induced, characterized chiefly by disintegration of the red-blood corpuscles and fatty degeneration of the arterial coats. 3. That the toxic condition preceded the jaw disease, as was shown by the fact that the disease did not attack operatives recently exposed

to the action of the agent, but those who had been exposed for a period of years. 4. That examination of the teeth of operatives had shown that many who had caries, and had returned to work immediately after the extraction of teeth, had enjoyed immunity from the disease, showing that the agent had not attacked the periosteal tissue thus exposed. This was further shown by the fact that in one of the cases necrosis did not appear until three months after labor in the factory had ceased. 5. That individuals varied in their susceptibility to the action of the poison; for this reason many suffered immediately with acute symptoms, such as nausea, vomiting, etc., and were compelled to abandon work in the factories. 6. That the conditions under which experiments had been made on animals, to prove the absence of the disease until exposure of the periosteum and peri-alveolar tissue was effected, were not similar to those to which operatives in match factories were subjected. 7. That treatment of the disease in the primary stage was efficient and prevented its progress. 8. That the antidotal powers of turpentine had been established. 9. That the disease was to be prevented among operatives by the adoption of thorough methods of ventilation, stringent rules with regard to cleanliness, and the free disengagement of the vapor of turpentine in all the apartments of factories in which the fumes of phosphorus escaped.

CHICAGO MEDICAL SOCIETY.

Meeting of April 20, 1885.

The First Vice-President, Dr. Charles W. Purdy, in the Chair; Dr. Liston H. Montgomery, Secretary.

Nervous Symptoms due to Overlooked Anomalies of the Eye and Ear.—Dr. H. Gradle read a paper with this title, in which he referred to a classification of diseases according to their ætiology which he had proposed at the meeting of the Illinois State Medical Society the year before. In the paper now read, various instances were presented that had come under his observation. The special interest which these cases presented lay in the fact that the eye and ear symptoms were so insignificant that the primary trouble was either wholly overlooked or at least not supposed to have any connection with the more annoying nervous symptoms in distant parts. The only structure of the eye irritation of which the author had ever known to cause disturbance at a distance was the ciliary muscle. The undue strain to which this muscle was subjected in hypermetropia and astigmatism accounted for much of the trouble. Notes of twenty cases were in his possession in which the patients, and generally their medical attendants, had had no definite idea as to the cause of the difficulty. In most cases of weakness of the eyes the pain or the diminished sight showed the sufferer that his eyes were at fault. The commonest symptom produced by eye strain was headache, which was always frontal or temporal, though it might extend in nervous persons over the entire head, even to the back of the neck. With some patients the pain was constant; with another class it occurred only after exertion of the eyes—perhaps most commonly a moderate pain existed without intermission, but was made worse by work; it was usually described as a dull ache. This form of headache had been permanently removed by the use of proper spectacles. In some of the cases of astigmatism it had been necessary to keep the ciliary muscle paralyzed by the use of atropine for a few days, in order to have the glasses worn with comfort. He could not corroborate the view that hemicrania was sometimes due to refractive anomalies, or rather to the eye strain which they engendered. He had never seen migraine cured by glasses alone. Undoubtedly the correction of eye strain would facilitate the cure, or at least mitigate the migraine. With or without headache, dizziness was a common result of eye strain, but this rarely involved any danger of falling or a tendency to reeling, being more commonly a dazed feeling, a difficulty of concentrating either the thought or the sight on any one subject. Gastric disturbance also occurred sometimes, yet there was no stomach disease but what was dependent on an overlooked anomaly of refraction. Some patients, however, stated that the eye strain of which they were conscious gave them a feeling of gastric uneasiness. A marked case was cited showing decided gastric symptoms occurring as the result of a change from spectacles to eye-glasses.

Ear lesions also might cause disturbances at a distance. He had notes of fifty-five cases in which aural treatment had surprised the patients by curing their troubles in distant parts. It was well known that irritation of the walls of the meatus would produce cough in many persons. A case was cited in which obstinate paroxysmal cough had been cured by curing an eczema of the meatus; also another in which spasmodic cough in a child had been cured by removing a mass of epithelial scales from the meatus. This peculiar disease of the epithelium was always accompanied by some interference with the permeability of the Eustachian tube, probably due to congestion. The existence of these casts in the meatus did not always produce local symptoms. The most frequent distant symptom produced by this ear disease was headache, generally diffuse and often very persistent.

Several additional cases were cited showing the diversity of the distant symptoms produced by various affections of the ear.

The Treatment of Croup, and Intubation of the Larynx.—Dr. F. E. Waxham read an elaborate paper on this subject, in which reference was made to the host of so-called specific remedies that had been proposed. Not only should the treatment vary in different cases, but it should be changed in different stages of the same case. Among the most important indications were the following agents:

To prevent, as far as possible, the formation of false membrane:
- Cold applications.
- Blisters.
- Quinine.
- Digitalis.
- Aconite.
- Veratrum.
- Emetics.
- Purgatives.

To cause the dissolution and expulsion of the membrane when it had formed:
- Spray of:
  - Pancreatin.
  - Lime-water.
  - Liquor potassæ.
  - Lactic acid.
  - Phosphoric acid.
- Bichloride of mercury.
- Lactate of iron.
- Emetics.

To control laryngeal spasm.....Opium; bromide of ammonium.
To prevent complications.....Uniform temperature.
To support the strength.....Nourishment; stimulants.
In case of threatened suffocation...*Tubage* of the larynx; tracheotomy.

The writer dealt minutely with each of the measures given in the table. To fulfill the first indication, namely, to prevent plastic exudation, it was certainly clear that, so far as we were successful in controlling the local inflammation, so far should we succeed in limiting its product, the exudate. To meet the second indication, we must use solvents and emetics, of the former of which the most satisfactory was trypsin, next in order being lime-water, liquor potassæ, and a ten-per-cent. solution of lactic or dilute phosphoric acid. They should be used in the form of a spray, with the kind of atomizer that had been recommended by Dr. Henry Dwight Chapin, in his article published in the "Medical Record" for March 7, 1885, which had a nozzle rounded at the end, that should be directed downward at a right angle to the stem of the atomizer. The solutions, to be of benefit, must be used frequently, at least every

half-hour. False membrane would be dissolved in the lime-water of the pharmacopœia in from seven to twenty minutes, yet the vapor of slaking lime, used in whatever form, was useless as a solvent; at least, if any benefit was derived from inhalations of it, it was due simply to the moisture. Regarding the use of lactate of iron, it had slow digestive properties. Of five cases treated with bichloride of mercury, both before and after tracheotomy, but one had terminated favorably, and this was ascribed to other treatment having been used as well. Alum, or alum combined with ipecac, was as good as any emetic to cause the rejection of the false membrane. Opium served a double purpose by relieving laryngeal spasm and controlling pain. Interesting and minute histories of cases of nasal diphtheria, pseudo-membranous laryngitis complicated with broncho-pneumonia, etc., were then recited, with accounts of the treatment in detail. From experiments on the membrane ejected in one of the cases of the latter variety, the writer had been led to the conclusion that the quickest and most satisfactory solvent was one made according to the following formula:

Pancreatic extract (Fairchild's)	30	grains;
Bicarbonate of sodium	6	"
Glycerin, Distilled water, ā ā	1	ounce.

Lime-water in the form of spray was a rapid solvent of false membrane, but it did not act so quickly as a solution of pancreatin. Lactic acid was not a satisfactory solvent. Regarding *tubage* of the larynx, to Dr. J. O'Dwyer, of New York, belonged the great credit of originating this method of treating croup, which the reader then illustrated by manipulations upon the head of a cadaver, explaining the advantages of intubation over tracheotomy. With a little dexterity and practice, it could be performed very easily and quickly, and without danger. There was no mutilation or disfigurement of the patient. There was no wound that might be the cause of shock or the source of systemic infection. The laryngeal tube could be worn much more easily, and with much less irritation, than the cannula after a tracheotomy. Coughing and expectoration occurred just as easily. It did not require the close and unremitting care of the medical attendant, like the tracheotomy-tube. The air that reached the lungs was warmed by its contact with the upper air-passages, and not so likely to cause bronchitis or pneumonia. Much less objection would be raised by parents against tubing.

Dr. F. O. Stockton had himself made a number of experiments with tubes of various sorts, before he had been aware of Dr. O'Dwyer's achievement, but they had not been wholly satisfactory. The honor seemed to be due to Dr. O'Dwyer of having succeeded.

Dr. D. A. K. Steele had seen a case in consultation with Dr. Waxham, and could corroborate what that gentleman had said as to the immediate relief produced by the passage of the tube.

In reply to questions by Dr. E. Andrews, Dr. Stockton stated that the tube could not slip down into the trachea, because, as he had said before, of the resistant nature of the vocal cords, and because of the length of the tube, which reached nearly to the bifurcation. The tubes were not liable to fill with membrane, as they were gold plated and could not corrode, and the surface was perfectly smooth, so as not to afford lodgment to foreign bodies that would plug the tube and cause it to be drawn into the trachea in inspiration.

Dr. Waxham said that the effort to remove the tube would cause contraction of the glottis. The longer the tube was, the less danger there was of its being expelled.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of March 17, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

Note on Antipyrine.—Dr. Glentworth R. Butler read a paper with this title. [See page 488.]

Dr. B. F. Westbrook said that he had been unfortunate enough not to hear the paper, as he had desired. He would, however, show a specimen of antipyrine, for the benefit of some of the gentlemen who might not have seen it. It would be seen that it was a powder, amorphous in character, grayish in appearance, with a slightly bitter taste. He had had a solution prepared with syrup of tolu, but he had not had time to procure a specimen for the meeting. A drachm of the powder, with an ounce and a half of syrup of tolu, had no taste whatever except that of the tolu. He had given such a mixture to children, and they had not objected to it or failed to retain it. Dr. Butler had not spoken of the value of this remedy in bronchitis, and especially the capillary bronchitis of infants. He (Dr. Westbrook) had used it considerably for that disease in private practice, where it was difficult to get accurate records. He had sometimes given it with a sixtieth of a grain of tartar emetic, or a sixteenth of a grain of codeine, at a dose. It allayed the fever and quieted nervous irritability. He was quite sure that its action in bronchitis would be found to be beneficial. It diminished inflammatory action, and therefore lessened that of capillary bronchitis, and especially its liability to pass into lobular pneumonia.

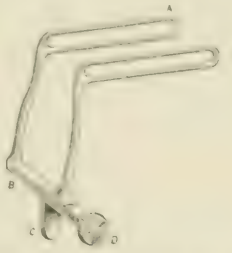
New Inventions, etc.

A NEW SELF-RETAINING URETHRAL (FEMALE) SPECULUM.

By B. Bernard Browne, M.D.,
Professor of Obstetrics and Gynecology in the Baltimore Polyclinic and Post-Graduate Medical School.

This speculum, as will be seen by the accompanying cut, consists of two parallel fenestrated blades, one of which, *A*, is connected by its proximal end to a shaft which is attached to the rectangular bar, *B*. The other blade is connected with the rectangular bar by means of the slide, *C*.

The blades are introduced closed; pressure upon the thumb-piece, *D*, and the slide, *C*, will expand the speculum as far as the urethra



will admit of, and the pressure on the urethra upon the extremities of the blades will hold the slide stationary at any desired point of dilatation. Slight pressure on the slide, *C*, will release the blades from their fixed position.

The simplicity of the mechanism of this speculum, and the facility with which the urethra is examined with it, induce me to offer it as an additional aid in the diagnosis and treatment of urethral diseases. It is constructed upon the same principle as that involved in the numerous

eye-speculum of Professor Russell Murdoch, of Baltimore, a description of which was first published in the "Transactions of the American Ophthalmological Society" for 1883. The speculum is made by Willms & Co., of Baltimore.

307 Madison Avenue, Baltimore.

Miscellany.

Supra-pubic Lithotomy.—We are indebted to Dr. W. S. Tremaine, of the army, professor of surgery in the Medical Department of Niagara University, for an interesting account of a case in which he lately performed this operation with success on a patient in the Buffalo Hospital of the Sisters of Charity. Dr. Tremaine remarks that the peritonæum was evidently wounded during the operation, and yet the patient made an excellent recovery. From this complication, as well as the advanced age of the patient, seventy-three years, he adds, the case was fairly a crucial test of the operation of epicystotomy. He informs us that this is his third successful case of supra-pubic lithotomy.

One Hundred Years of Publishing.—We have been much interested in the perusal of a modest little volume in which the publishing firm now known as that of the Messrs. Lea Brothers & Co., of Philadelphia, give an outline of their creditable career during the century that the house has now been in existence. It is in connection with medical literature, to which for many years past its work has been almost if not quite restricted, that the firm is best known to the present generation, and it is nothing more than the simple truth to say that both its patrons and its writers entertain none but the kindliest impressions of the house.

The "Register of the Medical Society of the County of New York," revised to January, 1885, has now been delivered to the members. It contains an alphabetical list of the names of the active members, with their addresses and office hours. It has been prepared by a committee appointed for the purpose, consisting of Dr. Frederick A. Castle, Dr. David (printed "Daniel") Webster, and Dr. Henry G. Piffard. In some respects the pamphlet will doubtless prove a useful supplement to the "Medical Register" published under the auspices of the Medico-Historical Society.

THERAPEUTICAL NOTES.

Large Doses of Ipecac in the Treatment of Lobar Pneumonia.—Verardini ("Gazz. degli ospit."; "Ctrlbl. f. d. ges. Therap.") has made a series of experiments upon animals, as a result of which he infers that ipecac induces anæmia of the lungs, and lessens the amount of blood in the heart, while at the same time the abdominal viscera become hyperæmic. He has tested these inferences by administering the drug to patients with pneumonia, and reports that it invariably reduced the temperature, the pulse, and the respiration, while the cough and dyspnœa were relieved. He recommends that from seventy-five grains to two drachms of the root be given in an infusion, but does not state how often the dose is to be repeated. He continues the treatment for several days, suspending it only when there is great prostration. It is [illegible] coming does not follow the administration of these large doses.

Carbolic-Acid Enemata in Dysentery.—Schoeboff and Kampf ("Ctrlbl. f. d. ges. Therap."; "London Med. Record") report twenty cases of [illegible] which were treated with injection of a solution [illegible] to be injected repeated two or three times [illegible] the patients were subjected to treatment for more [illegible] and five grains used in each dose. No general disturbance [illegible] the use of the acid. It did not act [illegible] by the mouth. Kampf uses carbolic acid [illegible] and also the spray in the larynx.

Inula Helenium as an Antiseptic.—Kunde ("Berlin. klin. Wochenschr.", [illegible], 1884) calls attention to the antiseptic properties of the drug, which was once used as an anthelmintic. He states that a solution of one part in ten thousand arrests all putrefactive processes perfectly. Fifty centigrammes of this solution prevented decomposition when added to five litres of urine. The same writer compares the results obtained with this drug with those observed after the use of carbolic, boric, and salicylic acids, and decides that the former is far more powerful as a germicide. It has been employed extensively in Spain as a surgical dressing, and has stood the test in many cases. The writer adds that, when administered internally in doses of a third of a grain, it shows decided virtues as an astringent and anti-fermentative, especially in the diarrhœa of children. Its cheapness is greatly in its favor.

A Combination of Cocaine for Insufflation.—Schnitzler ("Ctrlbl. f. d. ges. Therap.") suggests the following:

Hydrochlorate of cocaine		4 to 8 grains;
Hydrochlorate of morphine		3 grains;
Subnitrate of bismuth, White sugar,	each	75 "

Or the vapor of the following solution may be inhaled:

Hydrochlorate of cocaine	8 to 16 grains;
Chlorate of potassium	150 grains;
Cherry-laurel water	5 drachms;
Water	16 ounces.

Cocaine in the Vomiting of Pregnancy.—Weiss (*Ibid.*) suggests this mixture:

Hydrochlorate of cocaine	5 grains;
Alcohol, enough to dissolve the cocaine;	
Water	10 ounces.

A teaspoonful to be taken every half-hour.

The Application of Heat and Cold to the Hands as a Therapeutic Measure.—Vasilieff ("Ctrlbl. f. d. ges. Therap."; "London Med. Record") has found, as the result of a hundred experiments, that, if the hands are bathed for half an hour in water of a temperature of from 86° to 95° F., the temperature in the external auditory meatus is increased, the pulse and the respiration are accelerated, and the blood-pressure in the temporal arteries is considerably increased, with distension of the retinal veins. On substituting for the warm water a like quantity having a temperature of from 40° to 55°, the effects are exactly the contrary. The inference is that bathing the hands with cold water is an excellent way to combat cerebral hyperæmia. It is stated by Askotchensky that obstinate epistaxis may be stopped by this simple plan.

Dihydrobromate of Quinine.—This preparation, to which allusion has before been made, is highly praised by Maximowitsch ("St. Petersb. med. Wchnschr.") as an antipyretic and nerve sedative in cases of acute febrile disease attended with delirium. He gives the following formula for use in anæmia with resulting neurasthenia:

Bromide of iron, Hydrobromate of quinine,	each	1 drachm;
Extract of rhubarb		q. s.

Divide into 120 pills. Two to be taken three times a day.

Terpinol.—Dujardin-Beaumetz ("Bull. gén. de thérap.") commends this derivative of terpene, which, he says, is rapidly eliminated by the pulmonary mucous membrane, and tends to dry up excessive secretion. The following combination has been suggested by Tanret:

Terpinol, Benzoate of sodium,	each	15 grains;
Sugar		q. s.

Divide into ten pills, all of which may be taken in twenty-four hours in bronchial affections.

Piscidia Erythrina.—The same author (*Ibid.*) employs this drug as a sedative, making use of the following preparation:

Fluid extract of *Piscidia erythrina*	5 drachms;
Syrup of orange-peel	10 "

Dose, one to three teaspoonfuls daily.

He had prefers this mixture:

Tincture of piscidia, Tincture of *Viburnum prunifolium*,		equal parts.

Dose, one to two drachms daily.

Original Communications.

CONTRA-INDICATIONS TO LAPAROTOMY, AND THE DESIRABILITY OF RECOGNIZING THEM.

BY HENRY C. COE, M.D., M.R.C.S., L.R.C.P.

THE subject of the differential diagnosis of abdominal tumors, and the indications for their removal, is one which is not only thoroughly discussed in special works upon diseases of the ovaries, but which is assigned a prominent place in all general treatises on gynæcology.

An excuse for dwelling upon an apparently outworn theme may be urged in the boldness of modern peritoneal surgery, which regards no organ as beyond the range of its capabilities. There is danger lest operators, elated at results which were formerly deemed impossible, should rush to the opposite extreme and forget that there still remain conditions under which the privacy of the abdomen should be respected. The general surgeon is not so likely to err in this particular as the specialist, whose attention is often directed so exclusively to the pelvic organs that he overlooks the fact that they are not independent of the morbid influences which affect the rest of the body, and, moreover, that they are not the only seat of new growths. So accustomed does the gynæcologist become to relying upon his *tactus eruditus* in establishing a diagnosis that he often forgets (or thinks it unnecessary) to make that thorough physical examination through their routine practice of which the Germans seldom overlook an important pathological condition. These are trite statements, yet they can not be too strongly emphasized.

The writer feels that his limited experience does not warrant him in assuming an *ex cathedra* tone, but he hopes to support his assertions by reference to a series of personal observations, believing that such opinions, however crude, are more valuable than if they were based entirely upon the writings of others.

He has seen so many errors in diagnosis on the part of the most distinguished operators, so many hasty inferences from examinations made by them, that the importance of the subject has been brought home to him in a practical way, such as could not result from any acquaintance with books. How valuable to the younger men of the profession would be the frank acknowledgment of the mistakes of their elders—more valuable, indeed, than the most brilliant statistics of success! Series of cases in which the surgeon openly confessed what his previous diagnosis was, with regard to the character, relations, and attachments of abdominal tumors, and then stated to what extent his opinions were modified *after* operation—these would indeed be unique and valuable contributions to the medical world. But this is only the scientific view of the subject. There is, of course, another factor, which is all important, the life of the patient—a life which hangs, perhaps, upon the hasty decision of a moment. If the careful physician declines to commit himself to a diagnosis until he has reviewed every doubtful point in a case, and has, after repeated interviews, satisfied himself that no important fact has been overlooked, it will appear to an impartial mind inexplicable that a surgeon should, after a few brief questions and a hasty *local* examination, not only make his diagnosis, but decide promptly upon the gravest of operations. The principle, if you see a tumor take it out, is one which is becoming too popular; it threatens to do away with accurate diagnosis altogether, and to reduce abdominal surgery to a sort of dashing empiricism.

In discussing within the limits of a brief paper a subject of this magnitude, it will, of course, be possible to treat it only in a general way. In seeking for the contra-indications to laparotomy, we shall be less likely to overlook them if we adopt a systematic plan of procedure, first obtaining the history of the patient, then making the general examination (if we may so express it), and finally the local examination.

I. HISTORY OF THE PATIENT.—If there is any class of cases in which the anamnesis should be accurate and exhaustive it is abdominal enlargements. So various are the causes which lead to these conditions that, on this text alone, an elaborate monograph might be written. Naturally, any man who seeks to trace out all the possible factors in the case must be well versed in pathology. Yet how seldom do these histories possess any value, especially in hospital practice, where they are taken by internes, who rarely have the experience and interest in the cases sufficient to lead them to elicit the most important facts! Not only is a quantity of irrelevant matter introduced, but the vital points are frequently not touched upon at all. Forgetting that the history should be even more thorough than in a medical case, the recorder approaches the subject with a preconceived idea that the tumor is of *pelvic* origin, and all of his questions are accordingly directed to the substantiation of his theory. No reference is made to the state of the heart, lungs, liver, kidneys—in short, the picture is only viewed from one standpoint, that of the gynæcologist. This misleading history is presented to the visiting surgeon, who, in his haste or confidence in his diagnostic skill, also allows his opinions to be wrongly biased. The ultimate consequences are frequently operations which result disastrously. Now, the remedy for this is very simple. Where the surgeon is prevented, by lack of time, from taking the necessary notes himself, let him provide a series of printed blanks, containing all of the questions which he himself would ask, and in their proper order.

The writer (when assistant, during his student days, to Dr. John Homans, of Boston) remembers having obtained such a history in the first case of ovarian tumor that he had ever seen. The blank used was that suggested by Sir Spencer Wells. It has always been Dr. Homans's custom to keep his records of abdominal tumors in this way, so that, although he has notes collected by scores of different individuals, they are sure to be accurate and exhaustive. The writer is positive that with some systematic plan of keeping hospital (and private) records an immense amount of valuable material would be preserved which is now

lost for ever, and a great deal of hasty diagnosis would be avoided.

But what facts are we to bring out in the history? First, the ordinary ones, such as nobody overlooks—the menstrual and marital history, the time and mode of appearance of the tumor, and the local disturbances occasioned by it. Then, bearing in mind the numerous causes of abdominal enlargement, the questioner should examine carefully the evidence for and against each one. If no facts are elicited implicating any organ outside the pelvis, the possibility of some complication entirely independent of the tumor is to be kept in view. A patient with an ovarian growth may have cardiac or renal disease also, and it is just as well to discover that circumstance before as after the operation, when it may assume more importance than was imagined. The history itself will be enough to contra-indicate operation in not a few instances. The writer remembers a patient (unfortunately under his own care) who, through carelessness in this particular, lost her life after ovariotomy, no record having been made of the fact that she had a stricture of the colon, which prevented the introduction of the rectal tube, and rendered a secondary operation necessary. A similar oversight was also fraught with unfortunate consequences to a patient who had a rupture of the perinæum through the sphincter (of which she had said nothing), so that it was impossible for her to retain nutrient enemata.

These are small matters in themselves, but they are important in their bearing upon the result of such a serious procedure as ovariotomy, for which the patient must, like an athlete, be fully prepared. But there are other facts to be obtained in recording the history. The tumor itself, its origin, growth, influence upon neighboring organs—these are all interesting points.

The exact influence of ovarian tumors upon menstruation is a subject which has never been satisfactorily worked out, just from this very absence of accurate statistics. The rate of growth of pelvic tumors is another obscure point upon which more light ought to be thrown—in fact, there is ample opportunity to make the histories of cases alone papers of real scientific value.

There is not a standard work on midwifery which does not devote one or more chapters to a careful consideration of the various diseases which may result from or complicate pregnancy. Yet how little space is devoted by writers of monographs on pelvic tumors to the important changes which these growths may occasion in distant organs, or in the system at large! The only explanation is that they have never taken the pains to institute any systematic inquiries as to the possible existence of complications in every case which came under their charge. The grosser features of the case, such as dyspnœa, gastric disturbances, rectal and vesical irritation, the most careless recorder would note; but the less apparent affections of the heart, the kidneys, and even of the brain and spinal cord, are more often brought to light in the dead house than in the wards, unless the patient happens to mention them accidentally. The writer was painfully impressed with his own carelessness in this respect by the instant death of a patient under his care three days before the time appointed for removal of a large fibro-cyst of the uterus. At the autopsy no cause could be found to account for the accident, save that the vessels which nourished the tumor were enormously dilated. The inference was that the heart, constantly overworked in its effort to maintain this double circulation, had suddenly given out. Now, a little more careful inquiry would have developed the presence of some circulatory disturbance, and led to a thorough physical examination (none had been made), as a result of which the patient would have been more carefully watched, and her operation, during which she must inevitably have died on the table, would never have been meditated.

This is mentioned simply by way of illustration. The habit of regarding a uterine or ovarian tumor as a *disease*, the sequence of which is to be traced just as carefully as if it were a cardiac or renal affection, is one which is worth cultivating by all who expect to devote themselves to peritoneal surgery. It seems almost elementary to add the caution that, in filling out the history of a patient with an abdominal enlargement, it is well to ascertain if the facts warrant us in suspecting that perhaps there is *no tumor at all*. Some grievous errors have arisen from the failure of the surgeon to dwell with sufficient care upon the *negative* side of the question. The fact that a woman had been tapped several times—a *clear, straw-colored fluid* being withdrawn on each occasion—that she had well-marked œdema of the feet, ankles, and labia of long standing, might lead an operator to look well to the state of the kidneys before proceeding to laparotomy; but the writer has seen the latter method of diagnosis tried *first*, a subsequent autopsy revealing the existence of advanced Bright's disease, with all its sequelæ—hydropericardium, cardiac hypertrophy, double hydrothorax, and ascites—as might have been predicted with some confidence from the history.

But enough has been said upon this head to indicate the direction which our questions ought to take in order that no detail, however insignificant it may appear to the "snap" diagnostician, may be allowed to escape a searching analysis.

II. The General Examination.—This may be characterized in a word—it should be *thorough*. None of the aids to diagnosis can be safely omitted. In addition to the ordinary routine physical examination—the urine, blood (in extreme anæmia, or where leucocythæmia is suspected), the fæces (in the case of pelvic abscesses or suppurating cysts rupturing into the intestine), the vaginal discharges—there are circumstances under which each of these should receive a careful scrutiny. The writer would defend himself against the criticism that he is insisting upon useless details by the simple statement that he has several times detected Bright's disease in patients with ovarian cysts previous to operation by a preliminary examination of the urine, and on two occasions a single glance at a drop of blood cleared up at once the diagnosis of a doubtful tumor by revealing the presence of leukæmia; as a result, the patients were spared a fatal operation. More than once the presence of pus in the stools has indicated the necessity of speedy interference in a case of suppurating cyst. So that it will appear, without further argument, that the use of the microscope in this

connection is productive, not merely of curious scientific facts, but of exceedingly important clinical information. *Apropos* of the examination of the urine of patients about to undergo laparotomy, an interesting circumstance may be referred to. A few years ago, when engaged in collecting some statistics as to how far organic disease of the kidneys is a contra-indication to abdominal section, the writer wrote to several of the most prominent ovariotomists, asking for a brief reply to the following questions:

"1. Have you been accustomed to examine carefully the urine of your patients before and after operation?

"2. How often have you been led to suspect organic renal disease in patients who were about to undergo laparotomy?

"3. Do you consider such renal disease as a positive contra-indication to the measure?"

Most of the gentlemen to whom these queries were addressed either replied frankly that they had never troubled themselves about the condition of their patients' urine, or showed by their answers that they considered this a matter of small importance. Observations upon the customs of foreign surgeons have led the writer to believe that many of the cautions laid down in the books are entirely disregarded by them. But, aside from the practical results of the general examination, there are certain interesting scientific data which might be collected with a little care. The whole question concerning the effect of the mechanical pressure of the tumor upon the renal excretion (the variations in the amount of albumin and casts, excretion of urea, etc.), as compared with the condition after operation, has never been studied as in the pregnant woman. Although the writer's observations were confined to a small number of cases (about a hundred), they indicated some valuable pathological deductions which might be made from a sufficiently large number of examinations. As a consideration of the subject from any other than a practical point of view does not belong to the present paper, nothing further need be suggested in regard to the necessity of a thorough investigation of every organ before deciding whether an operation is justifiable or not. The systematic application of this principle will do away with much of the guess-work which now prevails regarding both diagnosis and prognosis.

The Local Examination.—By this should be understood not only the determination of the origin and character of the tumor (and under this is included the wide subject of differential diagnosis), but of its relations, adhesions, and *operability* (to coin a word). These are facts which are elicited only by the delicate fingers of the old and experienced gynæcologist; to the young and unpractised they must remain, as yet, a sealed book.

Nothing is more common for a young man who has long witnessed the manipulations of a brilliant diagnostician whose processes of reasoning are so rapid that one can hardly follow their intermediate steps than to imagine that he can arrive at his own conclusions with equal rapidity and accuracy—an idea which is generally abandoned after a single experiment. The danger at the present time is that the younger men, hearing so much about "exploratory incision" and its harmlessness, will become careless, and not trouble themselves about a diagnosis which can readily be established by a few strokes of the knife. At the last meeting of the American Gynæcological Society the position was taken by one reader that "the risk of pure abdominal section for diagnosis, except in malignant disease, is less than might be expected." But a most radical application of this doctrine was made by an enthusiastic adherent of Mr. Tait (Dr. Dutton), who stated, in effect, at a society meeting that Tait often did not know what kind of a tumor he was going to find on opening the abdomen, and, moreover, that he did not care. This is not the spirit of his "Diseases of the Ovaries"; in this book he dwells most earnestly upon the desirability of making an exact diagnosis. "The diagnosis of the variety of tumor in each case is of importance in guiding us to its treatment; therefore it is not for the mere exercise of ingenuity that I recommend every practitioner dealing with a case of ovarian tumor to exhaust every point on which I have dwelt, together with many others to which I have not alluded, but which the individual peculiarities of each case and his own personal shrewdness may suggest." These are Mr. Tait's own words, and they certainly do not warrant that hasty resort to the exploratory incision which some men appear to believe.

The local conditions which render an abdominal tumor non-removable, or which at least do not justify the attempt, are now regarded as very few—too few for the good of the patient. Yet there still remain certain limitations, even with the present *ardor operandi*. If a tumor is found occupying the left hypochondrium, limited above by the upper border of splenic dullness, separated from the pelvis by an area of tympanitic resonance—in short, if it is an enlarged spleen—most men will be content to look upon laparotomy as out of the question, remembering that, out of some thirty or forty splenectomies now on record, twenty-two patients have died of shock. Some lingering hesitation will continue to exist in the minds of American operators about interfering with a pelvic abscess, or an hæmatocele, after the method of Tait; there are those still conservative enough to shrink from opening the abdomen for the purpose of draining an encysted dropsy. But all of these things have been done, and done successfully, so that the question may pertinently be asked, "Are there *any* local conditions which, if detected before operation, should deter the surgeon from proceeding to the extreme measure?" The writer believes that there are, and that a disregard of them lowers gynæcology to the level of "Vienna" surgery.

In making the local examination, the first thing, of course, is to determine the seat of the tumor.

Numberless rules are given for deciding between splenic, hepatic, renal, omental, gastric, and intra-parietal growths, and for diagnosticating the presence of malignant disease. The various abdominal growths are all distinctly differentiated (in books), but practically so many exceptions are met with at the bedside and in the dead-house that the rules seem to have been framed for some ideal case.

Then, too, there are mechanical obstacles in the way—thick or rigid abdominal walls, ascites, hyperæsthesia, and

chronic peritonitis. Supposing the growth to be of pelvic origin, there are other sets of rules for distinguishing uterine from ovarian tumors, and the different varieties of cysts from each other. Here, again, a vast deal has been written which is of no practical use. It is impossible to carry in one's head differential diagnoses, all arranged in parallel columns. There should be a few plain rules, common sense, and, above all, *patience*. "It is this want of patience," writes a well-known specialist, "that is to blame for those melancholy instances of blunders, altogether unpardonable, where the abdomen has been opened in cases of normal pregnancy mistaken for ovarian tumors." We hear very little now about examinations under ether. The writer was once assistant to a gentleman who declined to give an opinion (much less to operate) upon any abdominal tumor before he had made a thorough examination with the muscles fully relaxed by an anæsthetic. The patient was no worse for it, and the diagnosis was a good deal better. So far as the writer knows, that surgeon has never yet been seriously mistaken about the condition which he expected to find on opening the abdomen. For a young man this is certainly the only safe course in case of doubt—that is, if he does not wish to take a leap in the dark. Consultations with older men are often misleading, because one is apt to be biased by their opinions, even against his own judgment; but a thorough, deliberate examination under ether, where all embarrassing influences are eliminated, will clear away more doubts than half a dozen hasty interviews without positive results.

The difficulty of judging about the precise origin and seat of the enlargement is sometimes so great as to be insurmountable. Ovarian cysts with long pedicles are often mistaken for renal cysts,* and *vice versa*. As there is a wide difference in the prognosis after the removal of such cysts by abdominal incision, it is desirable to establish their identity before the operation. In this doubt, a complete history and a *medical* examination (in contra-distinction to a superficial one, made from a purely *surgical* standpoint) will generally solve the problem.

What is more perplexing at times than to decide as to the presence of a limited ascites? But, when a tumor is present in addition to an extensive peritoneal effusion, the diagnosis is frequently impossible. It is commonly believed that there can be no marked ascites without a well-recognized cause. The writer is positive, from many observations, both clinical and pathological, that this is an erroneous idea. It is not unusual to find dropsy accompanying a small, non-malignant ovarian cyst, without adhesions, and where there is no possible chance for mechanical obstruction to the circulation.† This is important, for the laparotomist, after he has interrogated the heart, liver, and kidneys in vain, is prone to jump at once to the conclusion that malignant disease must be present. As a matter of fact, the writer has seen enormous malignant growths of the pelvic organs which caused no effusion whatever.

* I have twice seen a hydronephrotic kidney operated upon as an ovarian cyst, the true condition not being recognized until the specimen was removed outside the body.

† I have frequently observed enormous ovarian and uterine tumors without a trace of dropsy, though the mechanical obstruction was plain enough.

Dropsy, then, though a serious hindrance to accurate diagnosis, should be accompanied by other suspicious symptoms before it is regarded as a positive contra-indication to operation. It seems unnecessary to refer to pregnancy as a contra-indication, for every man is supposed to be on his guard against that blunder. But the fact is, any one is liable to be caught napping, and to forget, while searching eagerly for a pathological enlargement, that it may be an entirely physiological one. With a defective history, a patient above the age when pregnancy is common, and various misleading symptoms, it is not difficult for an inexperienced examiner to err. Add to this mechanical obstacles to palpation and the presence of previous abnormities (displacements, fibroids, cellulitis, etc.), and the wonder is not that so many mistakes occur, but that there are so few cases on record in which the surgeon has been so unfortunate as to find, on opening the abdomen, a gravid uterus instead of the supposed tumor.

The writer has seen large pelvic abscesses which were recognized as such only by their breaking into the rectum or vagina. These might easily have been operated upon as abdominal tumors; in fact, the treatment of these by laparotomy is in favor with some gynæcologists. Yet by the more conservative they would be considered as positive contra-indications, and the failure to detect them before operation as unfortunate.

The reference to pelvic abscesses suggests naturally those pelvic tumors with which the gynæcologist has particularly to deal, and the differential diagnosis between which is exhaustively discussed in books, but is only learned by experience.

It was formerly the custom (the expression "formerly" is used because it is now going out of fashion) to attach so much importance to the examination of fluid obtained by puncture of an abdominal cyst that many surgeons would refuse to operate if the microscopist's opinion was adverse. It is not the writer's intention to branch off into a discussion of this much-disputed subject. He has always made a point of examining every specimen of fluid which came in his way, whether obtained before or during an operation, and, as a result of a great number of examinations, he is inclined to take a middle ground between Dr. Garrigues and Dr. Drysdale.* That the presence of the so-called "ovarian cell" is enough in itself to justify a positive diagnosis and to affect an operator's opinion is questionable. The writer has found almost identical forms in a cyst of the pancreas,† in a cyst of the peritonæum,‡ and quite recently in an enlarged "hydatid of Morgagni,"* which certainly had not the remotest connection with the ovary. Neither does the writer believe in the diagnosis of fibro-cystic tumors from a simple inspection of the *fluid*. The coagulation theory is certainly a misleading one, since these specimens are seldom free from foreign blood such as would readily explain the rapid clotting. [On this point reference is made to former papers by the writer in the "Am. Jour. of Obstetrics" for October and November, 1882, and July, 1883.]

* "Trans. of the Am. Gyn. Soc.," 1881.

† Case of Dr. Bozeman's. ‡ Case of Dr. Thomas's.

* Case of Dr. Hunter's.

The diagnoses of parovarian, renal, and hydatid cysts are perhaps the only ones which can be made with certainty by an exploratory puncture. In the writer's opinion the dangers of this measure have been exaggerated. How an exploratory incision can be preferred to it is inexplicable.

The diagnosis of malignant disease within the abdominal cavity from the examination of ascitic fluid is one which undoubtedly has a future. The writer's observations have been too few to admit of any dogmatic statements, but he is positive that the time will come when a proposed laparotomy will be abandoned when it is proved that the tumor is accompanied by an accumulation of ascitic fluid containing the peculiar cells described by Foulis and Thornton.* Perhaps the briefest statement of the whole question resolves itself into this: According to modern ideas, if there are no other contra-indications to operation save that afforded by an examination of the aspirated fluid, that surgeon will be wanting in decision who does not give his patient the benefit of the doubt.

But, besides the determination of the seat and character of the tumor, the local examination may disclose such anomalies in its relations or attachments as will lead to an abandonment of the operation. When the surgeon is quite sure that he has to do with a small cyst, which is firmly adherent to the uterus, dips down into the pelvis, and is absolutely immovable, he will hesitate for some time before attempting its extirpation. The possibility of error, the chances offered by draining the cyst—these may lead a bold operator to go ahead in spite of the bad outlook, but to the inexperienced this condition should certainly be a contra-indication.

The question of the detection of adhesions is one which has received due consideration in books, but nothing is more disappointing in practice. However, less stress is laid upon the necessity of obtaining information in this direction than formerly; this is an element which now seldom deters the surgeon from carrying out his plans.

A recent German writer† states positively that it is impossible to establish the presence of the most important adhesions (those between the tumor and the abdominal viscera) by simple palpation, and hence that there is no other way of discovering them except by opening the abdomen. This brings us to the question of exploratory incision—a proceeding which is growing quite popular with us. The writer feels incompetent to express an opinion as to the advisability of the measure in every doubtful case, and would simply say that he has seen too many fatal cases to regard this as such a simple affair as it has been represented by a recent writer.

The important point in our discussion is, What conditions, discovered by such an incision, render it incumbent upon the conscientious operator to desist from further measures? Here opinions are (like the conditions themselves) so various that the writer can not give his own without seeming to criticise men for whose judgment he entertains a profound respect. We have all seen cases the desperate nature of which was apparent the moment that the abdominal cavity was exposed; a consultation was held, the operation was proceeded with, and—the patient died on the table. This is, unfortunately, a common story, tragic enough when it follows a conscientious desire to "give the patient a chance," but dismal in the extreme when it results from mere personal pique at being obliged to abandon an operation. It is only a few years since the operator who meddled with a uterine tumor was looked upon as most reprehensible. Here, too, opinions have changed greatly. In this connection Tait's advice may be quoted as being very sound; it is worthy of the earnest consideration of the inexperienced. "How to direct an inquirer upon this difficult path," he frankly admits, "I do not know, unless it be to advise him that, before he engages much in abdominal surgery, he had better see a good deal of it in the practice of some one else. . . . When and how to complete the removal of a tumor in which there are grave difficulties can be learned only by experience, and, as I have elsewhere said, in my own earlier practice I have too often left an operation unfinished which riper experience would have enabled me to complete.

"Let me here repeat once again my advice that the surgeon should most carefully consider what he is about to do before he turns an exploratory incision into an incomplete operation."*

Since the writer has mentioned certain general as well as local conditions under which he regards laparotomy as a questionable proceeding, it may not be amiss to state that there are exceptional circumstances under which many of these objections may be waived. Under the head of contra-indications Wells advises against operating upon patients "suffering from cancer, advanced tuberculosis or scrofula, syphilis, diseases of the heart, or in cases where this organ has been displaced by the tumor and at the same time has been fixed in its abnormal site by adhesions, which would retain it in its position even after the removal of the ovary; diseases of the brain and of the nervous centers, of the liver, spleen, and kidneys; ulcers of the stomach and diseases of the alimentary canal, which permanently impair general nutrition; ascites in consequence of liver complaint, of disease of the heart, or degeneration of the kidneys. . . . But in few instances *will the judgment of the surgeon be so severely tested as in estimating the value and importance* of many of the above-mentioned contra-indications, whether any one is by itself so serious as to preclude surgical interference, or is merely *a consequence of the local disease*."†

The last clause of this long quotation contains the gist of the matter, although to the words "is merely a consequence of the local disease" might have been added "or is *aggravated* by it." This is an important factor, as the writer has often noticed in hospital service. In one case a patient with an ovarian tumor was, to all intents, the subject of chronic Bright's disease of long standing. The urine was loaded with albumin and casts, and the prospect was not a cheerful one. But after operation (during which she barely escaped dying on the table) she began to improve, and left the hospital with a slight trace of albumin in the urine and

* For description and illustration of this cell, *vide* Hart and Barbour.

† Martin, "Pathologie u. Therapie der Frauenkrankheiten," 1885.

* Tait, "Diseases of the Ovaries," p. 68.

† Spencer Wells, "Diseases of the Ovaries."

her general health vastly improved. Again, a patient with mitral insufficiency passed safely through laparotomy (having most alarming symptoms while under ether), and was discharged with a marked improvement in her cardiac trouble. The writer has satisfied himself, by frequent autopsies, that patients with ovarian tumors are, as a rule, the subjects of a chronic gastritis which is certain to be relieved by removal of the growth. Profound anæmia is not always a contra-indication, neither is advanced age regarded as so serious an objection as it was formerly.

Is not the surgeon sometimes justified in interfering with malignant disease of the abdomen? There are, doubtless, some cases in which it is right, especially where there is doubt as to the diagnosis. "The operation ought never to be performed," says an eminent ovariotomist, "if well-founded suspicion is entertained of the tumor being cancerous." This was written several years ago, and before the Germans had made such a brilliant record in extirpation of the cancerous uterus.

In a word, contra-indications may cease to be such under certain circumstances. They are variable. What would be justifiable for a skilled operator would be criminal for a novice, and, if a man has several times overcome formidable obstacles, he will not be inclined to regard them as sufficient to deter him from similar operations in the future. Books give their cautions, but here again experience is the only teacher.

In concluding a paper of the fragmentary nature of which he is fully conscious, the writer feels that he may have slighted important points and laid too much stress upon minor details. It has been his endeavor throughout to bring into prominence a great need which is felt by the younger gynæcologists. Seeing and reading daily of brilliant operations, taught constantly that abdominal section is now a mere bagatelle, a rapid and convenient method of settling a disputed point, there is danger lest the next generation of specialists will lose that subtle diagnostic skill which marked the early days of peritoneal surgery, and learn to depend entirely on the exploratory incision. This same exploratory incision may be a dangerous stumbling-block to an ambitious young man, who dislikes to have it said that he began an operation but was obliged to abandon it.

We are hampered by multitudes of rules; if over-cautious, we increase difficulties where few exist; if rash, we find too much encouragement in the spirit of the age to draw back simply out of consideration for the patient. Not having experience ourselves, we observe errors, but do not know how to avoid them. In this dilemma the only resource is in the experience of older men—not alone their brilliant hits, but their mistakes, are interesting to the beginner. A book on errors in the diagnosis of abdominal tumors would be the most valuable contribution that a mature surgeon could make to his younger brethren; such a record might not be so flattering to him as a series of statistics proving his diagnostic infallibility, but to those who are earnestly struggling after light it would be a priceless memorial, a means of saving them from purchasing their wisdom at a fearful cost.

A CASE OF
LARGE UTERINE FIBRO-CYST,
INVOLVING THE ENTIRE ORGAN;
REMOVAL OF THE UTERUS AND OVARIES.

By JOHN SCOTT, M. D., San Francisco,
SURGEON-IN-CHIEF OF THE CALIFORNIA WOMAN'S HOSPITAL.

The following history of the case was prepared by Dr. J. H. Todd, house surgeon:

Mrs. A. C. B., aged thirty, Irish, was admitted into the California Woman's Hospital November 8, 1884. She had been married one year, and had never been pregnant. She first menstruated at the age of twelve years. During her first menstrual period she walked a distance of a mile and a half through snow, on an exceedingly cold day, to church. She was almost frozen, and had to be taken home and cared for. The menstrual discharge was suppressed and did not reappear for about three years. Shortly after the suppression she began to have trouble with her heart, followed by general dropsy, which was not entirely relieved for several years. Since the menses were re-established she has been perfectly regular. She has never had pain during the catamenial periods, and the quantity of the menstrual discharge has been normal until within the last year, when it has been somewhat profuse. Five years ago, while nursing a sick friend and lifting a heavy weight, she felt something suddenly give way inside, accompanied with sharp pain. Immediately afterward she passed bloody urine, which continued for two or three days. Then she began to have excessive and burning pain in the back, which was almost constant, especially while she was standing or walking. About three months later she had retention of urine, which had to be relieved with a catheter, and for the first time she submitted to a digital examination, when it was found that the uterus was retroverted. A pessary was adjusted and the pain relieved, but not cured. Two years ago she began to be affected with dizziness and vomiting for a week prior to each menstrual period, and about the same time she first noticed an enlargement of the lower part of the abdomen, on the left side of the median line, which has steadily increased in size until now. For the last six months the sick spells which precede the catamenia have occurred every two weeks, and the growth has increased more rapidly. The measurement around the body at the umbilicus is thirty-five inches; four inches below the umbilicus, thirty-six inches; from the umbilicus to the left anterior superior spinous process, seven inches and a half, and the same to the right; from the umbilicus to the pubes, eight inches; from the umbilicus to the ensiform cartilage, six inches.

She is of medium stature, thin, and anæmic; her locomotion is much impaired, but her nervous system is in good order. She has some headache. She sleeps well. Her pulse and temperature are normal. Her bowels are constipated. Her appetite is fair. The heart and lungs are normal.

During the time that her menses were suppressed she had diabetes, for which she was treated about three years, after which she was entirely free from trouble until about two years ago, when, upon standing or walking, she began to have difficulty in retaining her water. This difficulty has increased with the size of the growth, and is much worse while she is in the recumbent posture. Examination shows the urine to be of normal specific gravity, and with no trace of albumin or sugar.

On her admission she was given a slight mercurial purge, followed by oil, and at night a vaseline bath.

November 9th. Dr. Scott examined her and found the tumor to be central, perfectly movable, oval in shape, tense, without

fluctuation, and giving neither the feeling of an ovarian cyst nor that of a fibroid. A distinct *bruit*, resembling the uterine souffle, together with a marked aortic impulse, was present. The diagnosis, while the belief was entertained that the tumor was fibro-cystic in character, was withheld.

10th.—A consultation was held at 10 A. M., at which Dr. Scott, Dr. De Vecchi, Dr. Burgess, Dr. Richter, Dr. Blake, Dr. Robinson, and Dr. Todd were present. Pregnancy was excluded, and an abdominal tumor, undetermined in character but demanding removal, was diagnosticated. The operation was appointed for the 13th.

13th.—At 10 A. M. the patient was given a hypodermic injection of a quarter of a grain of sulphate of morphine. At 10.15 she was brought into the operating-room and etherized by Dr. Todd. Dr. Scott, in the presence of Dr. De Vecchi, Dr. Richter, Dr. Burgess, and Dr. Blake, made an exploratory incision in the linea alba, midway between the umbilicus and the pubes. When the peritonæum was opened, the tumor presented, of a dark-purple color, perfectly globular in shape, smooth, and without adhesions. The patient was turned on her side and a trocar thrust into the tumor, which was found to be semi-solid. The incision was then extended to two inches above the umbilicus, and as near the pubes as safety to the bladder would permit, and with considerable effort the tumor was made to pass through the wound. Examination then showed the tumor to be a fibro-cystic degeneration of the uterus. A rubber tube was then thrown around the cervix, drawn tight, and tied; as a further precaution, a Spencer Wells's clamp-forceps was made to grasp and compress the cervix above the tubing, and immediately above the forceps it was severed with a scalpel. The clamp was then removed, the wire of Kœberlé's serre-nœud placed around the stump, and the screw tightened until a deep impression was made, when a strong four-strand, double-silk ligature was passed through the stump by means of a Peaslee's needle, and the two sides were securely tied. The écraseur was again placed higher up on the stump, and a like ligature thrown around the entire stump, in the impression made by the wire, and tied. A sound passed into the bladder showed that viscus to be free and intact. The stump was then dressed by trimming and sewing across the pedicle from side to side with the cobbler's stitch, then drawing the peritonæum across the stump and stitching it with fine silk interrupted sutures. The uterine arteries were then ligated, and the elastic cord was removed from the stump, when it was found that hæmorrhage was entirely controlled. The abdominal incision was closed with silver-wire sutures, a Tait's glass drainage-tube having been placed in the lower angle of the wound. A simple dressing of antiseptic gauze and cotton was placed over the wound, and retained by means of one or two adhesive straps. Every antiseptic precaution was observed, with the exception of operating under the spray. All the ligatures and sutures were rendered aseptic by being soaked in a solution of bichloride of mercury (1 to 1,000) for twelve hours, and afterward kept in alcohol. The time consumed in the operation was ninety minutes. Upon examination of the tumor, it was found to consist of a complete fibro-cystic degeneration of the uterus.

The patient was removed to her room and artificial heat applied. Her reaction was gradual, and with but little vomiting.

14th.—The patient passed a restless night, sleeping but little. Her temperature has gradually risen to 102° F.; her pulse to 104. At 2 P. M. she complained of pain in the back and abdomen, and was excessively restless. Upon examination of the drainage tube, it was observed that hæmorrhage was taking place into the abdominal cavity. Dr. Scott was at once notified, and a full opiate was given. Dr. Scott came prepared to reopen the abdomen and secure the bleeding vessels, but, upon consultation with Dr. Richter, decided not to do so, hoping that the hæmorrhage would cease. At 3.30 P. M., the bleeding continuing, Dr. Todd placed the coil upon the abdomen, which was very grateful to the patient, but without apparent effect upon the hæmorrhage. At 9 P. M. Dr. Scott was again called, and, upon his arrival, the patient was in a state of profound collapse, gasping for breath, pallid, cold, and with a pulse scarcely perceptible at the wrist. Dr. Scott immediately removed the tube and injected into the cavity four drachms of equal parts of tincture of iodine and alcohol, which arrested the hæmorrhage immediately, and in a short time the patient became tranquil. A hypodermic injection of a third of a grain of sulphate of morphine was given at 10 P. M. Examination showed renewed bleeding, and two drachms of tincture of iodine and alcohol were again injected, by which the hæmorrhage was promptly and permanently arrested. Absolutely no pain nor tenderness resulted from the treatment.

From this time to the 20th the patient progressed favorably, an immense quantity of broken-down blood-clot being discharged by the abdominal wound. The dressing was kept as clean as possible, and the cavity washed out every four or six hours with a solution of bichloride of mercury, 1 to 1,000 at first, and afterward 1 to 2,000.

On December 1st the patient began to complain of pain in the region of the bladder, accompanied with frequent micturition. The bladder was washed out with warm water and borax, which seemed to give relief. On November 27th two small ligatures came away by the wound, and on the 28th one small ligature by the vagina.

December 6th the bladder irritation had become so excessive that the patient passed water every four or five minutes with much pain and distress. Upon examination, Dr. Todd discovered one of the large ligatures just within the os, and with slight traction it was removed, when the main ligature of the stump came into view. Considerable force failed to remove it, and it was allowed to remain until the 8th, when the patient was placed upon the table by Dr. Scott, and a considerable portion of the stump, which had sloughed off (with the ligatures *in situ*), was removed through the cervix. The pain and irritation of the bladder were immediately relieved, and reappeared only once afterward. From this time the patient improved rapidly, leaving her bed on the 12th, and the hospital on the 29th, in perfect health.

There are some points in this case worthy of notice. The occurrence of hæmorrhage on the second day was most unfortunate, and, but for its speedy arrest by the injection of iodine, would have proved fatal. In resorting to its use, I remembered a remarkable case in which I had used it with decided effect some years ago. The patient was the wife of a medical man from whom I removed, by patient enucleation, a cyst of the left broad ligament, complicated with pelvic abscess opening into the vagina of two years' standing. The operation was a most difficult one, lasting upward of two hours, and involving serious injury to the broad ligament, which was torn in its removal. There was no proper pedicle, but there were left instead ragged portions of the cyst-wall, which were ligatured and tied, leaving a very ugly and unpromising cavity, into which a glass drainage tube was inserted, after taking up all the vessels we could find; and the patient was taken from the table in such profound collapse that she appeared moribund. Singularly enough, she rallied well. A large quantity of serum

came away through the tube, but had diminished so much by the third day that I was about to remove it, when, suddenly and without warning, a hæmorrhage set in, and at least a pint of blood was lost before I could reach her. Ice to the abdomen and spine seemed to succeed in arresting the bleeding, when I was sent for twelve hours afterward, but I found the patient apparently dying from loss of blood so excessive that I believed it impossible for her to survive it. I had removed the tube on the appearance of the first bleeding, and I now passed a large gum-elastic catheter down deep into the pelvis and injected two drachms of tincture of iodine, with the same quantity of alcohol, and repeated the injection before removing the tube. Coagulation instantly took place, and, though I repeated the injection in twelve hours, with one of iodine to three of alcohol, and then one to four, there never was a recurrence of the bleeding; and after the lapse of seven weeks the patient went home well. I had never read or heard of the injection of iodine into the abdominal cavity for controlling secondary hæmorrhage before; but I subsequently learned that Dr. G. T. Hammond had saved a patient's life in the New York Woman's Hospital, after an uncompleted operation by Dr. Emmet, and with the result of effecting the removal of the part of the tumor left unremoved. I think it will be conceded that the intra-peritoneal method of treating the cervical stump in abdominal hysterectomy is vastly preferable to its inclusion in the abdominal wound, if we can guard effectually against secondary hæmorrhage. In fibroid degeneration of the uterus necessitating removal of the organ, the cervix is usually hypertrophied and its tissue very dense and resisting, and difficult of compression by ligature, no matter how much force is used in tying it. After a few hours this state is materially changed by relaxation of the tissues, the ligatures slacken, and, reaction having taken place, hæmorrhage is too constantly the result.

In the present case the cervix was greatly hypertrophied, and, in my anxiety to guard against after-bleeding, I used a four-strand silk ligature, which did not sink into the tissue as I expected; and as a precaution I transfixed and tied again higher up, but the knot did not "pull home" as I desired, and I expressed myself at the time as apprehensive of what actually took place. I subsequently found that two strands of the same silk would have been abundantly strong, and would have done the work much more effectually. Had I tied the uterine arteries in the ligamenta lata instead of the cervix, it would have been better still. It may seem strange that I inserted a glass drainage-tube where there was no bleeding and no adhesions, but I did it designedly, for I believe, from some reason I can not explain, that there is a tendency to effusion of serum in the abdominal cavity after removal of the uterus, independent of bleeding; and I have seen fatal results in two cases apparently attributable to it. I was justified by what took place in this instance, for there was enough serum (dark, but not bloody) secreted during the first twelve hours to have caused septicæmia. I think the danger from the use of the drainage-tube in abdominal operations *during the first twelve hours* much less than is apprehended; the danger really consists in leaving it in one moment longer than is necessary, and the presence or absence of serum will readily determine this. The behavior of the silk ligatures was notable, for it is evident the very severe cystic irritation was caused by their presence; and, had I not been able to remove the thick ones so soon through the cervix, the patient's recovery would have been greatly prolonged and an abscess in Douglas's pouch might have formed and compelled me to open it and remove the ligatures. I rightly apprehended the source of the cystic trouble, and, by dilating the short canal of the cervix, I gave exit to pus and induced the ligature to follow in the track. The subsequent histories of abdominal operations are daily bringing to our notice the fact that stout silk ligatures are not absorbed, and not encapsulated in many instances; that they remain as foreign bodies till they find their exit through unexpected places, or produce abscesses ending in sinuses; and it now becomes a serious question with the profession how to find a remedy for a state of things the reverse of desirable. The use of the clamp and cautery, as practiced by Baker Brown and extensively employed by Keith, would obviate the difficulty in ovariotomies; and if the Baker Brown clamp is so adjusted as to make equal pressure throughout, and the searing of the stump done slowly and carefully, there is seldom any risk of secondary hæmorrhage; and if, before the stump is dropped back, it is carefully inspected, and any small vessel found oozing is ligatured, the danger from bleeding is absolutely *nil*. One word and I have done. I learn that Kœberlé, while adopting the intra-peritoneal method in abdominal hysterectomy, takes the precaution of bringing the ends of his ligatures through Douglas's *cul-de-sac* into the vagina, thereby insuring drainage, and enabling him to withdraw them after the lapse of a sufficient time.

DRY WOUND DRESSING;

WITH A NOTE ON

PAPER-WOOL, A NEW DRESSING MATERIAL.

By GEORGE R. FOWLER, M. D., Brooklyn,

Surgeon to St. Mary's General Hospital.

About a year ago, in an article* entitled "Hospital Antiseptic Surgery," I took occasion to describe some of the methods in vogue at St. Mary's General Hospital, and laid special stress upon the use of mercuric bichloride solution for purposes of irrigation, the latter taking the place, almost entirely in my service, of the carbolic spray. Since that time I have continued to use it to the exclusion of everything else for that purpose, and now desire to reiterate, after another year's use, my favorable opinion regarding it. Furthermore, from what I can gather from the reports of other surgeons, the mercuric bichloride has rapidly gained in favor, this being in great measure due to its powerful germicide action and exceeding cheapness. I have therefore come to consider that all the requirements of thorough antiseptic irrigation are being fulfilled by the use of this salt. In this connection I would state that I am not unaware of the fact that in a series of experiments conducted by M. Miquel, upon the comparative value of the different

* "New York Medical Journal," May 17, 1884.

germicides and antiseptics in use, mercuric bichloride was found to be inferior to mercuric iodide, in that it was demonstrated that the former would only prevent putrefaction in beef solution in the proportion of 1 to 14,000, while the latter proved efficient in a solution of 1 to 40,000. It would therefore seem as if the iodine salt should be substituted for the bichloride. To this, however, there may be offered several objections, chief among which may be mentioned, first, that the mercuric iodide is almost entirely insoluble in water; second, even though its solution be aided by alcohol, in such dilute solutions it is easily decomposed; third, in order to render it both soluble and stable, it is necessary to add to it another and a soluble iodide, for instance, the iodide of potassium. In this latter case, it is not a solution of mercuric iodide, but of iodohydrargyrate of potassium that is formed, which, even though it possess all the antiseptic qualities of the single salt, is open to the objection (being a compound salt) of requiring a compound term, and a very unusual one at that, to express its character. It is therefore probable that the mercuric bichloride will continue to hold its own, for some time to come, for antiseptic irrigation in operative surgery.

In the matter of wound dressings, however, there is, apparently, far from being a unanimity of opinion regarding the proper methods to be employed, or even as to the governing principles to be observed. While almost all of the leading surgeons engaged in active practice are more or less impressed with the necessity of observing some sort of antiseptic precautions in their work, yet of these many differ as to the importance of certain points, some insisting that the spray is all-important, and yet allowing, for instance, the cuff of a dirty coat-sleeve to come in contact with the wound made for the purpose of wiring a fractured patella; while others rely upon irrigation alone, and then, after the latter has been most thoroughly done, dry off the wound and surrounding parts with a towel which is not æsthetically, much less surgically, clean. In the matter of dressings, the use of the typical Lister dressing, with its pent-up secretions beneath a layer of impermeable Macintosh, and the sodden condition of the tissues, is almost diametrically opposed to the cushions of wood-wool, moss, peat, wood-flour, and sawdust, through which the atmospheric air is allowed to pass freely, and in which the secretions from the wound are designed to dry as rapidly as possible.

In directing attention to this latter method, which a recent writer* has proposed to call the "exsiccation dressing," I would briefly call the attention of the reader to some of the principles underlying this, the attempt to imitate nature's well-known *modus operandi* of healing by scabbing, or "healing under the scab," as it is more commonly called. It is now very generally admitted that the so-called open treatment of wounds is not necessarily incompatible with antiseptic treatment, although, to be sure, it leaves many avenues for the entrance of septic material and matters of an irritating nature floating in the air, to gain a foothold in the wound and perhaps work harm to the patient. But the mere fact that concentrated organic fluids form unfavorable soil for the nourishment and development of low organisms sufficiently explains the comparative measure of success attained by the late Professor James R. Wood in the wards of Bellevue Hospital some years ago, and Mr. Callender, of St. Bartholomew's Hospital, in cases where the wound surfaces were allowed to desiccate as rapidly as possible. In the case of the latter surgeon's open treatment, however, a solution of carbolic acid in glycerin was applied occasionally, thus adding, apparently, a real antiseptic agent to the treatment. It is doubtful, however, whether the influence of the glycerin alone might not have assured as full a measure of success as the carbolic acid in the proportions employed. Again may be instanced, as mentioned by Professor Paul Bruns,* the difference in the behavior of dry gangrene as compared to the moist variety. In the case of the former, the mummified parts may remain unchanged indefinitely. That perfect desiccation is the best safeguard against putrefaction is quite well known, and advantage is taken of it on our Western prairies by hunters, who preserve buffalo-meat by the process known as "jerking"—i. e., drying rapidly in the open air.

In the first efforts made to imitate nature's process of healing under the scab, attempts were made to produce the same effect by hermetically sealing wounds by collodion and cotton, as well as by other adhesive substances. The method, however, was found to be far from successful, inasmuch as no provision was made for the draining away of the wound secretions, these latter, in their turn, being in a great measure due to the previous entrance into the wound of irritating substances from the surrounding atmosphere. As a result of this failure to drain away the wound secretions, inflammation took place, and it became necessary to remove the artificial scab to give exit to the pent-up pus. Even in Lister's first attempts to form a scab by means of carbolic acid, retention of the secretions could not be entirely avoided.

In the employment of the exsiccation method it is desirable to make use of a dressing through which the atmospheric air can readily pass, and which, at the same time, shall possess absorbent properties sufficient to permit of the removal of the wound secretions from the surface. It should likewise be capable of being impregnated with corrosive-sublimate solution, the latter becoming, in the method of dressing under consideration, the preferable antiseptic agent. It will be at once seen that volatile substances, such as carbolic acid, soon become practically useless unless confined, to some extent, to the wound and its surroundings by an impermeable covering. This latter would defeat the object in view, namely, rapid desiccation of the discharges. The moss dressing of Hagedorn, the peat dressing of Neuber, the wood-wool of Bruns, and wood-flour, as well as finely sifted sawdust—all of these serve the purpose more or less perfectly in fulfilling the requirements mentioned. With the exception of the moss dressing, to which I have tried in vain to adapt some of our native mosses, these substances are not so pervious to air as to admit of rapid drying, although absorbent to a high degree

* "Annals of Surgery," vol. i, No. 1, p. 72.

* "Archiv für klinische Chirurgie," xxxi, 3.

and capable of being sterilized by mercuric-bichloride solution, and rendered antiseptic by the addition of naphthalin, iodoform, etc. In making some experiments with the view of discovering a substitute for the beautiful cushions of soft moss which I had seen used in the surgical clinics in Germany, I was led to make trial of the manilla tissue-paper known as toilet-paper, or water-closet paper. I had a quantity of this cut into strips of about one sixteenth of an inch in width. This was done for me by a stationer with the common trimming or cutting machines used in that trade. A trial of this substance convinced me that it was incomparably the best material for facilitating the rapid drying of the wound secretions, although not so highly absorbent as some of the others. It was found, however, notwithstanding the fact that wood-flour, wood-wool, etc., were superior in point of absorbent properties, yet the permeability of the paper, when lightly applied, and the rapid drying of the secretions therein, gave it advantages over the other substances. Its absorbent powers are sufficiently good for all practical purposes; it takes up blood and serum readily, and these dry rapidly in its loose meshes.

The method employed in preparing it for use is to soak it in a 1-to-1,000 solution of sublimate. In making this solution, chloride of sodium is added in the proportion of five grains for each grain of the sublimate employed, in order to prevent the decomposition of the latter and the formation of calomel in its stead. After becoming thoroughly saturated in this solution, it is passed through the rubber rollers of a common clothes-wringer and shaken out loosely to dry.

Although not yet prepared to discard the use of some antiseptic in the dressings, yet I am constrained to believe that this latter is of far less importance than a strict attention to every detail of aseptic treatment in the case of the wound itself. Far less danger is to be apprehended from a dressing which is not necessarily antiseptic than from a wound left with an indifferently cleansed and sterilized surface, even though it be covered by layer upon layer of the most elaborately prepared antiseptic materials, and in the most approved Listerian fashion. Therefore, when assured to a reasonable certainty of the aseptic condition of the wound and its surroundings, at the time of closing it and applying the first dressings, I should have no hesitancy in trusting to the paper-wool alone; and this particularly if the atmospheric and other conditions were such as to insure rapid drying of whatever wound secretions passed into the dressings.

In using it, after strict attention to every detail calculated to insure the most perfect asepsis, both in the wound and its surroundings, it is my habit to first place a piece of gauze wrung out of a 1-to-1,000 sublimate solution over the parts, and over this a loose mass of the paper, in size proportionate to the extent of the wound, going well beyond the limits of the latter. This is held in position by a gauze bandage. Or, cushions may be prepared beforehand by making bags of the material known as mosquito-bar or netting, and filling them with the paper-wool. Although I have always, in using the sublimate, taken pains to leave the parts wet with the solution, and even to moisten the first piece coming in contact with the skin by means of the same, I have seen none of the troublesome eczema which, according to report, other surgeons have observed. This is probably due to the rapid drying of the wound district accomplished by this manner of dressing.

Mr. C. am Ende, the well-known purveyor of wound-dressing materials, of Hoboken, N. J., has made arrangements to supply this paper-wool in any quantity, sublimated or plain.

HIGH TEMPERATURE PRECEDING ABORTION.

By M. HOWARD FUSSELL, M. D.,
PHILADELPHIA.

Case I.—On the morning of November 23, 1884, the writer was called to see Mrs. P., and obtained the following history:

Age twenty-one, unmarried; toward evening of the three preceding days had experienced a chill, followed by fever and sweat; in the mornings, save for some languor, perfectly well; no nausea; no abdominal tenderness nor diarrhœa. When seen, had just come out of a chill, and had a temperature of 101·4° F.

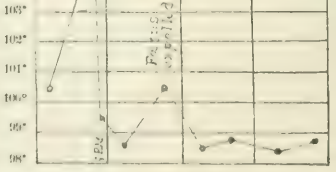
From the history and examination, I supposed the patient was suffering from intermittent fever, gave such an opinion, and ordered quinine, expecting to see her again the next day.

At 5 P. M. of the same day I was sent for in haste, with word that my patient was very sick. At this visit I obtained the following history, the woman's mother, in my absence, having discovered it:

Had been *married* two months; suspecting herself pregnant, had gone to Philadelphia, on November 8th, and permitted an abortionist to attempt a criminal operation upon her. She made five subsequent visits, at intervals of three days, each time the abortionist attempting to bring away the fœtus, and, failing, administering drugs.

This day had been set for another visit, but she was unable to get out because of her condition. On examination, found the woman very nervous, in a chill, with a temperature of 105·4°; rapid, hard pulse; no pain, no abdominal tenderness; mouth of womb soft but not dilated; uterus slightly anteflexed; no discharge of any sort, giving the impression of an early normal pregnancy. Prescribed large doses of bromide of potassium and quinine.

Fearing septicæmia from the history and temperature, I made another visit about 9 P. M., and, much to my surprise and satisfaction, found the woman perfectly comfortable, with a temperature of 99·5°, a drop of six degrees in less than four hours.



The next morning, November 24th, the woman seemed perfectly *well*; temperature normal. Another vaginal examination showed nothing but an apparently early pregnancy, still no discharge of blood, no abdominal tenderness nor pain.

At 6 P. M. I found the woman with rapidly recurring abdominal pains, evidently uterine, bleeding; and, on vaginal examination, found the os dilating rapidly. In the course of half an hour a fœtus of fully *three* months was expelled, followed in a short time by all the membranes. The fœtus was well formed; the top of the head was torn off, as though by some instrument. It was not putrid, nor were any of the discharges. The woman did very well, and in proper time was up and about.

CASE II.—Mrs. D., aged thirty, one living child, two miscarriages, now in third month of pregnancy. Taken with labor pains morning of March 1, 1885. Some hæmorrhage, no rise of temperature at first visit, much abdominal tenderness. Suddenly, at 3 P. M., the temperature rose to 103·5°, and fell again to normal just before fœtus was expelled at 6 P. M. The patient did perfectly well, and never had any return of fever.

These two cases illustrate well the purely nervous origin of some febrile conditions.

In the first case there was certainly no malarial influence, for the patient has been under observation ever since and been perfectly well. Neither was there any absorption of purulent matter in either case, for the febrile condition lasted but about three hours, and there was an entire absence of any of those symptoms of septicæmia which warn us of a serious trouble.

169 GREEN LANE, MANAYUNK.

Book Notices.

Transactions of the Academy of Medicine in Ireland. Vol. II. Edited by WILLIAM THOMSON, M. A., F. R. C. S., General Secretary. Dublin: Fannin & Co., 1884. Pp. xxxiv–504.

THIS volume is very creditable, both to the contributors and to the editor. The papers number upward of twenty, several of them being illustrated by lithographs. We note an interesting article upon pulsating liver, and a report of two cases of intestinal obstruction. Three of the articles in the surgical section are upon the radical cure of hernia. The obstetrical section includes the report of the Rotunda Hospital for the year ending November, 1883, and a long paper by Dr. Neville entitled "The Graver Fevers of Childbed," which is largely devoted to a refutation of Dr. Barker's views upon puerperal septicæmia. The author's conclusions are not new, but they bear the impress of sound common sense. The articles in the pathological section are enriched by several fine lithographs. The papers are all very brief, and none of them possess any special interest. Dr. Madden contributes a short essay on the increase of insanity. The type and binding of the volume are excellent.

Medical Rhymes. A Collection of Rhymes of ye Ancient Time, and Rhymes of the Modern Day; Rhymes Grave and Rhymes Mirthful; Rhymes Anatomical, Therapeutical, and Surgical; all Sorts of Rhymes to Interest, Amuse, and Edify all Sorts of Followers of Esculapius. Selected and Compiled from a Variety of Sources. By HUGO ERICHSEN, M. D., Professor of Neurology in the Quincy School of Medicine, etc. With an Introduction by Prof. WILLIS P. KING, M. D., Sedalia, Mo., Ex-president of the Missouri State Medical Society, etc. Illustrated. St. Louis, Chicago, and Atlanta: J. H. Chambers & Co., 1884. Pp. xx–220.

THIS is a book which, if it fulfills no more ambitious purpose, is admirably calculated to while away the weary hours with many a hard-worked and underpaid practitioner of the healing art. While to a certain extent it is made up of ditties with which almost everybody is familiar, including Oliver Wendell Holmes's "Good Physician," "Stethoscope Song," and "Rip Van Winkle, M. D.," the anonymous "Lines to a Skeleton," Burns's "Address to the Toothache," Tennyson's "In the Children's Hospital," Horace Smith's "Rabelais and his Lampreys," Thackeray's "Foundling of Shoreditch," and Ben Jonson's "To Doctor Empiric," it is not lacking in novelties, since it contains both "The Song of the Spores" and "The Ballad of Bacillus." It is not the verses alone that will prove entertaining; Dr. King's "Introduction" will be found a very clever piece of humorous delineation. If any of our readers are given to "the blues," we advise them by all means to possess themselves of this book, and we can assure those who are not so afflicted that they will find it a rare source of amusement.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Amputations of the Extremities, and their Complications. By B. A. Watson, M. D., Surgeon to the Jersey City Charity Hospital, etc. Illustrated by upward of Two Hundred and Fifty Engravings and Two Full-page Plates. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xix–762. [Price, $5.50.]

Injuries of the Spine and Spinal Cord without Apparent Mechanical Lesion, and Nervous Shock, in their Surgical and Medico-Legal Aspects. By Herbert W. Page, M. A., M. C. Cantab., F. R. C. S., Surgeon to and Lecturer on Surgery at St. Mary's Hospital, etc. Second Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xii–397. [Price $3.50.]

Insomnia and Other Disorders of Sleep. By Henry M. Lyman, A. M., M. D., Professor of Physiology and of Diseases of the Nervous System in Rush Medical College, etc. Chicago: W. T. Keener, 1885. Pp. x–239. [Price, $1.50.]

The Medical Directory of Chicago (including Cook County), for 1884–'85. Edited by Robert Tilley, M. D. Chicago: W. T. Keener, 1884. Pp. iii–179. [Price, $1.25.]

Official Register of Physicians and Midwives now in Practice to whom Certificates have been issued by the State Board of Health of Illinois, 1877–1884. Chicago: W. T. Keener, 1884. Pp. v–324. [Price, $1.50.]

The Medical Annual and Practitioner's Index: a Yearly Record of Useful Information on Subjects relating to the Medical Profession. 1885. London: Henry Kimpton. Pp. 16a–371. [Price, 2*s.* 6*d.*]

Handbook of Diseases of the Skin. Edited by H. v. Ziemssen, M. D., Professor of Clinical Medicine in Munich, etc. Contributors: Professor H. Auspitz, M. D., Vienna; V. Babes, M. D., Budapest; Professor E. Geber, M. D., Klausenburg; E. Lesser, M. D., Leipzig; P. Michelson, M. D., Königsberg; Professor A. Neisser, M. D., Breslau; Professor E. Schwimmer, M. D., Budapest; P. G. Unna, M. D., Hamburg; E. Veiel, M. D., and Th. Veiel, M. D., Cannstadt; A. Weyl, M. D., Berlin; and Professor H. v. Ziemssen, M. D., Munich. Illustrated with Eighty Wood Engravings and Color Prints. New York: William Wood & Co., 1885. Pp. x–658.

Operative Surgery in the Calcutta Medical College Hospital: Statistics, Cases, and Comments. By Kenneth McLeod, A. M., M. D., F. R. C. S. E., Fellow of the University of Calcutta, etc. London: J. & A. Churchill, 1885. Pp. x–354.

An Introduction to the Study of the Compounds of Carbon; or, Organic Chemistry. By Ira Remsen, Professor of Chemistry in the Johns Hopkins University. Boston: Ginn, Heath & Co., 1885. Pp. x–364.

Modern Therapeutics of the Diseases of Children, with Observations on the Hygiene of Infancy. By Joseph L. Edwards,

M. D., Editor of the "Annals of Hygiene," etc. Philadelphia: D. G. Brinton, 1885. Pp. vii–17 to 346, inclusive.

The Nature of Mind and Human Automatism. By Morton Prince, M. D., Physician for Nervous Diseases, Boston Dispensary, etc. Philadelphia: J. B. Lippincott Co., 1885. Pp. x–173. [Price, $1.50.]

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Correspondence.

LETTER FROM ST. LOUIS.

The Murder at the Southern Hotel.—Sanitation in St. Louis.

St. Louis, *April 27, 1885.*

Two or three matters which have been absorbing a good deal of thought and attention in St. Louis lately may be of some interest to your readers.

The mystery of the Southern Hotel murder, which has caused such a sensation here and which has been telegraphed all over the world, involves some medico-legal points which make it not inappropriate to refer to it in a medical journal.

Briefly, in a room at the Southern Hotel, on the 14th inst., was discovered a human body, in an advanced stage of decomposition, packed away in a trunk. The room had been occupied by two Englishmen, one of whom, C. Arthur Preller, had not been seen since the afternoon of Sunday, April 5th. The other, who gave his name as W. H. Lennox Maxwell, had been seen on the following day. The body in the trunk has been identified as Preller. Maxwell has been traced to San Francisco, where he bought a steerage ticket by a steamer to Auckland, New Zealand. Word has been sent to New Zealand to arrest the man on his arrival there. He may, however, leave the vessel at Honolulu, with which port there is no means of telegraphic communication. Another theory which has been advanced by some is that Maxwell is still in this country, that he bought the steerage

ticket on the steamer and went on board, taking pains to be seen to do this, and then, having rapidly disguised himself in some secluded part of the vessel, came off again without being noticed in the midst of the bustle and confusion of the last minutes before the vessel left the dock.

Maxwell was here for some days before Preller arrived. He professed to be a physician, and talked a good deal of the experiences which he had had in the British army, having served in Egypt and elsewhere abroad. The two Englishmen seemed to be very intimate friends, and spent much time together. On the Sunday referred to, Maxwell procured chloroform twice at an apothecary's shop just across the street from the hotel; the second time he seemed to be in great haste. The same afternoon a gentleman who occupied an adjoining room heard moaning as if some one was sick, and called the attention of one of the bell-boys to the circumstance.

In the trunk with the body was a large card on which were written the words: "So perish all traitors to the great cause." Whether this indicates any clew to the cause of the crime has not yet been made to appear.

The following is the coroner's official statement of the result of the post-mortem examination:

"Upon receiving the body, I noticed it in an advanced stage of decomposition, and upon the center of the chest a slight cutting of the skin in the shape of a cross. On raising the scalp, I found no evidence of injury to either scalp or skull. The tumefaction of the scalp was the result of decomposition. On removing the skull-cap, I found no fracture nor evidence of injury to the membrane or brain. On cutting through the dura mater, the brain structure oozed out in a pulpy mass. On opening the chest, I found the heart and lungs sound. On opening the abdominal cavity, I found the stomach extremely reddened and congested, indicating inflammatory action, while the intestinal tube throughout its extent appeared perfectly normal. My opinion is that some corrosive poison was used. Cause of death to me uncertain.

[Signed] "JAMES C. NIDELET, M. D."

A matter of interest to us as physicians is the success of the endeavor to restore the features of the deceased to a condition such that they could be recognized. The condition of the body when first discovered was such, the features were so swollen, distorted, and discolored, that no one could recognize it at all, but injections of some embalming fluid so reduced the swelling and restored the natural coloring that the attempt is regarded as a complete success.

Professor Charles Luedeking, of Washington University, made a careful analysis of the stomach. No evidence was found of the presence of any of the mineral poisons. There was a small quantity of alcohol, but not enough to account for death, or to indicate that the man was intoxicated when death took place. The presence of ptomaines rendered the determination of any alkaloidal poisons a matter of difficulty. This examination has not yet been completed. Testing the stomach for chloroform gave an uncertain result, and therefore Professor Luedeking secured the lungs from the coroner. The tests demonstrated the presence of chloroform in notable quantities in the lungs and in the blood contained in them.

After hearing the results of the chemist's analysis, the coroner's jury brought in a verdict of murder, finding Maxwell responsible for the same.

In Maxwell's trunk was found a copy of Hooper's "Physicians' Vade Mecum," in which the chapter on chloroform and its administration gave evidence of having been much studied, various marks and notes being found in the margin.

There are a good many features of interest in a general way in connection with this case, but I think I have mentioned all that have been developed thus far that are of special professional interest.

Sanitary work is being prosecuted quite vigorously now under an impulse received from the "Citizens' Sanitary Aid Committee." A large number of sanitary inspectors have been set to work, a thorough house-to-house inspection of the whole city is in progress, and a large amount of cleansing, ventilating, disinfecting, etc., is being carried on, as the result of notices issued by the board of health upon the results of these inspections.

The sanitary officers are under appointment from the board of health, but are paid from a fund raised by the citizens' committee, inasmuch as the Municipal Assembly failed to make any appropriation for the doing of such work directly by the city.

Our new Mayor is taking a more active interest in the health department than his predecessor took. Mayor Francis attends regularly the meetings of the board of health, of which he is the *ex-officio* president, while his predecessor was scarcely ever present.

Much has been said and written of late with regard to the water supply of our city. It has been found that there are from six thousand to eight thousand wells within the city, and analyses have been made of the water in a large number of them.

Professor W. B. Potter, of Washington University, delivered a lecture some weeks ago, being one of a course of popular lectures on topics relating to public health, given under the auspices of one of the Councils of the Legion of Honor. The lecture was a very able one, and was illustrated with a number of photographs, showing the relative position of wells to sewers, privy-vaults, and stables in a number of different localities in the city.

This lecture did a good deal to stir up the public interest, and still more has been done through the Commercial Club—an association of leading business men, with one or two physicians and other professional men.

Largely through their agency the Municipal Assembly was induced, at the late session, to adopt more vigorous measures in regard to the closing of these wells, though even this fixes the absurdly high limit of six grains of chlorine to the gallon of water as a maximum.

All wells standing in public streets or sidewalks, which shall be found on analysis to contain six grains or more of chlorine to the gallon of water, are peremptorily abolished by the ordinance, and, on official certification of such fact by the board of health to the street commissioner, it becomes the duty of that officer to close and fill the same within ninety days.

Wells on private property are also to be closed when found to contain an excess of chlorine, but the owner must have five days' notice to appear before the board of health and show cause why his well should not be declared a nuisance and ordered closed.

A well standing on a street corner within three feet of a sewer entrance was found to contain 15·29 grains of chlorine to the gallon of water. I am glad to say that the grocer who sank this well has closed it voluntarily since his attention was called to its condition.

A well in a yard in a thickly settled part of the city was found to contain 36·33 grains of chlorine to the gallon of water—an amount nearly double that found in any one of a dozen samples of water taken direct from sewers and tested.

It is expected that vigorous opposition will be made to the enforcing of this ordinance, but the board of health is determined to carry out its provisions as efficiently as possible, and, if the ordinances already passed are not sufficient to accomplish what is necessary, the board will urge further legislation.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 9, 1885.

THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.

We can not shut our eyes to the conviction that this country labors under certain disadvantages in undertaking to follow Great Britain and Denmark in the task of organizing a successful meeting of the International Medical Congress. These disadvantages need not be enumerated; they are such as will readily be brought to mind by any thinking man. In view of these difficulties, it is doubly to be regretted that a bitter antagonism has sprung up between the committee on organization and the American Medical Association, which latter body, having taken upon itself, as was perfectly proper, to issue the invitation to the Congress to hold its next meeting in this country, now presumes to dictate in regard to the minutest details of the arrangements. Just as it had begun to appear that the committee had achieved something tangible in the direction of doing away with the difficulties to which we have alluded, by an unusually representative and creditable organization—for we can not agree with our contemporary, the "Medical Record," that there was some ground for the dissatisfaction which cropped out in New Orleans—comes this shameless attempt by a few soured men to throw cold water on the whole affair.

We do not impute sinister motives to the meeting as a whole, for the facility with which an assemblage may be swayed by designing and crafty men is proverbial, and the American Medical Association has repeatedly shown its pre-eminent alacrity at being led by the nose. Especially is this excuse to be entertained in behalf of the association when we remember that the red rag of the new code was craftily flaunted in the members' faces. How little sincerity there was in that move may be inferred from the total lack of support given to a motion to acquiesce in the committee's work, provided the new code men were dropped from the list of officers of the Congress, and the fact that the motion was promptly voted down. Nor do we attach much more importance to all the gas that was let loose about the West and the South having been ignored. It was not that the malcontents cared a fig to oust any man on account of his ethical proclivities or the place of his residence; they simply wanted the "ins" to be made "outs" in order that they themselves might become "ins." To accomplish this purpose they naturally seized hold of the most promising pretexts, and the event proved the depth of their cunning. To stir up such a commotion under the most galling provocation would have been bad enough, in view of the disgust it can not fail to create in Europe, but on such a transparent foundation of greed be place [illegible]

But what is to come of it all? We are not acquainted with the intentions of the original committee, Dr. Billings, Dr. Hays, and their associates, but we sadly misjudge them if they are the men to submit tamely to such an affront, especially as not only they themselves, but the undertaking they have in charge, will surely be ruined by their submission. We trust, indeed, that no particular display of "backbone" will be called for, for we have an abiding faith that the new thirty-eight, recognizing into what an unsavory mess their constituents have thrown them, will refrain from any attempt to undo the work of their elder brethren; and, fortunately, they do not seem to have been "instructed." By such a course they would undoubtedly avert a threatened disaster and commend themselves to the "sober second thought" of their brethren throughout the land, who, we are confident, are not seriously prepared to throw overboard Dr. Austin Flint and the other honored men who figure with him on the present list of officers of the Congress.

CHEAP LABOR.

It is a well-recognized principle, as old as Scripture, if not older, that a man can have no reasonable expectation of reaping where he has not sown. It is by none more forcibly appreciated than by the younger members of the medical profession, who have ample opportunities of perfecting themselves in the art of sowing where they are not to take part in the harvest. The young physician is commonly expected to do a certain amount of work for which he is to receive no compensation; in fact, it seems to be the general opinion that he should be thankful for "something to do" at any price or at no price. All this is well known, but in New York particularly there appears to be a common delusion that a young practitioner's time is worth little or nothing, and that he should be perfectly ready to do any number of odd jobs, and take them as so many favors.

Perhaps the most striking feature of this delusion is seen in the department of pathology. If the aspirant to professional success is so misguided as to look for wealth and fame in this direction, his fate is dismal in the extreme. Specimens are rained down upon him, with the request for "a little report." Unfortunately, "a little bill" is not expected to accompany the report. The would-be pathologist is at first gratified at the abundance of material, but after a time this begins to pall, and he realizes sadly that there is very little "money in it." This is not jesting; it is in sober earnest. We have known numbers of young men whose time was so much taken up with gratuitous work that they were not able to pay their expenses. The question for decision by the older members of the profession is, Is it right to ask for the time and brains of their younger brethren, and yet to entertain no thought of giving an adequate compensation?

THE COMPULSORY REPORT OF INFECTIOUS DISEASES.

We desire to call attention to a resolution recently adopted by the Board of Health, which our readers will find in an-

other column. No reasonable man can for a moment question the justice of the board's action in this matter, for it aims simply at providing for the protection of the entire community. We see no reason why physicians should be the only citizens allowed to disregard the municipal ordinances with impunity, especially when their carelessness in this respect may be fraught with disastrous consequences. It is not an unreasonable request which is made by the authorities—we call it a *request*, because they have hitherto shown such leniency toward the profession as not to make it an inexorable demand, as they have long had a perfect right to do. The board's willingness to assume all the care of disinfecting in cases of infectious disease, as well as its gratuitous work in assisting in the diagnosis of obscure cases, together with its invariable courtesy toward the medical profession, must be said to deserve a better return than has hitherto been accorded.

Physicians are notoriously "slack" in their business habits, but their negligence is inexcusable under the circumstances to which we refer. Not to speak of the imperfect statistics which must result from the failure on the part of the profession to report cases of infectious disease (so that the number of deaths from those affections has sometimes actually exceeded the number of cases that had been brought to the attention of the authorities before the fatal termination), the danger incurred by the community at large is an element too often lost sight of. We heartily approve of the resolution passed by the board, while at the same time we deeply regret the state of things that called for it. If we mistake not, its enforcement will affect some of the most prominent members of the profession; nevertheless, let the ordinance be observed. If a physician will not obey the laws, he must be made to do so, like any other citizen.

ANTIPYRINE.

So much has already been written concerning this new drug that we can not hope to add anything new. The excellent article by Dr. Draper, in the "Journal" for April 18th, covers in a short space the main facts with reference to antipyrine, both historical and clinical. He speaks highly of its antipyretic properties, but calls attention distinctly to the fact that it does not appear to have any specific effect upon the febrile affections in the treatment of which it is recommended. This is an important point, since the reader is apt to form a contrary impression after reading the enthusiastic reports of German observers. Dr. Draper adds the caution that the drug is one which can not be given indiscriminately. Occasionally unpleasant symptoms are noticed, such as vomiting, chills, and profuse perspiration.

In connection with Dr. Draper's article, we would refer the reader to one on the same subject, in another number of the "Journal," in which the writer, Dr. Butler, is equally emphatic in praise of the drug as a pure febrifuge. He notes especially the great rapidity with which the temperature was lowered, and makes the important statement that antipyrine is not an antiperiodic, in which fact lies one of its principal points of difference from quinine. Neither of these authors has attempted an explanation of the *modus operandi* of the drug; in fact, in the present state of our knowledge, any explanation would necessarily be largely theoretical. Dr. Draper expresses its action tersely when he says that "It smothers, but does not extinguish, the fire." It is still *sub judice*, and we trust that a sufficient number of observations will be made in hospital practice to fully test the new remedy. The one criticism to be urged against scientific medicine in this country is, that the observers are so few and far between. When some brilliant novelty (such as cocaine) appears, every one is ready to try it: but for patient, long-continued experiments we are not distinguished. We hope to see antipyrine given a fair trial, not only by city practitioners, but by their brethren in the country, the latter of whom are frequently quite the equals of their metropolitan *confrères* as original observers.

THE UTERINE CIRCULATION.

One of the striking features of modern medicine is the advance in the department of gynæcology. Although that branch has never been positively stationary, yet certain moss-grown traditions have crept over it which it is not easy to dislodge. The old ideas of uterine pathology, and above all the theories of displacement, with the time-honored diagrammatic figures that have been copied from one treatise into another for nearly half a century—these have been held with a tenacious grasp. But the last year has seen many changes, and doubtless there is more iconoclasm still to come.

An important paper on the mechanical theory of displacements was recently read, by Dr. John Williams, before the Obstetrical Society of London. In the course of his remarks, as reported in the "Lancet," he demonstrated clearly that the uterine circulation was so free that any segment of the organ might be constricted without affecting the blood supply to any segments above or below the constricted point. The natural inference was, that simple flexion could not occasion congestion, as was taught by Graily Hewitt. Dr. Hewitt of course opposed this view, citing numerous clinical observations to sustain his theory; but the fact remained that the arguments of his opponent, founded as they were on a sound anatomical basis, were not easy to answer.

We regard this discussion as a highly significant one, not only from its inherent importance, but because it is one of those "straws" that show which way the wind blows. One thing is certain: the gynæcology of the future will not be made up of a collection of mere personal theories, but will obtain credence only when its teachings agree with the revelations of the dead-house and the dissecting-room. Our English contemporary pertinently expresses with regard to this matter the hope that the "rising generation will henceforth be fed with facts, and allowed to judge for themselves."

MINOR PARAGRAPHS.

DEAFNESS AS THE ALLEGED RESULT OF A BLOW.

The question of how much reason there may be for the warnings that otologists have given from time to time of the danger of damage to the organ of hearing as the result of a blow on the ear seems likely to be tested in one of our city courts. A gentleman has been sued for striking a boy on the ear, thereby, as the boy's father seeks to prove, causing his deafness more or less complete. The testimony as to matters of fact appears to differ only in regard to the severity of the blow, and the issue of the suit seems about to turn on the medical testimony concerning the degree of violence necessary to injure the ear. It is interesting to note that Dr. D. B. St. John Roosa is reported to have testified that, in his opinion, the blow could not have produced deafness unless it was severe enough to knock the boy down, and that deafness was common in children, being usually the result of cold. Dr. Roosa testified also that deafness might take place in consequence of immoderate sea-bathing, and, as regards the boy in question, a witness was produced who testified that "they had a tough time to keep him out of the water."

THE ENDEMIC IN THE WYOMING VALLEY.

At the time of our going to press the news from the plague-stricken town of Plymouth, Pa., is to the effect that there are fourteen hundred of the inhabitants sick with the fever that has been raging there for several weeks past. The destitution and dismay that are so apt to follow in the wake of a pestilence are also pictured vividly in the dispatches to the newspapers. As is so commonly the case, too, the most dismal feature of the matter to reflect upon is the probability that all this suffering might have been prevented by sanitary precautions such as at the present day no community is excusable for neglecting.

AN ANTI-VACCINATION DEMONSTRATION.

We learn from the "Lancet" that the working classes of Leicester have recently indulged in an outbreak against public vaccination. The usual trite arguments were brought to bear against the practice. We have already expressed ourselves so fully on this subject that further comment seems unnecessary. If the arm-to-arm method of vaccination were abandoned in England, there is some reason to think the masses would make far less opposition to the practice.

THE TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION.

The first volume of the "Transactions of the New York State Medical Association" has reached us, and we must say that it is one of the handsomest volumes of its class that we have ever seen. Concerning the papers that make up the greater part of the contents we need say little, as most of them have already been published in our columns. For general excellence we think they will compare very favorably with those published by any medical society in the country, not excepting those of national scope. The volume has been edited by Dr. Austin Flint, Jr., and shows evidence throughout of the most painstaking care. The "Transactions" are issued by Messrs. D. Appleton & Co.

PERMANGANATE OF POTASSIUM IN THE TREATMENT OF AMENORRHŒA.

Mr. Duncan reports, in a recent number of the "British Medical Journal," successful results from the use of this drug in cases of amenorrhœa associated with mental disturbance. He regards the permanganate as a nervine tonic, as well as an emmenagogue, and says that he has never observed any gastric or intestinal irritation after its use. So many conflicting statements have appeared, in our own and the foreign journals, with reference to the action of the drug, that it is rather difficult for the reader to derive a clear idea of its value. It is desirable that an extended series of experiments should be made in hospital practice, with the view of determining the true limits of its usefulness. So far as our own experience extends, the permanganate, even in doses of a grain, causes serious gastric disturbances, so that after a brief trial patients object very decidedly to continuing its use.

CASES OF TUBAL PREGNANCY.

In a recent number of the "British Medical Journal," Mr. Lawson Tait reports three cases of tubal pregnancy, with consequent rupture of the tube, in which laparotomy was performed successfully. Mr. Tait has now saved eight women out of nine in whom a similar condition existed. This is a remarkable record, and we do not know which to admire most, the accuracy of the diagnosis or the promptness with which the emergency was met. In Mr. Tait's opinion, all cases of extra-uterine pregnancy are of the tubal variety.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 5, 1885:

DISEASES.	Week ending Apr. 28.		Week ending May 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	5	12	6
Scarlet fever	80	17	68	14
Cerebro-spinal meningitis	4	2	8	7
Measles	184	15	141	20
Diphtheria	46	28	58	23

An Endemic of Typho-malarial Fever—for, from the accounts, that seems to be its nature—is now raging in the town of Plymouth, Pennsylvania. The water-supply is said to be foul, and the general condition of the place as to cleanliness most wretched.

Returns of Infectious Diseases to the Board of Health.—A recent official communication from Dr. James B. Taylor, chief of the division which has charge of contagious diseases and disinfection, to Dr. W. DeF. Day, the sanitary superintendent, contained the following statement: "The number of cases of contagious disease reported to this department are so out of proportion to the deaths that we can no longer doubt that physicians are becoming more and more neglectful in reporting them.

"Monthly Reports of Deaths from November 1, 1884, to March 14, 1885.

	Total No.	Reported.	Not reported.
"November	325	137	188
"December	372	166	206
"January	347	165	182
"February	312	139	173
"March (to the 14th)	146	54	92

"That is, out of 1,502 deaths from contagious diseases, only 661 had been previously reported."

Thereupon the board passed the following resolution:

Resolved, That the sanitary superintendent be directed to

send to the attorney, for prosecution, the name of every physician neglecting to comply with section 131 of the Sanitary Code, which relates to the reporting by the physician of all cases of contagious disease which he has prescribed for, or attended for the first time, during any part of the preceding twenty-four hours.

Section 131 reads as follows:

"That every physician shall report to the Sanitary Bureau, in writing, every person having a contagious disease (and the state of his or her disease, and his or her place of dwelling and name if known), which such physician has prescribed for or attended for the first time since having such a contagious disease, during any part of the preceding twenty-four hours; but not more than two reports shall be required in one week concerning the same person; but every attending or practicing physician thereat must, at his peril, see that such report is or has been made by some attending physician."

The State Board of Health ought to meet with no opposition in the Legislature to its request for an additional appropriation of $15,000 to enable it to prosecute the unusual amount of work which, in view of the chance of a visitation of cholera, it must hold itself in readiness to undertake; but there seems to be, we regret to say, a disposition on the part of some of the legislators to sacrifice the sanitary, and therefore all, the interests of the State in the hope of currying favor with a certain class of their constituents.

The Carnegie Laboratory Building.—The profession is respectfully invited to inspect the Carnegie Laboratory building, which will be open on Thursday, May 14th, from 8 to 10 P. M. The laboratories are now in working order, and the directors and assistants will exhibit during the evening bacteria, pathological specimens, etc.

By order of the Building Committee.

The New York Post-Graduate Medical School and Hospital has opened a physiological laboratory in the hospital building. The laboratory is intended to encourage physiological research, and is open to all physicians who may desire to make investigations in this department. The director is Dr. G. M. Hammond. Applications for opportunities to work in the laboratory may be made to the superintendent of the School and Hospital.

Vivisection in Philadelphia.—The "Philadelphia Telegraph" states that the trustees of the University of Pennsylvania have adopted the following rules to govern vivisection in that institution:

Experiments may be made on living animals for the purposes of serious inquiry or in the giving of instruction of an important character. Experiments on animals are only permissible during lectures, so far as they may be necessary for the lecturer to explain his subject-matter. The operative preparations for the lecture must, as a rule, be made before the commencement of the demonstration and in the absence of those attending the lectures. The lecture experiments on animals may be performed only by the professors and lecturers, or on their responsibility. Experiments which can be made on the lower animals, without essential prejudice to the result required, are only to be performed on these, and not the higher animals. In all cases, whether for research or instruction, in which it is not absolutely incompatible with the objects of the experiment, the animals must be put under the full influence of anæsthetics in such a manner that the effect of the anæsthetics shall last for a sufficient time.

The International Sanitary Conference.—The "British Medical Journal" learns that the Italian Government has telegraphed invitations to the European powers to take part in the International Sanitary Conference to be opened at Rome on the 15th of this month. In addition to discussing methods for preventing the introduction of cholera into Europe, it is supposed that the conference will consider general epidemic diseases and the idea of founding a permanent European sanitary council.

The University of Pennsylvania.—The annual commencement of the Medical Department was held on Friday, the 1st inst., and the degree of doctor in medicine was conferred on one hundred and seven candidates, and that of doctor of dental surgery on forty-nine.

Alleged Poisonous Mineral Waters.—A maker of mineral waters in New York has lately been brought before a police court charged with using well-water contaminated with sewage in the manufacture of his wares. He was put under bail to appear for trial at the Court of Special Sessions.

A New Board of Health has been organized for the town of Newtown, L. I., and the hope is expressed that a "reform policy" will be pursued by the board.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 26, 1885, to May 2, 1885:*

Byrne, Charles C., Major and Surgeon. Assigned to duty as attending surgeon at the Soldiers' Home, D. C., to take effect May 15, 1885.

De Witt, Calvin, Captain and Assistant Surgeon. Upon being relieved by Surgeon Byrne, ordered to report to the Surgeon-General of the Army. S. O. 94, A. G. O., April 25, 1885.

Torney, George H., Captain and Assistant Surgeon. Assigned to duty at Fort Monroe, Va. S. O. 87, Department of the East, April 25, 1885.

Arthur, William H., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Niagara, N. Y. S. O. 89, Department of the East, April 28, 1885.

Society Meetings for the Coming Week:

Monday, *May 11th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Indiana State Medical Society (Indianapolis—first day); Boston Society for Medical Improvement; Gynæcological Society of Boston; Norwalk, Conn., Medical Society; Burlington, Vt., Medical and Surgical Club.

Tuesday, *May 12th:* New York Surgical Society; New York Medical Union (private); Medical Societies of the Counties of Greene (Cairo) and Rensselaer, N. Y., and Camden, Morris, and Sussex, N. J.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Indiana State Medical Society (second day); Norfolk District, Mass., Medical Society (Hyde Park); Franklin County, Vt., Medical Association.

Wednesday, *May 13th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Indiana State Medical Society (third day); Medical Society of the County of Cayuga, N. Y.; Pittsfield, Mass., Medical Association (private); Franklin District, Mass., Medical Society (Greenfield); Hampshire District, Mass., Medical Society (Northampton); Worcester District, Mass., Medical Society (Worcester).

Thursday, *May 14th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Harlem Medical Association of the City of New York; South Boston, Mass., Medical Club (private).

Saturday, *May 16th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Section in Surgery and Anatomy.

The Chairman, Dr. Duncan Eve, of Tennessee, in the Chair.

False Doctrine in the Treatment of Fractures was the title of the first paper, read by Dr. John B. Roberts, of Philadelphia. He maintained that a primary bandage, when applied beneath a splint, was often unnecessary and frequently did damage. Passive motion was often employed too early, especially when the fracture was in the neighborhood of a joint; in such cases it was not only useless to prevent ankylosis, but positively injurious by setting up inflammation. Under other circumstances it was not needed before the lapse of three or four weeks, or until union was well established. Splints were often kept applied too long; in cases of fracture of the tibia or fibula he generally allowed the patient to go about at the end of ten or twelve days, and with fracture of the radius no splint was usually needed after the same length of time. In fractures of the skull there was not so much danger from exploring the fracture as from neglect to do so. In fractures of the nose it was impossible to keep the arch in proper position with the adhesive-plaster dressing, as was sometimes attempted; the best way was, generally, to transfix with pins. It was unnecessary to insert tubes into the nasal passages unless for the purpose of maintaining apposition. For fractures of the clavicle the axillary pad was generally worthless; if the posterior part of the scapula was fixed, the pad was unnecessary. In fractures of the surgical neck of the humerus, instead of the internal angular splint, it was generally best to carry the arm forward and maintain it against the side, with the hand elevated to the opposite shoulder, and use a small axillary pad. In fractures at or near the elbow he did not approve of the anterior and posterior angular splints, but thought the best results would be obtained by means of the straight position. As to the interosseous pad in fractures at or near the middle of the forearm, it did not effect what was expected of it. In fractures of the phalanges and metacarpal bones, one of the best methods of securing and maintaining apposition, and avoiding deformity from overlapping, etc., was by the use of a splint attached to the forearm and extending beyond the ends of the fingers, whereby extension could be kept up by strips of adhesive plaster.

In the matter of diagnosis, shortening was not of so much value as many supposed, from the fact that there were often normal differences between the two sides.

The subject was discussed by Dr. Buck, of Iowa; Dr. Quinby, of New Jersey; Dr. Budd, of Missouri; Dr. Murphy, of Minnesota; Dr. Byrd and Dr. Cook, of Illinois; and Dr. White, of New York.

The Treatment of Compound Fractures by Free Drainage and Wiring of the Bones was the title of the next paper, by Dr. W. P. Verity, of Chicago. He thought no fragments should be removed unless they proved sources of irritation, as they were needed for support and should be wired together. He reported several very interesting cases and illustrated them with drawings. The discussion was postponed until the next day.

Do We find from Micro-organisms in Inclosed Cavities a hitherto Unsuspected Danger to Surgical Lesions? was the title of the first paper read on the second day, by Dr. H. O. Marcy, of Boston. The author cited several cases of ovarian cysts in which micro-organisms had been found in the ovarian fluid.

In the discussion, Dr. Byrd, of Illinois, referred to a case of abdominal enlargement in which he had performed tapping, and afterward, as there seemed to be more trouble, done laparotomy for the removal of the cyst, but found the abdominal cavity perfectly normal.

Dr. Hurst, of Illinois, thought that Dr. Byrd's case was probably one of hydronephrosis, and that an operation should not have been performed without a microscopical examination of the fluid which had been withdrawn.

Dr. Peck, of Iowa, alluded to a case in which he had diagnosticated a large ovarian tumor, and had put the patient under treatment preparatory to the performance of ovariotomy, when she suddenly died, soon after coitus, probably from rupture of the cyst.

The Surgical Treatment of Cysts of the Pancreas was the title of the next paper, by Dr. N. Senn, of Milwaukee. The paper was exhaustive and interesting, and ended with the following conclusions: 1. Cysts of the pancreas are true retention cysts. 2. Cicatricial contraction or obliteration of the common duct or its branches, and impacted calculi, are the most frequent causes. 3. A positive diagnosis is impossible; a probable diagnosis of this or some other cyst amenable to the same treatment is enough for all practical purposes. 4. The formation of a pancreatic fistula, under antiseptic precautions, commends itself as the safest and most expedient operation.

Two Ovariotomies on the Same Patient.—Dr. Joseph Ransohoff, of Cincinnati, read a paper with this title. Commenting on the case, he gave some statistical information concerning the frequency of bilateral ovarian disease and the increased danger of bilateral ovariotomy. On this account, and because there was a possibility of impregnation when even a partially diseased ovary remained, conservatism should be practiced except in women approaching the climacteric. Of thirty-two women on whom ovariotomy had been performed twice, five had given birth to an aggregate of fourteen children during the interval between the operations. Furthermore, the mortality of second ovariotomies was light, since in thirty-two cases only four out of the five deaths were directly attributable to the operation.

The paper was discussed by Dr. Reid, of Ohio, and Dr. Warren, of New York.

Giant Growth of the Lower Extremities.—This was the title of a paper describing a case of excessive development of the lower limbs in which the feet measured over twenty inches in length.

A Case of Necrosis of the Tibia and Fibula of Ten Years' Duration was the subject of the next paper, by Dr. R. H. Jenkins, of Georgia. At the operation, almost the entire tibia was removed, together with a portion of the fibula, and the patient made a good recovery and had a useful limb.

The Discussion on Dr. Verity's Paper was then taken up. Dr. Ransohoff asked the author in what cases he would recommend wiring. He was answered, In cases where it was otherwise impossible to keep the fragments in apposition, which was often the case if the soft parts were so mutilated as to make the wearing of a splint impracticable; and also where it was necessary to get at the parts frequently for purposes of cleanliness and drainage.

Dr. Byrd thought there were good reasons for resorting to the measure even in some cases that were not complicated with a wound, like those of fracture of the jaw, for instance.

Colo-proctitis treated with Hot-Water Douches and Stretching or Division of the Sphincters was the subject of the first paper read on the third day, by Dr. A. Y. P. Garnett, of Washington. He reported a number of cases that had been so treated. The patients had been kept in bed and restricted to

a diet of half a pint of milk every three hours. Injections of hot water, with twenty drops of laudanum, were given every few hours. In other cases, more stubborn, the sphincters were either cut or stretched at the outset.

Dr. DAWSON, of Cincinnati, generally used the knife freely in such cases, dividing both sphincters. The treatment must be radical.

Dr. RANSOHOFF thought that the division or paralyzing of the sphincters brought into play the principle essential to success—rest.

Dr. PECK reported a case of apparently permanent paralysis from manual exploration of the rectum.

A New Combined Trocar and Cannula and Aspirating Needle.—A paper with this title, by Dr. H. L. GETZ, of Marshalltown, Iowa, was read by title and referred to the Committee on Publication.

A Patient with a Growth in the Temporal Region was shown, and referred to a committee, consisting of Dr. KINLOCH, Dr. DAWSON, and Dr. WARREN, for examination. The committee reported that the growth was a fibrous tumor.

Autoplasty, with Cases, was the title of the next paper, in which several very interesting cases were reported.

Several papers were then read by title and referred to the Committee on Publication, and the Section adjourned.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of March 25, 1885.

The Treatment of Gonorrhœa.—Dr. J. WILLIAM WHITE read the following paper:

This is a continuation of the discussion of the subject which was considered one year ago, when I had the pleasure of opening the debate on the general subject of gonorrhœa. At that time the subject of treatment was not touched upon. I should like to say in the beginning that I have no idea that I come here to teach, but rather to learn, as has always been my experience when I have come to these meetings. This is especially true in considering a disease which is so common that every gentleman present has undoubtedly had frequent opportunities of studying it, and doubtless has well-matured ideas of treatment.

In taking up the treatment of gonorrhœa systematically, it may be divided into the prophylactic, the so-called abortive, and the curative. The familiar methods of prophylaxis, and I am speaking more particularly in regard to the disease as it occurs in the male, are the use of a cover during suspicious intercourse, immediate ablution and immediate urination, and are so well known and, at the least, so harmless, that it is hardly worth while to allude to them.

The use of preventive injections is so widespread among certain classes that it will be well to say a few words in regard to them. There are certain injections, especially those of a disinfectant character, which have a great reputation among the laity. The chief of these are carbolic acid in solutions of various strengths, Labarraque's solution, phénol sodique, dilute lead-water, Monsel's solution, and some preparations of iodine. I have known the glycerole of iodine to be used. In so far as these injections contribute to cleanliness, they are useful, but all the good derived is counterbalanced by the unwarranted feeling of security which their use affords. They are generally prescribed by non-professionals. Men about town carry these prescriptions with them, and hand them from friend to friend. They are often used of improper strength, and may become positively harmful, so that an irritative becomes developed into an inflammatory condition, and a true case of urethritis may be excited. They are, therefore, not to be encouraged by the regular profession.

The abortive treatment consists in the use immediately after the appearance of the first symptom of some irritative injection, which is intended to substitute for the so-called specific inflammation a simple inflammation, which is supposed to run a milder course, and to be more amenable to treatment. I do not believe that there is any sufficient evidence, either theoretical or clinical, to show that they accomplish this object. The favorite injection for this purpose is nitrate of silver, either in strong solution, which is injected and retained for a few minutes, or a weaker when it is thrown in from every fifteen minutes to every hour, until it returns tinged with blood, when it is supposed to have excited sufficient inflammation. Those who were present one year ago will remember that my views in regard to the non-specificity of gonorrhœa are very positive. I have never seen any conclusive evidence that there was any specific character about gonorrhœa. I am, of course, therefore not a believer in abortive injections. On the other hand, I am perfectly aware that different cases run a different course, which it is not possible to determine at the first visit.

Gonorrhœa, as studied clinically, may, I think, be divided into three distinct and easily recognizable varieties. First, the irritative or abortive, which rarely progresses to any serious extent; there are simply a little redness and pouting of the meatus, slight discharge, and a little tenderness on urination, which subsides without treatment. Second, the subacute or catarrhal gonorrhœa, in which the symptoms progress to a more marked degree, the discharge grows profuse, there is some pain on urination, etc., but much less than in the third or acute inflammatory variety, in which all the symptoms are much more marked and serious. At the first visit, these three classes are often indistinguishable. You can not say whether you are dealing with a case which will subside without treatment, or with a case that will be long and protracted, or with one intermediate between these two. Consequently, if a powerful injection is used, there is a risk of converting a simple case into one as severe as follows any acute infectious affection. Lebert, the writer of the article in von Ziemssen's "Encyclopædia" on this subject, who is an ardent advocate of the specific nature of gonorrhœa, is compelled to admit that, although theoretically this treatment seems to be indicated, as a matter of fact, he has seen such severe phlegmonous inflammation and such dangerous symptoms follow the use of "abortive" injections that he does not recommend them. As this treatment is still used by some, and is not discountenanced by many of the text-books, I have thought proper to give this amount of time to it, and to say definitely that I see no reason for employing it.

This brings us to the curative treatment, which I have found, and I suppose that most others can say the same, to be more or less unsatisfactory. Dr. Maury used to say that, of all cases that came to him, there were none in which he had so much hesitation in giving a definite prognosis, either as to time of cure or freedom from complications, as gonorrhœa. I suppose this has been the experience of others who have seen many of these cases. I do think, however, that, with very careful attention to details, a great deal of success can be secured which otherwise would be lacking, and that many complications can be avoided.

To go into detail, and to base treatment on rational grounds, it is necessary to consider the anatomical and physiological characters of the parts affected, and these explain why it is that treatment is so unsatisfactory. We must remember that the inflammation affects a long, narrow, and sinuous canal, whose sides during the intervals between urinations are in contact, that through this canal passes a fluid which is liable to various

disturbances, from cold, indigestion, and other causes, and which is always more or less irritating; that this canal is always subject to intense congestion from sexual stimulation; that it always has a disproportionately large blood supply, which predisposes to inflammatory conditions and favors their continuance when once excited; that it lies in loose, spongy tissue, which gives very little extra-vascular support to the vessels. These conditions react one upon the other. The period of congestion during erection not only favors inflammation, but the inflammatory condition predisposes to erection. If we consider these facts in connection with the excessive nerve supply to the parts involved, it can be readily understood why gonorrhœa is unsatisfactory in its treatment and is apt to be prolonged in its course or delayed by complications, and, in giving advice in any case of acute gonorrhœa, it is well to bear these conditions in mind.

For example, when a patient with acute inflammatory urethritis pays his first visit, it would be proper, remembering that the part is subject to congestion from erection, to warn the patient against sexual stimulation, against lascivious thoughts, against coming in contact with women, against subjecting himself in any way to sexual excitement. It is worth while to dwell upon this physiological rest, which is just as important here as it is in the treatment of any other form of inflammation.

It should also be remembered that the pendulous position of the organ favors gravitation of blood. It is, however, rarely possible to get a patient with acute gonorrhœa to go to bed. If the patient can be induced to assume a recumbent position, with the hips elevated, on a hair pillow, as much will have been done toward effecting a cure and avoiding complication as can be accomplished by the use of any drugs. The value of this is seen in hospital practice. Hospital gonorrhœas are, on the average, more amenable to treatment, run a shorter course, and have fewer complications than cases in private practice. The reason of this is that such patients are put to bed and given the inestimable advantage of rest in the recumbent position. If the patient can not give up his business or does not dare to, for purposes of concealment, there is a positive unfavorable influence at work. The patient is then to take all the rest in his power, and should be advised to walk instead of running, and ride instead of walking, to sit instead of standing, and to lie down with the hips elevated whenever it is possible.

In order to overcome the irritating character of the urine, strict rules in regard to eating and drinking should be given. I think that the very best diet in the earliest stages is a skim-milk diet. Patients will often, or usually, object to such a radical measure, on the grounds of concealment, and it is often impossible to get them to adopt such a strict diet. We should then endeavor to approach as near as possible to this diet. Salad-dressings, mustard, vinegar, salt, pepper, and asparagus are to be particularly avoided. Everything which has a stimulating effect on the genito-urinary apparatus is to be excluded. The diet should consist chiefly of milk and farinaceous articles. The free use of diluent drinks should be encouraged, and plain water is as valuable as any. I direct these patients to drink, if possible, three or four quarts of water daily. When this is done, two or three things are accomplished. The water acts as a mild laxative, it acts as a diluent to the urine, it reduces the appetite, and renders the limited diet more easy of observance. With the idea of promoting the watery character of the urine and reducing its irritating properties, an alkaline diuretic, as bicarbonate of potassium with acetate of potassium in neutral mixture, combined with a few drops of tincture of aconite and of belladonna, may be used.

In addition to the above directions, I usually confine myself at the first visit to ordering a proper dressing. Patients, particularly with their first attack, usually come with cumbersome, warm dressings tied around the organ with a string, or with some of the rubber covers often sold for this purpose. These dressings act as poultices, keep the organ warm and moist, and favor the flow of blood to the part. The best dressing in any particular case depends on the character of the foreskin. If it is long and pendulous, a little piece of absorbent cotton may be placed over the meatus and held in place by drawing the foreskin over it. If the foreskin only half covers the glans, a piece of old linen or patent lint, three inches square, may be taken and a hole cut in its center; the linen is then slipped over the glans and held in position by drawing the foreskin forward; the ends are brought in front of the meatus, and, if the little squares of linen are changed frequently enough, they protect the skin from the discharges. If there is no foreskin, the best dressing is either an old stocking pinned to the under-shirt or a bag of muslin.

I confine myself to this treatment for one week or ten days. I used to begin injections early, and this is often urged by patients. The more carefully I have observed cases, the more convinced I have been that it is a mistake to begin injections before the height of the inflammatory action has subsided.

It may, during this period, be necessary to give something to relieve certain symptoms, chief among which are ardor urinæ, chordee, and frequent urination, which are often combined and are frequently very troublesome. For the relief of the ardor urinæ, I push the diuretic mixture already described, instead of giving it five or six times a day, giving it every hour or two and continuing it through the night. If there is tumefaction, I direct that the organ be wrapped in lead-water and laudanum, warm or cold as is preferred, and that urination shall be performed in a cup of hot water. This sometimes gives extraordinary relief. I am unable to give a satisfactory explanation for this result; one theory is that it acts by equalizing the circulation of blood in the inflamed organ, the blood being drawn from the congested urethra to the surface, and thus lessening the swelling of the mucous membrane and affording easier and less painful passage to the stream of urine. Whatever the explanation may be, the fact remains that in two or three cases out of every five great relief is afforded by urinating in a hot bath or in a vessel containing water as hot as can be borne. Sometimes where the symptoms have been very severe, and these measures have failed, it has seemed proper to try demulcent injections, and I have used a mucilage of acacia, or of sassafras, or a mixture of glycerin and water. First stripping the urethra gently, two or three drachms of one or other of these mixtures have been injected. I always fear, however, that these injections may carry the irritating pus into the deeper parts and in only a few cases has it been so useful as to warrant its employment. I have lately tried cocaine under these circumstances, but not in a sufficient number of cases to warrant a positive opinion; in some it seemed to fail altogether, while in one or two it appeared to aggravate the condition. In others it gave decided relief. Whether these differences were due to differences in the preparations or in the conditions present, I am unable to say, but what we have heard lately in regard to the therapeutic effects of cocaine would certainly lead us to think that it ought to be useful in this condition.

Chordee is another symptom which occurs at this stage, and is most troublesome and annoying. Many remedies for its relief have been recommended, among which the only ones which I think worth mentioning are, opium in combination with camphor in the form of a suppository, containing half a grain of the aqueous extract of opium or one grain of powdered opium and three grains of camphor, at bed-time; opium alone in the same dose (and I am not convinced that the camphor is

very effective); lupulin, in fifteen- to twenty-grain doses; tincture of gelsemium in ten- or fifteen-drop doses every time the patient awakens with chordee; and, finally, bromide of potassium, which is the best of all. This seems to have fallen into undeserved disrepute. Bromide of potassium is more efficient in preventing erection than any of the other drugs which I have mentioned. When a patient complains of chordee, I usually give the following directions: I tell him to try and secure his daily stool at bed-time instead of in the morning, and, if necessary, to take a laxative, as some mineral water, during the afternoon; I tell him to use a hard mattress, to sleep in a cool room under light bedclothing, and to avoid sexual thoughts; I then give thirty-grain powders of bromide of potassium, with directions to take one during the afternoon, one after supper, and one at bed-time, and to keep one dissolved at his bedside, and to take this if awakened at night with chordee. Of course, if this were continued for any length of time, there would be symptoms of bromism. I have never seen anything except anorexia (which is not an unmixed evil), drowsiness, and slight disturbance of the digestive tract. Bromide of potassium is indicated, for a number of reasons, in inflammatory gonorrhœa. It is an alkali, an antaphrodisiac, and an arterial sedative, so that, apart from the symptom chordee, I am in the almost invariable habit of using bromide of potassium in the acute stage of inflammatory gonorrhœa.

As I have said, I wait for the subsidence of inflammatory swelling before using injections. When the patient reports that he has less pain in urination, fewer painful erections, and I see that the discharge is more watery and lighter in color, I then think of the use of injections, beginning these with some caution. At first I usually employ a mixture of lead-water and laudanum, or the watery extract of opium, sometimes with a little tincture of aconite or belladonna, or both, and watch the effect. Of late I have sometimes added cocaine. I order these injections, as I do all others, to be used in such strength as to not give more than a slight tingling or smarting. I think it better to discard them altogether if they excite severe pain. The injection of lead-water and laudanum I use for three or four days, sometimes for a week, and pass from it to injections containing an insoluble sediment, which serves to protect the urethra from the stream of urine, and to support the dilated vessels by its mechanical and constricting effect. For a number of years I used most frequently subnitrate of bismuth; this, however, sometimes set up severe inflammation. It was suggested to me at a meeting of this society, and, I think, by Dr. Leffmann, that the subnitrate of bismuth was crystalline, and that the presence of crystals might sometimes prove irritating, but that the subcarbonate, which is an amorphous powder, was not open to this objection. I have used this latter drug for some time, and I think with better results. The injection may contain the subcarbonate or subnitrate of bismuth, sulphate of zinc and acetate of lead, in which double decomposition takes place; or oxide of zinc, acetate of zinc and tannin, which precipitates the tannate of zinc; kaolin, or finely pulverized earth of any sort, made into paste with water. Any of these answers an admirable purpose at this stage.

After using these for a few days, I tell the patient to stop them for twenty-four hours. If the discharge still persists, I usually employ a stronger injection, which is often acetate of zinc, combined with laudanum, dilute hydrocyanic acid, morphine, or, as now seems especially appropriate, with cocaine if there is pain. Sulphate and acetate of zinc are the two drugs which I consider of the greatest value in this subsiding stage of gonorrhœa.

About the time that the first injection of lead-water and audanum is given, it is usually good practice to put the patient on the so-called anti-blennorrhagics—the only ones which I use being cubebs, copaiba, and oil of sandalwood. Kava-kava, which was strongly recommended by Dupuy, I have tried, but never succeeded in getting good results. Balsam of gurjun has been recommended. I have tried various preparations of it, but it is exceedingly unpleasant, irritates the digestive tract, and in my hands has not given good results. Cubebs, copaiba, and oil of sandalwood, these being the three drugs which I usually substitute for the alkaline diuretic mixture, may be given in emulsion at first, in order to continue the bromide of potassium—giving, for example, bromide of potassium, oleo-resin of cubebs, and oil of sassafras, made into an emulsion with gum arabic and water. In order to save time, I have called this mixture mistura cubebæ, the formula of which I had published in the "Druggist's Circular," so that the mixture could be put up under that name. After the pain has subsided, I give cubebs and copaiba in capsules. If the patient goes to a reliable druggist, this is the best way to give these drugs. In regard to sandalwood I have some doubts. I think that as good results are not obtained from capsules of sandalwood-oil as with sandalwood in other ways; this is possibly due to the use of an inferior oil in the capsules. There is a commercial oil which has not the beneficial effects of the pure oil; the commercial oil is dark instead of having the amber color of the pure oil, and is more irritating to the digestive tract. Although I prescribe capsules of copaiba and cubebs, I prefer, therefore, to order sandalwood in quantity, and direct the patient to take ten drops on sugar, three or four times daily, usually after meals and at bed-time. This is usually the last prescription for internal remedies that it is necessary to give.

An ordinary case, running its course without complications, will terminate in from three weeks to a month, which I consider as good an average as may be hoped for from any method of treatment of gonorrhœa. Much shorter periods are noted from various forms of treatment, but I confess that I look on these with more or less doubt. They are either selected cases, or colored by the imagination and wishes of the reporter. I have had large opportunities, and have experimented cautiously, but faithfully, with the various methods of treatment reported; I have tried the so-called antiseptic treatment recommended by Cheyne; the injection of boracic acid as advocated by Hyndman, of Cincinnati; I have tried Bauer's so-called "rational" treatment (in fact I had used it before he advocated it), but never with the results alleged by the respective authors of these methods. I have finally settled down to the routine treatment which I have just described.

In certain cases, in spite of treatment, the urethral discharge will continue, and these are the cases which give both the patient and practitioner much annoyance. These, like the cases of gonorrhœa, may be divided into three classes, urethral catarrh, chronic gonorrhœa, and gleet. Most of the cases of chronic urethral discharge will come under one or other of these heads.

Patients will sometimes return after the subsidence of the acute symptoms of gonorrhœa, complaining that the discharge has not ceased. If the cases be carefully examined, it will be found that they have at most a drop of watery fluid in the morning, or once or twice a day. There will be little or no pain on urination. They are often persons inclined to be hypochondriacal, and to pay too much attention to their sexual apparatus, and it will be found frequently that the trouble is really due to lack of tone in the capillaries of the mucous membrane of the urethra, and requires very little treatment. If we pass from one injection to another, and give internal remedies of different kinds, the patient's attention will be kept on his condition, and the case may continue under care for weeks. These are the cases in which we hear of marvelous

homœopathic cures. The patient leaves the surgeon and passes to the homœopathist, where he gets practically no treatment; the *vis medicatrix naturæ* is given an opportunity, the patient recovers, and homœopathy gets the credit. In these cases I give a little good advice; if the patient can afford it, send him to Atlantic City; order a few drops of the syrup of the iodide of iron, a good generous diet, with a little claret or Burgundy at dinner, quinine at bed-time, and, if the season is suitable, salt bathing. Under this treatment a cure will often be effected in a few weeks, or in less time. The chief difficulty in such cases is to retain the patient's confidence.

The second class, that of chronic gonorrhœa, requires persistent treatment. The diagnosis between chronic gonorrhœa and gleet should be carefully made. In chronic gonorrhœa the discharge continues without any intermission between it and the acute affection; this discharge is aggravated on slight provocation, by indigestion, by sexual excess, or more particularly by ungratified sexual excitement, by alcoholic excess, cold, and over-exertion—all these increase it often, until it is so severe as to simulate acute inflammatory gonorrhœa. It is attended with more or less localized pain along the urethra and during urination; the discharge is creamy, and careful investigation with bulbous bougies will show a point of marked tenderness, the bougie bringing away pus, perhaps streaked or tinged with blood.

This condition, I think, requires for its treatment the use of localized injection, with the employment of the syringe known as the prostatic syringe. The point of trouble is usually a superficial ulceration, or a granular urethritis. The patient is shown how far to introduce the syringe. The most useful injection is, I think, nitrate of silver, using it of the strength of one fourth to one half a grain to the ounce, gradually increasing the strength, and using from a drachm to a drachm and a half at each injection, slowly deposited at the affected spot. If this fails, there may be associated with it the gentle use of full-sized urethral instruments, either steel or rubber. I have usually employed Thompson's sounds. These must be used with care If they aggravate the condition, they should not be again employed until the inflammation has assumed its chronic character.

The third variety is gleet, by which I mean a condition in which there is a milky or milk-and-watery discharge from the urethra, without distinct localized pain. In this there is usually a considerable interval between the date of the gonorrhœa and the reappearance of the discharge. It is often associated with more or less frequent urination and hypogastric and lumbar pains. It is usually dependent upon the presence of a stricture, which is frequently a so-called "stricture of large caliber." The treatment of the discharge depends upon that of the stricture, to consider which would lead us beyond the limits of our time.

The notice which was sent out announced the subject for the evening as the Treatment of Gonorrhœa and its Sequelæ, but, with the permission of the society, I shall take the opportunity of considering the treatment of the sequelæ on another occasion.

Before I sit down I wish to mention a point on which I should like to have the opinion of the society, and that is in regard to the use in chronic urethral troubles of the so-called soluble bougies, particularly with reference to those made by Lowe & Son under the name of vectors. I have given them a careful trial, but am unable as yet to pronounce an absolutely positive opinion. Theoretically, they certainly should be useful, but where I have expected good effects they have often seemed to be irritating. They can not be diluted as an injection can. I have had some of these made with cocaine, and have used them before performing urethral operations, such as the removal of urethral polypi and internal urethrotomy. I find that simply dipping them in water does not permit of their ready entrance into the urethra, and, if they are oiled, one of the advantages alleged—that the remedy comes directly in contact with the tissue—is destroyed. It seems to me, however, that there are possibilities of excellent results from their employment, and I should like to have the experience of the society.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of April 20, 1885.

The President, Dr. Charles A. Leale, in the Chair.

Transactions of the New York State Medical Association.—The President gave notice that a large volume, over six hundred pages, containing the report of the recent meeting of the New York State Medical Association, edited by Dr. Austin Flint, Jr., could now be had of the publishers, Messrs. D. Appleton & Co.; price, to members, $2.50; to non-members, $5.

Incontinence of Urine in Children.—Dr. J. Lewis Smith read the paper of the evening, on the subject of enuresis in children. He preferred the term enuresis to incontinence. The condition existed in boys more frequently than in girls, and the incontinence was more common at night than during the day. The author briefly described the anatomy of the bladder, and the structure of the sphincter vesicæ and the compressor urethræ, the two sphincters which had control over urination. The muscular fibers of the bladder became circular and increased in numbers as the neck was reached, forming a sphincter of unstriped muscular fibers. The compressor urethræ, being composed of striped muscular fibers, was under the control of the will. A brief description was also given of the voluntary, the involuntary, and the reflex nerve-supply.

Concerning the ætiology, a common cause of enuresis was acidity of the urine with decomposition of the urates and excitability of the muscular coat. Other causes were vesical calculi and over-sensitiveness of the muscular coat of the bladder, the fault lying in the bladder itself. Indeed, this seemed to be the most common cause of enuresis in children, and was, doubtless, that form for which Trousseau strongly recommended the use of belladonna. From the fact that belladonna relieved so large a proportion of the cases we might infer that irritability of the muscular coat was the cause of the incontinence, since this drug diminished its sensitiveness. Another cause was atony of the sphincter vesicæ. Ordinarily children troubled with incontinence from this cause were in poor general health. There might at the same time be incontinence of fæces. Other causes of enuresis were reflex irritation from phimosis, a collection of smegma under the prepuce, ascarides in the rectum, etc. Habit might be a cause, as some patients were able to control the bladder during sleep after a strong moral impression. A further cause would be found in malformations of the bladder or or its appendages, and a cure in these cases might be found very difficult if not impossible.

The prognosis depended upon the cause. Most cases could be cured by appropriate remedies. The supposition that a cure would take place with puberty or marriage was often well founded, the change in the physical and mental state of the individual producing this effect.

Since the most common cause of enuresis consisted in irritability of the bladder, the fault lying with the bladder itself or with the urine, the urine should be rendered as bland as possible, and this was best accomplished by making it neutral. Excessive acidity of the urine being the cause, the patient should receive from three to five drops of liquor potassæ three to six

times a day in a wineglassful of gum-water, and this should be continued in such doses as would maintain the urine in a neutral state, as indicated by litmus-paper. Belladonna diminished the excitability of the bladder. In this country the tincture was usually employed, while in Europe it was common to give the extract, which was a very convenient preparation. Five drops of the tincture might be given morning and evening to a child five years of age, the dose being increased one drop every second day, the physiological effect being watched. It was best to continue it for several weeks in doses found to be efficient, and then diminish the dose gradually. Trousseau gave either belladonna or aconite. If the cause was an unusual amount of urine, the liquid ingesta should be restricted. If the difficulty was due to diabetes or nephritis, the enuresis, although a troublesome symptom, was comparatively unimportant, and the disease which caused it required particular attention. If there was vesical calculus, it could easily be detected by the sound, crushed, and removed. The physician should always examine the parts contiguous to the bladder, and, if the enuresis was found to be due to reflex irritation, the cause of the reflex irritation should be removed. Smegma under a long prepuce should be removed; in phimosis, circumcision should be performed; if there was vulvitis or ascarides, they should be treated. If the enuresis was found to be due to paresis of the sphincter vesicæ, the proper remedies differed materially in their action from belladonna. Nux vomica, strychnine, or ergot was then indicated. The author thought that strychnine, while a dangerous remedy, could be employed in small doses with comparative safety if the patient was over five years of age. There were many remedies which had been employed in enuresis, but many of them had gone out of use. Cantharides had not been employed much of late years.

Local treatment had in some cases been attended with a certain degree of success. The bladder and the urethra had been cauterized with some benefit, at least so long as the soreness remained. Baths and douches of cold water had also been employed, with some appearance of success. Finally, in some cases, the advice given by Trousseau might be adopted, namely, that the patient should resist longer than usual the disposition to pass water during the day, and thus render the bladder tolerant.

Dr. William Detmold thought the word incontinence, applied to cases of enuresis, was a misnomer. The child could retain its urine, but the habit of passing it in bed was almost irresistible. Nearly all remedies would fail at times. He was disposed to regard it as chiefly a vicious habit, to be cured by strong moral influence. The nurse should wake the child every half-hour or hour during the night, and make it sit on a vessel until it emptied its bladder completely. After this had been continued for a few weeks, the child would give up the habit. Often there was a voluptuous sensation connected with the habit, and the patient should be made to feel his shame. The habit was not confined to children, but frequently belonged to soldiers and other grown persons. In Germany they made the child stand up in a corner, with the wet sheet over its head.

Dr. J. W. S. Gouley could not accept entirely the anatomy and physiology as given by the author. He thought it had long been demonstrated that there was no anatomical sphincter of the bladder, but there was quite a difference between an anatomical and a physiological sphincter. There was no sphincter, for instance, which bore the slightest resemblance to the sphincter ani. Regarding the compressor urethræ, he thought it simply impossible for it to control the stream of urine after it had emerged from the bladder. On the contrary, it had something to do with the expulsion of the urine. He agreed with Dr. Detmold that the term incontinence of urine, as applied to children who wet their bed, was incorrect. He would adopt a classification from the French: those who slept so soundly that the sensation of urinating failed to awaken them; those who dreamed that they were urinating in a vessel: and those who from fear did not rise to urinate. These young subjects, according to Dr. Gouley's observation, had a good deal of urine in the bladder. A frequent cause of enuresis was either lithuria or polyuria. In the latter class the bladder might be emptied more than once during the night, considerable urine passing away. The patients found it necessary also to urinate several times during the day. The subject was sometimes twenty-five or thirty years of age. To whip the child would be to increase the tendency to pass the urine in bed, for fear would make even a dog empty its bladder. The trouble would often be likely to continue indefinitely unless some decided therapeutic measures were adopted. He had known families of children to be the subjects of the affection, and in some cases, perhaps, the tendency was hereditary. He did not agree with Dr. Smith that the urine should be made as bland as tepid water, because pure water would increase the irritability of the bladder. He would not use belladonna in the doses recommended by Trousseau. As to the treatment of cases due to vesical calculi, he regarded lithotomy as safer than lithotrity in children under ten years of age. He could not conceive of a case in which the cautery would be applicable. The passage of the sound for two or three days, and then every second or third day, had a beneficial influence. He recommended the tincture of chloride of iron.

Dr. P. B. Porter spoke of the great tolerance of belladonna which children manifested. He had employed chloral in a few cases, in some with benefit; in other cases it seemed to have no controlling effect over the enuresis.

Dr. E. G. Janeway corroborated the statement of Dr. Porter regarding the insusceptibility of children to belladonna, or their ability to take large and repeated doses without constitutional symptoms arising. The same was true of atropine, and of some other drugs. The dose should be regulated according to the peculiarities of individual cases. In some cases the cause seemed to be a true reflex irritation which excited an immediate desire to pass the urine. He had found in a few cases that a combination of iron, ergot, and belladonna produced the best result. In some instances the passage of the urine in bed was due to a nocturnal epileptic fit.

Dr. C. S. Wood had found two distinct classes of children troubled with enuresis. The treatment suitable for the one class was useless in the other. The first class included children of weakly, strumous constitution, with unhygienic surroundings. Here the syrup of the iodide of iron was indicated, in conjunction with cod-liver oil and good food. The other class included the strong, healthy children, who played much out-of-doors. Here he gave belladonna, perhaps adding chloral. Phimosis, if present, should be relieved. Moral influence would cure some.

Dr. F. V. White mentioned an instance which seemed to support the view that enuresis might be hereditary. He thought the rule that like produced like might apply here.

Dr. T. R. Varick thought the discussion had plainly shown that here, as in other affections, no routine form of treatment could be adopted. We were obliged to take the cases [illegible] consideration. If we recognized reflex irritation, it should be removed. He narrated some cases in support of the view that nocturnal incontinence of urine might be due to [illegible] as in the rectum, etc. There was one boy of [illegible] who, perhaps might be an old woman's notion, said he was not cold and yet the cold beds was right. It was based upon the idea that the child sometimes wet the bed only when lying in a [illegible] position, as on the back. Pressure upon the back which would cause the child pain when it was on its back, and it would

wake and be warned of what was about to take place. Benefit was derived from tincture of cantharides in connection with iron.

Dr. Smith, in closing the discussion, reviewed some of the points brought out in the paper, and said, concerning the anatomy and physiology of the bladder and the compressor urethræ, that he had given the views of recent observers.

Occlusion of the Vermiform Appendix.—Dr. Janeway presented a vermiform appendix with its opening into the cæcum occluded, which had caused an increase in size to an inch and a half in circumference. Its contents had not yet been examined. The cause of the dilatation was not recognized; it had given rise to no known symptoms. Death took place from a condition unconnected with the tumor of the appendix. This was the third case which he had seen of dilatation of the vermiform appendix and occlusion of its orifice, in one of the cases the tumor having been as large as a child's head. The young lady had also atresia of the external orifice of the uterus, with the formation of small cysts in the mucous membrane, due to the obstruction.

Colloid Cancer of the Stomach.—Dr. Janeway also presented the stomach of a patient fifty years of age who had had symptoms of cancer for two years and a half. The disease involved all the coats of the stomach throughout the entire surface, having apparently extended from the lesser curvature. The principal feature was pain, sometimes vomiting, but the ejecta contained no blood, and no gross ulcer was found post mortem.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of April 27, 1885.

The President, Dr. Daniel Lewis, in the Chair.

The Influence of Sea-voyaging upon the Genital Functions in Women.—Dr. J. A. Irwin read a paper on this subject, based principally upon observation during several years that he had acted as a ship-surgeon. It had long been observed that serious disturbances of these functions were liable to occur during a voyage, and the fact that travel between European and American ports was becoming so common rendered the subject an important one for study. But, notwithstanding its importance, but little had been written upon it, and for that reason it was the more difficult for any one observer to reach practical conclusions. During his service at sea not fewer than fifteen thousand persons had come under his care as physician. Among this number of passengers there were 104 pregnancies, 11 parturitions, 3 miscarriages, and 451 menstruations or missed periods in women among whom the function was usually normal, and in whom he had the opportunity to contrast the condition with that on land.

First the author considered the effect of a sea-voyage upon menstruation. Of the 451 observations upon the menstrual periods of women while at sea, 288 were made under his instructions by a stewardess, and, being replies received to formal questions, he thought they could be relied upon as being accurate. Ninety-five of the 288 women were supposed not to be pregnant; menstruation was normal previous to the voyage in all; 21 of them passed the period while on board without menstruating; 43 menstruated before the period; 224 menstruated at the proper period, 24 complained of unusual pain, and in a few instances there was increased or diminished flow, while 201 of the women noticed absolutely nothing unusual which could be attributed to the voyage. Of Dr. Irwin's own 163 observations among women of a healthy social standing, 13 passed the period on board without menstruating, 31 of whom 11 experienced more or less molimen, 31 menstruated before the period, and 99 at the period. Of these, 17 complained of unusual discomfort, accompanied in 37 cases with increased and prolonged flow, and in 2 with diminished discharge. Of the 13 who passed the period, 3 were still on board at the following period; one of the three then menstruated almost normally, in one the result was not known, and in the other the flow was increased in quantity and prolonged in duration. But she subsequently experienced complete amenorrhœa during two periods.

From these figures it would be seen that disturbance of the menstrual function at sea was of frequent occurrence. As to the explanation, it offered a question difficult to solve, and the more so because of the indefinite and conflicting views entertained regarding the real nature of the menstrual function. Whatever might be the view held regarding the nature of menstruation, Dr. Irwin thought it was evident there was during a sea-voyage a tendency to increased pelvic congestion, which would offer an explanation for the phenomena usually observed regarding the menstrual function. As to the special conditions in an ocean voyage which might be supposed to exercise an influence upon the female habit, they might be classed under three heads; namely, psychical influences, dependent upon the novelty of the situation and the apprehension of danger; second, aërial, consisting in some special quality of sea-atmosphere; and, third, motional, as a direct result of the movement of the vessel.

There could be no question that strong emotional impressions had some influence upon the menstrual function, but this influence was less marked than some believed in the class of cases under consideration. That psychical influences did play some part in the disturbances of menstruation was quite probable in cases of sudden arrest of the flow in women who embarked during a period. But many women who suffered most severely during the sea-voyage had not the slightest fear, and would thoroughly enjoy sea-life but for its unpleasant effects in this direction.

The frequent dysmenorrhœa and the usual intensification of the symptoms of local pelvic disease were results which we should expect *a priori* from over-congestion of the pelvic organs. It would be seen that a sea-voyage might disturb the menstrual habit in every conceivable form—in its periodicity, duration, amount, and discomfort. The particular effect most likely to occur would be determined by the constitutional habit of the individual, the relation of the last flow to the date of embarkation, the length of the voyage, and fortuitous conditions. With regard to periodicity, the most constant change was a premature return of the flow, and this return might take place at any time during the inter-menstrual epoch. If a woman went on a voyage shortly after the cessation of the flow, there would be liability to a renewal of the discharge or of the peculiar symptoms attending a period, and it might lead to suppressed menstruation at the next time it should come on. Complete and passive amenorrhœa for one or more periods was a frequent after-result of the transatlantic voyage.

Of the effects of a sea-voyage upon menstruation, none was more constant or unfortunate than an aggravation of whatever discomfort was ordinarily associated with that process. In some women painful menstruation was experienced for the first time at sea, and it might be accepted as almost universally true that in every type of dysmenorrhœa the discomfort was increased, certainly at the first, and usually at subsequent periods at sea. If there were any exceptions to this rule, they would be found in certain neurotic states. Dr. Irwin then offered some possible explanations of the aggravation of dysmenorrhœa during a voyage, reasoning from the theoretical explanations which had been offered regarding the menstrual process. Puberty was sometimes hastened by a voyage at sea, and the flow sometimes recurred after the climacteric period. The aphrodisiac influence of a sea-voyage was generally recognized, and would be ex-

pected to occur under conditions which increased the pelvic blood supply.

An ocean voyage should be regarded as a potent emmenagogue, having, in addition to the special quality, a well-marked tonic, alterative, and sedative influence. But it should no longer be prescribed empirically, but with a definite object in view. There were many cases in which its local as well as its constitutional influences would be indicated. For instance, in certain conditions of chloro-anæmia, amenorrhœa with pain, and retarded sexual maturity, certain forms of leucorrhœa and uterine hysteria, and lack of development in school-girls, a typical case of which had been described by Dr. Emmet. It would, of course, be understood that upon the large majority of women who crossed the ocean the sea influence was too slight and too transient to be considered of serious import. There were, however, many conditions of the uterine organs which, if not positively interdicting a sea-voyage, did demand special prophylaxis and skillful attention on board. Dr. Irwin was inclined to think that almost every form of uterine and ovarian disease became worse while at sea, and he did not think that the possible reactionary beneficial results would justify one in sending such women to sea. Uterine displacements were especially liable to give trouble. The treatment of uterine troubles during ocean transit should be conducted upon general principles.

The influence of sea-voyaging upon gestation was a subject of the greatest importance. The influence of seasickness and the mechanical disturbance of the viscera, and especially of prolonged and violent vomiting, was to cause premature labor and miscarriage. The vomiting of kinetia was not to be compared with that of morning sickness in its effects upon pregnancy; it was more violent and more liable to cause miscarriage. It was the author's opinion that pregnancy, especially during the latter months, predisposed to and aggravated the most distressing features of seasickness.

Another effect of ocean voyages was the perversion or suspension of lactation.

Dr. C. C. Lee's experience in this field had been limited, but, so far as it went, he had not seen an exception to the rule that in consequence of seasickness, or the influence of a voyage at sea upon the nervous system, as described by the author, the pelvic organs became congested, thus increasing whatever tendency existed toward metrorrhagia or menorrhagia. He could recall four or five cases in which patients of his had crossed the ocean at different periods of pregnancy, and none of them had a miscarriage. He had never known amenorrhœic or chlorotic, delicate women to be benefited in the slightest degree by an ocean voyage. On the contrary, he thought that such delicate women were disagreeably affected by the usual short Atlantic voyage. They always became quite seasick, and the voyage did not last sufficiently long for them to overcome that tendency and to derive the benefit which might come from the change of air and condition. Perhaps a long voyage would be a benefit to this class of patients. A voyage at sea, according to his observation, increased the trouble of women who were suffering from displacement of the uterus, or who from habitual congestion of the pelvic organs for any reason were suffering from metrorrhagia and menorrhagia, and this unfavorable effect he believed to be due rather to prostration and exhaustion of the nervous system and relaxation of the muscular system following seasickness than to the influence of sea-air or change of habit and food.

Dr. B. F. Dawson had had only a limited experience in the class of cases treated of in the paper, but in the main he thought he could accept the author's views. In only one case had he been requested to see a woman at sea suffering from alarming menorrhagic flow. In that case the patient had embarked while suffering from grief at the loss of an only daughter. He had also seen three cases of amenorrhœa produced by a sea-voyage, but perhaps his experience was rather unusual in this direction, and the rule as stated by Dr. Irwin was correct, that generally the menstrual flow was increased during a voyage at sea. In the three cases referred to he thought the effect was due to the novelty of the change, to the mental influence, rather than to other causes, for the women were healthy, and did not suffer from seasickness.

Dr. John Dwyer had had considerable experience on board sailing ships about thirty years ago, and knew something about the influence of long voyages. It was not uncommon for mothers to bring their daughters to him to be treated for amenorrhœa during the voyage, but he found that treatment was of little benefit. He noticed at that time, and also during a recent voyage, when he made special inquiry into the subject, that a voyage had a special tendency to excite the sexual desire in all classes of passengers.

Dr. A. M. Jacobus had had occasion to treat a number of girls for amenorrhœa after their arrival from across the Atlantic, and believed that an ordinary effect of a voyage was amenorrhœa lasting from three to nine months. He had not found much benefit from treatment in these cases.

Dr. McLaury, Dr. S. Baruch, Dr. Laurence Johnson, and Dr. E. A. Bracklow testified to the frequency of amenorrhœa produced by a sea-voyage. Dr. Johnson said that it was so common to see this form of amenorrhœa at the Demilt Dispensary that it was customary to enter it in the books as "marine amenorrhœa." The patients were not rendered uncomfortable by the absence of the flow, and, inasmuch as the menses returned within a year, they needed no special treatment.

Dr. G. H. Butler referred to the beneficial influence of a visit to the sea-side in deranged menstruation. In one case a girl, who always suffered from dysmenorrhœa in the city, menstruated regularly and normally while at the sea-side, and it was her custom, therefore, to make her visit at the sea-shore as long as possible. In such cases the influence of a sea-voyage, of course, was not brought to bear.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 22, 1885.

The President, Dr. John A. Wyeth, in the Chair.

A Neurosis simulating Scleroderma.—Dr. H. J. Boldt presented a girl, twenty-two years of age, who at the age of fourteen years had noticed a swelling of the left lower extremity. Some years afterward the right lower limb also became involved. While standing or walking the swelling greatly increased, causing pain and lassitude. The patient had been seen by Professor Billroth and other eminent physicians of Vienna, who had failed to make a diagnosis. Dr. Boldt was unable to discover any other trouble than the swelling of the lower limbs throughout their entire extent. There was little or no varicosity. The joints were normal.

The President suggested that the trouble was probably due to a neurosis.

Dr. W. M. Carpenter had seen three or four cases of a similar affection of the limbs, the trouble beginning in one extremity and finally also involving the fellow member. In the case of a girl thirteen or fourteen years of age, the hand and arm became markedly swollen. All of the cases seen by him were in girls. He regarded it as a neurosis, and believed it had been so classed by Dr. Jacobi. The pathology was not definitely known.

Diffuse and Circumscribed Primary Carcinoma of the Liver.—Dr. Weinstein presented a specimen under the micro-

scope, illustrating diffuse primary carcinoma of the liver, also a second specimen consisting of the liver, and illustrating circumscribed primary carcinoma of that organ.

Aneurysm of the Entire Arch of the Aorta.—Dr. Dixon presented a specimen, taken from the body of a longshoreman, forty-seven years of age, who, up to six months before his death, had been in perfect health. He then, while walking along the street, had an attack of vertigo, was taken to Bellevue Hospital unconscious, and lost power in the left side. Seven days later, however, he was able to walk about, and had no return of the paralysis. A few months ago he began to cough, lost appetite, and afterward grew hoarse. The sputa became streaked with blood, and on one occasion a severe hæmorrhage occurred. There was at no time pain over the chest or sore throat. There were signs of a thoracic aneurysm, consisting of a heaving impulse, dullness, murmur, etc. The voice was reduced to a whisper, caused by paresis of the left vocal cord. The patient died suddenly. At the autopsy the brain could not be examined. Both lungs were extensively adherent to the pleura, and were much congested and œdematous. At the base of the left lung was a large collection of blood which had destroyed much of the lung tissue. The heart was hypertrophied. The ascending, transverse, and descending portions of the arch of the aorta were largely dilated, and presented the various stages of atheroma. The points of interest in the case were the large size of the aorta and the very minute opening through which the hæmorrhage had taken place. Why death should have been so sudden was difficult to tell.

The President referred to a case of death from aneurysm of the thoracic aorta in which a very small opening had been worn through at a point of contact with a vertebra. In this case death took place gradually from slow hæmorrhage.

Dr. Thayer alluded to a case of aneurysm of the sinus of Valsalva, with a secondary dilatation of the aorta, which pierced the pericardium and eroded the ribs above. Death took place suddenly, as in Dr. Dixon's case, but no perforation was found.

Pericarditis and Pneumonia.—Dr. Thayer presented the heart and pericardium of a hospital patient in which the chief interest centred in the difficulty of diagnosis. The autopsy revealed evidence in the lungs of a recent pneumonic process which had disappeared. The pericardium contained a large amount of pus, and over the visceral surface was a thick layer of pyogenic membrane. The cardiac region had been examined a number of times during life for the purpose of discovering signs of pericarditis, but the signs were not such as justified a diagnosis of that disease.

Chronic Inflammation of the Middle and Internal Ear.—Dr. L. E. Holt presented a part of the petrous portion of the temporal bone removed from the body of a child four years and a half of age, which had had a discharge from the left ear since the ninth month of age. The discharge had been more or less profuse and continuous. Dr. Holt saw the child only once, which was on a Friday, the day before death. Up to the preceding Wednesday it had been in its usual state of health, the discharge from the ear being free. On that day it became drowsy, the discharge ceased, and there was pain in the ear. On Thursday it was more drowsy, with some headache and slight fever. On Friday the temperature was 101° F., the pulse 120, and the neck drawn slightly back and somewhat rigid. There was slight swelling of the tissues about the external ear, but there was no fluctuation, and the tissues were not reddened. The child died suddenly the next morning, after having requested to be allowed to urinate. There had been no convulsions and no paralysis. At the autopsy there was found slight pachymeningitis externa, with a cavity in the petrous portion of the left temporal bone containing about a drachm and a half of pus of very foul odor. The ossicles were loosened and there was slight caries. The dura was slightly lifted immediately over the cavity. The brain was apparently normal. The spleen was much enlarged, but there was no sign of septicæmia. The ear affection did not seem sufficient cause for sudden death, nor was the cause very evident. It was recorded, however, as being pulmonary œdema and cardiac failure.

Dr. Carpenter thought it not improbable that the cause of death in Dr. Holt's case was œdema of the lungs. It was not very unusual for patients debilitated from some disease to die suddenly, perhaps after slight exertion, from no other apparent cause than pulmonary œdema.

Dr. Boldt had had two cases of pachymeningitis externa of very limited extent in which death took place suddenly from pulmonary œdema. In one case Dr. Janeway was present at the autopsy, and it was only after careful search that the pachymeningitis externa was discovered. What might be the connection between the cerebral lesion and the œdema of the lungs he was unable to say.

New Inventions, etc.

NEW INSTRUMENTS OF PRECISION IN ELECTRO-DIAGNOSIS.

By Ambrose L. Ranney, M. D.,
Professor of Anatomy in the New York Post-Graduate Medical School and Hospital; Professor of Anatomy and of Nervous Diseases in the Medical Department of the University of Vermont.

I would respectfully call the attention of the profession to some new instruments which I have devised for the purpose of making electro-diagnosis more scientific and accurate. I have named them the "diagnostic key-board" and the "spring electrode."

Heretofore there have been serious defects in the methods commonly employed in determining the muscle and nerve reactions of patients for the purpose of record. These defects have been recognized, but have never been satisfactorily overcome. To be more specific, let us suppose for the sake of illustration that we are called upon to test some special nerve or muscles of a patient afflicted with paralysis upon the left side. The standard of comparison must, of necessity, in every such case be the homologous nerve or muscles of the unaffected side. We are forced to contrast the electrical reactions of nerve and muscle upon the two sides in order to determine the effect of the unilateral paralysis upon such reactions. By such a comparison only can slight alterations be discovered. It is therefore vital to the accuracy of all deductions that the observations made be as free from error as possible, and that the conditions be alike when the contrasted sides of the body are to be separately tested. It has been the custom with neurologists, and is today, to perform these tests by placing an indifferent electrode upon a neutral point (the sternum or the nape of the neck), and by placing the other pole upon the *two sides alternately, and as nearly on homologous points as possible*. The inaccuracies which are liable to result from this method are due to one or more of the following causes:

1. The "*motor points*" of the muscles, as well as the points commonly designated in the charts devised by von Ziemssen for the electrization of *special nerve trunks*, vary more or less with individuals; hence it is very important that they be determined with accuracy upon the healthy side as well as on the diseased side before comparisons are made between the electrical reactions of a special nerve or muscle of the two sides.

2. It is essential to accuracy of observation that an electrode *should be fastened immovably* to the nerve point and the various "motor point" of the muscles to be tested. Marking them with a pencil, as suggested by some authors, is but a poor substitute. In many neurological even the latter precaution is seldom taken in actual practice; the electrode is oftener moved from one side to a corresponding point on the opposite side by guess-work, the operator's eye being his only

guide. It must be apparent to all that this method can not be more than approximately accurate.

3. The nerve trunks or special muscles of opposed limbs must be called into action by *electrical currents of the same strength*, if an accurate comparison is to be made between the contractions produced. Practically, this element of accuracy is disregarded by many observers. They seem to forget that the battery is steadily growing weaker by "polarization" when in use. This may be compensated for if a galvanometer is placed "in circuit," but the precaution is not generally taken, as time is consumed by noting needle deflections at every step.

4. Muscles which have been subjected to excitation in searching for their "motor points," and nerve trunks also, are *altered in their electrical reactions for some little time* after such an excitation. It is important, therefore, that the electrical responses upon either side should take place in a nerve or muscle which is in a normal electrical state, and that the currents employed in the tests should be of as short duration as possible. This is effected by the device which I shall suggest farther on.

5. *The observer should be able to watch closely* the contractions produced on the two sides. It is of great service oftentimes that the two sides be called into action simultaneously. The former can not be done when the observer is leaning over his patient and also holding the electrodes. The latter can be accomplished with a bifurcated cord, but it is a clumsy contrivance, and requires both hands of the observer or an assistant.

To overcome these and some other objections to the methods commonly employed in electro-diagnosis, I have devised two simple attachments to a battery. The first consists of an *insulated spring electrode*,



FIG. 1. THE AUTHOR'S SPRING ELECTRODE.—*D*, the binding-post for attaching the rheophore which connects it with the battery, or with the diagnostic key-board when that instrument is employed. The motor point of the electrode is represented as enveloped in chamois-skin. It must be thoroughly dampened in salt-and-water before it is applied to the nerve or muscle to be tested. The other end of the electrode is designed to prevent slipping of the instrument after its proper adjustment.

which can be placed over any nerve trunk or motor point, and to which a rheophore may be attached. It is self-retaining, and is adjusted with ease to any part of the body.

The second device consists of a *diagnostic key-board*, upon which any number of separate contacts may be made by touching the keys. Each

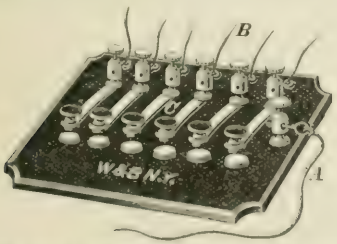


FIG. 2. THE AUTHOR'S DIAGNOSTIC KEY BOARD.—*A*, the rheophore which connects it with one of the binding-posts of a galvanic battery. *B*, rheophores connecting its binding-posts with spring electrodes previously placed upon the body of the patient so as to influence the nerves or muscles to be tested. *C*, buttons and springs which make a circuit to the body of the patient when the knob on the spring is pressed downward so as to impinge upon the button. The number of rheophores which may be employed depends upon the necessities of the case; the cut shows an instrument capable of six

key is in communication with a binding post to which a rheophore may be fastened.

My method of using these instruments consists in placing the exposed body of my patient at rest upon a couch, so that muscular relaxation is insured. I then apply my spring electrodes to homologous parts of the two sides of the body, after carefully ascertaining the exact seat of the motor points to which I wish to direct the current. Under the metal tips of these electrodes I place a small pad of absorbent cotton wet in salt water, and I then connect each electrode to one of the binding-posts of my diagnostic key-board by means of long rheophores. The rheophores are made long so that tension is not made upon the electrodes, which might displace them, and in order that I may place the key-board upon an adjoining table, close to my battery. Finally, I place a large indifferent electrode upon the sternum of the patient or at the nape of the neck, and connect the two rheophores of my battery respectively to a binding-post of my key-board and to the indifferent electrode in contact with the patient's body. The cuts will illustrate this better than a verbal description. I employ different-colored cords, so as to enable my eye to quickly select the key which acts upon each electrode. I am thus enabled to sit at a table near my battery and, by touching one, two, three, or four keys at a time, to call into action any desired nerve or muscle of the same side or of opposed sides. My eye is otherwise unemployed, and I am thus able to detect the slightest difference in the reactions of the two sides. I am, moreover, sure that the current is of the same strength at both points when the contacts are made simultaneously at the key-board. I know, also, that my electrodes are properly placed and that they are held by a uniform pressure against the surface of the patient. I do not require an assistant, as I can work my battery and the key-board at the same time without aid. I can, moreover, have my case-book by my side and record the observations taken from time to time.

During a course of lectures delivered this year before the class of the Medical Department of the University of Vermont, I taught the action of muscles upon joints, and the physiological functions of the more important nerves, by this method upon the living subject. To my mind, it excels any other method of exhibiting to large audiences many facts which can not be shown upon a cadaver or by a drawing or model; and it impresses their minds more forcibly than a verbal statement, because it reaches them through the instrumentality of the eye. I was able to illustrate the mechanism of facial expression with startling effect by this method. An immobile face can be made to suddenly assume the expression of laughter, despondency, etc., and the individual muscles of any region can be thrown into action without the necessity of the lecturer approaching the man employed for that purpose.

The spring electrode can be made of any size and have any strength of spring; it can have points of any shape attached; it does not interfere with the free action of the muscles beneath it, as a strap does; it does not interfere with the inspection of the part during its use; finally, it is difficult to disturb its adjustment, if properly placed.

I have had these two instruments manufactured for me by Waite & Bartlett, of this city.

156 MADISON AVENUE, *May 2, 1885.*

Miscellany.

The International Medical Congress.—The original committee of the American Medical Association, charged with the mission of inviting the Congress to hold its next session in this country, consisted of Dr. I. Minis Hays, of Philadelphia; Dr. Lewis A. Sayre, of New York; Dr. Hosmer A. Johnson, of Chicago; Dr. George J. Engelmann, of St. Louis; Dr. J. M. Browne, of the navy; Dr. John S. Billings, of the army; and Dr. Henry F. Campbell, of Georgia. The committee tendered the invitation, and it was accepted, after which the committee effected the preliminary organization that was set forth in our issue of April 4th. At its annual meeting, held last week, the association expressed its dissatisfaction with the committee's work, and resolved to add the following-named gentlemen to the original committee, with

power to revise its work: Dr. D. A. Linthicum, of Arkansas; Dr. G. A. Ketchum, of Alabama; Dr. C. Denison, of Colorado; Dr. R. B. Cole, of California; Dr. A. Y. P. Garnett, of the District of Columbia; Dr. ——, of Connecticut; Dr. T. P. Bush, of Delaware; Dr. R. D. Murray, of Florida; Dr. A. R. Battey, of Georgia; Dr. ——, of Iowa; Dr. F. W. Bearm, of Indiana; Dr. E. P. Cook, of Illinois; Dr. D. W. Stormont, of Kansas; Dr. J. W. Dupre, of Louisiana; Dr. W. H. Wathen, of Kentucky; Dr. A. H. Wilson, of Massachusetts; Dr. J. S. Lynch, of Maryland; Dr. A. R. Smart, of Michigan; Dr. S. C. Gordon, of Maine; Dr. E. French, of Minnesota; Dr. F. Essig, of Missouri; Dr. J. M. Taylor, of Mississippi; Dr. J. W. Harrison, of New Hampshire; Dr. W. Pierson, of New Jersey; Dr. E. Eliot, of New York; Dr. ——, of North Carolina; Dr. R. C. More, of Nebraska; Dr. J. V. Shoemaker, of Pennsylvania; Dr. X. C. Scott, of Ohio; Dr. R. A. Kinloch, of South Carolina; Dr. W. E. Anthony, of Rhode Island; Dr. J. W. McLaughlin, of Texas; Dr. F. L. Sina, of Tennessee; Dr. M. C. Dabney, of Virginia; Dr. ——, of Vermont; Dr. N. Senn, of Wisconsin; Dr. G. Baird, of West Virginia; and the Surgeon-Generals of the army, the navy, and the Marine-Hospital Service. This list is given as it was received by us by telegraph.

The Judicial Council of the American Medical Association.—After his election to the presidency of the association, Dr. William Brodie resigned from the Judicial Council, and Dr. J. K. Bartlett, of Chicago, was appointed to fill the vacancy.

The Addresses in Ophthalmology and Pædiatrics at the Meeting of the American Medical Association.—We subjoin brief abstracts of these addresses, which we were obliged to omit from the report of the meeting which we gave last week:

Dr. White, of Virginia, chairman of the section in ophthalmology, otology, and laryngology, gave a critical review of the ophthalmological work of the year, notably the substitution of Noyes's operation of evisceration of the bulb for enucleation. The operation had been comparatively unknown until Alfred von Graefe brought it prominently forward. Mention was also made of the important work done by Landolt in the determination of the convergence power, of the increased precision in the indications that were now relied on for the use of jequirity, and of the value and applicability of cocaine, with a physiological explanation of its action. But the principal part of the address was devoted to a consideration of the important subject of the reflex neuroses due to disease of the nose, such as reflex cough, sick headache, hay fever, and the like. Clinical facts were brought forward that were somewhat at variance with the idea of engorgement of the nasal mucosa being essential to the production of such reflex phenomena.

Dr. J. H. Pope, of Texas, chairman of the section in diseases of children, read only portions of his address, and alluded to several matters in a general way, such as bichloride of mercury and calomel in the treatment of diphtheria. Cases were mentioned in which, but for the use of these remedies, tracheotomy would have been necessary. After a brief allusion to the use of peptonized foods in diarrhœal diseases, the chairman proceeded to the consideration of the ætiology of rickets, a leading element in which he thought was the undue continuance of lactation, which, besides, was injurious to the mother. He regretted to observe that the attendance at the section was so small.

The Attendance at the New Orleans Meeting.—At the time of the final adjournment 650 members had registered.

THERAPEUTICAL NOTES.

The Combined Administration of Belladonna and Iodide of Potassium.—Aydart (“Le Bon med.”) affirms that the headache and coryza experienced after taking large doses of iodide of potassium may be entirely prevented by the judicious use of belladonna. In the case reported, eighty grains of the iodide were given daily, one grain of the extract of belladonna being administered in the evening. After a few days the latter dose, it is possible to suspend the use of the latter drug without any danger of a recurrence of the iodism.

Intra-uterine Injections of Corrosive Sublimate.—Winter (“Ctrlbl. f. Gyn.”; “Ctrlbl. f. d. ges. Therap.”) regards corrosive sublimate as the most dangerous of all the antiseptics in common use. He is persuaded that the solutions generally employed are too strong, and affirms that in the proportion of one to five thousand all the antiseptic action of the drug can be obtained, without incurring the risk of occasioning toxic symptoms.

The Hypodermic Administration of Iodide of Sodium.—Arcari (“Gazz. Med. Ital. Lombard.”; “Gaz. hebd. de méd. et de chir.”) states that he has frequently resorted to this method of administering the iodide in cases of syphilis in which its administration by the mouth was impracticable. He says that, if thirty grains are given by the mouth and twenty subcutaneously, the result will be the same as if ninety grains had been given by the mouth. He also states that no local disturbances are caused by the injections.

Bromide of Zinc.—According to the “Lancet,” Testa has made a number of experiments with this drug, from which he draws the following deductions: Small doses diminish sensation. When the drug is pushed to larger doses, first sensory and then motor paralysis results. In its action the zinc element predominates over the bromine. The cerebral effect is slight, being manifested merely in the form of moderate somnolence.

Carbolic Acid in Diabetes.—The same journal cites McAvoy's statement that, by administering the glycerite of carbolic acid in five-minim doses, he relieved an obstinate case of diabetes mellitus in which all other remedies had been tried in vain.

Thalline.—Mingazzini (“Gazz. degli ospit.”; “Ctrlbl. f. d. ges. Therap.”) has employed this drug quite largely, and summarizes his experience as follows: A dose of two grains given by the mouth lowers the temperature sometimes as much as a degree and a half centigrade [= 2·7° F.], the fall lasting from four to six hours. A dose of four grains causes a fall of three or four degrees. When the drug is given subcutaneously the effects are produced much more rapidly, and the temperature remains lowered for a longer period, than when it is given by the mouth. It acts promptly also when given by the rectum. The antipyretic action of thalline is more rapid than that of antipyrine, but not so rapid as that of kairine. The pulse and respiration are diminished in frequency after a dose of thalline, and perspiration seldom fails to take place. The patient generally complains of being chilly, and sometimes has a marked rigor; after the depression the temperature reaches a higher point than before the drug was taken. Neither vomiting nor collapse has ever been noticed by the writer. He concludes that thalline is not to be preferred to antipyrine.

Subcutaneous and Intra-venous Injections of Ammonia Water.—Trusewitz (quoted in the “Ctrlbl. f. d. ges. Therap.”) speaks in praise of injections of ammonia water in cases of collapse. He relates the case of a patient whose life was saved by the timely subcutaneous injection of ten drops of the preparation, after brandy and ether had been administered in the same way without effect. A large abscess formed at the site of the injection, but this the writer regarded as of minor importance. He mentions two other cases in which he was equally fortunate in saving patients by ammonia injections.

A Quinine Injection for Gonorrhœa.—Haberkorn (“Ann. des mal des org. gén.-urin.”) uses the following as an injection:

Sulphate of quinine	30 grains;
Sulphuric acid	q. s.;
Glycerin	12 drachms;
Water	5 ounces.

Mix. Three injections to be given daily.

The Physical Condition of the Russians.—The “Union médicale” quotes the “Revue des maladies de l'enfance” to the effect that in Russia more than sixty per cent. of the children born die before reaching the age of five years—about two millions annually; also that not more than half the males reach the age of thirty-five years, and that a third of those are found unfitted for military service, either from defective stature or from constitutional debility.

The Liver viewed through the Urine.—An article in a recent issue of the “Lancet” is entitled “A Contribution to the Clinical Study of the Liver viewed through the Urine,” but the writer does not tell us whether he uses a peculiar sort of endoscope, or dips his numerous lens in the renal secretion.

Lectures and Addresses.

AN ADDRESS

DELIVERED TO THE PUPILS OF THE

TRAINING SCHOOL OF THE NEW YORK HOSPITAL.

BY GEORGE L. PEABODY, A. M., M. D.,
VISITING PHYSICIAN AND PATHOLOGIST TO THE HOSPITAL.

IN the presence of these ladies and gentlemen who have come here because of the interest they feel in you and your good work, it has fallen to my lot to congratulate you upon the achievement of the object that has been a very engrossing one to you during the past two years. You have persevered in the face of much that has been hard to bear, much that has been discouraging, much that has required the exercise of all the patience and fortitude that you could command, and to-night you begin to reap your reward. The trials of your nursing life began, if I mistake not, even before you entered the training school. Almost every one of you has had to meet and overcome the opposition which in many cases has been very strenuous on the part of those who are nearest and dearest to you before enrolling yourselves in our ranks. Many were the objections opposed by them to your entering upon this work, and many, doubtless, were the misgivings with which they inspired you when you took your first steps in this direction. I hope, as I firmly believe, that you will never regret your course; indeed, I believe that the measure of your natural fitness for the life which is now opening before you is to be estimated by the strenuousness of the opposition which you successfully encountered.

When good Pastor Fliedner, the John Howard of Germany, began his ministrations among the released female convicts of Düsseldorf in 1833, he hardly thought that there at Kaiserswerth, the little village of his adoption in the low country of the Rhine, a seed was sown which was to ripen and bear fruit all over the civilized world. Those interested with him banded themselves together and founded the first Prison Society of Germany in 1826. The good man's circle of practical philanthropy widened. The state of the sick poor had for some time excited his interest, and it seemed to him that hospitals might best be served by an organized body of women specially trained and devoted to the work. Accordingly, in 1836, he began the first deaconess house and the hospital at Kaiserswerth. By their ordination vows they devoted themselves to the care of the poor, the sick, and the young. This was the beginning of the movement which has led to the establishment of schools for the training of nurses. To this beginning and to good Pastor Fliedner you owe your existence as nurses; and, if we could invite his shade to be with us this evening, I think he would accept you as evidence that the process of cultivation had been successful in producing *pure cultures* of the species which he originated, in which none of the instruments of precision of modern scientific research could detect aught of foreign admixture. It was here that Florence Nightingale, to whom you all look up as to your patron saint, obtained her training. I need not allude to the further progress of the movement after she transplanted the idea to British soil; you are all familiar with the rest.

It is not my purpose to dwell at length to-night upon your duties and your privileges. The diplomas which you have just received are evidence that you are familiar with them all. I shall ask you to consider with me some of the aspects of the trained nurse to which allusion is perhaps not frequently made. It has seemed to me of late years that my function in life has been largely that of a filler of gaps; and when, some years since, there seemed to be a gap in the training school which a doctor was needed to fill, I was accordingly asked to become your medical attendant. In that capacity I have become familiar with nurses as patients; and perhaps you would like to hear what sort of patients you make. Some of you are most exemplary—kind, considerate, thoughtful, appreciative, grateful. The most undesirable of all patients is the medical student. He knows so much, or so little! If he has a twinge of rheumatism in his left shoulder, he knows that he is dying of angina pectoris. He also knows that Dr. Brown or Dr. Jones, in his native village, always told him exactly what to do for such symptoms, and that you are treating him quite differently. One medical student is a source of more wear and tear to his doctor than a whole hospital ward. Next to the medical student in being undesirable as a patient comes—the doctor. He, too, is unreasonable and very skeptical. For himself he has but little faith in drugs and the efficacy of medical treatment. If you tell him that he needs a tonic or exercise, or regularity in his eating and sleeping, or abstinence from tobacco—things that he is daily telling his patients under similar circumstances—he thinks that your judgment is hasty, and that you do not fully appreciate the significance of his symptoms. He thinks better of you if you tell him to take a goodly allowance of champagne with his dinner—in short, if you treat him like a brother in distress; but for his own drugs and yours he has no personal liking.

I shudder when I recall the possibility of an ultimate retribution in these matters; when I think of the gallons of cod-liver oil, for instance, that I have forced other people to swallow, never having had the courage myself to taste a single drop.

The nurse as patient requires a more definite classification than the medical student and the doctor. If she is suffering from a trifling malady, or one requiring a simple remedy, she is sometimes difficult of persuasion, sometimes skeptical, occasionally, I shudder as I tell you, homœopathic in her faith. It is an instance of the curious intricacies of the mental working of your sex that a nurse of homœopathic proclivities can reconcile it to her conscience to dose her patient with all sorts of direful stuff that she believes will soften his bones, or poison his blood, or melt his marrow; but she does it without flinching, gentle soul! calm in the discharge of her duty. If the trained nurse is seriously ill, there is no more docile, grateful creature than she. Her only thought (how often has it been expressed to me in the

sincerity and simplicity that the presence of real danger seems to call forth!), her only thought then is of others. She wishes to get back to her place in the ward, in order that her sisters may not have her work as well as their own to do. And if she realizes at last that the fight has been fought and lost, that she must leave your ranks and join the vast army of the silent majority, she relinquishes the world and all that she holds dear with a fortitude worthy of her noble life. One of these days, when a commemorative tablet shall hand down to your children, as I trust it may, the story of those who have deserved immortality in our little hospital world, I shall be ready with the names of two of your sisters who earned here long ago the right to head that list.

Your function is higher than that of a mere extender of drugs and maker of poultices. You are to attend to all the wants of your patients which are not actually reached by the doctor. A most important addition to your ward-work is the instruction in cooking that you now receive. I do not mean that you must necessarily replace the cook in the families in which you serve; but, if the surroundings of the patient will allow your absence from the sick-room, you should be willing, as you are able, to supplement her work for your patient. It is not beneath you to do anything that may tend to bring about your patient's restoration to health. That should be the prime object of your life. The doctor would gladly do many of your duties if his other engagements and his training would permit. In short, it should never be forgotten that the doctor and the nurse together are to do all that their combined skill and experience can suggest. Help *may* come from some other quarter, and is, of course, to be welcomed when it comes; but recollect that none other can be counted upon. As you were told a year ago, recollect that no function in the sick-room is too menial for your hands. Your very calling ennobles what you do. By all means, take advantage of all the assistance that may be vouchsafed you. If your patient provides servants for you, do not hesitate to utilize them judiciously; but if your duties should lie among those whose paths are not smoothed by the luxuries that wealth can bring, if your ministrations should be to those whose cares are increased by poverty, respect the good that is in them, respect yourselves sufficiently to follow the rule that I have asked you to lay down for yourselves: Do all that the doctor is obliged to leave undone. Doctors, I regret to say, are sometimes imperfect beings, and will occasionally ask you to bear what might be considered legitimately to belong to their load. Here I may make a confession to you of a sin of this nature that has troubled my conscience very seriously for the past ten days. I know not against which one of you I sinned upon this occasion, and therefore, instead of confessing it privately to her, I will clear my conscience by telling it openly to you all. I was standing at the door of the hospital, awaiting the tardy descent of that elevator which is always at the top of the shaft when I seek it at the bottom. A throng of anxious visitors formed my companions, and awaited with me the time when the pilot of that slothful craft, having discharged his mixed functions of messenger, expressman, postman, stretcherman, and what not, should finally bring her alongside and invite us aboard. Anxiety was written in their faces, poor souls! and I felt for them as they looked eagerly upward, waiting and hoping. Suddenly one of them, a hard-featured, angular, swarthy representative of your sex, an importation from the ever-verdant isle, elbowed her way up to me and asked, with a smile that seemed a distortion of *those* features:

"And how is she?"

I assured her that I hoped she was well, but that I didn't know.

"Sure, don't ye go to her ward?"

"I really do not know who it is that you are inquiring for."

"Sure, it's my sister I mean?"

Still I told her that I didn't know.

"Well, now, this will tell ye whether ye go to her ward or whether ye don't," said she, showing me a card which authorized her to visit one of my wards. She had cornered me fairly; there was no escape, and I had to admit that I was taking care of her sister.

"Well, and how is she?" said she again, with an air of triumph. Then I explained at great length that I did not know which of my patients her sister was, and told her apologetically that if I did I would be very glad to give her the information. Nothing daunted, she returned to the attack: "Ye don't know who she is? She's Bridget Daly, and you're her doctor, and I want to know how she is." Again I explained that I did not know the patients by name, and, therefore, that I did not know who Bridget Daly was. Now her patience showed signs of exhaustion. I must have appeared very stupid or very ill-natured to her, for she replied, sharply, "Don't I tell ye who she is. She's my sister. Now how is she?"

It was at this juncture that my courage oozed away, and I transferred to your shoulders one of the burdens which rightfully belonged to me. I begged her to go to Ward L and ask the nurse, who could, I was sure, give her the information. With a look of scorn upon her hard features, the memory of which makes me tremble where I stand to-night, she gave vent to her thoughts, not only of me, but of doctors in general. They were of such a character, and expressed with such force, that I concluded not to wait for that elevator, and accordingly I beat a hasty retreat up the stairs. One of the nurses in that ward was missing by actual count the next day, and I have not had the courage to inquire for her yet.

Ah! my friends, that poor soul whose sick sister was her great grief could not be made to understand that she was only one of many to me. Be prepared for human nature in your future work. It will happen to you all to have experience in life of which this is a type. Care tenderly for the feelings of the distressed. Believe me, I would gladly have told Bridget Daly's sister all about Bridget Daly if I could. I know that none of you will ever voluntarily do aught that may be unfeeling or thoughtless; but let me urge you to study by your manner to convey an impression of silent respect for the grief and anxiety that surround you, even though you may often have seen severer trials. Do not mistake me. You should not allow your-

selves to be too much harrowed by the sufferings of which you must often be the silent witnesses. The mental wear and tear of your lives would be far greater than you could bear if you entered into the griefs of all your patients as if they were your own; and your judgment would soon be of no more value than that of a relative of the sufferer. But do not become callous to suffering, however familiar you may become with it. There is an intermediate course which your own good feelings and good sense will point out to you.

Let me ask your attention for a few moments to the consideration of one of the relations of the training school to the community. It has always been a blot upon the civilization of our age that so few occupations are open to gentlewomen whose circumstances or whose desires render it necessary for them to be self-supporting. When, therefore, this most worthy and most honorable calling was in process of development, it was hailed by all thinking men as a very laudable advance in the right direction. This is one of the few means of earning a livelihood of which no lady can feel aught but pride. In it there is abundant opportunity for the development of all your noblest traits of character. Your sympathies will never lie dormant, but will become cultivated and developed in no ordinary degree. Your intellectual faculties are called into play far more than are those of many of your brothers. A future is opened before you of usefulness, a career of honor, in which you may make yourselves (I speak guardedly) of importance to your fellow-beings in no ordinary way; but, to descend to details, are you in readiness to fulfill for a community like ours all the duties of your calling? I hear it said not infrequently that the trained nurse is a luxury that only the wealthy can afford. She requires a servant to wait upon her. Her wants are numerous. She is very exacting and tenacious of what she considers her due; and only in the homes of the wealthy does she seem quite in her proper sphere. But who is to nurse the sick of the great middle class in our midst? Who is to carry out the details of the doctor's directions among the poorer of our gentlefolk and among our artisans? Are you willing to enter a modest household and to do your saintly office for your fellow-creatures in their lowly estate, to endure the privations which they themselves have become accustomed to, to eat with their servants if you must, to do with your hands all the menial duties for the sick one? Somebody should do them, and his slender means are already sorely depleted by the exigencies of his illness and he can not afford to employ an additional servant to help you as you and he would wish. I do not ask whether in the sweet name of charity you are willing to incur privations, to suffer discomforts, to make great sacrifices. I know well enough how you would answer that question, every one of you. But the only lasting basis of success for such enterprises as our training school is the commercial basis. If the recompense that you are to receive is sufficient to compensate you for your services, the success of the school is assured; if not, its days would soon be numbered. Is, therefore, your recompense going to be sufficient to reward you substantially for incurring habitually such discomforts as I have described? Almost without exception you answer, No. Very well, then, how is the question to be met? Are these poor people too poor to be entitled to the blessings which you can bestow? Are they to enter our hospitals, and there become the recipients of charity? Such a course would be very detrimental to them and to the community of which they form a very large part. Many a home would be needlessly broken up, with all the grave import of that sad phrase, if its father or its mother were to be brought to our hospitals when he or she might remain at home. The resources of these institutions would be unequal to the demand which would thus be put upon them, and the evil results of such a forced acceptance of charity would be greatly to be deplored. No, there must be some other solution of the difficulty: where are we to seek it? There are doctors enough who are willing, even anxious, to attend them for such small fees as they are able to pay—for much smaller fees than you will habitually receive. Think not for a moment that I would censure you for your choice. In your position I would choose as you do. What I am about to say is merely a plea for the further development of the training-school system. There is a demand for nurses for these people, and, rest assured, that demand will be supplied. Training schools must arise which will receive and educate nurses who are not gentlewomen, nurses to whom it would be no hardship to bear what I have described, and who would be quite competent to do for these patients all that they require. Believe me, the work of our training schools is but in its infancy, and it would be hard to predict the ultimate limits of their usefulness.

Again, how long do you suppose that this city will willingly continue with its present very inadequate supply of male nurses? It is conceded on every side that there is an urgent need of better material in this class of assistants. It is a matter of great surprise to many of us that there is thus far no training school for men. Is it vain to hope that some one of our sister hospitals may one day endeavor to do her share in the great work of education in this way?

Those of us who recollect what hospital nursing was before the introduction of the training-school system into America, and who are now familiar with the changes that that system has wrought, find it very difficult to understand that there are still hospitals in our midst which do not believe in the efficiency of trained nurses and training schools. There is a public hospital here where the two systems are still in force, where the male wards are wholly attended by the old-fashioned nurse, the training school being restricted to the female wards; not, however, be it said, from lack of faith on the part of the managers, but from lack of funds. A training school is an expensive establishment. When, a few months ago, I had occasion to have one of the male nurses in that hospital summarily removed for intemperance—not intemperance of the usual kind, but intemperance in the use of opium—it was several weeks before his successor was appointed. Why do you suppose the patients of that ward were left wholly uncared for during all these weeks, or cared for only as they could attend to each other? Forsooth, a new factor entered into the nursing problem. A man with good testimonials and good record could not be promptly appointed by the ho s

pital authorities because he had not passed the civil-service examination. He might, perhaps, be unable to tell you the population of Timbuctoo, or the capital of Patagonia; hence he could not possibly be considered a qualified nurse. Behold, the nurses in that hospital are to be purified and rendered sympathetic and scientific, not by the extension of the domain of the training school, whose usefulness has been tried and proved, but by the magic influence of the civil-service examiners.

I could entertain you with many a serio-comic account of hospital experience before the days of training schools in America. Would you believe that no nurse, male or female, in the hospitals in those days was competent to use the clinical thermometer? Many a night have I been called from bed by my own order that I might ascertain for future guidance the temperature of a fever patient.

So firmly rooted are the training schools, where they have been fairly tested, that it is safe to say that lack of faith in them to-day can come only from lack of experience. Where is there a training school in existence to-day, where is there a hospital whose nursing is conducted by a training school, whose responsible managers, lay or medical, would be willing to abandon the enterprise and return to the older method?

I would not be understood to say that our own little school is faultless. In fact, there are several details in its system which I believe to be fairly open to criticism. It has frequently seemed to me that in our small hospital we are attempting too much when we agree to graduate a definite number of qualified nurses in a definite time. The primary object of every training school should be the nursing of the patients in the hospital which sustains it. If, in addition to that duty, it can educate a few good nurses for the use of the community every year, its managers should be very glad. Our duty is, however, primarily to our hospital and not to the community. Moreover, I am told that it frequently happens that a nurse is very efficient and useful in a subordinate position who lacks many of the qualities which go to make up a good head nurse, for in this latter capacity she must preside over much more than the nursing of her ward. The management of the supplies, the instruction of her juniors, the maintenance of discipline, the various duties of housekeeper of the ward, devolve upon her; and these are quite distinct from any qualities which are requisite for a good nurse in the subsequent exercise of her calling. It therefore happens, so I have been informed, that the heads of our training schools are obliged to refuse applicants for admission occasionally who, with good training, might make excellent nurses for the community, but who lack some of the requisite qualifications essential for a nurse in one of the grades of the school curriculum. Again, it is often a disadvantage to have frequent changes in the position of head nurse in a ward. It is a disadvantage to the patients, an annoyance to the doctors, and a source of needless friction in the machinery of the hospital. For all these reasons might it not be desirable to retain the head nurse of a ward longer in that position than is done at present? Would it not be an advantage to have permanent head nurses in the wards—permanent, that is, in the sense in which they are permanent in hospitals in which there are no training schools?

In the Nightingale School at St. Thomas's Hospital in London this plan is pursued, and I know that during my student days in that hospital its practical working was most excellent. A permanent head nurse would certainly make a more efficient instructor of her juniors than one but six months their senior in the nursing life. It would certainly be no injustice to those who never reached this grade, for their advantages of training would doubtless be much increased; and it would relieve the principal of the school of much and serious responsibility, besides insuring more uniformity in the care of the patient, and a better understanding of the doctor's methods and desires.

Moreover, among these permanent head nurses the hospital would never be at a loss for a competent substitute for the principal of the school in case of her temporary or permanent withdrawal at any time; and from among them the school could always furnish tried and efficient women, who are so frequently needed to organize and control new schools, which are being constantly established elsewhere. In this way, possibly, a smaller number of nurses would be graduated each year; but this does not by any means necessarily follow, and, moreover, it is of secondary consequence.

I do not know that I am quite in sympathy with the present kind of theoretical instruction that nurses receive. Perhaps too much importance is attached to an attempt at a semi-technical training in scientific subjects that can not possibly be learnt in the limited time that you are able to devote to them, and that would not contribute to your usefulness if they could be so acquired. I have heard an examiner in one of our schools deliberately ask a nurse how she would treat a wound of the palmar arch; and, great as were my amazement and chagrin at hearing the question, they were both increased beyond measure at hearing how glibly she replied to it. Now, I maintain that a good nurse need not know that there is such a thing as a palmar arch. She had better not receive as part of her general training an imperfect conception of important facts in regard to which a really useful knowledge can only be obtained by years of careful study and dissection. Better, far better, let her devote her attention to the strict details of her work. The same nurse who knew all about the surgery of the palmar arch could not tell me, in reply to a question, whether she ought to use hot water, or cold water, or alcohol, in making a mustard-plaster.

Do not think that I would remove all the interesting parts of your training, and leave you only the drudgery. Think for a moment, however, that men devote years to the study of anatomy and physiology, and then acquire only a small part of the useful knowledge that has been stored up in regard to these subjects. Now, making due allowance for the quickness with which your sex assimilates new facts and new ideas, is it to be supposed that three lectures in each of these branches can convey to you clear conceptions such as will be of use to you hereafter? If I were to invite you to be present at three autopsies, would you think that you had thus acquired a useful knowledge of pathology?

By the way, I once did, upon the request of the principal of this school, re-enforced by the superintendent of the hospital, and subsequently by that august tribunal before which nurses and doctors alike turn pale—the visiting committee—I once did invite the training school to be present at an autopsy. Such a profusion of smelling-bottles, such an odor of cologne-water, such a clinging together of pale, frightened girls, had never before diversified the dance of death in that dingy place; and when, the next day, I learned that the training school had a severe headache, after a wakeful night, whose few moments of sleep had been rendered horrid by blood-curdling visions, I hoped that I might not be asked to repeat the experiment.

"But," you reply, "how is a nurse to acquire a knowledge of anatomy such as will enable her to save life in case of surgical emergency—as of secondary hæmorrhage, for instance?" I am asked whether I forget that one of your number saved a man from instant death a few weeks ago by arresting the hæmorrhage from an artery in his neck? I shall never forget that heroic act; but do you not know that it was her presence of mind, her common sense, and her fortitude that saved the man's life, and not any previous study of anatomy? I believe that most of you will agree with me when I say that, in any particular case where there is a possibility of secondary hæmorrhage, you would prefer to be instructed by the surgeon in your duties rather than rely upon a previously acquired theoretical knowledge of anatomy derived from three lectures in the school-room.

With all its faults, our little school has prospered beyond the hopes that attended its inception. Its strength lies in you, young ladies, and your sisters in the work. Do not forget that you are greatly indebted to it. Wherever your work in the future may be, recollect that the good wishes of the hospital will attend you. There is no nobler calling than yours. The nurse who faces danger, in contact with dread infection—and even in a few weeks you may be brought face to face with one of the greatest scourges that the world has ever known—the nurse who faces danger like this without flinching is far more heroic than the soldier who risks his life in battle, for her heroism is performed in the stillness and obscurity of the sick-room, with no herald to chronicle her glory to the world, with none of his incentives to bravery, and none of his promised rewards! All honor, then, to the little band of noble women whose zeal and devotion to their calling lead them forward in such a career.

Finally, I commend to your attention the excellent ethical precepts that were spoken to you by my predecessor a year ago. I could not improve upon his advice, or his method of giving it. It would be useless merely to repeat it. It is all comprised in one short sentence, which is, doubtless, familiar to you all:

To your own selves be true, and it must follow, as the night the day, you can not then be false to any man!

Menyanthes Trifoliata in the Treatment of Amenorrhœa. White ("Lancet") has used this drug in a number of cases of functional amenorrhœa, and considers it a valuable remedy. A wineglassful of the decoction of the herb may be taken three times a day. If administered in large doses, menyanthes has a decided emetic action.

Original Communications.

ON THE CAUSE AND CORRECTION OF DEFORMITY WITH ANKYLOSIS AFTER HIP-JOINT DISEASE.

By CHARLES T. POORE, M. D.,
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Deformities of the hip joint with ankylosis are frequently met with in the practice of almost every physician. In many cases, indeed in the vast majority, the limb is fixed in a position which interferes greatly with easy and graceful locomotion; the walk is labored and awkward, so that one can easily recognize those thus afflicted by their peculiar mode of progression. I am well aware that some patients who have had disease of the hip joint, if they have received timely and proper treatment, recover with normal motion at this articulation, and it may be truly said of them that not a vestige of the disease remains; flexion, extension, rotation, abduction, and adduction are normal. But these are the cases in which disorganization of the joint has not taken place. They are the exception, and not the rule. They are examples of osteitis. There are other cases which, although carefully and persistently treated, do not do so well, but abscesses form and open at various points about the joint, and, when recovery takes place, it is with a stiff joint and one fixed in an unfavorable position for easy locomotion. To this class of cases I desire to draw attention; to examine into the cause of the difficulty in walking and see if anything can be done to relieve in some degree the malposition of the limb, on which depends much of the lameness.

The real cause of the impediment to easy locomotion is not always appreciated; it is often considered that if the patient recovers from his hip-joint disease so as to be able to get about, all has been accomplished, and any further treatment is uncalled for, the patient being compelled to go through life badly crippled. I do not believe that motion is ever obtained in a joint that has been disorganized, one in which the cartilages have been destroyed; and in many cases in which there has been no evidence of suppuration the joint is left stiff. Whether the ankylosis is fibrous or bony is a matter of small moment. I do not think that any persistent effort should be made to ascertain this fact, for it will be hazardous to attempt to improve the position of the limb after one is satisfied that any marked changes have taken place in the joint surfaces. I have known disastrous results follow such efforts.

The method of walking in one who has recovered from suppurative hip-joint disease with malposition of the limb is peculiar, and belongs to no other deformity except infantile paralysis, where the limb is shortened and the muscles about the upper end of the femur are structurally changed. The patient sways from side to side at every step; when the foot of the affected limb is to be placed upon the ground, the pelvis of the same side is raised with a hitching or jerking motion; the loins on the opposite side are curved in the contrary direction, while the upper portion of the trunk is bent to the diseased side. There is also more or

less lordosis in the lumbar region. Sometimes, even with this amount of twisting, only the toes can be got to the floor, and a crutch has to be used in locomotion. In standing with both feet on the floor, the pelvis is raised and the body twisted; often the patient has to steady himself by taking hold of some firm object. On placing such a person on his back and measuring both limbs from the anterior superior spinous process to the internal malleolus, it will be found that the actual shortening is much less than the difficulty in standing and walking would lead one to suppose. The difference may not be more than an inch between the two limbs. Yet the patient's mode of progression is awkward and tiresome, apparently due to considerable shortening. What, then, is the cause of the deformity? It is not the actual shortening of the limb, but its fixed malposition in regard to the pelvis. We certainly meet with congenital shortening in which the difference between the two limbs is not less than we find after some cases of recovery from hip-joint disease, yet the difference in walking is scarcely noticed. In shortening of the limb after disease of the knee joint, the gait is not of the labored character of the disease under consideration. In ankylosis of the hip in a straight line the walk has not this peculiar character if the shortening is corrected by a high shoe. The real cause of the characteristic gait is the flexion and adduction of the limb in its relation to the pelvis. Shortening, if the proper correction is made, will not account for it, for, if the actual difference between the two limbs is removed by the use of a high shoe, the walk is but little, if at all, improved.

To the flexion and adduction, then, must we turn for an explanation. A moderate amount of flexion in an ankylosed hip joint adds much to the comfort of the patient and his ability to go about. Flexion of the limb is met with in different degrees, from only a slight advance from a straight line to a very acute angle with the pelvis. When the patient is standing, the amount seems much less than it really is, from the fact that the patient always arches the lumbar vertebræ forward, or rather, in marked cases, the ankylosed limb, acting as a lever, rotates the pelvis downward. It is only by placing the patient on his back on a table and bringing the thigh up until the spinous processes of the lumbar vertebræ touch the table, that the amount of actual flexion is appreciated. This flexion is due to the contraction of the muscles inserted into the trochanter minor; with this there is always associated some rotation.

The question, at what angle to the pelvis an ankylosed hip should be placed to be of the greatest use, is one that has received different answers. Some, taking into consideration the occupation of the patient, would have different angles for different occupations; thus, for one whose employment or pleasure requires much standing or walking, a limb fixed in a straight position, while that of one who has to sit much, a right angle with the pelvis is considered the best. We think that the use of a limb in only one position of the body should never be taken as a guide as to the angle, but that, in solving this question, that angle should be taken that will permit of the greatest comfort, not only in one, but in all positions of the body. There can be no question that a limb ankylosed in a straight line with the body is the most useful for standing and walking, and one fixed at a right angle to the pelvis for sitting; but reverse these, and one has the most uncomfortable angle for sitting and the most useless for standing. One's vocation can not be taken as a guide. We must strive to obtain some compromising position to place the limb in, which, both standing, walking, and sitting, may be as easy as possible. Another point to be taken into consideration is the ability to pull on a shoe. With a limb fully extended this is an impossibility, and, if there were no other objection to allowing a limb to remain fixed in a straight line, this is an unanswerable one. I have a patient under my care who has recovered from disease of the hip joint with ankylosis, no adduction, but with a flexion of the thigh on the pelvis of 125°. This child is able to put on her shoes and stockings, to walk with but a slight limp, and to sit on a chair without one being able to notice that she has any deformity at the hip joint. I have therefore taken this angle as a standard, and think any marked deviation from this amount of flexion should be corrected, as it will add to the comfort of the patient.

My friend Dr. Gibney thinks an angle of 135° better than the one I have adopted; 5° or 10° of increased flexion would hardly be noticed, while a deviation in the opposite direction would be a great disadvantage. I think, therefore, that the best angle of flexion is from 125° to 135°.

While flexion on the pelvis, if to an extreme degree, is a great hindrance to locomotion, yet it is not, if in a moderate degree, so great an obstacle to easy walking as adduction; the latter increases the shortening of the limb, so that, while the actual inequality in the length of the limb may be only half an inch, the distance that the affected foot is raised from the ground may be several inches; it is also the chief element in causing the labored, awkward gait. Adduction is present in all cases of hip-joint disease in which special means have not been provided to prevent it, and sometimes the limb will become adducted, no matter what is done, either from the acuteness of the disease or the impossibility of adjusting and keeping the splint in proper condition.

The effect of adduction on the gait is evident. When the patient stands with the anterior superior spines of the ilia on the same plane, the affected limb crosses the sound one at a greater or less angle, according to the amount of adduction. In order to bring the foot of the affected side down to the ground, or get it out of the way of the sound one in walking, the pelvis of that side has to be raised; the greater the adduction the greater its elevation, and the greater distance from the floor is the foot raised, thus increasing the real shortening. This raising of the pelvis is accompanied with a twisting of the body to the opposite side in the lumbar region, and to the corresponding one in the dorsal.

The elevation of the pelvis causes its prominence, and this, together with the twisting of the body, gives a patient the appearance so characteristic of the disease. In walking, at every step the pelvis on the diseased side has to be raised with a jerking or hitching movement, in order to either get the foot of the affected side to the ground, or the limb out of the way of the sound one. The degree of awk-

wardness in walking is, to a great extent, due to the amount of adduction. One is often deceived in regard to the presence of adduction, unless the relation of the affected thigh to the pelvis, and not to the sound limb, is taken into account. Parallelism of the limbs, unless the pelvis is at a right angle to the long axis of the body, is *no proof* of the *absence of adduction*. The best guide to its detection is the position of the anterior superior spines of the ilia. If they are upon the same plane, and the two limbs are parallel, adduction does not exist. Adduction may exist with but little flexion, and may be the only impediment to easy walking.

The object of mechanical treatment of hip-joint disease is not only to give rest to the articulation, but to prevent flexion and adduction, especially the latter. It is a mistake to suppose that, as soon as a hip splint has been applied and instructions given, the surgeon's labors are at an end; the real treatment has just begun, and it will be found that those cases do the best that are seen the most frequently, and are under the constant supervision of the surgeon.

I think that all hip splints should be provided with an abduction screw, and that, during treatment, the limb should be kept in a slightly abducted position. Adduction, when it has once become established, has in my hands been a very troublesome malposition to overcome, and, after it has been corrected, is apt to return if there is motion at the hip joint. When ankylosis has taken place, the correction of any malposition belongs to operative surgery, and to this I desire to draw attention. After hip-joint disease (and by that I mean osteitis of the head of the femur), forcible breaking down of adhesion is a dangerous operation; the danger is great that the disease in the bones will be rekindled, and the chances of gaining much if any improvement are very small. The limb is almost always seen to revert to its former vicious position. A section of the femur, however, in its upper portion, will correct it.

The indications for an operation having in view any improvement in the comfort of a patient with ankylosis at the hip joint are, first, to correct *all* the adduction, and, secondly, to reduce or increase the flexion to an angle of 125° to 135° with the pelvis. Five operations have been performed for this purpose, namely, breaking down the ankylosis by manual force, fracture of the thigh at an uncertain point, fracture of the thigh at a determined point by an osteoclast, excision of the hip joint, and a section at the upper extremity of the femur, either with a saw or an osteotome (osteotomy). Of these, only the latter method will be considered, as the others are too uncertain in their results. The two first are absolutely dangerous. If an osteoclast could be devised that would produce a fracture just below the trochanter minor with certainty, it would surely be the best operation; but, from the anatomical position of the bone at this point, it is an impossibility, and a fracture at the junction of the upper with the middle third leaves the limb, after correction, with a noticeable bending forward at the point of operation, while, in an osteotomy, the point of section is entirely under the control of the operator.

At what point should an osteotomy be performed for the relief of malposition of the thigh with ankylosis after hip-joint disease? Three points of section have been advocated—namely, through the neck, between the trochanters, and below them. After hip-joint disease a section through the neck is often an impossibility, because there is no neck to divide, or the angle of the deformity is such that access can not be gained to it for the purpose of an osteotomy; if the neck does exist and is accessible, there is danger that the section would have to be made through diseased or weakened bone, which might again take on an inflammatory action. If there is no pathological objection, there is the mechanical one that the point of section is above the insertion of the psoas and iliacus, and these muscles, being still attached to the lower fragment, will, by their contracted and shortened condition, be an obstacle to the correction of the flexion, and will, in conjunction with the extension used after the operation, act as an adductor of the limb on the pelvis, and thus defeat the object of the operation. Cases are upon record in which a division through the neck has failed to correct, and a second operation below the trochanter was performed with good result. It certainly has not been a favorite operation.

A section between the trochanters has many of the objections urged against a division through the neck. It is true that access is easily obtained to the bone in this situation, but the point of section is above the psoas and iliacus, and it is difficult to control the limb after the operation. I have never seen a case, when the operation was performed in this position, in which there did not exist more or less adduction, and in one case the operation was practically a failure from this cause.

A cuneiform section has been advocated by some surgeons. While there is much theoretically in its favor, yet practically it has no advantage, nor is correction either more perfect or easier than after a linear division. It has also these objections: It is made through an open wound, is more difficult, takes a longer time for its performance, requires more elaborate dressings, and there is greater danger of injury to the soft parts by their being pinched between the fragments. In my hands an operation below the trochanter minor has yielded the best results. It is true that the shortening of the limb is slightly increased over that of an operation higher up, but this is so slight that it will not decrease the length of the limb to any appreciable degree, and its advantages far outweigh the objection.

The operation is easily performed. An incision, about three quarters of an inch in length, is made down upon the bone at a point just below the trochanter minor from the outside of the limb; the osteotome is then passed down upon the knife as a guide, and division is made at *right angles* to the *long axis* of the limb. Care should be taken that the line of the section is at *right angles* to the *long axis* of the *femur* and not *to the pelvis*. An error is liable to be made if this point is not attended to, because the amount of adduction is not appreciated, and the line of section is apt to be from *above* downward and inward, and not directly *transverse*. In the two specimens I have examined, the line of division was very sloping, although both operators, in their descrip-

tion of the operation, state that they made it transverse, while an examination of the specimens proves the contrary.

After the fracture is complete I do not consider it wise to move the limb with much force in different directions in order to stretch the shortened muscles and break up any adhesions that may exist. In these manipulations much injury may be done to the denuded ends of the bone; the limb below the point of division forms the long arm of a lever, while the upper fragment is the fulcrum, and any movement of the lower portion must exert a great force upon the cut ends; besides, there is danger that the soft parts may get caught and crushed between the fragments, and thus be the starting-point of suppuration. The wound should be covered by a strip of adhesive plaster, so as to bring its edges into coaptation, and over this a small compress on which has been dusted some iodoform. While the patient is upon the operating table, a long splint, extending from the ankle to the axilla, is put on and firmly fastened to the leg and body. After he is put to bed, an extending weight of about five or six pounds is applied, in order to keep the limb steady. After the operation wound has closed, which will be on the third day, the extension weight is run up until all the contracted muscles and adhesions are stretched. The limb can then be placed in any desired position with no pain to the patient nor danger to the soft parts.

The patient should under *no circumstance* be allowed to sit up in bed, but should be kept as flat as possible until consolidation has taken place. A failure to enforce this rule has been the cause of much disappointment in the result after an osteotomy in this region. Another point needs constant attention during the period of consolidation, and that is the position of the limb in regard to its adduction. The limbs may apparently be parallel, but, if the anterior superior spines are examined, that on the side of operation is apt to be found raised, thus practically adducting the limb, so that, after union has taken place, it will be found that the result is far from what was desired—the walk will still have the adduction swing. Plaster-of-Paris splints are used by some operators for fixing the limb after operation; in the limbs that I have seen put up in this way adduction was well marked, and in one case no improvement is said to have been gained by the operation. I can not too strongly insist upon the recumbent position during the *entire period* of consolidation. It is a waste of time to make any attempt to obtain a false joint at the point of section; if it could be obtained it would be more of a disadvantage than an advantage.

The mortality after osteotomy, if properly performed and on a suitable subject, should not be greater than that after a simple fracture, and indeed it is less, because it is less liable to be followed by secondary trouble, the element of violence in its causation being eliminated. Statistics, it is true, show a larger mortality than this statement would seem to warrant. Thus, in 132 cases of simple osteotomy through the neck of the femur and between and below the trochanters, 12 patients died—a percentage of 9·1. But the majority of these fatal cases occurred in the early history of the operation; in many the bone was reached through an open wound, the operation was improperly performed, and unsuitable cases were submitted to it. Thus, section was made at too high a point in some, sufficient time had not elapsed since the symptoms of disease had subsided in others, while in a third class attempts had been made to ascertain whether the ankylosis was fibrous or bony, and thus great injury was done. Of late years, I do not know of a fatal case after this operation, and would place an osteotomy, so far as danger goes, in the same class as a tenotomy. The pain after a section of the femur is slight, and, after the effects of the ether have passed off, patients, as a rule, make no complaint.

PUERPERAL ECLAMPSIA.

By ROBERT A. MURRAY, M. D.

On the 15th of May, 1884, I was called at 7 A. M. to see Mrs. M., aged twenty-five, who was pregnant six months and a half with her first child. About midnight, after severe headache for two or three hours, she was suddenly taken with violent emesis, which continued up to the time of my visit. On examination, I found the feet and limbs œdematous, the face puffy and swollen, and dimness of vision. On questioning, I found that but three tablespoonfuls of urine had been passed during the previous twenty-four hours, and this high-colored and smoky; repeated examinations of the urine during the previous month, in consequence of dysuria from vesical catarrh—a common result in her of slight cold—had proved negative; her general health had been good until this sickness.

The emesis was quieted by a little iced brandy.

At 7.30 A. M. twitching of the facial muscles. A peculiar, quiet, and marked dimness of vision betokened the approach of convulsions. The attack was severe. Cyanosis, and almost asphyxia, resulted; coma followed, from which she was aroused in a half-hour.

These attacks were repeated at short intervals during the day, although chloral and bromide of potassium in twenty-grain doses were administered, at hourly intervals, for three doses, chloroform being used on the approach of the convulsions. The kidneys were cupped. Pulv. jalap., gr. x, potass. bitart., ʒj, repeated every two hours for three doses without effect. Diaphoresis was caused by hot bottles and warm blankets. At 5 P. M. urine, ʒij, was drawn by catheter, solid with albumin and bloody.

At 5 P. M. a slight sanious discharge appeared, and commencing dilatation of the os indicated the supervention of premature labor. The patient was very much exhausted; pulse 100, temperature 100°, respiration 40. On consultation with Dr. Gillette, he advised the induction of premature labor, but with little hope of saving the child or the mother.

At 7 P. M. the patient was put thoroughly under chloroform. After rupture of the membranes, the cervix was dilated by Barnes's dilators; the head was found in the L. O. A. position; forceps was now applied; a dead child, after little difficulty, was extracted; the placenta followed; labor was completed in one hour and a half; little blood was lost; patient became conscious.

In about half an hour the pulse became frequent and intermittent, and an acute attack of œdema of the lungs set in; the pulse became imperceptible at the wrist, and the patient seemed about to die. Brandy and tincture of digitalis were given subcutaneously, the digitalis in ten-minim doses, every fifteen minutes, for five doses, when the heart beat strongly, the œdema subsided, and brandy and milk could be swallowed.

Urine was now drawn; one pint and a half obtained; smoky, specific gravity 1·028; albumin, 80 per cent. Epithelial and blood casts and blood corpuscles were abundant microscopically.

May 15th.—Cephalalgia, amblyopia, and œdema of limbs still persist. Elaterium given in ½-grain doses every hour; half a grain caused six profuse watery stools, which relieved the restlessness and headache. One pint of urine passed during the night, 50 per cent. albumin. Patient now rallied well; the œdema and delirium, which lasted three days, subsided.

24th.—Urine 20 per cent. albumin; casts and blood diminishing; two quarts in twenty-four hours. Sp. gr. 1·022. Patient has been taking infusion of digitalis and bitartrate of potash, which was stopped. Tincture of the chloride of iron, ♏xx, and hydrarg. chlor. corros., gr $\frac{1}{15}$, were now given three times a day, and, with the diminution of the mercurial after the third week to $\frac{1}{30}$ grain, were continued for six weeks. No casts or albumin have been present in the urine for three weeks. Patient was discharged.

Four months after this, patient called to say she was again pregnant to the second month. Urine examination negative.

Puerperal eclampsia, while not frequent, is one of the most fatal complications of pregnancy. Lusk * estimates, from an examination of the mortality statistics of the city of New York, that one death in seven hundred confinements is due to this cause. Comparing the deaths from eclampsia with those from all causes in the puerperal state, the proportion is one to eight. Spiegelberg † estimates the occurrence of convulsions in childbirth as one to five hundred. Eclampsia can occur at any time in the course of pregnancy or the puerperal state, though it is rare in the first half, and seldom seen before the seventh month. Spiegelberg ‡ relates a fatal case at the fourth month, von Bluff a similar one at the fourth month, and Danyau one which terminated successfully, after extraction of the ovum, in the sixth week.

Most frequently the eclampsia occurs during labor, though Legroux has seen them on the fourteenth day, Lumpe on the twenty-fourth, and Simpson in the eighth week after labor.

Löhlein ¤ gives his experience that two thirds of the cases of eclampsia in childbed occur in the first twelve hours post partum; the remaining third in a short time, usually five or six days, after labor. The farther removed from childbirth the attack is, the less likely is it to be concerned with that as a cause.

The seizures vary in number, but they may be exceedingly numerous. Braun ‖ reports 70, Brummerstadt 81, and Depaul ^ 160 in a day.

The first convulsions give an idea of their probable recurrence and severity, though they may become so frequent as to make an estimate of their number impossible. In the case described we are brought face to face with the ordinary symptoms of acute nephritis with renal insufficiency. Albuminuria may or may not be present to indicate the renal trouble, though they are very frequently associated.

* Lusk, "Science and Art of Midwifery," "Eclampsia."
† Spiegelberg, "Lehrbuch der Geburtshulfe."
‡ *Ibid., op. cit.*
¤ Löhlein, "Zeitschrift f. Geb. u. Gyn.," viii, 2.
‖ Braun, "Lehrbuch der gesammt. Gyn."
^ Depaul, "Leçons de clinique obstet."

Dr. J. C. Lever, in "Guy's Hospital Reports," 1842, was the first to draw attention to the association of albuminuria and puerperal convulsions. In ten cases the urine was examined; albumin was found in nine cases; in the post-mortem made on the tenth case meningitis was found to be the cause of death. These observations were confirmed by Simpson, Ganod, Delpech, Cohen, Devilliers, and Regnault. From these cases he drew the conclusion that the convulsions in eclampsia, being the same as those occurring during Bright's disease, must arise from the same cause: the retention in the blood of the excrementitious matter of the urine—urea.

Frerichs, in 1851, from experiments on animals, thought that the convulsions were not produced by urea, but by carbonate of ammonium produced by the decomposition of urea; and that the condition was not one of uræmia, but the convulsions were due to ammoniæmia.

Spiegelberg * reported a case in which he demonstrated ammonia in the blood sufficient in amount to apparently justify this theory; but subsequent examinations were negative, and he concludes that ammoniæmia is to be regarded as one of the rarest causes of convulsions.

Braun † expressed clearly the true uræmic theory of convulsions. As the result of twenty autopsies in which death resulted from puerperal eclampsia, in five of which peritonitis, and in fifteen Bright's disease was found, he concludes that eclampsia is due to Bright's disease in one of the three forms described by Frerichs—hyperæmia, fatty degeneration, or atrophy of the kidney.

The Traube-Rosenstein theory held that convulsions took place when in pregnancy hydræmia was caused by the loss of albumin. The aortic pressure suddenly increased, the increased pressure giving rise to œdema of the brain, secondary compression of the vessels, and a resulting acute anæmia, which, extending to the motor centers, would cause convulsions.

Spiegelberg ‡ asks why, if the conditions assumed are so often present, convulsions do so rarely occur. He denies that pregnant women are as a rule hydræmic, that hydræmia and cerebral anæmia do produce convulsions, and that the clinical evidences afforded by the pulse and pupils are those produced by œdema.

Spiegelberg ¤ sums up as to the ætiology and pathology of eclampsia:

1. That eclampsia proceeds from uræmic poisoning in consequence of renal insufficiency, the immediate attack being due to suspension of the renal secretion from disturbance of the renal circulation by vaso-motor spasm.

2. Eclampsia without albuminuria belongs to another class, and is epileptic in origin. It is due to reflex stimulation of the vaso-motor and convulsive centers. The attacks are infrequent and seldom fatal.

Convulsions occur more commonly in primiparæ than in multiparæ, especially in elderly patients with a first pregnancy, in twin pregnancies, in contracted pelves, in prolonged and difficult labors, and in the illegitimately pregnant. Epi-

* Spiegelberg, "Arch. f. Gyn.," i, 1870. † Braun, [illegible]
‡ Spiegelberg, *op. cit.*, p. 559.
¤ *Ibid., op. cit.*, p. 561.

demically, they may occur in consequence of atmospheric conditions (Fordyce Barker).*

Professor Halbertsma,† of Utrecht, deduces:

1. That the facts observed did not permit his recognizing a reflex contraction of the renal arteries as the cause of albumin in pregnant women.

2. Albuminuria in pregnant women was specially observed when there was a want of proportion between the size of the gravid uterus and the abdominal cavity.

3. The cause of the albuminuria in pregnant women was, in the greater number of women, the tension and compression of the uterus.

The diagnosis of puerperal eclampsia is to be made from epilepsy, hysteria, apoplexy, the convulsions of acute anæmia, and alcoholism. The symptoms of uræmia serve to diagnose from all other conditions. In eclampsia, besides this, the temperature rises, there is no cry as in epilepsy, no paralysis as in apoplexy, no habit as in hysteria, and the patient is not so easily aroused after the convulsion. Again, eclampsia is generally arrested on the birth of the child.

The prognosis is always serious. Dohrn reports in 747 cases 29 per cent. of deaths. Hofmeier reports out of 104 cases 32 per cent. Braun had a mortality of 26 per cent. in 73 cases. Spiegelberg states that one out of three die who are attacked, and the mortality is greatest in the first pregnancies in the early months, and when complications of the lungs or heart are present.

More than one half of the children die from uræmic poisoning by the mother's blood, and by carbonic-acid poisoning from the compression of the child by the uterus.

The eclampsia terminates by the restoration of the renal function while the attacks are held in abeyance by depressomotor agents; by the expulsion of the fœtus, when the attacks usually cease. Again, the patient may die from asphyxia during a severe convulsion, or by exhaustion of the nervous system, or, lastly, by septic and inflammatory troubles, to which they are very liable.

In the treatment of eclampsia, prophylaxis will prevent the larger number of cases from becoming serious.

The skin being kept active by warm baths; the bowels regulated by saline cathartics; the mild, unstimulating diuretics, as the acetate, bitartrate, and citrate of potash in some of the alkaline mineral-waters, Vichy, Seltzer, etc., with relief of abdominal pressure by a bandage—will accomplish much. The use of the tincture of the chloride of iron, both for its diuretic and tonic properties, in full doses, seems to combat the anæmia and the anasarca. A milk diet should be maintained for even months, and meats should be avoided. Cerebral symptoms should be controlled by the use of chloral and the bromides in full doses, gr. xx to xxx of each, by rectum or by mouth, if emesis is not present. The drastic purges—elaterium, croton-oil, and the pulv. jalap. co.—in full doses, to produce watery evacuations, relieve the blood, and tend quickly to restore the renal function. If these measures do not suffice, premature labor should be induced promptly.

In the case reported the only resource seemed to be this, and the happy effect of the operation confirmed us in our opinion. In the early months of pregnancy, convulsions frequently cause the pains of labor, with dilatation of the os, to succeed after some hours, the child being born dead; if this procedure were initiated in the latter months, when the child is viable, would not the children be more frequently saved?

At the time of labor the rules for treatment are mainly those laid down for the treatment of uræmia apart from the pregnant state.

Spiegelberg* concludes that they are: To endeavor first to restore the function of the kidney; and then, if the renal insufficiency and the convulsions persist, to diminish arterial tension; and to diminish to the fullest extent the irritation of the vaso-motor and convulsive centers.

This is effected most surely, according to him, by bloodletting, narcotics, and, if the patient is in labor, by its rapid completion. Eight to sixteen ounces should be drawn from the arm. By the rapidity of its action in reducing arterial excitement, by its relieving the congested kidney, by deadening the excited vaso-motor nerves, and indirectly favoring absorption, it furnishes the first resource in eclampsia. After this, and to prolong the effect, chloral and the bromides may be used. Veratrum has been proposed by Dr. H. Fearn,† of Brooklyn, N. Y. He recommends the tincture in fifteen drops to teaspoonful doses repeated every fifteen minutes till vomiting sets in, or the pulse becomes soft. Kenyon‡ reports two cases treated successfully. What effect the use of this drug has on the infant mortality has not yet been determined.

Chloroform should be used only to assuage the pain and excitement of ineffective pains, and should not be pushed to full narcosis unless convulsions are imminent. By relaxing the muscular tissues, cervix, and perinæum, it allows of more rapid delivery; and during operative procedures, as catheterization, expression of placenta, use of forceps, and version, it should always be employed, if not contra-indicated, as convulsions are frequently begun by reflex irritation at the time of operation. If œdema of the lungs or weakness of the heart comes on with collapse, as in acute Bright's disease, and in cases where the compensative hypertrophy of the heart is not sufficient to overcome valvular difficulty, tincture of digitalis, used freely, hypodermically, has afforded a means of saving patients when death seemed imminent; especially is this the case, as frequently the patient can not swallow.

Premature labor in eclampsia should not be left to the position of a last resort; if this be the case, many patients will assuredly be lost who might be saved. Premature labor adds little to the danger when done under chloroform, by catheterization of the uterus, dilatation of the cervix, by

* Fordyce Barker, "Puerperal Diseases," "Eclampsia."

† Professor Halbertsma, "Trans. of the International Med. Congress," 1884. "Significance of Albuminuria in Women." Abstract in "Med. Record," September 20, 1884.

* Spiegelberg, *op. cit.*, p. 565.

† Dr. Fearn, "Veratrum in Puerperal Convulsions," "Am. Jour. of Obstet.," May, 1874.

‡ Dr. Kenyon, "Treatment of Puerperal Convulsions by Ver. Vir.," *ibid.*, New York, October, 1879.

Barnes's dilators, whereby no harm is done to the genital canal; and delivery by the forceps affords absolutely the most sure guarantee that the convulsions will cease and the lives of mother and child be saved. Braun declares that he has seen but one patient with eclampsia before the fourth month saved where abortion had not taken place.

After childbirth, the use of tonics, and particularly the tincture of the chloride of iron, with small doses of mercury bichloride, has in my hands, when the albuminuria persisted, been the means of entirely clearing the urine of casts and albumin, and at the same time of building up the general health of the patient. The iron should be used in full doses; the mercury in doses of one twentieth to one thirtieth of a grain, and this dose maintained for a time until the gums show redness; this has not occurred in my cases for at least four weeks, and I have not seen one case of salivation.

Two questions are suggested by this study of convulsions: Does pregnancy cause Bright's disease? and how far are we warranted in advising that a future pregnancy will be safe and successful in its issue?

Roberts * says there can be no doubt that many of the cases where Bright's disease co-exists with or follows the pregnant state are examples of the coincidence of the two independent conditions. Pregnant women are, of course, liable, like other persons, to contract Bright's disease from any of its ordinary causes; and, again, women who are the subjects of Bright's disease may become pregnant. But, after eliminating the cases belonging to these two categories, there are still, I believe, a considerable number where Bright's disease has really been caused by pregnancy. The Registrar-General's report furnishes some valuable evidence on this point:

In the five years, 1857–'61, there were registered 6,220 deaths from Bright's disease; 3,699 were males, 2,521 females, being in the proportion of 68 females to every 100 males. But the deaths of women from Bright's disease during the child-bearing period of life (twenty to forty-five) far exceed this proportion, being as high as 80 women to every 100 men. After the age of forty-five, the proportion of deaths from Bright's disease sinks again to 59 women for every 100 men. There seems no other conclusion to be drawn from these numbers than that the puerperal state is a prolific cause of Bright's disease.

Dickinson † confirms the opinion expressed by Roberts. To touch on clinical apart from pathological experience, I have seen a considerable number of instances of persistent albuminuria, with characteristic symptoms, general, and in one case laryngeal œdema, which had begun in a first, and become exasperated by subsequent pregnancies. Noteworthy points about them are, first, the marked increase of the disorder, and the increasing risk of convulsion which each successive gestation involves, and the slight tendency to get worse, or even the occurrence of steady though slow improvement, both in the general symptoms and in the state of the urine, so long as the condition in which the disorder has arisen be not repeated. A practical rule is discerned, which is not easy of enforcement, from which we conclude:

1. That subsequent pregnancies in patients who have had convulsions are to be avoided for a long period, so that the kidneys may have their functions completely restored.

2. That, on the occurrence of pregnancy, the urine should be frequently examined, and an endeavor made by prophylaxis to guard against the uræmic condition.

3. That abortion, or premature labor, should be promptly induced, when uræmic symptoms present, where in previous pregnancies severe eclampsia has occurred.

The patient whose case afforded the text for this article was last month delivered safely, and without an untoward symptom, of a living child. At no time during the progress of the pregnancy, although examinations were carefully made, did the urine show evidences of changes in the kidney.

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* Roberts, "Urinary and Renal Diseases," p. 362.

† "Treatise on Albuminuria," 1881, p. 122.

THE TREATMENT OF CHRONIC DACRYO-CYSTITIS.

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In the normal condition the amount of fluid secreted from the lachrymal passages is very small, but under irritating influences it is liable to be not only increased in quantity, but greatly changed in character. The important factors which conspire to bring about a condition of chronic dacryo-cystitis are swelling and hypertrophy of the mucous membrane, a lessening of the caliber of the nasal duct, and a secretion of inflammatory products of a thick, tenacious character, which are retained and consequently cause distension of the sac, and ultimately erosion of the lachrymal bone. From the fact that in these cases there are, as a rule, swelling and stenosis of the nasal duct, the conclusion is easily arrived at that the fundamental principle in the treatment is dilatation. Hence it is we are taught that any treatment to be effective must be that which will enlarge the passage-way to the nose, thus giving exit to the pent-up secretions in the lachrymal sac. The remedies most recommended are the slitting up of the lower canaliculus and the subsequent passing of probes into the nasal duct. Various methods of dilatation have been practiced from time to time with varying success. Dupuytren attempted to render the nasal duct permeable by introducing tubes made of gold or silver, having at their upper end a border to give them support. In a majority of cases the bony passage became worn under the pressure of the cannula, and the tube sank down. In others, intractable disease of the bones occurred, rendering a removal of the tube necessary. Leaden styles have been and are at present occasionally used. Some commence the treatment by introducing them, and allow them to remain, removing them from time to time, in order to cleanse the duct, or try its permeability. The uncertainty of success and the annoyance to the patient have made this method less preferable than the treatment by probes. Bougies of *Laminaria digitata* have also been used. Their advantage consists in their absorbing the fluid from the

lachrymal passages, and swelling up to many times their original size. The objection to their use is that they are likely to swell to such an extent that their removal causes a laceration of the lining membrane of the duct. The same objections apply to the bougies of catgut, saturated with nitrate of silver, that have been recommended by some surgeons. Forcible dilatation, on the principle of Holt's dilatation for urethral stricture, has been suggested, but is not popular. Stilling's practice is to pass a knife of the shape of a right-angled triangle into the nasal duct, and incise in three or four directions; no dilator or probe is introduced afterward. Warlomont speaks in praise of this method, and says the cure is immediate and permanent, though this is not in accord with the experience of others. Causing ectropion of the lower lid and punctum, which limits the conduction of tears to the sac, has been recommended as a curative measure. Destruction or obliteration of the sac has been practiced, but at present would hardly be regarded as a justifiable procedure. Astringent preparations, such as nitrate of silver, sulphate of zinc, etc., are injected into the sac, and have attained reputation as curative agents. Tincture of opium and tincture of iodine have been advocated, but are objectionable because of the impossibility of preventing their passage into the pharynx. It may be said here that no method known at the present day gives assurance of permanent benefit. In a considerable number of cases the result is only palliative, and the relief obtained does not always compensate for the pain and inconvenience to the patient. While all authorities agree as to the efficacy of passing probes into the nasal duct, there is much diversity of opinion as regards the benefit derived from the introduction of large ones. De Wecker,* as a preface to his remarks on treatment, says: "There are two points of capital importance on which much of the success of the treatment will depend. One is to realize that we are not called upon to remove any obstacles which oppose a definite resistance, such as occlusions or constrictions. All methods, therefore, in any way rough or coarse, are to be deprecated. The second is to realize that any treatment adopted should disturb the physiological functions of the tear-passages as little as possible." Further on he remarks: "I reject all large probes, and never use any in excess of Bowman's No. 3." Swanzy,† speaking of Weber's conical probes, says: "I do not use them, because, when passed into the nasal duct, their thickest part, which is 3 to 4 mm. in diameter, corresponds with the upper end of the duct, which is its narrowest part, being only 3 mm. in diameter; consequently the probe becomes more or less impacted at this place at each operation, and is apt ultimately to give rise there to hypertrophy of the periosteum, and finally to stricture, so that, while the immediate effect is good, the ultimate result is often the opposite." Stellwag‡ remarks: "It is scarcely ever necessary to use the very large probes (Bowman's 5–6). On the contrary, such a large caliber might easily become dangerous from the excessive laceration of the canals." Soelberg-Wells,§ says: "I, as a rule, use Bowman's probes, but frequently employ a considerably larger size than Bowman's No. 6." His practice is to begin with No. 3 to 4, and to gradually increase the size until No. 6 is arrived at. Noyes¶ remarks: "My conviction is that the stricture should be expanded to the fullest degree—much beyond No. 6 Bowman—and I have a size, No. 10, which measures 11 mm. in circumference." Nettleship† says: "The object aimed at is the permanent dilatation of the stricture, the rule being to use the largest probe that will pass readily." A popular method of treatment as practiced at present is thorough dilatation, the objective point being the absorption of the stricture; and, for this, probes larger in diameter than the caliber of the duct are forced through, benefiting, in some cases at the expense of the soft parts, by simply opening a passage-way for a thick, tenacious secretion that will hardly flow on a free surface. That many patients suffering from this disease have not stricture of the nasal duct is proved by the fact that the contents of the sac can be readily forced through the duct by pressure over the lachrymal sac. Neither does it follow that after thorough dilatation a cure will result. I have at present in mind a patient who, for about a year, has been under the care of one of my colleagues, at the Brooklyn Eye and Ear Hospital, on whom a No. 12 probe (Theobald) could be passed with the greatest ease. She has also worn a leaden style for months at a time. Yet the trouble persists. Noyes says: "Making haste slowly is the password to success in these cases, but I am convinced that the gate must be opened widely, and made to stay open." This success, I believe, consists in treating the effect while the cause persists and the condition remains unchanged, except in so far as a more thorough drainage tends to improve it. It seems to me that the essential factor necessary for the successful treatment of these cases must be to restore the sac and its contents to their normal condition; then it will be found that the duct in the majority of cases will be sufficiently large for drainage purposes. This can be more readily believed when it is known that "in the normal condition the quantity of fluid secreted from the lachrymal passages is so small that evaporation and secretion balance and nothing passes into the nose" (Noyes). A correct appreciation of the conditions which aid in producing and continuing this disease is necessary for its successful treatment. The most important is the palpebral conjunctivitis, which is always present. It is well known that atmospheric conditions, which excite an excessive secretion of tears in the normal eye, invariably cause an aggravation of the symptoms. Appropriate treatment here will materially aid in the improvement by arresting the over-secretion from the lachrymal gland, and consequently lessening the contents of the lachrymal sac. During the last year I have successfully treated three cases of this disease where the ordinary methods had failed. The first was cured by instilling a solution of sulphate of atropine into the conjunctival sac; the two succeeding ones, by injecting this agent directly into the lachrymal sac. My attention was accidentally called to the effect of atropine in cases of chronic dacryo-cystitis while treating a case of ulcer of the cornea in the person of a patient who had chronic dacryo-cystitis on the same side. Treatment applied to the

* "Ocular Therapeutics." † "Diseases of the Eye."
‡ "Diseases of the Eye." § "Diseases of the Eye."
¶ "Diseases of the Eye." † "Diseases of the Eye."

lachrymal sac with difficulty by myself and others had proved ineffectual, and was abandoned as useless. In treating him at a later time for ulcer of the cornea, a solution of atropine was employed. After a few days, improvement of the lachrymal disease was noticed, which continued until a cure was effected.

Case I.—A. W. called on me for treatment June 7, 1884, and stated that for several years he had been troubled with a swelling at the inner canthus and an annoying discharge. He had been under the care of specialists for two years. Bowman's operation had been performed, and probes passed into the nasal duct at intervals, without benefit. The lachrymal tumor was prominent, and was emptied by pressure over the sac through the lower canaliculus. A Bowman No. 4 was passed through the nasal duct with ease. Palpebral conjunctivitis was present, for which a solution of argent. nitras, gr. v, ad aquæ ʒ j, was applied. An ointment of hydrarg. oxid. flav., gr. iv, ad vaseline, ʒ ij, was ordered to be applied to lids at night; also a lotion of acid. boric., gr. xvi, ad aquæ, ʒ j, to be used three or four times daily. His visits were made at intervals of three days. Bowman's probe No. 6 was introduced each time after the first visit, and the treatment for the lids continued. After three weeks, there being no improvement, he became discouraged and left off treatment. In July he called, suffering from an ulcer of the cornea of the same eye, for which a solution of atropine was instilled and ordered for home use. Three days later he called again. The cornea was then in better condition. He remarked that the tear-sac trouble was much better, that the swelling was not so great, and that the secretion from the sac passed of itself into the nose. One week later he called. The cornea was entirely healed; the lachrymal disease had continued to improve. I ordered that the atropine be continued for two weeks, and that he should report again in a month, at the end of which time his cure was perfect.

Case II.—Mrs. C. called October 20, 1884, and stated that for three years she had been troubled with O. D. She complained of a swelling at the inner canthus, and an annoying discharge which blurred her vision. The tumor was emptied into the eye by pressure over the lachrymal sac. Two years ago she was under the care of a specialist. Bowman's operation was performed and probes were introduced into the nasal duct at intervals for some weeks, without benefit. One year ago the same treatment was resorted to, but failed to improve the condition. A Bowman's probe No. 4 was introduced into the nasal duct, but required some force to get it through. Conjunctivitis was present, for which a solution of argent. nitras, gr. v, was applied. Hydrarg. oxid. flav., gr. iv, ad vaseline, ʒ ij, was ordered as an application to the lids at night, and a lotion of acid. boric., gr. xv, zinci sulph., gr. ij, ad aquæ camph., ʒ j, to be used two or three times daily; gtt. vj of a solution of atropin. sulph., gr. iv, were injected into the lachrymal sac.

October 24th.—Tumor less marked; secretion not so abundant; atropine solution, gtt. vj, injected into the lachrymal sac. Solution of argent. nit., gr. v, applied to the lids. Home treatment continued.

27th.—Marked improvement; lachrymal tumor less marked; contents of the sac pass readily into the nose. Treatment continued.

November 4th.—Reports to-day that she is not conscious of anything wrong; swelling has entirely disappeared. Treatment the same.

9th.—Patient seems to be completely cured, and says she thinks further treatment unnecessary. Atropine again injected.

27th.—Patient states that she is entirely relieved, and suffers no inconvenience whatever.

Case III.—Mrs. R. was under my care in 1882, suffering from chronic dacryo-cystitis, which had existed for about a year. Bowman's operation was performed at that time, and probes were introduced into the nasal duct at intervals of three days for several weeks without material improvement.

October 24, 1884.—She called and said she had determined to try again and persist, as I had told her that the disease was very obstinate and the treatment must be long continued. Examination showed marked distension of the lachrymal sac, which was emptied on pressure into the conjunctival sac. Bowman's probe No. 4 caught at the mouth of the lachrymal sac, but passed into it; probe not introduced into the nasal duct. Palpebral conjunctivitis was present, for which a solution of argent. nitras, gr. v, ad aquæ, ʒ j, was applied; gtt. vj of a solution of atropin. sulph., gr. iv, were injected into the lachrymal sac. An ointment of hydrarg. oxid. flav., gr. iv, ad vaseline, ʒ ij, was ordered to be applied to the lids at night. A lotion of acid. boric., gr. xv, ad aquæ camph., ʒ j, to be used as a wash for the eyes three or four times daily.

29th.—Very much improved. The discharge is less, and more watery; atropine solution injected, and a solution of argent. nit., gr. v, applied to the conjunctiva. Home treatment continued.

November 3d.—Continues to improve; slight watery discharge on pressure over the lachrymal sac. Treatment the same.

8th.—Complains of no trouble, but is anxious that the cure be complete. Treatment continued.

16th.—Patient seems to be entirely relieved. Atropine solution injected. Home treatment to be continued, and to return in three weeks.

December 16th.—Says that she suffers no inconvenience whatever, and is discharged cured.

While the cases reported give promise of further success in the treatment of this disease, the number is too small to warrant definite conclusions. The fact that the ordinary methods were fairly tried, and failed to effect a cure, makes it probable that atropine will at least be of benefit. The physiological effects of atropine are well known to the profession. The dryness of the skin, throat, and larynx, produced by its use, has been demonstrated clinically. The hectic sweats of phthisis, those of articular rheumatism, and profuse suppuration are more or less relieved by its administration. Local and unilateral sweats have been controlled by its topical application. Its efficiency as a remedy in the treatment of galactorrhœa is well known. The beneficial effects observed from its use in sialorrhœa and leucorrhœa make it probable that the experience observed in the cases reported will be borne out. The single objection to its use is that it seems impossible to apply it without causing dilatation of the pupil.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED

Twenty-fourth Annual Report of the Cincinnati Hospital, 1884.

Open Letter from Dr. Edward W. Jenks to Dr. N. S. Davis, Editor of the "Journal of the American Medical Association."

Seventy-first Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1884.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 16, 1885.

THE EDUCATIONAL WORK OF THE ILLINOIS STATE BOARD OF HEALTH.

On several occasions we have shown our appreciation of the satisfactory working of the Illinois law governing the practice of medicine, as administered by the excellent Board of Health of that State. Year by year it becomes more evident that the enforcement of the law is having a good effect upon the great majority of the medical schools of the country. Of course we do not refer to the leading colleges, for they have continually shown a praiseworthy tendency to raise their standards, and in truth we believe that, so far as the conditions which prevail in our young country will allow, they may fairly be said to be abreast of European schools. Every observing man knows, however, that this is a college-ridden country, and particularly that at least six medical colleges exist where one is needed. Even if we restrict the statement to the non-sectarian institutions, we are convinced that it will be well within the limits of the truth. The prestige that accrues to a man from his being a "professor" has its money value, but the wide distribution of the honor has so narrowed that value down that its possessors can scarcely afford to allow their colleges to fall far short of being self-sustaining. Hence, on the one hand, the teaching appliances are too often cut down to the point of utter inadequacy, to the great detriment of the well-fitted and well-intentioned student; and, on the other hand, it is sought to swell the income not only by an inexcusable laxity in the acceptance of candidates, but even, we are forced to believe, by a resort to undignified and even disreputable means of attracting pupils. This state of things is tolerably well known to our European brethren, most of whom, we are sorry to say, seem to gloat over any and every pretext for throwing mud at us. The natural result is that the American profession as a whole comes in for an indiscriminate berating on almost every occasion. Not only are our real shortcomings dilated on—and we are always ready to admit that they are glaring enough—but new ones are invented for us, and we are seldom given the benefit of any doubt that, it is conceivable, may rise up before the foreign imagination. The files of our English contemporaries, in particular, [illegible] with censorious, not to say Pharisaical, criticism, and that criticism rests largely on false information or on an unfriendly and utterly unjustifiable conversion of mole-hills into mountains. Indeed, even when a semblance of brotherly feeling is made to appear, the beneficence we receive from our mentors is painfully suggestive of "such protection as vultures give to lambs." If [illegible] it is [illegible] should hold him up to [illegible] instead of feeding him.

Heretofore it has been of no avail to controvert the allegations of our critics—they have simply turned a deaf ear to our plea, and held doggedly to their own version of the facts; so that we had quite settled down to pocketing the obloquy that the English have seemed never to tire of hurling at us. Therefore we should not have mentioned the matter at such length now but for the fact that it forms the background of a most agreeable surprise—none other than an editorial article in a recent issue of the "Lancet" which shows not only a just appreciation of the true state of our predicament, but a most kindly spirit in dealing with it. If there is anything for which Americans may justly claim credit, it is that they are self-critical, and a people endowed with that tendency can never go far wrong. The "Lancet" has the fairness to appreciate that fact, and it frankly absolves the better part of the American profession from any community of feeling with the promoters of "diploma-mills." Such criticism as we find in the article is both welcome and wholesome. We feel justified in saying, however, that the general drift of what has been published heretofore in European medical journals about the defects of our educational methods has, if anything, rather added to our difficulties, since its manifest unfriendliness has but stiffened the necks of the obstructionists among us. The "Lancet's" article is founded on a document lately issued by the Illinois State Board of Health, the substance of which will be found in another column of this number of the "Journal," setting forth the devices to which some of the colleges resort for dodging the entrance examination. We congratulate the board upon having been so correctly interpreted by our English contemporary, and we trust that it will show no relaxing in the enforcement of its own wholesome rules.

THE DUTY OF REPORTING INFECTIOUS DISEASES TO THE BOARD OF HEALTH.

The correspondent whose letter we publish in another column, signed "Only a Doctor," is so well known to us as occupying a position in which he must necessarily be acquainted with much of the work done by the representatives of the Health Department, and we have so much reason to look upon him as a fair-minded observer, wholly free from captiousness, that we can not set up a general denial of the accusations which he brings against the sanitary officials of New York, or feel called upon, as he suggests, to ask for confirmation of those accusations at the hands of our readers. We presume it must be admitted that the conduct of the officials in question has not always been in every way what it should have been. Speaking of the acts of individual officials, and not at all of the general policy of the Department (which we may say, by the way, we regard as by no means above criticism), the statements made by our correspondent reveal a state of things that we had not suspected, and one of which the revelation is decidedly unpleasant. In so many instances have we had positive knowledge of the tact and forbearance—not to restrict it to mere courtesy—shown by the officers of the Board of Health that we must suppose the facts to which our correspondent alludes are quite exceptional.

It is within our positive knowledge, too, that practitioners of unquestioned skill and experience in the general run of medical practice do not always disdain the assistance of a sanitary inspector in the diagnosis of doubtful cases of small-pox, for example. Such assistance, we believe, has generally—so far as we know, always—been rendered courteously, modestly, and satisfactorily, often at great personal inconvenience to the inspector. Indeed, it has not been uncommon for such an officer to travel miles into the country to aid a professional brother in deciding upon the nature of a suspicious case, and that, too, when there was no personal motive, and when the circumstances utterly forbade the thought that the sanitary interests of the city of New York were involved. Many of these inspectors, we are persuaded, have thus fairly earned consultation fees that have never come within their grasp. These things should be remembered in the face of isolated accusations of misconduct.

On one point we grant that our correspondent is entirely right. The Board of Health is utterly unwarranted in using the loose phraseology of which the section of the Sanitary Code referred to in its recent resolution is an example. The board seems wedded to the expression "contagious diseases," apparently ignoring the fact that not only those diseases which our correspondent mentions, but also itch, ringworm, and a number of other affections of no moment to the community at large are properly included under the term. Of course the board would have no decent pretext for compelling physicians to report their cases of these ailments; indeed, with regard to some of them, it is questionable if it would have the legal right to do so. The diseases that are manifestly dangerous to the community should have been specified in the code. Even in this matter, however, it must be said that it is only in its forms of expression that the board has erred, and it may be added that it has never sought to compel physicians to report their cases of local contagious diseases. As regards varicella, we think the board is justified in demanding reports. It should be borne in mind that not every physician in New York is such an accomplished diagnostician as our correspondent, and a return of varicella may often be the only guide our sanitary guardians have to a case of the disease that is sometimes strikingly like chicken-pox in its manifestations, but in gravity differing from it as night from day.

But, granting the full force that our correspondent attaches to all his statements—assuming that physicians are ill-treated by the sanitary officials—we still maintain that that is no excuse for a violation of the law. The Sanitary Code, interpreted by usage rather than by a strict construction of its words, is not simply defensible; it is necessary. The Health Department must be informed constantly of the prevalence of dangerous infectious diseases. It is vital to the public welfare. We can not, therefore, reconsider our opinion.

MEDICAL EDUCATION IN THE UNITED STATES

Apropos of the handsome manner in which the "Lancet" handles this subject, as we have stated in another article, it is pleasing also to recall the fact that another of our London contemporaries, the "Medical Times and Gazette," not long ago gave a very satisfactory explanation of certain of its utterances on the matter that at the time of their appearance we had taken exception to as not quite justified by the facts. The journal in question did not, it is true, take back its statements as to facts, but it drew the sting from its comments, nevertheless. It was a pleasure to us to notice the prompt and chivalrous way in which the thing was done, and we intended to acknowledge it before. At the outset, it was not so much to the "Times and Gazette's" statement as to the facts that we objected as to its apparent zest in dwelling upon the dark side of the picture. We have no desire to cover up abuses in our system of professional education; in fact, we have never shown mercy to shams. All that we ask of foreign critics is, that they will give up that view of American society which was popularized by the late Mr. Dickens, and not judge institutions which are still in a transition state by those which are venerable by reason of their age.

The respect which we feel, and have so often expressed, for European medical colleges, especially the English, and for the men who have been trained in them, does not prevent us from recognizing the fact that the majority of the graduates of English and German schools make but a poor showing when they settle among us, apparently for the reason that they have too much "book learning" and too little of what our Yankee ancestors used to call "hard sense." Now, for this very reason we venture to suggest that, imperfect as our methods of medical education too often are, they meet the wants of the community far better than many of our foreign censors would have their readers believe. It can not be denied that the opportunities which a man has in this country for educating himself after graduation are unsurpassed, or that not a few of the most honored members of our profession have become what they are as the result of this very process of self-education, while, if they had had at the beginning the prestige conferred by a London M. B., they would never have been incited to rise above mediocrity.

MINOR PARAGRAPHS.

THE USE AND ABUSE OF OÖPHORECTOMY.

A recent number of the "Medical News" contains a letter from Mr. Lawson Tait, in which he replies to an editorial that appeared in the "News" on the subject of the use and abuse of oöphorectomy. Mr. Tait protests, and very properly, too, against "names of persons being attached to operations." He makes the important statement that, although disease of the tubes can in many cases be diagnosticated, it is very difficult to determine beforehand the exact pathological condition. We are glad to see that Mr. Tait makes a careful distinction between the removal of diseased ovaries and that of the tubes. This is a point that is not always kept in view in this country. In a large number of cases Tait's operation means with us the removal of cystic ovaries and *pregnant healthy* tubes. We cordially agree with the distinguished surgeon that, although we have caught his spirit, we do not always exercise his care either in diagnosis or in the use of terms. Our loose way of writing down is de-

cidedly from the value of some of our scientific papers. It is a good thing to be reminded of these faults occasionally.

RESECTION OF THE PYLORUS.

The evidence for and against this operation may be said to be fairly in. At the recent congress of German surgeons, von Hacker announced that, of eighteen cases in which Professor Billroth had performed resection of the pylorus, there was but a single one in which the result could be called favorable. Such a confession as this should forever settle the question in the mind of any American surgeon whose humanity has not yielded to his eagerness to try new operations.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 12, 1885:

DISEASES.	Week ending May 5.		Week ending May 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	3	0
Typhoid fever	12	6	8	3
Scarlet fever	68	14	82	12
Cerebro-spinal meningitis	8	7	8	7
Measles	141	20	142	22
Diphtheria	58	23	52	24

The late Dr. Edward T. Ely.—At a meeting of the New York Ophthalmological Society, held on Monday, May 11, 1885, the following report in regard to the death of Dr. E. T. Ely was adopted by the society and ordered to be placed on the minutes, and a copy sent to his family and to the "New York Medical Journal" and the "Medical Record."

"The members of the New York Ophthalmological Society herewith record their deep sense of the loss they have suffered by the death of their late associate, Edward Talbot Ely. Dr. Ely was elected a member of this society in 1876. He became secretary in 1880, and discharged the duties of that position with exactness and ability. His contributions to the discussions of the society were always well-considered and of value. In all their relations with Dr. Ely the members of the New York Ophthalmological Society found him an interesting companion and a worthy representative of scientific medicine, and, while they deplore his untimely death, they felicitate themselves that he lived long enough to add something to the vast and ever-growing structure of human knowledge, and to leave behind him an honored name."

[Signed.] D. B. St. John Roosa, David Webster, John D. Rushmore, } *Committee.*

J. B. Emerson, *Secretary.*

The New York County Medical Association.—The next meeting of the association will be held Monday evening, May 18th, at the new Carnegie Laboratory, 338 and 340 East Twenty-sixth Street. The following is the order of exercises: 1. Advances in the Study of the Etiology of Disease, by E. G. Janeway, M. D. 2. Presentation of Specimens of Ulcerative Endocarditis and of Abscess of the Liver, by E. G. Janeway, M. D. 3. Demonstrations of the Three Comma Bacilli, by H. M. Biggs, M. D. 4. Exhibition, at the request of Dr. William H. Greene, of Philadelphia, of an Apparatus for determining the Proportion of Urea in the Urine, by Austin Flint, Jr., M. D., LL. D. 5. Demonstration of a New Portable Incandescent Lamp, with Universal Illuminators for Dark Cavities; also the Combined Electric Light and Tongue Depressor for Laryngoscopic Examinations, and Improvements on the Grenet Battery, with Introductory Remarks, by the President. 6. Executive Session.

The College of Physicians and Surgeons held its seventy-eighth annual commencement in Steinway Hall on Tuesday evening, the 12th inst., and the degree of doctor in medicine was conferred on a class of one hundred and thirty-four candidates.

The Section in Theory of Medicine of the New York Academy of Medicine will hold its next meeting at the hall of the Academy on Tuesday evening, May 19th, at eight o'clock. The announcement of exercises is as follows: 1. The Irregular Manifestations of Malaria, by Andrew H. Smith, M. D.; the discussion to be opened by Dr. E. D. Hudson, Jr., and Dr. L. Emmett Holt, and continued by others until 9.15 P. M. 2. Topic for discussion: The Sources of Infection and Limits as to Time of the Infections of Scarlet Fever and Measles; general discussion (each speaker limited to ten minutes).

The Illinois State Medical Society will hold its thirty-fifth annual meeting at Springfield, beginning on Tuesday, May 19th. Reports of committees are expected to be read as follows: Practical Medicine, by Dr. Norman Bridge, of Chicago, Dr. C. H. Norred, of Lincoln, and Dr. J. R. Livingood, of Rossville; Surgery, by Dr. W. A. Byrd, of Quincy, Dr. D. A. K. Steele, of Chicago, and Dr. Cass Chenowith, of Decatur; Obstetrics, by Dr. C. W. Earle, of Chicago, Dr. T. D. Washburn, of Hillboro, and Dr. A. S. Adams, of Peoria; Gynæcology, by Dr. David Prince, of Jacksonville, Dr. S. H. Stevenson, of Chicago, and Dr. O. B. Will, of Peoria; Materia Medica and Therapeutics, by Dr. T. M. McIlvaine, of Peoria, Dr. J. F. Todd, of Chicago, and Dr. C. Miller, of Lincoln; Ophthalmology and Otology, by Dr. W. T. Montgomery, of Chicago, Dr. C. R. Park, of Bloomington, and Dr. R. Tilley, of Chicago; Necrology, by Dr. E. Ingals, of Chicago, Dr. W. Hill, of Bloomington, and Dr. M. F. Bassett, of Quincy; Laryngology, by Dr. E. F. Ingals, of Chicago; Oral Surgery, by Dr. J. S. Marshall, of Chicago; Pædiatrics, by Dr. A. F. Rooney, of Quincy; Dermatology, by Dr. W. J. Maynard, of Chicago; Orthopædic Surgery, by Dr. C. E. Webster, of Chicago; Tetanus, by Dr. C. Truesdale, of Rock Island; Insanity, by Dr. R. J. Patterson, of Batavia; Alcohol as a Therapeutic Agent, by Dr. M. F. Bassett, of Quincy; Effects of Malaria in Puerperal Cases, by Dr. H. Judd, of Galesburg; Physiology, by Dr. A. Wetmore, of Waterloo; Treatment of Epilepsy, by Dr. D. R. Brower, of Chicago; The Diagnostic Peculiarities of Malignant Growths, by Dr. C. Fenger, of Chicago; Simple Renal Catarrh, by Dr. I. N. Danforth, of Chicago.

The New York Post-Graduate Medical School and Hospital.—Dr. B. F. Dawson informs us that his resignation as professor of diseases of women has been accepted by the faculty.

The Children's Hospital on Randall's Island.—Dr. George B. Fowler has been appointed a visiting physician to the hospital.

The Woman's Hospital of the State of New York.—Dr. Arthur B. Townshend has been appointed an assistant surgeon, succeeding Dr. Guy C. Bayley.

The Plymouth Endemic, having been investigated by competent physicians, including so careful an observer as Dr. E. O. Shakespeare, of Philadelphia, is now announced to be typhoid fever.

The Department of Public Charities and Correction.—The Mayor has appointed Dr. Charles E. Simmons to be one of the board of commissioners.

Charity Hospital.—It is announced that Dr. Alexander B. Mott has been appointed one of the consulting surgeons to the hospital.

Small-pox in Montreal.—As we go to press several cases are reported, from various quarters of the city, and it seems that, unfortunately, there is at present a great tendency for trifling wounds to take on an erysipelatous action, so that caution has to be exercised in the matter of vaccination, notwithstanding the danger of a small-pox epidemic.

The Philadelphia Polyclinic.—Dr. B. F. Baer, president of the Obstetrical Society of Philadelphia, and late demonstrator of diseases of women in the University of Pennsylvania, has been elected professor of diseases of women in the Polyclinic. Dr. H. Augustus Wilson has been elected professor of fractures and dislocations in the same institution, and secretary of the faculty.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 3, 1885, to May 9, 1885:*

BILL, JOSEPH H., Major and Surgeon. Ordered for duty as Member of Army Medical Examining Board, New York city, N. Y. S. O. 100, A. G. O., May 2, 1885.

SPENCER, WILLIAM G., Captain and Assistant Surgeon. From Department of the East to Department of Dakota. S. O. 100, A. G. O., May 2, 1885.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. From Department of the East to Department of the Platte. S. O. 100, A. G. O., May 2, 1885.

DAVIS, WILLIAM B., Captain and Assistant Surgeon. From Department of Dakota to Department of the East. S. O. 100, A. G. O., May 2, 1885.

STERNBERG, GEORGE M., Major and Surgeon. Detailed to attend, as a delegate on the part of the Government of the United States, the Sanitary Conference to be held at Rome, Italy, on May 15, 1885. S. O. 103, A. G. O., May 6, 1885.

COWDRAY, STEVENS G., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon, Fort Bliss, Texas. S. O. 65, Department of the Missouri, May 2, 1885.

WYETH, M. C., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Wadsworth, New York Harbor. S. O. 95, Department of the East, May 6, 1885.

Society Meetings for the Coming Week:

MONDAY, *May 18th:* New York County Medical Association; New York Academy of Sciences (Section in Geology and Mineralogy); Medico-Chirurgical Society of German Physicians, New York; Medical Society of Monmouth County, N. J. (Freehold); Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *May 19th:* Illinois State Medical Society (Springfield); New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings, N. Y.; Roman Medical Society, New York (private); New York Obstetrical Society (private); Ogdensburg, N. Y., Medical Association; Hampden District, Mass., Medical Society (Springfield).

WEDNESDAY, *May 20th:* Northwestern Medical and Surgical Society, New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (Clinico-Pathological).

THURSDAY, *May 21st:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *May 22d:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *May 23d:* New York Medical and Surgical Society (private).

Letters to the Editor.

THE BOARD OF HEALTH AND ITS INFECTIOUS DISEASES ORDER.

May 10, 1885.

To the Editor of the New York Medical Journal: -

SIR: In your current number you take occasion to comment rather severely upon those physicians who have seen fit to disregard the regulations of the Board of Health in regard to the reporting of cases of contagious disease, and to concur, apparently, with that board in its dealings in this matter. I beg to intimate that the actions of that bureau of this body which is charged with this subject have not inspired the medical profession with such an opinion of its fitness for its work as to render compliance with its regulations other than perfunctory. Do you recall the case of the priest who died last winter of remittent fever as certified to by two most estimable and able physicians? The gentleman who is quoted by you as saying "the number of cases of contagious disease, etc., etc., are [*sic*] so out of proportion," etc., this gentleman, without having seen either the patient or his physician, did not scruple to talk on the subject to reporters of the secular press very volubly, doing all that he could to discredit the two doctors before the community, merely by reason of his own suspicions which events certainly did not justify. So many instances have come to my notice of incompetency and discourtesy like this on the part of officials of this board in regard to matters of this kind, i. e., contagious diseases, and so prone are they to utilize the daily press in their attacks upon physicians and hospitals, that it seems only right to remonstrate against the arbitrary power with which they are clothed and their very discourteous use of that power. If you desire damning facts, I believe that you have only to call for them from your subscribers and they will be forthcoming. It is certainly quite true that competent physicians do not desire the assistance of *these* gentlemen; and it is equally indubitable that physicians have been treated by them with gross discourtesy.

Cases of contagious disease of dangerous character should certainly be reported to the proper authorities; but to report a case of varicella only to have the privacy of the patient intruded upon by an insolent official who implies a doubt of your ability to distinguish it from small-pox and shakes the faith of the family in your skill, is more than New York physicians care to endure. According to this order of the board, that you give in your current issue, I must report every case of clap or syphilis that comes under my care. Is not this preposterous? Really, Mr. Editor, will you not reconsider your opinion a little?

ONLY A DOCTOR.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 28, 1885.

The President, Dr. ROBERT F. WEIR, in the Chair.

Complete Paralysis of the Right Trigeminal Nerve.—Dr. T. M. MARKOE presented a man, about fifty-five years of age, whose case was interesting principally from an anatomical

and physiological point of view. The patient denied positively any syphilitic antecedents, and there was nothing at present calculated to excite suspicion except some superficial ulcers on the lower part of the leg. About eight years ago he began to have pains on the right side of the head, which, in the course of two years, took on a severe neuralgic character, the entire right side of the face being affected. The neuralgic character of the pains subsided gradually, and gave place to a feeling of numbness and insensibility on that side of the face. There was now complete anæsthesia in the region of distribution of the right trigeminal nerve. The sensation in the tongue had been carefully tested by application of chloroform and nux vomica, and complete insensibility was found to exist upon the right side, while sensibility on the left side appeared normal. The right eye was also insensitive to the coarsest touch. The man could rub his finger over the cornea without feeling it. In addition to paralysis of sensation, there was also paralysis of the muscles supplied by the trigeminal, the temporal and the masseter muscles being very markedly atrophied. Mastication was exclusively performed by the muscles of the left side. Nutrition seemed to be perfectly maintained in all the paralyzed parts, but about two years ago a little pimple formed on the margin of the right ala nasi, which ulcerated slightly and then disappeared. Following this, however, there had been a gradual disappearance of tissue about the ala, until now it was almost entirely absorbed, leaving a large and deforming opening into the side of the nostril.



In considering the probable seat of the lesion of the trigeminal nerve, Dr. Markoe thought it must lie between the emergence of the nerve from the pons Varolii and its entrance into the Casserian ganglion. If the lesion was within the brain or pons, there probably would be other manifestations. Attention was also called to the scarcity of the mustache on the right side, and to its lighter color.

Unusual Abscesses connected with Spinal Disease. — The President presented a boy, eight years of age, who exhibited unusually large abscesses over the trochanters and upper two thirds of both thighs, resulting from a spinal disease in the lumbar region. The latter began four years ago and two years later the swellings over the anterior portion of the external iliac and trochanteric regions began to make their appearance, and increased in size until at present they were each as large as a loaf of bread. Examination per rectum showed that the matter had worked its way down on either side of the projecting surfaces of the sacrum, and had passed out through the sciatic notch.

Dr. Lyon asked what was the proposed form of treatment.

The President replied that, inasmuch as the abscesses were increasing in size and the patient's condition deteriorating, he intended to open and drain them, one at a time, under full antiseptic precautions.

Dr. R. W. Amidon, by invitation, read a paper on Atropine in Ether Narcosis.

Biliary Calculi; Perforation of the Duodenum; Abscess. —Specimens were presented by Dr. George A. Peters, who read the following clinical history:

Elizabeth B., aged seventy-seven years, born in Scotland, a widow, was admitted into St. Luke's Hospital January 13, 1885. Her family history was negative. Three months before her admission she had an attack of sharp pain, followed shortly after by a swelling in the right iliac fossa, which was quite painful on pressure. The pain seemed to run toward the median line into the bowels; it was worse at night. She said that on her admission the swelling was softer, smaller, and less painful than it had been. Examination revealed a prominent swelling in the right iliac region, tender, and distinctly fluctuating. The skin was normal. The right thigh was readily flexed on the abdomen.

January 16th.—The patient was etherized, and Dr. Abbe incised the tumor and let out a considerable quantity of greenish-yellow pus. A number of small trabeculæ were broken down. No communication could be detected with the vermiform appendix or any internal organ. An antiseptic dressing was applied.

April 4th.—From this time until April 4th the discharge continued, and a probe occasionally introduced discovered only a small cavity beneath the skin, although a free discharge of pus in the daily dressings indicated a deeper secreting cavity. On April 4th Dr. Peters enlarged the wound, the patient being etherized. After considerable careful searching, the probe dropped into a narrow sinus, downward and inward. This sinus was enlarged, and a small steel searcher was introduced, which could be readily swept about in a large cavity, apparently limited by peritonæum toward the median line. The finger in the wound readily detected the lower edge of the right lobe of the liver, and to its inner side the peritonæum. A rubber drainage-tube, about three inches long, was introduced and stitched to the skin. The edges of the wound were united by a continuous suture of catgut. About a pint of solution of bichloride of mercury, 1 to 2,000, warm, was used for irrigating the cavity, and most of this fluid ran out again. An antiseptic dressing was applied. The abdomen became distended and painful.

April 5th.—The pain and distension were much less, and the temperature was normal. At 6.30 P. M. she suddenly collapsed, and did not respond to the free hypodermic administration of brandy. She died of heart failure at 3.30 A. M. on the 6th.

Autopsy, by Dr. Frank Ferguson.—The body is fairly nourished. Rigor mortis is well marked. There is no œdema. There is an incision commencing just in front of the right axillary line, opposite the free border of the ribs, and extending downward and inward a distance of three inches. This incision communicates with a cavity in the abdominal wall of the right hypochondriac region, measuring, when distended, an inch and a half in length and an inch in breadth, of oval shape. A drainage-tube, three inches in length and half an inch in diameter, passes from the incision above described into a compartment within the peritoneal cavity. A sinus extends from the upper limits of the cavity through which the drainage-tube passes, and communicates with the gall-bladder, which is filled with biliary calculi. This sinus is two inches and a half in length, and admits a probe an eighth of an inch in diameter. Section through the abdomi-

nal wall in the median line reveals the following conditions within the peritoneal cavity:

The liver and diaphragm are adherent by loose old adhesions, but the anterior edge of the liver is firmly united to the free edge of the costal cartilages in the right hypochondrium.

The ascending colon is buried beneath the liver, and at the hepatic flexure the colon sharply turns upon itself, forming an acute angle, and passes forward and to the left. The portion of colon thus passing forward is distended and firmly united to the lower surface of the liver. The mesocolon of the transverse portion of the large bowel is quite long, and this portion of the colon forms a horseshoe curve, reaching nearly to the brim of the pelvis. The descending arm of this curve is attached to the spinal column by a broad, thick, loose plane of omentum. The omentum attached to the transverse colon elsewhere, and arising from the lower border of the stomach, covers in the intestines everywhere, and is attached by firm old adhesions on the right side to the canal of Nuck.

From this it will be seen that there is a compartment within the general peritoneal cavity, limited above by the first portion of the transverse colon, distended and adherent to neighboring viscera; in the median line by the plane of omentum above described; below by the union of the omentum to the canal of Nuck and the portion of the intestines in that region of the peritoneal cavity. The surfaces of intestine within the peritoneal cavity and the parietal peritonæum are covered by recent lymph. The diaphragm is on a level with the fourth rib on the right side, with the fifth rib on the left side.

There are old adhesions at the apices of both lungs, but no fluid in either pleural cavity. The heart is small, and brownish in color. There is slight atheroma of the aorta, also of the segments of the mitral and aortic valves. The lungs and the spleen are normal.

The kidneys are smaller than normal, their capsules are adherent in places, and the markings are not very distinct. There are a few small cysts in the cortex of each organ. Under the microscope the epithelium shows extensive fatty degeneration.

The mucous membrane of the stomach is normal. The pylorus is normal. An inch below the pylorus there are two openings in the wall of the duodenum, separated by a thin band of mucous membrane, and each opening admits a probe a quarter of an inch in diameter. The probe readily passes through these openings into the gall-bladder, as there is firm union between it and the first portion of the duodenum; thence through the sinus above mentioned into the cavity in the abdominal parietes of the right hypochondrium; thence through the incision already alluded to.

The cystic duct is impervious. There are several small calculi in the hepatic duct, the orifice of which is normal in size. The gall-bladder contains nineteen calculi of various sizes, some of them as large as a walnut and presenting several facets. There is a slight increase in the fibrous tissue of the liver. The biliary ducts are dilated moderately. The central vessels are greatly distended with blood, and there are hæmorrhages in the liver tissue in places.

The mucous membrane of the intestines is normal except as above stated. The uterus is smaller than normal. The ovaries are atrophied.

AMERICAN MEDICAL ASSOCIATION.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN.

Dr. R. S. SUTTON, of Pittsburgh, Pa., Chairman.

The Treatment of the Secundines in Abortion and Labor was the title of the first paper, by Dr. W. H. WATHEN, of Louisville. The management of cases when portions of the membranes remain in the uterine cavity, in abortion, premature labor, and labor at term, was still a subject with regard to which great latitude of opinion existed. There were three general methods: (1) the expectant; (2) the immediate removal; (3) an intermediate course. During the first two months the placenta did not exist; the membranes were innocuous, and hæmorrhage was rarely dangerous. It was advisable, therefore, in abortions occurring at this time to use no violence in the extraction of the membranes. From the third to the end of the seventh month the membranes must be removed, whether the cervix was dilated or closed. When the cervix was dilated the finger was sufficient; when it was contracted, he was in the habit of using a modification of Scanzoni's dilator. The membranes might be removed by the finger, the forceps, or the curette. In the absence of any instrument, an ordinary piece of copper or iron wire was useful. In abortion and premature labor it was necessary to examine the product of conception very critically, as separation might occur between the amnion and the chorion, and the placenta be retained, as had recently been pointed out by Dr. Sawyer, of Chicago. The placenta, at full term, if not spontaneously expelled within thirty minutes after the birth of the child, must be removed by combined expression and traction on the cord.

Dr. JAMES R. CHADWICK, of Boston, said it was impossible to formulate any rule applicable to all cases. During the early months he regarded the history of the case. If the patient was a "bleeder," he took more active steps than if she was not. The number of abortions and the condition of the woman's health must also be noted. He had never seen a placental forceps that was of the slightest value. The finger was a much better means of dilating the cervix than Scanzoni's steel instrument.

Dr. GREEN, of Kentucky, narrated the history of a case; he pursued the intermediate course of treatment.

Dr. SINCLAIR, of Boston, thought the secundines ought to be removed at the earliest possible moment. Immediate delivery was his maxim. The fibers of the cervix would yield to gentle, continuous pressure with the finger in from six to eight minutes, and then it was very easy to dilate the canal.

Dr. CARROLL, of Texas, said it was not enough that the ovum and its envelopes should be removed; frequently the presence of a decidual thread or clot of blood within the uterine cavity would give origin to troublesome hæmorrhage. He would not hesitate to use Ellinger's dilator, if required, but seldom found it necessary.

Dr. WATHEN closed the discussion by saying that he only used Scanzoni's dilators in extreme cases, in which digital dilatation had failed.

Pelvic Peritonitis; Suggestions as to its Causes, Recognition, and Treatment.—A paper with this title, by Dr. W. M. POLK, of New York, was read by title.

Parametric Abscess.—Dr. W. W. POTTER, of Buffalo, read a paper, in which he narrated the history of a case of acute parametric abscess.

Chronic Perimetric Abscess; its Treatment by Laparotomy, was the subject of the next paper, by Dr. CHRISTIAN FENGER, of Chicago. It was read by Dr. W. W. JAGGARD, of Chicago.

Discussion.

Dr. G. J. ENGELMANN, of St. Louis, said that inflammation of the pelvic connective tissue was by no means confined to the puerperal state. The diagnosis of the condition was of vital importance. Laparotomy should be the *last*, but not a *late*, expedient.

Dr. S. C. GORDON, of Portland, Me., said that physicians were responsible for one half or two thirds of all cases of pelvic peritonitis. The indiscriminate introduction of sounds and ap-

plicators, along with carbolic acid and iodine, was an important ætiological factor. Prophylaxis was more important than cure.

Dr. Reed, of Ohio, narrated the histories of three cases of chronic perimetric abscess. Two of the patients died; one survived, in a deplorable condition. He thought Dr. Gordon's statement too sweeping.

Dr. Quinby, of Jersey City, referred to the late Dr. Gurdon Buck's incision from the anterior-superior spinous process of the ilium to Poupart's ligament. He had operated by this method with success in one case.

Dr. Carroll, of Texas, said Dr. Gordon's ætiology of pelvic peritonitis might be the true one in New England; it certainly was not in Texas.

Dr. W. W. Jaggard, of Chicago, referred to Dr. Byford's stricture on Dr. Fenger's paper, in regard to abscesses which have opened into the rectum. Dr. Byford was of the opinion that such an opening could be dilated through the rectum, and evacuation of the cavity secured, by a less radical operation than laparotomy. Schröder had successfully performed the *sectio alta* in a case in which the bladder had been perforated.

The Chairman related the history of a pelvic abscess upon which he had operated a few weeks previously. In cases in which the sac could not be united to the abdominal wall, the best plan was to scrape the cavity, fill it with iodoform, and close the wound.

How soon after Exposure to Sepsis may the Accoucheur resume Practice? was the title of a paper by Dr. George F. French, of Minneapolis. Letters of inquiry had been addressed in October last to some of the most distinguished medical men in this country and in Europe, of which the following was the substance: "How soon after exposure to sepsis may the accoucheur safely resume practice? My purpose is to controvert the opinion, which obtains in the profession, that time is an essential element in the cleansing process. I have had an experience which emboldens me to make abdominal section on the day following exposure. I greatly desire to know whether your own experience warrants me in pursuing such a course."

In reply, Thornton, Savage, and Hegar wrote that they believed time was essential, to be accompanied, of course, with careful cleansing. Emmet, Battey, Marcy, Goodell, and Thomas, in our own country, with Martin, Schröder, Nussbaum, Volkmann, and Esmarch, in Europe, wrote that they believed time to be entirely non essential, and that thorough disinfection could be accomplished at once.

In June, 1884, Dr. French, after laying open a dissecting abscess of the thigh, in a pyæmia patient, and stripping the limb with both hands till they were offensively drenched with the pus, had carefully disinfected himself and three hours later attended a patient in confinement.

The conclusion to be drawn was admirably expressed in the words of Esmarch: "If you have thoroughly disinfected yourself, you can immediately enter upon obstetric practice. Time does not destroy septic dirt."

Dr. Battey, of Georgia, said that lapse of time had an effect as securing ventilation. Water was an excellent antiseptic. He did not believe it was wise to cover up one stink by another, with the idea of annihilating septic materials.

Dr. Hall, of Illinois, thought the influence of time was slight.

Dr. Peebles, of Vermont, was of the opinion that time did not exert an essential influence.

An Interesting Case of Subserous Fibroid Tumor of the Uterus was the title of a paper by Dr. Paine, of Texas. The patient, an unmarried school teacher, forty-three years old, commenced to complain two years ago of pelvic pain, and at the same time noticed a tumor in the abdomen. The tumor grew rapidly, encroaching upon the abdominal viscera, and seriously impeding respiration. Under heroic doses of ergot (ten grains of Squibb's aqueous extract, three times daily, hypodermically, as a maximum), kept up for a year, the tumor had rapidly grown less in size, and the woman was able to resume her avocation.

Dr. Nelson, of Chicago, could indorse the words of Dr. Paine, in his praise of ergot in fibroids, before adhesions to the omentum and the viscera had formed. The dose must be large, and kept up through a considerable period of time.

The Improved Technique in Gynæcological Operations, Minor and Major, was the title of a paper read on the second day by Dr. G. J. Engelmann, of St. Louis. He called attention to the use of Simon's specula, with the woman in the lithotomy position; the use of continuous hot-water irrigation (115° to 125° F.); and the employment of semicircular needle and silk sutures.

A New Speculum and a New Vaginal Irrigator were described by Dr. T. M. Healy, of Cumberland, Md. He exhibited the speculum, and showed its action upon a patient before the Section. The speculum was a Sims's blade fastened by steel ribs, with a ball-and-socket joint, to a sacral pad. The speculum was self-retaining. The new vaginal irrigator was a corrugated, conical glass tube, with a rubber diaphragm, with two perforations—one for delivery, the other for escape.

Dr. N. J. Nunn, of Savannah, Ga., read a paper entitled **The Multiple Speculum Uteri, and an Improved Dressing Forceps.**

Dr. Orto, of Texas, exhibited **A New Speculum Uteri.**

The Role of Bacteria in Parturition.—Dr. Henry O. Marcy, of Boston, read a paper on the old topic of puerperal fever viewed in the light of bacteriology. The years spent by him in the study of micro-organisms and their relation to surgical lesions had borne fruit in other and important directions, as evinced by his contributions during the last year upon the relations of bacteria to infectious diseases, etc. The underlying thought in the present contribution was that normal labor was a physiological process, and, as such, aseptic; hence antiseptic injections were unnecessary and, beyond the securing of cleanliness, meddlesome, even, as shown by a number of instances, in the hands of the most expert, dangerous and fatal. When the labor departed from the normal character a new factor was introduced. In instrumental labors, and where the hand was introduced into the uterus, the risks were of necessity not unlike those incident to any surgical operative procedure. The uterus in most labors was subject to lesions upon which infection might easily be supervened, and then the puerperal state made most favorable conditions for the rapid development of micro-organisms—a favorable soil for growing most dangerous seed. In such cases all antiseptic precautions should be taken as in a major surgical operation. He thought it was the micrococcus, or round-cell growth, which proved the dangerous element. He adduced a number of experimental observations and cultivation tests to show this. It was the more important practically since these growths, at the most, only gave off in their development a slightly sour smell, and were wanting in the usual odors of decomposition, to which so much importance was usually attached. The practical deductions were much the same as in all infected wounds. He had treated the uterine cavity under such conditions as he would an infected, suppurating, sloughy wound. He did not hesitate to remove carefully with a blunt curette any irregular placental masses, and apply liquefied carbolic acid. This, he thought, served a wider purpose than the simple destruction of germs, since it congulated the albuminoids and acted as a local stimulant. He also often introduced a considerable quantity of iodoform into the uterus.

Vaginal Hysterectomy for Cancer was the title of a paper by Dr. A. Reeves Jackson, of Chicago. A surgical procedure, he said, to be beneficial, should relieve suffering and prolong life. If it failed to effect either of these results, it was useless. If it destroyed more lives than it saved, it was injurious, and should be abandoned. A table, based upon 256 cases of vaginal hysterectomy, compiled by Dr. P. F. Mundé, showed a mortality of only 24·6 per cent, while the results of the operations performed by Martin, Schröder, and Olshausen—*all of whose cases were published*—show a much higher rate of mortality, namely, 38·6 per cent. in 101 operations. This discrepancy was explainable by the fact that such tables as Dr. Mundé's were based upon incomplete returns, the successful cases being published and the unsuccessful ones suppressed. Figures would not lie if they had a fair chance. If the whole truth in relation to this matter were known, the mortality of the operation would be found much greater than it now appeared. Taking even the foregoing most favorable report, vaginal hysterectomy had actually destroyed nearly one hundred years of life. If all the cases were published, the amount of destruction would appear much greater.

There was nothing to offset this. It had yet to be shown that a single life, otherwise doomed by the disease, had been saved by the operation. The history of the operation did not afford ground for hope that improved methods in its performance would materially better the results. Schröder's greatest success had been obtained in his first eight cases, with a mortality of 8·7 per cent.

The dangerous character of the operation was not the gravest charge against it; it did not benefit those who recovered. The disease recurred in all, sooner or later, and their sufferings, which had at best only been interrupted, were as severe as before. In short, the patients gained nothing, and died, on the average, sooner than if let alone. Of all the methods of treatment which had been used for uterine cancer, hysterectomy had given the worst results, both immediate and remote, and the statistics seemed to show that it had killed more rapidly than the disease itself.

Schröder, Mundé, and others thought that vaginal hysterectomy should be restricted to cases in which the cancer was limited to the cervical mucous membrane, or to the body of the uterus. These limitations were proper, but impracticable. It was quite impossible, in the present state of our art, to make the subtle diagnostic distinction which they implied. There were no means by which the extent of cancerous involvement could be known in any given case. The unreliability of Schröder's method by digital touch alone was shown clearly by the rapid and numerous recurrences of the disease which had followed his own operations. When cancer affected the cervix uteri, extirpation was improper, because unnecessary. Supravaginal amputation, with a mortality only one fourth as great, did all that could be done by total removal. The diagnosis of cancer of the body was always difficult and frequently impossible in the only stage in which extirpation could be proper or useful. Here, too, the disease was of much longer duration and less painful than when it attacked the cervix, so that a highly perilous operation was not justifiable. The so-called "palliative" operations were not only less fatal in all forms and locations of the disease, but more lasting in their good results than the "radical" operation.

Any operation for cancer which did not completely remove the disease would be followed by recurrence. During life, the diagnosis of the extent of cancerous disease originating in any part of the uterus was at present impossible; hence, no operative procedure could afford a guarantee of complete removal. In view of the necessary doubt, no operation was justifiable which greatly endangered life, provided other and safer methods of treatment were available. Vaginal hysterectomy had sacrificed the lives of more than one third of those who had been subjected to it—the mortality of the operation when done by those of the greatest skill and experience being over 36 per cent. Other methods of treatment, attended by not more than from one sixth to one fourth the mortality of vaginal extirpation, were equally efficient in ameliorating the symptoms and retarding the progress of the disease; and they had been followed by as good or better ultimate results. Hence, they should be preferred. Vaginal hysterectomy did not avert or lessen suffering; it destroyed, and did not save life. It was, therefore, not a useful, but an injurious operation, and, being such, it was unjustifiable, and ought to be abandoned.

The Ring of Bandl was the title of a paper read on the third day by Dr. W. W. Jaggard, of Chicago. After a *résumé* of the literature of the subject, more particularly from 1876 to 1885, Dr. Jaggard said that it was impossible, in the present state of our knowledge, to dogmatically assert that the ring of Bandl and the anatomical internal os were identical, but that the weight of probable evidence at present at our command was very decidedly in favor of such a view.

Emmet's Operation; when shall it and when shall it not be performed? was the title of a paper read by Dr. Gustav Zinke, of Cincinnati. He said that in his opinion this operation was already a fixed and permanent resource, and that he had nothing to say against its propriety and utility. With him only one point—one upon which there was a great diversity of opinion—remained to be decided, and that was: When should we and when should we not perform this operation? For the purpose of obtaining the latest opinions of men well versed in gynæcology, he had addressed to quite a number of them in this country and abroad a circular letter containing the following questions:

Do you believe lacerations of the cervix uteri to be an important factor in uterine and pelvic disease? Do you believe fissures of the cervix uteri a cause of uterine and pelvic disease? State your theory in what manner a lacerated cervix will or may cause disease of the uterus, its surrounding tissues, and in parts remote. Do you believe laceration of the cervix a cause of sterility? Do you believe that Emmet's operation, if performed early and properly, will, to some extent or entirely, prevent uterine and pelvic disease? Do you believe that Emmet's operation is absolutely necessary in certain cases? If so, specify the class of cases. Do you believe that every lacerated (not fissured) cervix will cause, eventually, uterine and pelvic disease? If not, state approximately how many such cases you have observed? State approximately or exactly, if you can, how many times you have performed the operation? How often for the restoration of the cervix simply? How often for the relief of pathological changes and reflex disturbances depending thereon? What have been your immediate results respecting union and relief? What have been your remote results respecting union, relief, and sterility? When, in your opinion, is Emmet's operation contra-indicated?

He then divided lacerations of the cervix into fissures, lacerations of the first, second, third, and fourth degree, and illustrated the same by two drawings, the one representing an anterior, the other a lateral view of the uterus and upper part of the vagina. A fissure was an imperfectly healed laceration of the cervix, the rent of which could not be seen from the side, but only from below when looking at the os externum. Fissures of the first degree extended through the whole of the lower third of the cervix; those of the second degree, through the lower two thirds; those of the third degree, through the whole of the vaginal portion or up to the cervico-vaginal junction; and those

of the fourth degree were all those which extended beyond the cervico-vaginal junction and did not amount to a rupture of the uterus.

After considering in detail the replies received to each question, he gave, as a result of this inquiry, of consultation of the literature, and of his own practical experience, the following conclusions:

1. It was evident that the operation had been performed unnecessarily for symptoms similar to but other than those arising from lacerations of the cervix. Further, that it had been done imperfectly, even without preliminary treatment, in many more; and the failure to give relief, as reported by several, was due to these two causes.

2. From our present knowledge we could not, at this time, arrive at any definite conclusion, from the fact that many of the so-called consequences of lacerations of the cervix uteri were not settled beyond doubt.

3. Every one engaged in this department should carefully select his cases, and try every known means to give relief before recourse was had to an operation.

4. The operation should never be performed *eo ipso* in cases of simple fissures or lacerations of the first and second degree.

5. In cases of eversion and disease of the cervical or corporeal cavity, or both, although attended by hyperplasia and displacement, it had been observed that all the symptoms abated and the parts returned to their natural condition, and that no laceration was discoverable after alleviative measures were instituted, which alone caused the parts to return to a normal condition.

6. There were some cases of extensive laceration of the cervix that seldom gave rise to any inconvenience, and, therefore, an operation should be deferred until symptoms arose that called for its performance.

7. The operation, although indicated, should never be performed until, by preparatory treatment, the parts had been brought into a healthy condition.

8. Near and during the climacteric period the operation should be postponed as long as possible, and the patient not exposed to any risks, since in many cases all the symptoms subsided under proper treatment, and never returned on account of senile involution.

9. The operation was justifiable in cases of laceration of the third and fourth degree, without complications, if there was a history of malignant disease in the family.

10. The operation might be performed with perfect propriety in young women, as a preventive, if the laceration was bilateral and extended up to the cervico-vaginal junction, or beyond it, even though there were no pathological changes; indeed, it seemed to be the duty of every one who observed a lesion to that extent to urge the operation.

11. The operation was justifiable in any degree of laceration, and in rare instances even in fissures, when there existed cicatricial tissue, productive of reflex disturbances, annoying in character, and not tractable to any other treatment.

12. The operation was absolutely indicated in all extensive tears of the os in which the cervix was everted, its mucous membrane and Nabothian follicles diseased, and especially if there was granular or cystic degeneration present, provided the parts had first been restored to a healthy condition by palliative treatment.

Dr. Harvey, of Indiana, said there was frequently much less pain in extensive than slight lacerations. When there was extensive eversion, the parts were skinned over, and were relatively non-sensitive. When a fissure existed in the cervix, it was productive of much the same reflex symptoms as a fissure of the anus. Moreover, while upon a cursory examination the laceration might be apparently slight, if the lips were everted it would be found that the laceration had taken on larger proportions higher up. For these cases of slight lacerations—fissures, so to speak—cauterization and deep incisions were not sufficient; they required Emmet's operation.

Dr. Wathen, of Kentucky, said each case must be regarded as an individuality. The preparatory treatment was the best test as to the urgency of the indication for operation. Some cases did not require operation; such cases were cured by the preparatory treatment.

Dr. Gordon, of Maine, said that Emmet had repeatedly made the remark that epithelioma of the cervix was always associated with laceration of that organ. Although admitting laceration to be a potent factor in the production of epithelioma, Dr. Emmet did not advise closure in every case. Dr. Emmet was, therefore, clearly inconsistent. Dr. Gordon had operated two hundred and twenty-five times with one death. He indorsed Dr. Harvey's remarks. Dr. Gordon did not believe in long preparatory treatment. Chronic inflammation was a misnomer; inflammation, as pointed out by Peaslee, was a process rarely lasting more than seven or eight days; the chronic congestion, the product of inflammation, was confounded with the process. He had treated successfully patients refused admission at the New York Woman's Hospital because there was too much inflammation.

Dr. King, of Missouri, thought there was greater danger of the development of cancer in cases of slight lacerations than in those of large ones.

Dr. Corsons, of Detroit, thought that all lacerations should be operated upon. An ulcer on either lip of the buccal orifice was excised, if no tendency to spontaneous healing was evinced; the same line of reasoning ought to apply to lacerations of the cervix.

Dr. Ulrich, of Pennsylvania, indorsed the remarks of Dr. Harvey about slight lacerations.

Dr. Hale, of Illinois, did not think that all lacerations should be operated upon.

Dr. Healy, of Maryland, desired to criticise a statement, made by Dr. Harvey, to the effect that an everted, lacerated cervix skinned over. It was never covered with mucous membrane, but merely by cicatricial tissue.

Dr. Lewis, of New Orleans, had operated one hundred and fifty times in cases in which there was both local and constitutional evidence.

Dr. Marcy, of Boston, was glad to know that American practitioners were able to diagnosticate the condition under discussion, a feat which he was credibly informed the Germans could not do. He indorsed the remarks of Dr. Lewis. There were still two sides to the question. Dr. Baker, of Boston, had lost one case.

Dr. Battey, of Georgia, had never been impressed with the opposite character of the argument which would unite laceration of the cervix and epithelioma as cause and effect; with equal cogency, labor itself might be urged as an ætiological factor. He had seen extensive lacerations cured by local treatment.

The Chairman said that he had operated in cases of lacerated cervix merely to satisfy the patient. Epithelioma occurred in the cervices of virgins.

Reasons for and Results of Some Cases of Tait's Operation was the title of a paper by Dr. S. C. Gordon, of Portland, Me.

Dr. Gordon referred to Sir Spencer Wells's comment upon Kœberlé's paper, read before the International Medical Congress at Copenhagen last year. Wells said: "As to castration of women for nervous diseases, we might just as well go about

the country cutting men for similar diseases as to do what is being done in removing ovaries of women." In reply to Dr. Gordon's question, he said: "I believe that in no case should the ovaries of a woman be removed unless we can demonstrate beyond all doubt that there is actual disease." In reply to the question, "Do you mean by demonstration only that which can be made by the touch?" he said: "Yes, most emphatically!" Dr. Gordon then related detailed histories of seven cases in which one or both ovaries or tubes had been removed. Improvement of all symptoms was observed in each case, and in some of them a radical cure was effected. He concluded that a close analysis of subjective symptoms through a long period of time was frequently adequate to establish the diagnosis of disease of ovaries and tubes and indicate the operation, when absolutely nothing of a positive character could be ascertained by physical exploration. Sir Spencer Wells's well-known aversion to Mr. Lawson Tait had probably influenced his judgment to an undue degree. Some of the important signs to which Dr. Gordon alluded were: Premenstrual pain, irregularity of the menstrual function, alternate pallor and flushing of face, an extraordinary mahogany-bronze color of the complexion, resembling that of Addison's disease. He observed no antiseptic precautions; he was clean, and used hot water.

Intra-peritoneal Adhesions considered in Relation to Battey's and Tait's Operations was the title of a paper by Dr. B. E. Hadra, of San Antonio, Texas. He concluded from the detailed consideration of four cases, taken as types, that intra-peritoneal adhesions might exist high up in the abdominal cavity, between various viscera, and that in all cases of abdominal section, after examination of the uterus and annexa, the hand should be made to search for such adhesions.

Dr. Battey thought that any aversion to Lawson Tait upon the part of Sir Spencer Wells would not influence his judgment. Both Sir Spencer Wells and Matthew Duncan had told him in London, only a few months ago, that the scope of Battey's and Tait's operations was limited; the former operator had seen but two cases, the latter but one case, in which the operation was indicated. It was necessary, in estimating the results of the operation, to allow a sufficient interval of time to elapse.

The immediate effect was always favorable. Almost any operation which drew blood would do the patient good. But then there came a reaction, and she felt that the improvement was imaginary. The ultimate effects of the operation were uniformly favorable. With reference to the introduction of the hand in search for adhesions, as suggested by Dr. Hadra, he had little doubt that some good was effected.

The Chairman called attention to the importance of always telling the patient that merely an exploratory incision was to be made, and then of being prepared for every emergency.

Dr. Harvey, of Indiana, called attention to the influence of Battey's and Tait's operations upon chronic hypertrophy or hyperplasia of the cervix, and indeed of the corpus uteri, causing rapid involution.

Dr. Wathen, of Kentucky, thought that the line of diagnosis advocated by Dr. Gordon was pernicious in its tendencies. Objective diagnosis was more reliable, although it must not be relied upon exclusively.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of April 9, 1885.

The President, Dr. E. O. Shakespeare, in the Chair.

Abscess of the Supra-renal Capsule.—Dr. Edward T. Bruen showed specimens from the body of Mary S., aged fifty-seven, who died in the Philadelphia Hospital. Two weeks before death she was admitted to the medical ward, and within a few days a circumscribed swelling in the left femoral region developed into an extensive abscess. Death occurred apparently from septicæmia. No satisfactory previous history could be obtained. Post-mortem examination disclosed the left kidney a third larger than normal, and its capsule quite adherent. Section showed a granulated surface, pale and mottled. The pelvis of the kidney was much dilated, being general evidences of parenchymatous nephritis. The supra-renal body was very much enlarged, and closely united with the kidney by firm, inflammatory adhesions. It was of the size and shape of a hen's egg. On section, it showed cystic degeneration, or softening of the medullary portion, the contents of the cyst being a thick, purulent, creamy liquid filled with cheesy particles. The cortical portion showed fibroid thickening, forming a dense connective-tissue wall from a quarter to half an inch in diameter. The right kidney was of normal size, but showed similar changes to those in the left one. The right supra-renal body was normal. The other abdominal organs were normal, and there was no peritonitis. The abdominal and other lymph glands throughout the body were normal, also the thoracic organs. On examination of the left femoral region, a large tumor was found. Upon section, pus exuded freely, and a large abscess was discovered between the extensors and adductors, lying beneath the sartorius. The abscess extended into the hip joint. The acetabulum and the periosteum of the head of the femur were eroded.

The comparative rarity of disease of the supra-renal body lent an interest to any lesions affecting it. Dr. Shakespeare had made some sections of the capsule of this tumor without finding any tubercular structure. There had been no bronzing of the skin, nor any other symptoms than those naturally to be expected in association with a large abscess, such as was found in this case. These facts, together with the unilateral character of the lesion, inclined the speaker to consider the specimen as one of abscess in the supra-renal body.

Dr. O'Hara asked whether this might not be a surviving abscess left after the absorption of other pus centers, as he thought sometimes occurred.

Dr. Nancrede combated this novel view, contending that, while fugitive visceral *congestions* sometimes occurred in pyæmia, which readily disappeared, as well as certain collections of white-blood cells in the thecæ of tendons and the bursæ contiguous to joints, yet he did not believe that septic emboli producing infarcts could be *absorbed* as maintained by Dr. O'Hara. Besides, if this explanation was correct, the clinical history should indicate something of the sort, which it did not, being one of *septicæmia*, not pyæmia.

Dr. Bruen said that there were one or two points of interest upon which he had not touched in the notes already read. The patient had led a dissipated life, having been brought into the hospital from one of the "slums" of the city. He had supposed that the woman had received some injury, such as a blow, which had given rise to the abscess in the groin, and she had died with symptoms of septicæmia. He had therefore regarded the abscess in the renal capsule as secondary. The localization of the pathological process in but one capsule, the absence of bronzing of the skin, vomiting, and vaso-motor disorder, separated the case from Addison's disease. Indeed, it might be said the *ensemble* of the latter disease was wanting. Cases of Addison's disease had been described as being associated with abscess, but the disease was always bilateral, and in association with a special train of symptoms, and with the absence of other pathological processes in the system. The most valuable compilation of cases of diseases of the supra-renal capsules up to the year 1866 could be found in Vol. XVII of the "Transactions of the Pathological Society of London," 196 cases having been collected by Dr. Greenhow.

Aneurysm of the Aorta with Rupture into the Trachea in Two Places, and Perforation of the Œsophagus.—Dr. Osler presented a specimen from the case of W. J., aged fifty-four years, colored, a teamster by occupation, and accustomed to do heavy work. He had been healthy and strong; there was no history of syphilis. In August, 1882, he began to suffer with pains in the chest and left shoulder, but he did not have any serious inconvenience until September, 1883, when he was attacked with cough and thoracic trouble, possibly pulmonary, which kept him in the house and in bed for several months. It was not until May of last year that he was able to work. Since July he had had at times attacks of shortness of breath with wheezing, and often at night had had to sit up in bed. Within the past three weeks the pains in the shoulder and down the left arm had become very severe, and the cough and shortness of breath had increased. On his admission the inspiration was rough and noisy, expiration loud and harsh, and often accompanied by a brazen, laryngeal cough. His respiration was 18 a minute. He could rest in the recumbent position. The left side of the neck was much flattened, especially above the clavicle, and the sterno-mastoid muscle on that side was evidently atrophied. The apex beat was visible in the normal position. There was no abnormal pulsation, but slight visible pulsation in the vessels of the neck. Palpation in the ordinary way was negative, but, on firm pressure with one palm on the upper bone of the sternum and the other on the back, a distinct impulse could be felt and the second sound was accentuated; deep pressure revealed pulsation above the sternum and behind the left sterno-clavicular joint. Percussion revealed a slight area of dullness over the left half of the manubrium sterni and beneath the left sterno-clavicular joint. The heart dullness was not increased, and the heart sounds were clear. At the sterno-clavicular joint, when the breath was held, there was a soft, double murmur, the diastolic the louder, and the second sound seemed markedly accentuated. These murmurs could be heard over the left carotid and in the supra-sternal notch. The tugging at the trachea was marked on elevating the larynx. The pupils were equal. The left radial pulse was smaller than the right, and slightly retarded. There was loud tracheal and bronchial stridor; no pressure signs on either bronchus. The patient expectorated much thin muco-serous fluid, which was blood-tinged, and at times there were more consistent sputa containing much blood. He was ordered to take 20 grs. of potassium iodide, t. d., and to rest quietly in bed; no restriction as to diet. Laryngoscopic examination showed that the left cord was immobile. Within three weeks he was greatly benefited as regards the pains, cough, and wheezing, and the blood had disappeared from the sputum. Throughout February he remained very well, having occasional attacks of spasmodic coughing at night, which were relieved by compound spirit of ether. His general health improved, and he was allowed to get about the ward. The sputum was occasionally tinged with blood.

On March 19th he was shown to the class, and the following changes were noted: Slight increase in the substernal dullness on firm percussion; more marked accentuation of the second sound over this region; persistence of the double murmur, which was now also to be heard just to the right of the sternum and at the aortic cartilage, and at this point it was the loudest. No increase in the pulsation, but in certain lights a slight impulse at the upper part of the sternum was visible. At the beginning of the month he began to be more wheezy, the stridor was very marked, and the dyspnœa became urgent, so that he had to sit up in bed. Sometimes these attacks would come on suddenly. On the 3d and 4th the dyspnœa was severe, and he got much weaker. On the 5th and 6th he spat up some bright blood, but not in any great amount, and gradually sank, dying at 9.30 P. M. The specimen removed by Dr. Hamaker showed an aneurysm of the aortic arch, which occupied a position between the first bone of the sternum and the spine, very firm, solid, and of about the size of an orange. The entire arch was dilated, but the sac of the aneurysm involved especially the upper posterior part and was lined with dense yellow, fibrinous laminæ. The orifices of the innominate and left carotid were free; that of the left subclavian was considerably narrowed by atheromatous ridges. The great veins were not compressed. The left recurrent laryngeal passed round the sac, was much stretched, and looked thinned; the right was normal. The trachea was much compressed about the middle of its course, and the aneurysm caused a marked bulging on the left side, where two perforations could be seen. The upper one, about 6 cm. from the bifurcation, was only 2 or 3 mm. in diameter, and the tissues about it were thickened, dark, and the mucosa somewhat fibroid. The lower orifice was smaller, and looked more recent. Neither of these led directly into the sac proper, but into a small pocket situated between the dense laminæ of fibrin and the thinned tracheal wall. On inspecting the œsophagus, an oval perforation was found 7 cm. from the cricoid cartilage, which communicated directly with the sac, but was partially blocked with fibrinous clots. The stomach was found distended with fresh clots, and there was much altered blood in the small intestine. Collapse and congestion of the bases were the only changes in the lungs. The heart was not hypertrophied; the valves were normal; the muscle substance was flabby and in a state of fatty degeneration and brown atrophy.

The points of interest in this case were the repeated bleedings, extending over several months, and the associated wasting of the muscles of the left side of the neck. At first the bleeding was looked upon as an indication that erosion of the trachea had occurred, but subsequently it was thought more probable that it came from the swollen mucosa at the site of the compression. No doubt the first supposition was the correct one, as the upper perforation had probably been the source of the bleeding, but the firm leathery clots effectually prevented any profuse hæmorrhage. The final bleeding into the œsophagus also took place very slowly, probably during the last thirty-one hours of life, as there was dark and much altered blood in the ileum. It was impossible to say upon what the atrophy of the neck muscles depended, as no careful dissection was made of the nerves in that region; possibly the sympathetic was affected, but there was no difference of the pupils.

In reply to a question, Dr. Osler said that the iodide of potassium was given chiefly with a view of relieving the pains, and it had the desired effect.

A Right Lung with Four Lobes.—Dr. W. A. Edwards read an elaborate description of a right lung with four lobes. The paper was accompanied by a careful drawing of the specimen, which had, unfortunately, been destroyed by the evaporation of the preserving fluid.

Dr. Osler asked whether there had been any dissection made of the bronchi and blood-vessels of the abnormal lobe.

Dr. Edwards replied that no very careful dissection had been made, as he wished to preserve so rare a specimen, but, so far as his examination had gone, he could see nothing abnormal.

Disease of the Knee Joint.—Dr. H. R. Wharton presented a specimen removed by amputation from a patient in the University Hospital under the care of Dr. Ashhurst, which showed a marked degeneration of the knee joint resulting from inflammation of that articulation.

The patient was a man aged forty years, who three years before had received a slight injury of the right knee, which caused him more or less trouble up to January, 1885. At this time, while at his work, he twisted the affected knee. This in-

jury was followed by an attack of acute inflammation, which went on to suppuration and destruction of the cartilages. The patient, when admitted into the hospital, had a high temperature, profuse sweats, and a rapid and feeble pulse. His condition was so urgent that it was deemed advisable to remove the part by amputation rather than make use of the more conservative operation, excision of the knee joint.

Meeting of April 23, 1885.

The President, Dr. E. O. SHAKESPEARE, in the Chair.

Notes on the Morbid Anatomy of Pneumonia.—Dr. W. OSLER read a paper summarizing his experience while Pathologist at the Montreal General Hospital. Of 105 autopsies in cases of lobar pneumonia of which notes were available, 5 were discarded for various reasons. The mortality at the hospital was high on account of the large percentage of grave cases which were admitted, many being of persons who were debilitated and dissipated.

Of the 100 cases, 70 were males and 30 females. Of 94 instances in which the age was given, there were eleven cases under 20 years of age, twelve between 20 and 30, eighteen between 30 and 40, twenty-one between 40 and 50, twelve between 50 and 60, and twenty cases over 60 years of age. In 51 cases the right lung was affected, in 32 the left, and in 17 both were affected. Other details were given of the various lobes affected. The heaviest lung observed weighed 2·303 grammes, and in eight instances the affected organ weighed over 2·000 grammes. In about 50 per cent. of the cases there was red hepatization, in 30 per cent. mixed red and gray, and in about 20 per cent. gray hepatization was present. The condition of the pleuræ, air passages, bronchial glands, and unaffected portions of the lung tissue was described. Among the terminations, there were four instances of abscess formation, three cases of gangrene, and one in which there was a process of fibroid induration beginning in the lung. This case was that of a man aged fifty-five, who was admitted, with pneumonia of the right lung, five days after the initial chill. Resolution did not occur, and he died in the fifth week. On post mortem, the right lung was found solid, grayish in color, and in many areas the tissue had a smooth, homogeneous, translucent aspect, and in these a fibroid change was going on; the alveolar walls were thickened and the fibrinous plugs in the air cells seemed to be undergoing transformation into connective tissue. (A slide was shown illustrating this.) There were no caseous portions and no tubercles.

As to the other organs, the frequency with which large, firm clots were found in the heart was specially dwelt upon. In only thirty-five instances was the spleen much enlarged. In one, it weighed 670 grammes. In 25 per cent. there were marked fibroid changes in the kidneys. Of the complications, there were five cases of pericarditis and sixteen cases of endocarditis. In eight instances the meninges of the brain were inflamed, in five of them, associated with ulcerative endocarditis. In five instances there was acute croupous or membranous colitis, and in one instance croupous gastritis.

Dr. TYSON, in the discussion of Professor Osler's paper, said that he had been rather incredulous of the termination of croupous pneumonia in fibroid induration, but the specimen exhibited by Dr. Osler demonstrated conclusively that such a condition existed. The facts presented in the paper were such as were not generally collated.

Collective reports of autopsies in cases of particular forms of disease would be of great value in the study of pathology.

Dr. FORMAD asked Dr. Osler why his was not a case of acute phthisis. Croupous pneumonia was a very common accident in acute phthisis.

It was croupous pneumonia which caused death, which was well shown by recent investigations of Mercur, of the University of Pennsylvania.

Dr. Formad did not believe that croupous pneumonia could last five weeks.

Dr. SHAKESPEARE said that the remarks of Dr. Osler about the frequent existence of very firm clots in the right heart, extending into the ventricles, could be corroborated by any one who made autopsies of cases of pneumonia at hospitals. He had seen them in cases of phthisis, quite as extensive and firm, reaching into the vessel going to the affected part of the lung. It was interesting to note the systemic involvement of these cases of croupous pneumonia, and the affection of internal organs as well as of the lungs, in the process which had been regarded as a local disease. We have to do with a general, wide-reaching affection rather than local inflammation. The opinion was advanced by Dr. Osler that the exudate in the air cells organized, that the process in the organization of the croupous exudate was similar to that in the clot in arteries after ligation, and that comparison was the point which he wanted to bring out. Dr. Shakespeare said that he did not believe that a blood-clot in a vessel ever organized, and his opinion was based on facts detailed in an investigation which he had published on the healing of arteries after ligature. The vessel healed, not by the agency of the white cells caught in the meshes of the reticulum, but by proliferation of the endothelium of the tunica intima and subjacent connective-tissue cells. He thought there was reason to believe that there was in this process in the lungs an analogue of the process in arteries after ligature.

We had to do with an outgrowth of the inter-alveolar walls. The ground which Dr. Shakespeare took was purely that of analogy to the process in a blood-clot in a ligatured artery.

Dr. OSLER, in closing the discussion, said that it was well known that croupous pneumonia might persist five or six weeks, or even longer, before resolution took place. It was difficult for any one who had not had the experience to realize the anxiety which such a case would cause. He had reported two such cases of delayed resolution, one in the fourth week and one in the eighth, both with perfect recovery. He was quite aware of the difficulty in distinguishing certain cases of acute phthisis from pneumonia, and he had seen a case with Dr. Ross in which the diagnosis was for some time in doubt, but in the case in question the person had been under observation from the outset, and the symptoms were those of ordinary pneumonia. The post mortem revealed no caseous masses, no miliary tubercles, only the condition already described. The termination in fibroid induration, though rare, was perfectly well recognized. In "Cornil and Ranvier's Manual," as well as in "Green's Pathology," there was a figure which might have been taken from the slide under the microscope.

Primary Tuberculosis of the Kidneys.—Specimens from a case were presented by Dr. M. H. FUSSELL, of Manayunk.

The reporter never saw the subject alive from whom the specimens were removed, having performed the post-mortem examination for a friend.

The case was that of Edward B., aged forty, single, by trade a paper-maker. In following his calling he was forced to stand in a dust-loaded atmosphere from morning until night. He worked at this trade steadily from boyhood, with the exception of four years during the late war. His grandfather died of bladder trouble; his father died of apoplexy; his mother, brothers, and sisters are all living and healthy. He was always a robust man, his weight was one hundred and seventy pounds, and he never had any serious illness, he had gonorrhœa during the war. Four years ago, while in camp, he made a misstep and fell. The next morning he passed much blood in his urine, previous to this he was perfectly well. From this time until death he was troubled

with slight pain in his loins and with frequent micturition; his urine was sometimes bloody, sometimes milky. The patient's bladder finally became incontinent, and he was forced to wear a urinal. His general strength did not seem to suffer until within the past six months, when he began to lose flesh and strength, and at death he was much emaciated. He had never had any cough or diarrhœa. Two weeks before death he began to vomit; this increased in frequency until he was unable to retain anything on his stomach. Just before death breathing was rapid and full. The patient was very restless, vomited, and passed urine freely. The pupils were dilated.

Dr. Fussell examined the urine several times. The specific gravity ranged from 1·002 to 1·010. Large amounts were passed. Albumin was present. The microscope showed pus, blood, and granular epithelium. Many of the cells were irregular in shape, the pyramidal form predominating. No casts were found at any time. Unfortunately, a critical physical examination of the patient was never made. At different times surgeons had sounded him for stone, and had failed to find any.

Post Mortem.—Nothing especial was noted on the exterior of the body. Thorax: Heart about normal in size. The muscle looked normal, and contained a large amount of fluid blood and currant-jelly clots. A small decolorized clot on the left side. Valves normal. Lungs: Both pleural cavities obliterated. The pleuritic adhesions were tough, the lungs being with difficulty torn from the cavity. In places the pleura was much thickened. The surface of both lungs was studded with miliary tubercles. On section, the lung substance was crepitant and studded with myriads of miliary tubercles. No caseous masses nor cavities were found in either lung. The bronchial glands were enlarged, not caseous. Abdomen: Viscera in normal position, peritonæum free from tubercles, and of a healthy look. Liver of normal size and color. Over the surface a few stellate cicatrices were noted, but no tubercles were seen on the surface nor on section of the organ. The bile-ducts were free. The stomach contained greenish-black fluid; the mucous membrane was of a greenish color, corresponding to the contained fluid. The rugæ were much enlarged, especially at the cardiac end. Near the pylorus there was a small injected spot. Kidneys: The right measured six inches in length and three in width, and was of a reddish hue; the surface was studded with tubercles; on stripping off the capsule, the layer of these remained with the kidney structure, while some of the smaller ones were torn off. On section, the cortical substance was seen to have a thickness of about one third of an inch. Numerous foci of softening were seen. These were of the size of a nickel five-cent piece. There were very many smaller ones, situated mostly in the pyramids. Numerous miliary tubercles were found throughout the substance of the kidney. The foci of softening were evidently due to breaking down of the tubercles. The ureter was dilated, measuring half an inch across in some portions. The mucous membrane was ulcerated. The pelvis of the kidney was not dilated, and showed miliary tubercles. The left kidney was large, and was converted into five or six cysts. There was but little kidney substance remaining. The surface of the kidney was studded with a few tubercles. The cysts were lined by a thick leathery membrane which could be stripped from the kidney substance. On puncturing the cysts, a perfectly clear, serous fluid at first escaped, soon followed by a milky substance containing some cheesy masses. The pelvis was smaller than normal, the ureter entirely occluded. The supra-renal capsule had undergone degeneration and was of a uniform yellowish-white color, and presented tubercles. The bladder was slightly contracted, the mucous membrane ulcerated, the muscular coat being exposed. The vesical trigone was of vivid red color and studded with miliary tubercles. The intestines were normal—no enlargement of lymphatic elements. The mesenteric glands were slightly enlarged. The prostate gland and spleen were not examined. Professor William Osler kindly made sections of the kidney and supra-renal capsule, and the reporter was indebted to him for the following report: 1. Extensive, wide-spread, small-celled infiltration between tubules and Malpighian tufts. 2. Distinct miliary tubercles with centrally placed giant-cells. 3. Areas of softening and disintegration. Tubercle bacilli carefully sought for, but only two undoubted specimens found. Supra-renal capsule showed miliary tubercle with centrally placed giant-cells.

Dr. Formad referred to a similar specimen which had been exhibited by Professor Tyson at a former meeting of the society.

Dr. Osler remarked that Dr. Fussell's case corresponded in all essentials to what we know as tubercular nephritis. The bacilli, however, were scarce and difficult to find. Since the report of Dr. Tyson's case, a few weeks ago, he had had occasion to look over the notes of several cases, and found that they formed a complete series from cases of unilateral disease to instances with tuberculosis of the entire urinary tract and general infection. The condition was not infrequently met with accidentally in persons dead of other affections.

Tubercle Bacilli in the Urine.—Dr. Osler showed a slide of pus from the urine in another case of tuberculous kidney, with the tubercle bacilli stained.

Intestinal Stricture.—The President reported a case of this affection. The patient was admitted to the Philadelphia Hospital one week previous to her death. She had obstinate constipation, followed by stercoraceous vomiting. She suffered acutely, lapsed into an unconscious state, and died, all treatment proving ineffectual.

At the autopsy the thoracic organs were found apparently normal. In the right iliac fossa a lobulated tumor was apparent on opening the abdominal cavity. The colon was distended with gas in the transverse portion, and in the descending portion was narrow. The ascending and transverse portions contained hardened fæces. There was a double twist of the intestine, and two strictures—one in the ileum two inches above the ileo-cæcal valve, and one two inches below the valve. They would not admit the finger. There was a ring of hardened tissue in each stricture. There was congestion of the mucous membrane in the small intestine, and adhesion of the first part of the ascending colon on its under surface to the abdominal parietes. The kidneys were normal. A large tumor of the right ovary was also present, attached to the uterus.

Dr. Formad, who made the autopsy, remarked that acute peritonitis had in this case become chronic, and that it was the contraction which made the strictures. The cause was probably the abdominal tumor. He was not aware that there was a case on record where a tumor produced stricture. The constriction was due to outside pressure.

Miscellany.

The Illinois State Board of Health and the Preliminary Examination at the Medical Colleges.—At a recent quarterly meeting of the board the secretary presented evidence going to show that the board's schedule of "minimum requirements" was being evaded by some of the colleges, in so far as concerned the preliminary examination of their students. The board therefore passed the following resolutions:

"*Whereas*, Many medical colleges do publicly announce that an entrance examination of candidates for admission to their lecture courses will be exacted, and do honestly and impartially enforce such examination; while, on the other hand, a number of schools either avoid making such announcement, or evade the practical enforcement of any requirement of general education preliminary to the study of medicine; and

"*Whereas*, These conflicting practices result in lowering the standard of medical education by attracting to a certain class of schools students who are poorly prepared for the study of medicine; Therefore be it

"*Resolved*, That, in order to secure the recognition of its diplomas as in good standing for the purposes of the Medical Practice Act in this

State, it is necessary that each college shall distinctly state in its annual announcement that the conditions of admission to its classes are: 1. Credible certificates of good moral character. 2. Diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate, or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

"*Resolved*, That the secretary of the board be, and hereby is, instructed to furnish a copy of the foregoing preamble and resolutions to the dean or secretary of every medical college, and to the editors of medical journals, in the United States."

The Health of the State of New York.—In its "Monthly Bulletin" for the month of March, the State Board of Health informs us that the total reported mortality for the month was 7,400, being an excess of 724 deaths over the number reported for the preceding month. The percentage of infant mortality was 34·27, being about the same as in February. The deaths from zymotic diseases amounted to 1,081, or 14·60 per cent. of the total mortality. The percentage of mortality from acute respiratory diseases was 22·76, and that from consumption 14·61.

The Physicians' Club, of Buffalo.—A correspondent writes to us as follows: "At a regular meeting of the Physicians' Club—one of the most vigorous, as it is the youngest, of our medical societies—March 27th, a paper was read by Dr. Irving M. Snow, on The Influence of High Altitudes on Pulmonary Consumption. After the reading and discussion of the paper Dr. Park exhibited various forms of the electric light intended for the illumination of the cavities of the body. The battery he uses is one of his own device, in which the fluid is raised to act upon the elements, and at the same time kept in a state of constant agitation, by forcing air into the chamber by means of an ordinary hand-ball. This method has some advantages for the cautery, as the degree of heat can be regulated to a considerable extent by the rapidity with which air is forced into the chamber. The use of the light in laryngoscopic, rhinoscopic, and otoscopic examinations was shown; also a form in which the light is thrown straight ahead, of great service in inspecting the mouth, vagina, or rectum. Professor Park stated that he had once used it to inspect the pleural cavity in a case of empyema in which he had resected a rib. The light was introduced through this opening, and afforded an excellent view of the cavity, with ropes and dripping stalactites of lymph and pus. He also explained the construction of the gastroscope, and exhibited a specimen of the comma bacillus."

The New York Polyclinic.—The regular session of the New York Polyclinic ends on Saturday, May 30th. The number of physicians who have attended the clinics since September 22, 1884, is over two hundred. The summer session opens Monday, June 1st, and will continue until September 12th. The following clinics will be held each week: gynæcology, twelve; diseases of children, six; surgery, eight; diseases of the skin, six; diseases of the chest, general medicine, and diagnosis, six; diseases of the eye, six; diseases of the throat, nose, and ear, six; total, fifty. In addition, obstetrical cases will be given to the class, and there will be a course in urinary analysis. The laboratory of pathological histology will be open all summer.

Rules for the Management of Infants.—The following rules for the general management of infants were drawn up by a committee appointed by the Obstetrical Society of London:

"*Washing.*—Cleanliness is of vital importance to the health of all infants, and they should have a warm bath at least once every day. The body should be gently cleansed from head to foot with a sponge or flannel, and then quickly dried with a soft warm towel. After three or four months the heat of the water should be gradually lowered, but it is not advisable to use quite cold water for young children.

"*Clothing.*—The clothing of infants should be light, soft, and warm, and arranged so as not to interfere with the free play of their limbs. All tight bandaging should be avoided. The common practice of keeping the arms, shoulders, and legs of infants and children bare is hurtful. Children bear cold less well than grown-up people, and should be warmly clad, with the exception of the head.

"*Ventilation.*—Pure fresh air is of extreme importance to children. The rooms in which they sleep should be as large and airy as possible, not overcrowded, and the windows should be opened freely and frequently.

"*Sleep.*—Unless the weather be very cold, or the infant be premature or feeble, it is desirable that it should, from an early period, sleep away from the mother or nurse, in a cradle or cot, care being taken that it is warmly covered. For the first few months a healthy infant will naturally spend the greater part of its time in sleep. Up to three years of age a mid-day sleep is beneficial. In sleeping, as in feeding, regularity is of the utmost importance, and the infant should be put to bed at stated times. Infants should be put directly into their cot or cradle, and not got into the habit of being nursed to sleep in the arms. All soothing medicines, cordials, spirits, or sleeping drops should be strictly avoided, as likely to do much harm. Nothing of this sort should be given except under medical advice.

"*Air and Exercise.*—In fine weather the child should be taken out at least twice a day, care being taken that it is sufficiently clothed in winter. In warm summer weather the more it is in the open air the better, taking care to protect the head from the sun.

"*Feeding.*—Nothing is more important in the bringing up of infants than the careful management of their feeding. Carelessness or errors in feeding cause a large proportion of their illnesses and deaths.

"*Suckling.*—Nature provides breast milk as the proper food for an infant, and suckling is by far the best way of feeding it. Provided the mother or wet-nurse has plenty of milk, and is in good health, an infant requires and should have no other food but the breast milk until after the seventh or eighth month. The milk itself, for the first few days, acts as a laxative, and no other aperient is necessary. Should the formation of the milk be delayed, a little cow's milk, diluted with an equal quantity of warm water and slightly sweetened, may be given until the mother is ready to nurse. The infant should, for the first six weeks, be put to the breast at regular intervals of two hours during the day. During the night it requires to be fed less often. As it gets older it does not require to be fed so frequently. An infant soon learns regular habits as to feeding. It is a great mistake, and bad both for the mother and child, to give the breast whenever it cries, or to let it be always sucking, particularly at night. This is a common cause of wind, colics, and indigestion.

"*How a Nursing Mother or Wet-Nurse should be Fed.*—A nursing woman ought to live generously and well, but not grossly. She may take porter or ale, in moderation, with her meals. It is a common mistake for wet-nurses to live too well, and this often causes indigestion in the child. Should a nursing woman suffer from dizziness, dimness of sight, much palpitation and shortness of breath, or frequent night-sweats, it is a sign that suckling disagrees with her, and that she should cease to nurse.

"*Mixed Feeding, when the Mother has not enough Milk.*—When the mother has not enough milk to nourish the child, other food may be given, especially during the night. This should consist of the best milk, and is recommended under '*hand-feeding.*' This plan of combining breast-feeding with bottle-feeding is better than bringing up the child by hand alone.

"*Weaning.*—The child should not be weaned suddenly, but by degrees, and it should not be allowed to have the breast after the ninth month. When the child is seven months old it may have one or two small meals a day of milk thickened with farinaceous food or nursery biscuits. When the child is about ten months old it may have one meal a day of broth or beef-tea, with crumbs of bread soaked in it, or it may have the yolk of an egg lightly boiled. When it is about a year and a half old it may have one meal a day of finely minced meat, but even then milk should form a large proportion of its diet.

"*The Food of Grown-up People bad for Children.*—Meat, potatoes, and food such as grown-up people eat, are often given to young infants. This kind of food, and all stimulants, are entirely unsuitable, and are common causes of diarrhœa and other troubles.

"*Hand-Feeding.*—If the infant must be brought up by hand, the chief rule to remember is, that the food should resemble, as closely as possible, the milk provided for it by nature. Milk, and milk only, should be used for this purpose. Asses' or goats' milk is best, but cows' milk

will in general do sufficiently well. For the first month equal parts of pure fresh milk and hot water, the whole being slightly sweetened; for the second and third months, two parts of milk and one part of water; and after the third month pure milk should be used. It may be found necessary to alter the proportions of milk and water here indicated. A tablespoonful of lime-water may often, with great advantage, be added to each bottle of milk, instead of an equal quantity of warm water. The milk should be given from a feeding-bottle, which should be emptied and rinsed out after every meal, and the tube and cork, or teats, kept in water when not in use. Perfect cleanliness is most important, otherwise the milk may turn sour and disagree with the child. The child should be fed regularly, just as if it were suckled, and it is a bad habit to give it the bottle merely to keep it quiet. Milk alone should form the diet until the time arrives for giving other food, as recommended under the head of '*Weaning*.' Most of the mortality from hand-feeding arises from the use of arrow-root, corn-flour, and other unsuitable kinds of food, which consist of starch alone, contain no proper nourishment, and should not be used as substitutes for milk."

We would add to the foregoing that a nursing-bottle with a tube ought never to be used.

THERAPEUTICAL NOTES.

A Method of Treating Pruritus Ani.—A correspondent of the "British Medical Journal" suggests the following plan of treating this distressing affection: Wash the external parts well with warm water, and inject a small amount of water into the rectum. Then introduce a ball of cotton saturated with a lotion consisting of:

Carbolic acid	20 grains;
Laudanum	4 drachms;
Dilute hydrocyanic acid	2 "
Glycerin	4 "
Water, enough to make	4 ounces.

The pledget should be removed before defecation, and a fresh one introduced after the act.

Cod-liver Oil and Lime-Water in the Treatment of Scalds of the Throat.—Palmer ("Practitioner"), referring to the frequency with which young children are scalded by drinking from the spout of a tea-kettle, speaks highly of the therapeutical value of teaspoonful doses of lime-water and cod-liver oil (equal parts). In a severe case treated by him the patient received a teaspoonful of this novel "carron-oil" every hour. The pain was promptly relieved, the child was soon able to swallow, and within a few days recovery was assured. The writer does not give a very satisfactory explanation of the *modus operandi* of the remedy.

White of Egg in the Treatment of Diarrhœa.—Celli ("Allg. med. Ctrl.-Ztg."; "Practitioner") recommends this simple remedy in cases of chronic diarrhœa, especially in phthisical patients. He suggests that the whites of eight or ten eggs be beaten up in a pint of water, so as to form an emulsion. A few minims of laudanum and a little flavoring extract may be added. The entire amount should be taken in twenty-four hours.

A New Remedy for Tape-worm.—Dr. Howard Pinkney ("San Francisco Med. Literary Jour."; "Therap. Gaz.") recommends the oil made from the pine-needle (*Pinus pumilio*) as an efficient tæniacide. The patient should take a teaspoonful of the oil at bedtime, after fasting all day, and the next morning two teaspoonfuls are administered, followed in an hour by a dose of castor-oil. The drug is said to have an agreeable odor and taste, and to cause no unpleasant symptoms.

The Application of Carbolized Resin to Ingrowing Toe-nails.—Dr. Genese ("Maryland Med. Jour."; "Therap. Gaz.") recommends this simple method of treatment, which he has adopted with success in several cases. Pure carbolic acid and French pine resin are the components of the mixture of which a single drop is applied to the painful spot. The writer states that after two or three applications the toe-nail may be cured without pain.

Continuous Inhalations of Chloroform in the Treatment of Chorea.—Babcock ("Liverpool Med. Press"; "Therap. Gaz.") has recently reported a case of recovery from chorea for which every remedy had been tried in vain. Chloroform was administered continuously for eight days, the patient being allowed to recover at intervals only sufficiently to take nourishment. Most readers will regard this method of treatment as being as dangerous as it is novel.

Ether Spray in the Treatment of Tetanus.—Bonteillier ("Prog. méd.") reports a case of traumatic tetanus which was cured by spraying the vertebral region with ether at intervals of two hours. The writer also refers to an obstinate case of chorea which was cured within a month by an application of the spray night and morning, each *séance* lasting from three to five minutes.

A Mustard Sponge.—Under this term Richardson, editor of the "Asclepiad," describes an ingenious substitute for a mustard poultice. He directs that the mustard paste shall be prepared in the usual manner; then a clean sponge is to be dipped into it. The sponge is folded up in a handkerchief, and the whole is applied to the part selected. By simply warming the sponge again and moistening it anew the poultice may be renewed, its strength being perfectly preserved.

Rhigolene as a Solvent.—The same writer calls attention to the fact that camphor and spermaceti dissolve readily in rhigolene, forming a solution which is an excellent application to burns. A drachm of each solid to two fluidounces of rhigolene is the proportion recommended. Five grains of iodine, dissolved in an ounce of rhigolene, form a useful application to the throat; the solution can be used in the form of spray as an inhalation, or it may be painted over the inflamed membrane.

Subnitrate of Bismuth in the Treatment of Fœtid Perspiration of the Feet.—Vieusse ("Gaz. hebd. de méd. et de chir.") has made some careful observations concerning this distressing infirmity. He alleges that the condition can be entirely and permanently cured by rubbing into the feet finely powdered subnitrate of bismuth. The action of the drug seems to be purely local; it toughens the skin and at the same time probably modifies the character and amount of the perspiration by affecting the glands. It is possible, the writer adds, that bismuth has some influence upon the capillary circulation of the parts. There are some cases in which the excessive sweating continues in spite of the treatment, but even then bismuth deprives the perspiration of its fœtid odor and relieves the tenderness.

The Simultaneous Administration of Kairine and Antipyrine.—Mingazzini ("Gazz. degli ospitale") recommends that these allied drugs be given together, since their combined action is more rapid than the separate action of either, and at the same time the unpleasant symptoms which sometimes follow the use of either alone are avoided. The writer's statements are founded upon a considerable number of observations. The amount of each drug given should be half the usual dose.

A Mixture for Bronchitis.—Trastour ("Union méd.") suggests the following:

Phenic acid	1 drachm;
Syrup of peppermint	3 ounces;
Distilled water	12 ounces.

Mix. A dessertspoonful three times a day, before meals.

A Pill for Anæmia.—Vigier (*Ibid.*) gives the following combination:

Pyrophosphate of iron	5 drachms;
Powdered gum, Licorice-root, each	30 grains;
Syrup of acacia	q. s.

Divide into 100 pills. From two to four are to be given daily, just before eating.

Atropine in Epilepsy.—David ("Lyon méd.") administers to epileptic patients twenty grains of bromide of ammonium, and at the same time gives fifteen one thousandths of a grain of sulphate of atropine night and morning. After this treatment has been continued for six months, he directs that two of the following pills be taken daily for at least a year:

Valerianate of zinc	½ grain;
Extract of belladonna	1/15 "
Arsenious acid	1/10 "
Extract of gentian	q. s.

Original Communications.

A CASE OF TRAUMATIC ANEURYSM OF THE SUBSCAPULAR ARTERY.

BY THEODORE A. McGRAW, M.D.,
DETROIT.

IT has seemed to me, after a careful study of such medical literature as I have at my command, that the technical procedures proper to pursue in operating upon traumatic aneurysms have not yet been sufficiently elaborated. One reason for this may be sought in the comparative rarity of the disease, even experienced surgeons having but few cases to report in a lifetime of practice. In discussing this subject, I am fully agreed with the author of the article on this subject in Holmes's "System of Surgery" in the distinction which he draws between ruptured artery and traumatic aneurysm—the latter phrase meaning that condition in which an injury of an artery is followed by the formation of a sac communicating with the artery and confining the current of blood. A ruptured artery may result in a traumatic aneurysm, but, until the sac has formed, it presents widely different phenomena, and requires widely different treatment.

The difficulties actually experienced in treating a large aneurysm of the subscapular artery, consequent upon a wound received three years previous, must be my excuse for suggesting and partially adopting a method of procedure at variance with any of those usually recommended by surgeons experienced in this class of disorders.

Frank Bulda, a Pole, twenty-seven years of age, by trade a carpenter, was stabbed, in December, 1881, in three places with a long-bladed pocket-knife. Two of the wounds were trivial and need not be described in detail. The third entered the back part of the left shoulder about half an inch below the outer end of the spine of the scapula, and was followed by an enormous extravasation of blood, which, according to the account of the patient, extended from the acromion to the elbow. This was absorbed in the course of time, and for two years he had no pain, suffered no inconvenience, and discovered no evidence of trouble in the neighborhood of the wound or elsewhere. After the lapse of that time, he one day noticed a small lump in the axilla, to which, however, he paid but little attention. In September, 1884, it began to enlarge, and at the beginning of December not only grew rapidly in size, but became also red and inflamed. On December 3d he entered St. Mary's Hospital in Detroit. On examining him, I found a pulsating tumor which filled up the whole axilla, and, on auscultation, yielded a distinct murmur. It seemed, however, to hug the inner rather than the outer wall of the axilla, and extended on the ribs fully an inch below the lower border of the great pectoral. Behind, on the posterior aspect of the shoulder, a little below the scapular spine, was a scar. The radial pulse did not differ perceptibly from that of the other side. Dr. F. B. Smith, then a student of medicine, obtained some tracings with Pond's sphygmograph, but my experience with that instrument has been such as to render me exceedingly distrustful of it, except in the most practiced hands; for I had found, in my own personal use of the instrument, that very slight variations in pressure would produce very great variations in the tracings, and, on inquiry among my professional acquaintances who had purchased it, the fact was revealed that no one of them had been able to become proficient in its use. I did not venture, therefore, to use the tracings for purposes of diagnosis. One marked symptom which puzzled me was the total absence of pain until the occurrence of inflammation in the sac. This seemed to be incompatible with axillary aneurysm, in which the anatomical relations would be such as to almost necessarily subject certain nervous trunks to irritation and pressure; but, after careful consideration, I nevertheless diagnosticated the disease as aneurysm of the axillary artery. On considering methods of treatment, I thought first of the possibility of curing the disease by pressure on the subclavian. The deep position of the artery, however, behind the elevated clavicle made this a very difficult achievement, for its pulsation was indeed barely perceptible. There was, however, a still more positive objection to the adoption of this course, in the dangers which delay brought to the patient on account of the extremely rapid enlargement of the sac. In the three days during which I had him under observation previous to the operation the tumor had doubled its size, the tissues around it had become œdematous, and the skin had assumed a dusky-red hue. A small black spot, which made its appearance on the day of the operation, announced in unmistakable terms the impending danger of suppuration and sloughing.

Ligation of the subclavian artery, a most dangerous operation in itself, was contra-indicated by the approaching suppuration of the sac, which would, of course, lead to a secondary hæmorrhage that would be probably uncontrollable.

The patient would not listen to any suggestions of amputation at the shoulder, even though reserved as a last resort. There was, therefore, nothing left but an operation at the seat of injury, and it remained only to determine whether I should conduct it after Syme's method or seek to modify that method by some changes which would make it less dangerous and difficult. The careful study of the histories of operations on aneurysmal sacs had made me aware of some of their difficulties, and yet I will confess that my own previous success in operations on ruptured arteries, as well as Syme's descriptions of his own cases, had made me underrate both the dangers and difficulties of securing a bleeding vessel within an aneurysmal sac. I determined, however, to vary the usual procedure, and, if possible, to get at the artery outside of the sac, instead of laying the sac open and operating from within; but to do this it would be necessary to treat the tumor as if it were a cyst, and dissect it up from the adjacent and adherent tissues. The chief obstacle anticipated in so doing was the probable fragility of the sac and its consequent rupture during the operation; but I made up my mind, should this occur, to lay the sac open and proceed then after Syme's method. The constitutional condition of my patient was bad. He was one of those poverty-stricken Poles who live habitually on a meager diet of poor food. His heart beat irregularly, and a blowing murmur, which, as the autopsy showed, did not depend upon cardiac lesion, indicated the abnormal state of his blood. The urgent nature of his symptoms forbade the delay which would have been necessary to enable him to regain his strength, and on December 7, 1884, I proceeded to operate.

I first made an incision above the clavicle, through which my assistant, Dr. John Bocce, might control the subclavian. This was no easy matter, even when the artery was exposed, as the clavicle was elevated by the tumor and the artery had to be compressed at the bottom of a deep wound. Dr. Bocce succeeded admirably, however, and the patient lost, considering all the circumstances, but little blood during the operation. This having been accomplished, I next, by means of a large external incision, dissected the integument from over the tumor. I then

divided the costal portion of the great pectoral muscle, and by this means laid the anterior aspect of the tumor bare. I now proceeded to isolate the tumor from the adjacent structures by passing the finger over it and breaking its connections. I was enabled thus to pass the finger all around its inner and anterior surface, dissecting it easily away from the lesser pectoral muscle, and finally reaching the clavicle and upper limit of the sac.

I now began to detach the sac from the ribs, and had succeeded over about half the surface, when it ruptured under my fingers. It had then been detached on the upper, anterior, and part of its inner surfaces, and was still adherent to the outer surface, where it arose from the artery, and to the posterior and part of its inner or costal surface. The abandonment now of all further efforts to isolate the sac, and the incision of the sac after Syme's method, although part of my original plan, were the fatal errors of the operation.

This change of procedure was unnecessary, because the sac, though ruptured, did not bleed, as Dr. Boice had the subclavian perfectly under control. I acted, however, in the belief that it would not be very difficult to get at the artery through the base of the sac. I therefore turned out a great mass of laminated fibrin, fresh coagula, and fluid blood, and discovered the orifice through which the artery communicated with the sac at the extreme end of the cavity. It was easy to put the finger over the hole and prevent all hæmorrhage, but I soon discovered that the ligation of the artery through the wall of the sac was not only difficult but impossible. The wall of the sac was a thick, tough membrane, which had at its outer and lower part, where it ruptured, become softened by inflammation, but at its base was exceedingly dense and resistant. All efforts to scratch through it with a director failed, and I soon became convinced that no violence which could be safely used after that fashion would be of any avail. It was evident, too, that the passage of a sharp instrument through the membrane would endanger not only the artery but the adjacent vessels and nerves. I was still further perplexed by the anatomical obscurity which involved the parts, for, working at the summit of a deep funnel with my own finger placed over the aperture, obstructing my vision, it was by no means easy to determine the exact position of the axillary artery. It was altogether impossible to detect any pulsation whatever at the bottom of the cavity, even though the artery poured forth a great stream of blood whenever Dr. Boice and myself relaxed our pressure simultaneously. In the mean time, although no great amount of blood had been lost, the patient had begun rapidly to fail. His legs were elevated, his head lowered, and ether and alcohol injected into his arms. Failing to accomplish my purpose by Syme's method, I reverted to my first method, dissected up the sac from the ribs and posterior wall of the axilla, and threw a ligature rapidly around its base. I felt provoked, when I saw the ease with which this was accomplished, that I had wasted so much valuable time in a false direction. He tough sac bore the application of the ligature as well as an artery, and now I was enabled to complete the operation without any further regard to hæmorrhage. Dr. Boice removed his finger from the subclavian, the arm was extended and carried to the utmost, and the sac examined. I soon found that the orifice of the sac was more than a quarter of an inch from the axillary artery, with which it communicated by a passage [illegible] the axillary itself. I tied the axillary on both sides of this communicating passage, dressed the wound loosely, put the patient to bed, and applied the usual restoratives.

He did not lose in all, including the contents of the tumor, much over a pint of blood, a quantity which ought, in a healthy man, to have caused no very severe symptoms. He nevertheless nearly died upon the table, and, notwithstanding the application of all remedies, except transfusion, the neglect of which I now regret, continued in a state of collapse until he died, thirty hours after the completion of the operation. He retained all stimulus and nutriment which were administered after the operation, and suffered no distress at the stomach until about three hours before his death, when he complained of a feeling of weight and distension at the epigastrium. At the autopsy it was found that the stomach was distended with the fluids which had been given him, and it is not probable that much, if any, of the stimulus and nutriment which he had taken had been absorbed. Before his death his left hand had become warm, but on the outer aspect of the forearm, in its upper and middle thirds, were extensive dark-colored blisters. On post-mortem examination, I at first supposed that the passage leading from the axillary into the sac was a portion of the sac itself. A subsequent more careful examination convinced me that it was the remains of the subscapular artery, which had been cut about a quarter of an inch from its origin.

A careful study of Syme's very meager, obscure, and unsatisfactory reports of his cases of aneurysm has satisfied me that he had to deal in his cases not with aneurysmal sacs, but with ruptured arteries. This is the view of the matter taken by Moore, in his able article on aneurysm, in Holmes's "System of Surgery." I know, from a considerable experience with ruptured arteries, that their ligation at the point of injury is a comparatively simple and easy procedure. This one experience is sufficient to convince me that the effort to cure an aneurysm by laying the sac open and attacking the artery from within will involve the surgeon in a labyrinth of perplexing dangers. Even though hæmorrhage may be prevented by well-directed measures, he will find himself working at immense disadvantage at the apex of a funnel whose walls are adherent to the surrounding parts, and lined with more or less of laminated fibrin. From within this cavity the exact anatomical relations can be ascertained only with great difficulty, and the thickness and toughness of the aneurysmal wall must, in many cases, make it impossible to feel the arterial pulsation, which might otherwise serve as a guide. When in such cases the surgeon can not lay bare the artery from within the sac by means of a blunt instrument, he must either dissect the tissues apart with a knife, in imminent danger of wounding the adherent artery or vein, or resort to amputation to save his patient from death on the table. While the dangers of Syme's operation may, it is true, be avoided in many cases by other methods of treatment, there are, nevertheless, cases where operations on the arteries at the seats of disease are imperatively demanded. When, for instance, suppuration of the aneurysm becomes imminent, the surgeon has no other choice, if the patient, like my own, absolutely refuses to consent to amputation. But, even where the surgeon has a choice of procedures, the results in all must be so doubtful as to make it exceedingly desirable that the whole subject should undergo a thorough revision. In aneurysm of the axillary, or its large branches near their origin, compression can be applied only at great disadvantage, and rarely with appreciable effects, on account of the elevation of the clavicle and the extreme difficulty of reaching the subclavian. Ligation of the subclavian under the same circumstances is very difficult and very dangerous, while Syme's operation, though proper for ruptured arteries,

can not be practicable in such cases of aneurysm as have thick, resistant, and adherent sacs.

Under such circumstances, I venture to urge upon the profession the propriety of considering an entirely different method of procedure—that, namely, which I partially carried out in this operation, and to which I was obliged to revert, after having abandoned it for Syme's method, in order to get my patient from the table alive.

This method, if carried out in an axillary aneurysm to its completion, would be as follows: Having first made an incision above the clavicle, through which a trustworthy assistant could hold the subclavian under complete control, the surgeon should make a free incision over the tumor and lay the sac bare. If at any one spot the skin had become so adherent as to make its dissection from the sac dangerous on account of the liability of rupture, that portion of integument included in an elliptical incision could be left in position, just as we leave adherent skin on a cancerous tumor which we are seeking to extirpate. A sufficient portion of the great pectoral muscle should be divided to permit of free access to the tumor from in front as well as below. The surgeon should then pass his finger around the tumor, breaking up all the looser cellular connections. This was done in my case with ease on the anterior and upper aspects of the sac. When the less adherent portions of the tumor have become thus isolated, the more firmly fixed portions will have to be carefully detached, and it would seem best to begin this work from below and proceed with it upward. For this purpose the finger-nail or handle of a scalpel would be most appropriate. The sac could, if tolerably thick and not too much softened by inflammation, be lifted without much difficulty from the ribs and posterior axillary walls. Only on the outer walls, where the sac joins the artery, would the adhesions probably be such as to make their separation a matter of great difficulty. When the operation had proceeded thus far, the surgeon would have a choice of procedures. If the sac was thick and resistant, he could throw a ligature around its neck and cut away its main portion. This would remove the obstacle which the tumor itself would present to the free survey of the field of operation, and would, besides, relieve the assistant from further compression of the subclavian. This was precisely what I did in my operation, and I was enabled, by tying the neck of the sac, to bring the operation to a quick conclusion. On the other hand, if the aneurysmal sac should seem too thin to bear a ligature, or if its ligation should seem unnecessary, then the operator should carefully finish his work by separating the sac from the nerves, veins, and arteries on the arm. This would undoubtedly be the most difficult part of the whole operation, but, when completed, would leave the artery exposed for ligatures on both sides of the sac.

It is very evident that a surgeon who succeeded in this method would subject his patient to very little loss of blood, for hæmorrhage could take place only from the superficial vessels outside of the sac and from the sac itself, when it was removed at the completion of the operation. On the other hand, the only objection which could be urged against the procedure would be its possible tediousness, at least if its application was confined to those cases in which operations at the point of disease would seem necessary. Rupture of the sac would not indicate the discontinuance of the operation. If the subclavian is well controlled, the rupture causes no hæmorrhage, and the dissection, if continued beyond the seat of rupture, would soon bring the surgeon to the older and stronger parts of the sac. Should the sac be so thin as not to bear a dissection from the tissues to which it was adherent without repeated ruptures, the case would then be very evidently one suitable for Syme's method, and the operator could boldly cut away the denuded portion and seek to apply the ligature to the artery through the thin and fragile sac-wall at both sides of the bleeding point. It is to be remarked that this method of operation would by no means exclude Syme's operation should the circumstances of the case, after the operation was begun, seem to demand it.

As regards subsequent healing, I think that the clean wound left after the removal of the sac would offer as good a prognosis, to say the least, as the low-grade tissue of which an aneurysmal sac is composed.

In conclusion, I will offer the following propositions:

1. The dangers and difficulties incurred in operating upon traumatic aneurysms by the so-called Syme's method are due principally to the obstruction made by the sac itself, which obscures the anatomical relations, hinders manipulations, and often offers an impassable barrier to the surgeon who seeks to tie the artery through its walls.

2. These obstacles may be overcome by the systematic dissection of the sac from the surrounding structures, and the ligation of the artery from without instead of from within the sac.

3. This same method of treatment may be made available with idiopathic aneurysms whenever from any cause it may be necessary to operate upon them at the seat of disease.

IMMUNITY IN DISEASE.*

By R. G. ECCLES, M.D., PH.D.,
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DR. D. E. SALMON, in his last published report to the Commissioner of Agriculture, says: "The one point connected with contagious diseases which is mysterious beyond all others, and the elucidation of which promises the most important practical results, is the nature of the immunity conferred by vaccination, and the essential manner in which this insusceptibility is produced." Already a large number of theories have been advanced, but so far not one of them has met with general acceptance by scientific workers in this field. Pasteur and Tyndall, Klebs, Klein and Chauveau, Toussaint and Bollinger, have committed themselves in some degree to one or other of them. Dr. Salmon has formulated one of his own for America. They may be all wrong. Certainly they are not all right. As working hypotheses, the crudest may be of value. Even outside the laboratory they engender thought and stir up controversy that is wholesome in many ways. Theories are the sharp

* Read before the Brooklyn Pathological Society, January 22, 1885.

edged tools of discoverers by which they cut their way into nature's secrets. The old proverb about children and half-witted people's handling such things is as applicable here as elsewhere.

When a cultivation flask charged with sterilized bouillon, or other material fit for the development of microbes, is inoculated with virus, fermentation soon sets in and continues usually until such material as is fit for their use is consumed, when they perish. It is now impossible by any reinoculation to again establish this special fermentation. The substitution of a new variety starts life and vigor in the flask again. In this way a series of different kinds of these microscopic vegetables can follow each other without a change of the charge. No one kind can repeat its growth. The resemblance subsisting between the methods of these ferments in the flask and the course some of them pursue in the bodies of animals was so striking that it gave rise to the first theory of immunity. Pasteur, seeing that the absence of some principle necessary to the life of the ferment must have contributed to its death in the cultivation flask, and that the continuance of its absence rendered that flask unfit for any future production of the same, naturally inferred that this was the secret of protection in the living body. If an animal's body can be exhausted of some chemical necessary to the life of *Bacillus anthracis* by a single attack, that animal can never again have anthrax. Tyndall has championed this theory of Pasteur.

If any plant or animal is confined within narrow, close limits, well charged with food but compelled to reside in its own excretions, the carbonic acid, the fæcal discharges, the products of its own combustion, whatever they may be, will accumulate so rapidly that they will kill it before the pabulum is exhausted. *Pari passu* with the consumption of saccharine matter by torula is a steady production of alcohol. Before the last trace of sugar has disappeared this has killed the plant. Two doors of death, therefore, lie before every microbe cultivated in a flask. If it starves to death for lack of food, it is but saved from the worse fate of being poisoned by its own excreta. The rival theory of Chauveau, Klebs, and Klein took its rise from a study of this fact. They believe that the cause of immunity is some chemical product added to the body by the microscopic organisms.

Pasteur has the honor of first providing the fact which cast discredit upon his own hypothesis. He showed that after any microbe had exhausted its fermentable matter a fresh supply of food would give it new vigor or enable a new generation to arise. In the body of an animal, food is being constantly replenished. The conditions of the body are, therefore, those of a flask subject to indefinite resupply. This being so, no immunity could occur from such a cause as Pasteur's theory implies. Chauveau, in his experiments with anthrax, added another nail to its coffin, and at the same time injured his own guess. He proved that a very large subcutaneous injection of the bacilli into any protected animal would give it the disease a second time. Smaller doses, such as would have given the disease to the non-protected, had no effect upon it. This fact has met with full confirmation in this and other diseases by hundreds of experiments. Dr. Salmon, Dr. Law, and Dr. Detmar have demonstrated its truth in this country in hog and chicken cholera. The exact degree of immunity possessed by any animal can be gauged by using a virus of standard strength. If immunity is due to abstraction, how can many microbes subsist and flourish where a few will starve to death? If due to the addition of something fatal to a few, it would seem as if that would also be fatal to the many. If the many triumph over it by superior numbers, there still remains the question, How can such a substance foreign to the cells avoid excretion in a lifetime? It is either soluble or insoluble. If insoluble, it is inert and useless for such a purpose. If soluble, it must be subject to the laws of osmosis, and be all in time excreted. That it is soluble there are many facts to show. Chauveau has proved that if a dam has anthrax near the end of pregnancy the fœtus is acted upon by the disease and receives immunity. Davaine and others have demonstrated that, however full of the bacilli of anthrax the blood of the parent may be, there are none whatever in the fœtus. The products of the bacilli and not the organisms themselves must here at least give immunity. These products, whatever they are, must be soluble or they could not reach the fœtus. There are many more facts confirmatory of this. As a crucial test of both theories, Dr. Salmon took protected animals as well as non-protected, made decoctions of their tissues in sterilized distilled water, and impregnated the same with highly attenuated virus. Each kind of decoction showed an equal capacity for the production of microbes. That made from the protected animal's body grew the microbes from which it had been protected just as well as that from the tissues of a non-protected animal, and the virus, when tested upon the living, was equally virulent. Had there been something abstracted from the body of the protected animal without which the microbes could not live, that something would have been absent from the decoction. When its body was dead it certainly could not produce it. Had the immunity been due to an added chemical, it should have appeared in the decoction, rendering it sterile so far as that variety of organism was concerned.

Toussaint, perceiving the shortcomings of both, suggested that the lymphatic glands might by inflammation receive some structural change that would render them impervious to the microbes. Some such filtering power they occasionally have been found to possess. If life immunity could be conferred by such a process during the advent of a contagious disease, the animal, instead of being protected from one, would be shielded from all. It is needless to say that the animal kingdom is not quite so fortunate as this.

Baffled on every side by merely physical explanations, attention has lately been turned upon the part which the cells themselves may take in the matter. The crudest suggestion is that the vital force—whatever that may be—acquires a power of resistance to the ingress of pathogenic microbes. However satisfactory this may prove to ignorant people, it is worse than useless to the man who seeks a clear reason for things. It merely relegates to the domain of mystery a territory we have vainly hoped to conquer. What is probably meant is that some modification of func-

tion occurs in the cells, and that this modification in some way produces these results. The American theory of Dr. Salmon, though less extensively known than some of the others, has the merit of co-ordinating more facts than any before advanced. It aims at pointing out the truth which the vital theorists have an adumbration of. It assumes that the blood of an animal at no time contains much more available oxygen than is needed by the cells, and that these pathogenic microbes can not live unless they have *even more* than the cells require. To procure an adequate supply on entering the body of their host is only possible by their intoxicating the cells, arresting them in their functions, and thereby allowing the oxygen to accumulate sufficiently for their subsistence. This they can do upon a first attack, but after a time the cells become habituated to the poison they excrete. The tolerance to this poison remaining through life, its entrance in small quantity into the circulation can never again inhibit the activity of the cells, nor check their consumption of oxygen.

Pasteur describes microbes as being aërobic or air-living, and anaërobic or not air-living. The extremes here given merge into each other through those that are amphibious. According to Salmon's theory, immunity can only be secured against aërobic or amphibious pathogenic microbes; malarial disease, tuberculosis, and the like being due to the presence of anaërobic ones in the patient. Aërobic and amphibious ones gain access by inhibiting cellular function through toxic bodies produced by or accompanying them. In this way they are supposed to gain a sufficient supply of oxygen. Animal bioplasm being anaërobic, it can exist in a more limited supply of easily procured oxygen than the majority of its pestilent foes.

That bacteria, bacilli, micrococci, etc., do produce toxic principles has been fully demonstrated. Sepsis and septicæmia are now clearly differentiated. The work of such men as Colin, Richardson, and Davaine has cleared this field of its obscurity. The toxic principles of putrid blood have been isolated, made to form chemical salts with acids, and been pretty thoroughly studied. The trillionth of a drop of a septicæmic cultivation of the twenty-fifth generation has been used by Davaine to kill rabbits. So small a quantity proving successful would seem to indicate that these microbes are ultra-microscopic. Very much larger quantities of blood from a case of putrid toxicæmia will do no harm whatever. In sepsis there is no period of incubation like that of septicæmia. Pasteur isolated the active poison of fowl-cholera by filtering it through plaster. After carefully evaporating to dryness and redissolving a quantity representing four ounces of his cultivation fluid, he injected it into a fowl subcutaneously. In ten minutes it had all the symptoms of a severe case of the disease. In about four hours every symptom had disappeared, and the bird was well. That microbes can gain no foothold in an animal's body unaccompanied by their poisonous products would appear from the following considerations. Chauveau, Hiller, and others have injected them, after thorough washing, into dogs, rabbits, and frogs. The most fatal kinds have proved perfectly harmless, although still able to multiply and become dangerous again. Septic bacteria, so cleansed, have been plastered on wounds at all stages without the least evil consequences that could be attributed to them. Those from the same cultivation, unwashed, have proved most virulent. Zuelzer and Riemschneider have, on the other hand, taken harmless bacteria and caused them to multiply in the bodies of animals by merely injecting with them enough sulphate of atropine to produce toxic effects upon the tissues.

That the bodies of animals are seriously affected at first by doses of toxical agents, which habit gives them afterward a tolerance for, is a matter of daily experience. That different animals and different persons have varying degrees of such tolerance is also well known. The drunkard, the morphine user, and the arsenic consumer become able to endure such doses of their respective poisons as would kill several normal men. It is said that rabbits will grow fat on belladonna leaves. Immunity in disease is relative, and resembles, in all we yet know, this limited immunity from the dangerous effects of ordinary poisons. Pasteur has shown that there are often points on the bodies of insusceptible animals where local lesions may be established, even if constitutional effects can not. This seems to indicate that the cells of these parts have not become thoroughly inured to the poison. Salmon's method of inoculation with attenuated virus points to the products of fermentation rather than the microbes as the source of disease and the thing protected from. The oldest method of procuring virus was by modifying its virulence through cultivation in some other animal than that we mean to protect. This is our method in small-pox. Professor Greenfield modifies by cultivating in aqueous humor. Davaine reaches the same results by heating to 55° C. Pasteur reduces the power of his by cultivating, in contact with pure air, for about eight months. Salmon takes strong virus and dilutes it with distilled water until it has reached the required weakness. The others reduce the health and vigor of the microbes. Salmon merely reduces their number. He has, aided by others, produced immunity in thousands of hogs and chickens by his method. The amount of immunity of every animal can be gauged by his method, and increased by successive inoculations. No animal has perfect immunity. The most insusceptible can be given the disease by a large enough dose. His attenuated virus, if properly gauged to the powers of the animal, produces a local lesion with but mild constitutional symptoms. Before his microbes have had time to multiply in sufficient numbers to become dangerous, the cells around the lesion have shut them off from the general circulation by their acquired protection. The products of their development reach every part of the system. The leucocytes, he thinks, gain immunity from immediate contact with the poison in the region of inflammation, and retain it when they become fixed cells.

This doctrine of relative immunity, which is now well established and belongs specially to no particular theory, is of the utmost practical importance. In fact, it should never be lost sight of by any practitioner. It should deter us from vaccinating a person merely because he has been exposed to, or shows symptoms pointing suspiciously toward, small-pox. Already a dose of virus may have been imbibed, and for the physician to add another, then, is

criminal. People must protect themselves in advance of exposure. When they have been exposed, it is too late. Professor Law, in summing up the results of his own experiments, says: "Reinoculation with fresh virus during the progress of the disease in a patient does not mitigate the illness nor protect against a further attack, but rather insures and hastens a fatal issue." It is the last straw that breaks the camel's back. A few years ago I was in a dispensary in this city. A patient was there for nearly two hours awaiting his turn. Upon examination, a diagnosis of small-pox was made. Every doctor in the institution who had been near the patient had himself vaccinated. Luckily, the diagnosis was erroneous. Had any one of these gentlemen received a dose of small-pox virus from the patient insufficient to give him the disease, the addition made by vaccination might have assured his contracting it. The dogma of Hahnemann, that "like cures like," is at the bottom of this superstition. Vaccination is a prophylactic solely, and only such after it has run its course. To use it as a cure is dangerous and reprehensible. As well might we try to save a man from an overdose of strychnine by giving him another.

In the cultivation of pathogenic virus, all experience goes to prove that the less free oxygen we can accustom them to thrive upon, the more dangerous they become. Pasteur mitigates his virus by an opposite course. He gives them constantly increased quantities of oxygen for months together. Law, Buchner, and Salmon have increased the virulence of virus in the most marked degree by cultivation in limited supplies of oxygen for several generations. Septic bacteria that have developed in the peritonæum, away from free air, and those that have grown under the skin of domestic animals, where long setons have been introduced, are known to be the most virulent kind. The less easily a microbe can get along without oxygen, the more reason we have to be alarmed at it, if of the pathogenic kind. These facts all contribute to the support of Salmon's theory. The poison of the microbes intoxicates the cells. Retarded function allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to overcome the action of the poison, use up their own oxygen, and so asphyxiate the microbes. In the act of recovering from the disease they acquire their immunity. The cells, becoming habituated to the poison, can proceed with their functions in spite of it.

Such is the American guess. Since it is the best yet advanced, it would be as well for us to make use of it as a working hypothesis. Americans are proverbially good guessers. The sentiment that can see no prophets to honor in our own country or among our own kin is not yet dead. To many, distance still lends enchantment to the view. Such an hypothesis from Berlin, Paris, or London would meet with close attention and be hailed as a triumph of thought. Experiment has not yet confirmed it. A few experiments have been tried, but without success. No animal has yet received immunity by injection of the toxic products of a virus. If it ever proves a success, a revolution will be wrought in prophylactic medicine the value of which can never be overestimated. That there has been no success yet is not fatal to the theory. The experiments have not yet been numerous enough to give it a fair trial, nor are we sure that the proper conditions have been maintained. It is a difficult matter to be certain that in devitalizing the virus we are not altering its chemical structure. It is also difficult to keep up the toxic effects of a drug given hypodermically with the same steadiness as if it were being slowly formed in the body itself. The scarcity of oxygen caused by the microbes may act as an irritant to the cells, to arouse them from their stupor and compel them to struggle against the poison, much as pain compels one drowsy with sleep to keep awake. Imitate this condition in the body, exclude all sources of error from the experiments, and then, if it fails, let us cast the theory aside, even if there is no better one. When the true theory is reached, if this is not it, there will be difficulties for it to surmount that may at first appear almost insuperable.

A DEMONSTRATION OF KOCH'S COMMA BACILLUS.*

By ARNOLD STUB, M. D.,
BROOKLYN.

Mr. President and Gentlemen of the Pathological Society: The great interest shown by the scientific world in regard to the micrography of cholera asiatica, and especially to the researches of Koch in reference to the comma bacilli, has caused me to procure, through the kindness of a New York mercantile firm, from Dr. Nicati, of Marseilles, a few specimens of cholera bacilli, taken from the excrements of a patient during the fall of 1884.

Before I proceed to show them to the society I beg leave to offer a few remarks upon the subject, which, although only a recapitulation of the investigations of others, and in all probability not new to most of you gentlemen, may be of interest to some, as they will be a history in brief of what has been done in the investigations of so important a subject. The first physician who ever expressed the opinion that cholera was caused by a special poison of organic origin was Dr. Giell, of Munich, during the epidemic of 1832.

During the epidemic of 1849, Dr. Swayne, Dr. Britton, and Dr. Budd, of England, discovered special round cells in the fæcal matter which they considered to be cholera fungi. In 1866, Dr. Klob, of Germany, discovered small octahedral bodies in the mucus of the intestinal canal of cholera patients, which he thought to be the cause of cholera. During the year 1867, Dr. E. Hallier, of Jena, published an article upon the same subject, and mentioned twenty different fungi found by him in the excrements of cholera patients.

Dr. Edward Nedswetzky furnished, in 1874, a valuable monograph upon the same subject, and called those organisms, which he considered specific to Asiatic cholera, "Cholera-Bacteridien."

Previous to his discovery, an American physician, Dr. J. Wyman, published his researches in the "American Journal of the Medical Sciences" of 1867, and made the statement that all organisms of cholera excrements, if boiled for

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six hours in a hermetically sealed tube, would die, and never come to life again. Nedswetzky, however, proved that not all of those organisms would die, but that his Cholera-Bacteridien considered the process of being boiled for six hours as a rather refreshing bath, and came forth more alive than ever. Dr. Nedswetzky described three different kinds of Bacteridien: 1. Small, round cells, without movements; 2. The same, but more developed, of chain-like appearance and with movements; and, 3. Long, rod-like cells, which he called the genuine bacteria, also with movements. With the views of Dr. Pettenkofer, who for the past thirty years has hypothetically postulated the existence of micro-organisms, I presume that you are familiar.

Koch, during his late researches, discovered the so-called comma bacilli, and, without attempting to give a description of the same, I beg leave to mention that by many investigators it has been maintained that comma bacilli may be found not alone in Asiatic cholera, but also in the excrements of cholera morbus, in tuberculosis, and even in the sputa of patients suffering from bronchitis.

The fact that I have met with the same experience has principally been the cause of my importation of the true comma bacilli, and, after I received the specimens, I compared them with those I had discovered in diarrhœa and tuberculosis.

Unless I fail to find this evening, upon a slide bearing a specimen taken from a case of chronic diarrhœa, a comma bacillus, I hope to demonstrate to you, gentlemen, the difference between the true comma bacilli of cholera asiatica and those curved bacilli found in ordinary diarrhœa. You will observe that the comma bacillus of Koch is a short, stout body of equal thickness at both ends. The bacillus of diarrhœa is more slender, longer, and thinner. The same is true of those curved bacilli found in tuberculosis, and sometimes in the sputa of bronchitis, which are still thinner, and I believe longer.

According to Koch, those curved bacilli found in diarrhœa and cholera nostras, which Dr. Lewis, of England, describes in an article published in the London "Lancet" of September 20, 1884, present different appearances if grown upon nutritive gelatin. The alkaline nutritive gelatin seems to be the right soil in which to raise the cholera bacilli. Sometimes the cholera bacillus has the shape of the letter "S," and upon the slides now in my possession I have found several of the double-curved specimens. I have learned, however, that in artificial cultivations the double-curved bacilli are more frequently found than in specimens taken directly from a patient.

The exact *modus operandi* Dr. Koch recommends to bring the comma bacilli into view is similar to the one applied in staining other bacilli, except tubercle bacilli, for microscopical examination.

In the preparation of the specimen from a case of chronic diarrhœa I intend to show you, gentlemen, I followed the method generally used in staining other bacilli with fuchsin. Of minor importance, although perhaps proper to mention, is the fact that methyl violet may be used instead of fuchsin as a staining medium. Cholera bacilli, according to Koch's method, are stained with "dahlia" or methyl violet for the purpose of making microscopical examination. Ordinary dry lenses are unfit for use. Water-immersion lenses, such as I use here this evening, will answer to demonstrate the existence of the bacilli; but, for the deeper study of the organisms, oil-immersion lenses of at least one twelfth are necessary. An Abbé's illuminating apparatus, such as you will see attached to my stand, from Zeiss, of Jena, is almost indispensable. Before I close my remarks upon the subject of comma bacilli of true Asiatic cholera, I desire to mention a few more, perhaps not uninteresting, facts in regard to this subject.

It is natural that the discovery of Koch should have met with full acceptance by one part of the scientific world, and with doubts, even with derision, by the other. Soon after Koch published his views upon the subject, several savants, among others Pasteur, of France, Winckler, of Germany, and others, commenced to cultivate the bacilli artificially, but failed to produce, by inoculating in some of the lower animals, a disease similar to cholera in man. Upon this fact those gentlemen based their opinion in reference to the faultiness of Koch's doctrine. If we take tubercle bacilli artificially cultivated and inoculate an animal, it will almost always be taken down with symptoms of phthisis; the same with bacilli from anthrax, or splenic fever, or with bacilli artificially raised from glanders, etc., which will produce, by inoculation of an animal, symptoms of precisely the same disease as that from which the bacilli were taken for artificial culture. I must not forget the coccus of gonorrhœa, which in dogs, rabbits, etc., produces a disease closely resembling gonorrhœa in all its details.

Upon the face of this, it appears as if the opinions and researches of the medical gentlemen above quoted were correct, but Dr. Rosenbach, in a speech which he made before the meeting of naturalists on September 18th of the past year, defended Dr. Koch's doctrine by stating the following facts: "Koch discovered that our domestic mouse was subject to a septic fever whose bacillus was of a rod-like shape. If this particular bacillus is artificially raised and another animal inoculated with it—for instance, a dog, cat, or rabbit—no symptoms of any kind will be the result; even a field-mouse is not affected if inoculated with this bacillus. If, however, a domestic mouse is slightly scratched with a needle upon the point of which a few of the organisms adhere, it will shortly be taken sick, present all the symptoms of blood-poisoning, and die within forty-eight hours. Post-mortem examination will reveal the whole system crowded with the identical bacilli. If some of the blood is spread upon gelatin, the same characteristic growths will at once begin to appear, and these, upon being transferred by inoculation to another mouse, will again produce the same symptoms, and effect the certain death of the victim. Is it not reasonable to suppose that cholera asiatica may be a disease to which our species is alone heir?"

Within the last few months, however, Dr. Nicati, of Marseilles, has succeeded in producing cholera in dogs after tying the ductus choledochus and injecting artificially raised comma bacilli. The same experiments have been lately successfully repeated by Koch in Berlin without tying the ductus choledochus, and the animals died within three

days after injecting the artificially raised comma bacilli. A large quantity of comma bacilli has been found in the intestinal canal after the death of the animal.

Comma bacilli do not invade the blood near the glands, and in one case only Koch thought he had found them in the kidney. As I have mentioned the subject of artificially cultivating the different species of bacilli, I may also state herewith a very simple process by which to distinguish and to separate one species from the other.

Quoting again from Dr. Rosenbach, whom the discoveries of Koch have led to search further into the nature of the cause of septic poisoning, he discovered five different species of cocci. The first, which he considered to be the most important, is a small, round body, and can only be studied microscopically with the highest-power oil-immersion lenses. If, according to his description, a small scratch is made upon prepared gelatin with a platinum wire upon the point of which a few of the cocci are adherent, within one to two hours the furrow becomes larger and grows until it represents, upon the fourteenth day, a golden-yellow cultivation. On account of this color and the general microscopical appearance, he calls it the golden-yellow grape coccus. He further calls attention to the white grape coccus, the chaplet coccus, and to the fourth species, which, on account of its rarity, he has seldom met with, and which he describes as having the appearance of a thin, transparent varnish by artificial cultivation. Microscopically, they are of large size, with dark poles in the center. For a more minute description I refer you, gentlemen, to his work published by Bergmann, in Wiesbaden, in 1884. Every one of the above-mentioned cocci is capable of producing either pyæmic or septicæmic blood-poisoning of some kind, according to its species. Another example which the above-mentioned essayists quoted is the way in which to cultivate separately the different micro-organisms contained in cow's milk. If a few drops of milk are mixed with about a tablespoonful of so-called nutritive gelatin at blood temperature, and the whole is spread upon a plate of glass and allowed to become stiff, within three days every one of the micro-organisms contained in the milk will have its own cultivation; some appear as spots looking like porcelain, others gray, some red, and others blue. The latter are those which cause milk sometimes to have a bluish color. Each one grows separate and distinct from the rest, and they may be separately collected, examined, and transplanted.

Comma bacilli direct from the patient, or rather some of the contents of the intestine of a cholera patient, are added to a ten-per-cent. solution of peptone gelatin for cultivation. Twenty-four hours after being transplanted, indentations with sharply defined outlines appear; inside of this circle a second granulated circle shows itself, and within this we shall be able to recognize microscopically the genuine cultivation in the shape of a yellowish mass, star-shaped and with fringed edges; and these are the true comma bacilli, and have, in the hands of Nicati and Koch, produced the effects upon dogs previously related.

All the other bacilli or micrococci that are found in the evacuations of cholera patients present, I suppose, a different appearance by artificial cultivation, and are easily separated and distinguished from the rest.

I would like to mention briefly something in reference to the microscopical examination of the air expired by cholera patients. Nedswetzky and Pasteur applied to the mouth of a cholera patient a tube made of strong paper, varnished on the inside and filled with gun-cotton. The patient had to breathe for about twenty-four hours through this tube and the gun-cotton, which, after being removed, was dissolved in sulphuric ether, and the resulting collodion washed with alcohol to prevent the formation of non-transparent skins, and afterward examined under the microscope.

The method adopted by the Berlin Board of Health for the examination of air expired by sick people differs so far from this that they use a glass tube, the inside of which is covered with nutritive gelatin prepared in the following manner: 50 grm. of gelatin are boiled with 500 ccm. of water. One pound of chopped meat is soaked for twenty-four hours in cold water. After the meat has been pressed, the resulting juice is filtered through fine gauze and mixed with the gelatin. Then 10 grm. of peptone and 1 grm. of table-salt are added and afterward neutralized with bicarbonate of sodium and filtered. If bacilli are in the air expired by the patient after the tube is applied to his mouth, they will be cultivated upon the soil prepared for them in the tube. I may state, however, that Koch so far has not examined the air expired by cholera patients.

The specimens you will examine this evening, gentlemen, are, first, the cholera bacilli sent me by Dr. Nicati and submitted to you under a stand from Zeiss, of Jena, with lens "L" $\frac{1}{25}$ water immersion and ocular 4, which gives a magnifying power of 1,930. The second, with a stand of Bauch and Lomb, of New York, and a Zeiss $\frac{1}{15}$ water immersion, giving a magnifying power of 1,130, will present to you the bacilli from chronic diarrhœa prepared by myself. The third specimen, to be demonstrated by Dr. Bates, of this city, with a Zentmayer stand and a Wales $\frac{1}{12}$, with amplifier, you will also find to be cholera bacilli which were sent me by Dr. Nicati.

THE EPIDEMIC OF TYPHOID FEVER IN PLYMOUTH, PA.

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The recent terrible epidemic of typhoid fever in Plymouth, Pa., has attracted much attention, and has proved to be one of the most instructive and significant that have ever occurred. The writers visited the infected town for the purpose of investigating the nature and cause of the outbreak, and especially of establishing, if possible, the supposed ætiological relation existing between the micro-organisms found in the water and those which so constantly occur post mortem in the spleen and mesenteric glands. On arriving there, it was soon found that, so far as the reservoir-water was concerned, there was little probability of being able to establish this relationship. The investigation, however, led to results which may be interesting.

The principal facts in the history of the epidemic are briefly as follows: The town, of about eight thousand inhabitants, is supplied with water from a mountain stream ordinarily small, but undergoing at times great variations in volume. This is stored in four reservoirs, or dams, situated one above the other on the stream. At certain seasons of the year the supply of water from this source is not sufficient for the town, and recourse is had to the river-water, which is then pumped directly into the mains. In the latter part of March the water in this stream was almost entirely frozen up, the reservoirs were very low, and on March 20th the water company commenced pumping river-water into the main. A portion of the town, however, was still supplied by water from the reservoir. On the evening of March 26th the pumps were stopped, and the water from the reservoirs was again turned on. At this time the two lower reservoirs were empty, and the third was less than half full, containing perhaps four hundred thousand gallons. On the stream above the first reservoir there are but two houses. The first is situated on the bank of the upper or fourth reservoir, and the second, known as the Davis house, on the bank of the stream connecting the third and fourth, immediately below the dam. The first house, belonging to the water company, stands not more than six feet from the edge of the reservoir. A few feet back of it, on sloping ground, and not more than sixty feet from the reservoir, stands a privy, which has not been emptied for six years, and the contents of which are considerably above the level of the ground surrounding it. Just in the rear of this a surface drain leads directly to the reservoir. On the opposite side of the reservoir, a few yards from its edge, a barn stands over a small ravine, which drains considerable surface, and serves to carry all matters that may accumulate there to the reservoir. Recent investigations have shown that in the second house, during the months of January February, and March, one of the occupants was sick with a severe form of typhoid fever. During this time the excreta at night were thrown out back of the house, on the snow, and very near the stream. The weather was cold during these months, and this material was probably frozen fast where it was thrown, and rendered innoxious for the time. The latter part of March (from the 25th to the 30th) the weather was warm, and at this time these deposits, which had been accumulating through so long a period, were washed into the reservoir, containing then but a small quantity of water. At just this time (the evening of March 26th) the town began to draw its water supply from the reservoir again. The first cases of the fever developed on April 5th, and before April 19th nearly three hundred cases had made their appearance.

The surroundings of the Davis house still remain in a bad condition, and apparently no precautions have been taken to thoroughly disinfect them. The privy-pit, where the evacuations from the typhoid fever patient were thrown, has been partially covered with earth, and the house removed a few feet farther from the stream. More than this nothing has been done. The odor surrounding the house is very bad, and at the time of our visit there the wife of Davis was apparently just developing the disease. How significant this fact is appears when the entire want of all previous precaution and disinfection is considered, and the apparent inability of the occupants to at all realize how terrible is the responsibility resting upon them for the appearance of the epidemic. The owner of this house absolutely refused to remove the contents of the privy-pit until compelled to do so by the superintendent of the water company.

That the appearance of the epidemic was not due to the use of river-water is clearly proved by the fact that in forty or fifty families, which use habitually river-water supplied by the Hudson Canal and Coal Co., not a single case has occurred. This is further proved by the fact that three persons who were visiting in the town after the reservoir-water was turned on, and before April 2d, contracted the disease, and, in several families which did not move into the town until April 1st, one or more cases of typhoid fever have occurred.

That the epidemic is purely one of typhoid fever is shown by the cause, nature, and course of the epidemic, the clinical symptoms in the individual cases, and, finally, by several autopsies made by Dr. Shakespeare, of Philadelphia, in which the characteristic lesions of the disease were found.

The conclusion is scarcely avoidable that this epidemic was due to the contamination of the water in the reservoir by the stools of a single patient with typhoid fever, whose case occurred on the stream supplying the reservoir several miles distant from the town. The magnitude of the epidemic and the clearly defined relations existing between the first and the succeeding cases combine to make this one of the most instructive as well as one of the most terrible instances which ignorance and negligence have contributed to the records of disease.

With the view of determining the present condition of the water, and its possible relation to the continuance of the epidemic, samples of water were taken for analysis from different sources, as follows: 1. From the stream above the third reservoir and below the Davis house. 2. From the well at the same house. 3. From the Susquehanna River. The latter sample was taken from a point near the ferry, about twenty yards from the Plymouth shore, and about an eighth of a mile below the point at which water is taken by the water company when resort is had to the river. This sample probably represents the average composition of the water along the Plymouth shore of the river. Besides these three samples, others were taken from wells in the hilly section of the village, where the miners' dwellings are found, and where the conditions are most favorable to contamination of the wells, and where also well-water is most commonly used. The first three samples mentioned have been analyzed to the extent of determining free and albuminoid ammonia, chlorine, and solid residue. The results are given below, ammonia being expressed in parts to the million, chlorine and solid residue in grains to the U. S. gallon.

	Ammonia.		Chlorine.	Residue.
	Free.	Albuminoid.		
1.	·014	·162	·15	2·1
2.	·020	·135	·20	1·8
3.	4·241	·175	3·80	29·2

In four remaining samples, coming from wells in the village, determinations of chlorine only have been made, but the analyses will be completed as in the previous cases. The terms free ammonia and albuminoid ammonia refer respectively to ammonia existing ready formed in the waters and to that resulting in the process of analysis from decomposition of nitrogenous putrescible matter. Ammonia, of itself a harmless substance, is thus made the indicator of putrescible matter previously existing or now existing in the water under examination. These are the principles of the ammonia method of water-analysis generally known as the Wanklyn process. Free ammonia is the representative of organic matter which at some time in the history of the water has undergone decomposition; albuminoid ammonia represents its present organic contamination. Chemical analysis shows only the presence or absence of organic matter. The relation between this and germs of disease is so close that the presumption is against a water which contains it. In proportion as water is free from it it must also be free from fæcal or putrefying matter, in which such germs find the conditions most favorable to their development. But analysis establishes only a presumption. A proportion of albuminoid ammonia of ·15 part in a million may be regarded as the limit of safety for a potable water, and the same for free ammonia. Higher proportions of the latter, especially if accompanied by much chlorine, indicate contamination by urine. Chlorine is a constituent of common salt, which is commonly used in the food of men or animals, and its occurrence in the waters of an inhabited region, beyond a certain proportion not difficult to fix in any given case, is regarded as evidence of pollution by sewage. Usually it should not exceed one grain to the gallon, corresponding to nearly two grains of common salt to the gallon. The term solid residue refers to the matter left on evaporation of the water. Although it is made up partly of mineral and partly of organic matter, the measurement of the organic or volatile portion by igniting the weighed residue in a platinum dish, and subsequently weighing again, has fallen into disrepute, because much of the strictly mineral portion may also be lost by ignition, and the loss of weight is therefore difficult to interpret. In all but greatly contaminated water the solid residue may be regarded as an approximate measure of the mineral matter, and it is not advisable to draw any further conclusion from it.

Returning now to the results of the analyses, it will be seen that the water of the reservoir is slightly beyond the limit in respect to albuminoid ammonia, but not otherwise objectionable; there is, in fact, no indication present of the contamination that might be expected from the conditions about the upper dam. But it is evident that the sources of contamination above mentioned threaten the purity of the stream with each succeeding rain that drenches the soil. There can be no permanent safety from the filth that accumulates about the houses and barn at this point, unless all dwellings and outlying buildings are removed to a distance from the stream, and all accumulations of filth now there carried away. Any dwelling situated close to a stream used as a source of drinking water is a menace to its purity. The well at the Davis house shows an enormous proportion of free ammonia, and this, together with the high figure for chlorine and an abundance of nitrates (detected by qualitative test, but not shown in the table), plainly indicates that the slops habitually thrown upon the ground about the house have reached the well, filtered by the gravel soil and therefore bright and clear, but still dangerous. If it be possible for typhoid fever to originate *de novo* in filthy surroundings and in the use of polluted water, no more remote point need be looked for as the starting-point of the disease which spread from a single patient in this house to hundreds in the village. Moreover, the time between the departure of the patient for Philadelphia and his return with the disease was less than that required for its development. Everything points, therefore, to the conclusion that the disease which spread from this house also originated there. The water of the river was not at the time of collection open to any serious objection. While it may have been muddy and unpleasant during the latter part of March, when the flow of the river was much reduced in volume, the best evidence that it was not in a dangerous condition is found in the fact of its use by the employees and tenants of the coal company as above-mentioned, without ill effect.

In the four samples of well-water, taken from different parts of the village, it has not been possible to do more as yet than determine the chlorine. Taking these determinations alone for what they are worth, they all point to contamination by drains or privies in greater or less degree. Complete analyses will be made of these samples also, but it can scarcely be doubted, from the location and construction of the wells and from the condition of the surroundings, that every advantage is offered for such contamination. In the hilly portions of the village, largely occupied by the dwellings of miners, the houses are arranged in rows one above the other along narrow streets, open and overflowing privies dot the back-yards, and household slops saturate the soil about the houses in front and rear. Mingled with these, generally on the street, are open wells of greater or less depth, but loosely walled in and easily accessible to surface-water that must sweep down the hills with every fall of rain. The possible connection between privies and wells, however, acquires a peculiar importance at this time. The transmission of fever germs from the Davis house to the village by means of hydrant-water has been plainly proved, while persons using well-water have apparently at least escaped infection. The result is a unanimous conviction in favor of the wells as sources of drinking-water. Given a village overrun with typhoid fever, devoid of drainage, and dotted with privies and wells in close proximity, the outlook is certainly not encouraging. The danger is that these wells may become new centers for the propagation of the disease. In its present condition, the hydrant-water is safer for use than that of the wells, and, with simple precautions, may be kept safe, while the wells must continually grow worse. Granting that the immediate danger may be avoided, the use of wells, in a village conditioned as Plymouth is, is a continually increasing danger. The soil is slowly becoming saturated with filth, and the wells receiving its drainage will draw their waters each year from more highly polluted sources. The only safety lies, therefore, in scrupulous

supervision of the water-shed of the reservoir stream, the abolition of the wells wherever houses are thickly clustered, and the regulation of the privy system by local ordinance, so that its offensiveness may be reduced to a minimum.

(To be concluded.)

HÆMATURIA.

By H. RAPHAEL, M. D.,

ATTENDING PHYSICIAN TO BELLEVUE HOSPITAL OUT-PATIENT DEPARTMENT CLASS OF GENITO-URINARY DISEASES AND SYPHILIS.

HÆMATURIA, usually defined as a disease characterized by the presence of blood in the urine, is, however, only a symptom, more or less intense in severity, due to a lesion in the vascular system of the genito-urinary apparatus. Although this symptom—bloody urine—is, generally speaking, so well pronounced and distinct, still a correct diagnosis is often attended with the utmost difficulty. Indeed, both the microscopical and chemical tests will often be required to form a correct diagnosis of the location of the lesion.

Urine containing blood is either blood-red or brownish-red in color; however, it may even be black, or, indeed, a dirty greenish-brown. Bright-red or bloody-red colored urine indicates that the hæmorrhage is quite fresh, and that the urine and the blood have been only recently mixed together, the salts of the urine not yet having had time to act upon the blood corpuscles. This condition is seen only in those cases where a tolerably large blood-vessel has given way. It may be well to state here that merely blood-red colored urine may be produced artificially by the administration of certain remedies, especially rhubarb. Hence it is well for the physician to be on his guard, as many patients who are suffering from chronic constipation are in the habit of chewing rhubarb for the relief of that complaint, and, in the event of their having any urinary complications, one is apt to be led into the error of considering the patient to be suffering from hæmaturia, while in reality the red-colored urine is due to the use of the rhubarb. However, this point can readily be settled by a simple test that will prove satisfactorily that the red color is due to a vegetable coloring matter. Add to some of the suspected urine a little nitric, muriatic, or acetic acid, stirring the liquid until it assumes a pale-yellow color. As a counter test it is only necessary to neutralize the acid by the aid of an alkali, and the red color is restored again. There is no albumin, or a very little, in such urine, and the amount formed will correspond to the degree of the catarrh of the bladder; but in true hæmaturia the amount of albumin in the urine is usually quite considerable.

Urine that has a brownish-red or blackish-brown color is caused by the urinary sediment containing altered blood corpuscles and methæmoglobin, or deoxidized hæmoglobin. It is also a sign that the blood has been for some time mixed with the urine, due to bleeding from smaller blood-vessels. This kind of discolored urine is to be distinguished from that met with in icterus, where some of the coloring matter of the bile is mixed with the urine. No albumin, or a very small quantity of albumin, is present in such urine, or at least not so much as would be present if the color of the urine were due to the presence of blood. This kind of dark-colored urine may, however, also be produced artificially by the administration of certain chemical preparations, especially carbolic acid; and in some instances it has even been observed where the remedy was used as a local application. The urine has generally a peculiar greenish-black color, contains only traces of albumin, and has the characteristic odor of phenic acid.

When the urine has a dirty, reddish-yellow color, it will be found to contain blood corpuscles and some colorless cell structures in considerable quantities. In parenchymatous nephritis the urine is often of a turbid appearance; and a greenish-brown is only met with in markedly alkaline urine containing blood and pus.

Omitting the various tests for the presence of blood in the urine by the aid of the spectroscope and chemicals, which can hardly be done justice to in an article of limited scope and practical purpose, we find that bleeding in the urinary apparatus may be of three kinds, namely, hæmoglobinuria (or hæmatinuria according to Vogel), capillary hæmorrhage, and hæmorrhage caused by the rupture of a larger vessel.

Hæmoglobinuria is distinguished by the fact that the coloring matter of the blood readily transudes in a soluble form into the urine. The latter is thereby rendered brownish-red in color, and occasionally assumes a varnish-like appearance. Even after allowing the urine to stand for many hours, it will deposit no sediment of blood corpuscles. It retains a uniform and persistent reddish-brown color, because all of the coloring matter of the blood is in solution. Its reaction is usually acid, and its specific gravity diminished.

Capillary hæmorrhage also produces a reddish-brown or brownish-black color, and the urine contains blood-coloring matter in solution. But it is distinguished from pure hæmoglobinuria by a deposit of sediment which consists of blood corpuscles.

Hæmorrhage arising in the urinary passages, due to a rupture of a larger vessel, imparts to the urine a light-red color; in exceptionally severe bleeding the color will even be dark-red, like venous blood. The reaction of such urine is generally neutral; sometimes, however, alkaline, owing to the predominant quantity of the alkaline blood. The urine often contains a large quantity of coloring matter in solution that is manifest when the urine is allowed to settle, and the liquid above the sediment, which consists of blood corpuscles, will be of a clear, pale straw-color. The sediment itself consists of normally shaped and normally colored red blood corpuscles. This unaltered condition of the blood corpuscles is due to the fact that the blood and the urine do not remain very long in contact with each other in the urinary passages, the latter not having had an opportunity to affect the former. Such a condition is met with in cases of rupture of a blood-vessel by ulceration of the neck of the bladder, producing a rapid and painful distension of that viscus, impelling it to an immediate expulsion of its contents; or where the hæmorrhage takes place in the prostatic portion of the urethra. In these cases but little blood is pres-

ent in the urine, and what little there is is not mixed with the urine in the bladder for any length of time, the admixture taking place only at the time of its being voided; hence the urine does not exercise its corroding effect upon the blood corpuscles, the latter being normal in shape and color.

For the practical physician it is of the utmost importance to be able to say where the hæmorrhage comes from, for the treatment must depend upon the location of the lesion. And, considering the complex functions and organs of the genito-urinary apparatus, we can readily comprehend the necessity of investigating more minutely the symptoms which hæmorrhage from these various parts or organs may give rise to. These hæmorrhages may occur in the urethra anterior to the prostate gland, from the neck of the bladder, from the bladder itself, from the kidney or its pelvis, and finally from all these together.

Of all of these forms, hæmorrhage from the urethra is most readily detected and easiest to diagnosticate, owing to the fact that here the blood flows continually from the penis and is not mixed with the urine, the compressor urethræ muscle preventing the blood from flowing backward into the bladder. In these cases it is only necessary to press the penis between the thumb and forefinger to squeeze out more or less blood. Occasionally the patient himself, as in a case now under treatment, will pull out a string of clotted blood, worm-like in shape, being a cast of the urethra, from the meatus. The patient's linen will often be found stained with blood. Where no complications are present, the patients, as a rule, are not troubled with frequent micturition, and, when they urinate, the blood will be seen to flow at the commencement of the act, the rest of the urine voided being clear. Often small or long coagula, vermiform in shape, are expelled at the first flow of the stream. In urethral hæmorrhage it may even be impossible to introduce a catheter, the coagula filling up the entire lumen of the canal, or one may succeed in introducing the instrument and yet no urine will flow, because the eye of the catheter has become closed up with clotted blood. This is to be borne in mind in using the instrument in cases of paralysis of the bladder complicating injuries, and hæmorrhage from the urethra. Here the *vis a tergo* of the bladder is gone, and it will be necessary to exhaust the clots from the catheter by suction with a syringe to permit the urine to flow through the catheter.

This form of hæmaturia is often seen as a complication in acute gonorrhœa, less frequently in chronic urethritis; in injuries of the penis and urethra by the careless use of instruments. Polypi and other neoplasms in the urethra, when very vascular, will thus manifest their presence. Pitha states that repeated and violent coitus will also give rise to hæmorrhage from the urethra. I have seen several instances of this kind in young men who, under the pernicious instructions of their friends, attempted to "break the chordee" while suffering from acute urethritis. In one case the hæmorrhage was so profuse as to call for surgical interference.

Bleeding from the neck of the bladder at its junction with the prostatic portion of the urethra is seldom very profuse, most frequently only a few drops of blood are expelled at the end of micturition, while the urine that is voided is clear in color. Here there is no continuous dripping of blood from the meatus as in the form described above, nor can any blood be expressed from the meatus by compressing the penis. By the aid of a catheter the urine may be drawn off free and tolerably clear, and not till the instrument is withdrawn does the bleeding set in, proving that the lesion is situated within the sphincter of the bladder. As a rule, in this form of hæmaturia we have as a complication subacute or chronic cystitis, with strangury and pain at the end of micturition, when the few drops of blood are expelled. Occasionally these phenomena are also observed in the course of a gonorrhœa during the fifth or sixth week, but here the bleeding is slight, unless very acute inflammation is present, implicating the prostate, with acute catarrh of the bladder. Where the hæmorrhage persists for, say, more than four or five days and is considerable in amount, subacute catarrh of the bladder will surely be present, with albumin in the urine, and the system more or less affected.

Of hæmaturia caused by repeated catheterization in hypertrophy of the prostate, or in acute prostatitis, and in that form accompanying morbid growths, it is merely possible to make mention here.

Bleeding from the bladder and from the kidney differs only so far from bleeding from the neck of the bladder or from the urethra that in the former the first part of the urine voided is uniform in color with the urine voided at the end of micturition, while in the latter the first part of the urine is bloody and the rest is clear, or perhaps only slightly murky.

(To be concluded.)

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Treatment of Mastitis by Bandaging and Rest. By Philander A. Harris, M. D., Paterson, N. J. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

"An Enemy Came and Sowed Tares." By Joseph Eastman, M. D., etc., Cincinnati. [Reprinted from the "Weekly Medical Review."]

Aneurysms of the Aorta, with Especial Reference to their Position, Direction, and Effects. Being an Exercise for an Act for the Degree of M. B. in the University of Cambridge. By Oswald Browne, M. A., M. B., of Trinity College, lately House Physician at St. Bartholomew's Hospital. London: H. K. Lewis, 1885. Pp. 18 and Appendix of Tables. [Price, 1s.]

Preliminary Report on Disinfection and Disinfectants. Made by the Committee on Disinfectants of the American Public Health Association.

Impetigo Contagiosa: its Individuality and Nature. By Henry W. Stelwagon, M. D., etc., Philadelphia. [Reprinted from the "Medical News." Also ten other reprinted articles.]

Pocket Memoranda relating to Infectious Zymotic Diseases. Arranged by Matthew Algernon Adams, F. R. C. S. London: J. & A. Churchill. [Card. Price, 6*d*.]

Catalepsy in a Child Three Years Old. By A. Jacobi, M. D., etc., New York. [Reprinted from the "American Journal of the Medical Sciences."]

THE
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VACCINATION AFTER EXPOSURE TO SMALL-POX.

Dr. ECCLES's paper, entitled "Immunity in Disease," which we publish in this issue of the Journal, seems to us one of the most notable and satisfactory contributions that have been made to the elucidation of the problem of acquired immunity against infection—a problem so knotty that he is quite justified in saying of the theories which have been propounded that, "as working hypotheses, the crudest may be of value." The author does not seek to air any speculations of his own, be they crude or elaborate, but we have no hesitation in saying that, with a rare faculty for condensing without sacrifice of clearness, he has succeeded in giving a vivid delineation, not only of the purport of the three theories that he discusses, but also of the strength of the basis of facts upon which each one of them rests. The facts evidently incline him to favor the hypothesis upheld by our countryman, Dr. Salmon; but neither his patriotism nor any personal bias he may entertain toward Dr. Salmon—and we are quite unaware that he has any—has betrayed him into characterizing that hypothesis as anything more than a "guess." If this were all that was to be said of the paper, it would still be remarkable, but, to our thinking, it has the much higher merit of constituting a conspicuous illustration of the superiority of reasoning over mere experiment. The world seldom sees a man endowed at the same time with a turn for faultless technical work and a capacity for what the French term *appréciation*—a faculty that casts all such work far into the shade. Experiment, on the one hand, and the final test of reason, on the other, must generally be carried out by different persons, and we have always maintained that, of the two, the latter was by far the higher grade.

It is in the light of these views that we have spoken of Dr. Eccles's paper in such terms of praise. We must add, however, that his choice of a concrete seems most unfortunate. He seeks to confirm his deductions to a certain extent by maintaining that vaccination after exposure to the infection of small-pox is worse than useless—that it actually increases the severity of the resulting variola, on the assumption that more is added of the identical poison which the person has already taken in. As a matter easily decided by common observation, no proposition could be more untenable, and we can not wonder at the overwhelming opposition with which it was met by the members of the Brooklyn Pathological Society, before which the paper was read. Of course, we do not agree with those who see in the effects of vaccination something curative or palliative of a small-pox that had already taken hold of the patient before the vaccination was performed, and we put out of consideration also the moderate additional irritation that may be caused by such a vaccination. Our contention refers only to vaccination after *exposure* to small-pox, and not to the procedure done after the actual manifestations of the disease have begun, or even after they have become inevitable. Had Dr. Eccles made this distinction, if only in the debate that followed the reading of his paper, he would have spiked all his opponents' effective guns; but he chose to maintain his broad statement, alleging that its truth had been "demonstrated in thousands of cases," and that Professor Law's experiments had shown that "after double inoculation with variolous and vaccinal virus an animal was always affected more than when either virus was used alone." As to the "thousands of cases," where are they to be found in literature? And, in regard to Dr. Law's experiments, if he has really so far overcome the difficulties of "variolating" the lower animals as to produce a disease at all dangerous, the profession would be glad to have a statement of the facts. In view of Marson and Ceely's investigations, how can such notions now be entertained?

A number of collateral questions were brought out in the debate, but they were not of a nature to call for special comment, except that we would here enter our protest against vaccination by means of the hypodermic syringe, as was advocated by one of the speakers.

THE SANITARY CONDITION OF THE CENTRAL PARK PONDS.

SOME of the newspapers have lately broached the idea that the waters of the various ponds in the park were in a state to give rise to uneasiness from a sanitary point of view, and the suggestion has been put before the medical profession by the New York correspondent of one of our contemporaries. We have been at some pains to inquire into the matter, and, on the strength of information which we believe to be trustworthy, we feel justified in assuring our readers that there is no occasion for alarm.

Of the four considerable sheets of water within the park, exclusive of the reservoirs, it is particularly in regard to "The Pond" *par excellence*, in the southeastern corner of the park, that solicitude has been expressed. This pond bears a general resemblance to a horse-shoe in shape, but one of the arms is prolonged beyond the other. A stream of sweet water runs constantly into the free end of this arm, and the surplus water is carried away by a stream which leaves the pond at a point near the junction of the two arms of the horse-shoe. In consequence of this arrangement, more than two thirds of the entire body of water in the pond constitutes practically a part of a stream that is continually flowing, and it is safe to assume that the other third, although relatively motionless, is sufficiently prevented from becoming stagnant by the free diffusion that is undoubtedly going on all the time.

There is some reason to think that an outlying portion of the large lake which stretches westward from the terrace is in a condition bordering somewhat too closely on stagnation. We refer to the small and almost detached part that lies near the Eighth Avenue side of the park, between the drive and the bridle path. We understand that the commissioners intend to

do away with this part of the lake, and there can be little question of the wisdom of such a move. The small body of water known as "The Pool," situated on the Eighth Avenue side between One Hundredth and One Hundred and Third Streets, shows something of the green scum that is so often seen on the surface of natural ponds when they are "working." This, of course, means stagnation, but otherwise the scum is of little if any significance, being in reality the product of a vegetable growth which (if, as we think there is reason to believe, the water is not the subject of a continuous process of pollution) will in due time consume the organic matter present. The growth will then perish, and ought to be removed and subjected to a quick process of destruction, preferably by burning. We feel confident that its management may safely be left to the park authorities, and we therefore do not apprehend that it will become a source of danger to the neighborhood or to those who visit the park.

We should not like to guarantee any close approach to absolute purity in the waters of the park, but we will venture the assertion that the purest of them all will not be found within the walls of the reservoirs. It is well to bear in mind, however, that there is a degree of contamination of water sufficient to threaten the public health, and that there is another degree just perceptible enough to make a decent excuse for asking for an appropriation. Beyond all doubt, it is only the latter that can be found in the park ponds.

MINOR PARAGRAPHS.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

Judging from the programme of the forthcoming meeting of the association, the second in its existence, the organization may fairly be said to have entered upon a career of usefulness and success. The titles of the papers that are to be read will be found elsewhere in this issue of the "Journal." Whether we consider their number, the practical character of their subjects, or the capability of their authors, they constitute a distinct advance from those that were presented at the initial meeting a year ago. This is saying a good deal, for our readers will remember that the papers then read, all of which were given in full in our columns, were of a character to arrest attention and to prove an earnest of the reality that had at last come to attach to the study of climatology in this country. Medicine may reasonably look for great benefit from this timely organization, and perhaps hydrology, thus far neglected by the American profession, may before long be given an impulse by the same body.

THE INDIANA STATE MEDICAL SOCIETY.

We think our readers will agree with us that the report which we give this week of the recent meeting of the society, short as it is, contains some features that may be said to vary from the usual monotony of society proceedings. The secretary's annual report, read at the opening session, showed things [illegible] the principal item of matter being that "legitimate medical practice never had a brighter outlook" than at the present time. We would like to congratulate our brethren in Indiana on this prospect but some misgivings arise as we read of an ethical dispute concerning which the Committee on Ethics reported in favor of disciplining both parties to the difficulty to the extent of admonishing them to "differ in opinion no more." We are not much encouraged by the account of the young doctor who was so sure of his having discovered in belladonna a specific for cholera infantum that, when mildly "sat down upon" by an aged member, he retorted that it was the fate of discoverers to be laughed at at first, and that he "could stand it." But the climax is reached when we come to the tactics of a member who, having read a paper on trephining of the vertebræ, and been held up to the meeting by a practitioner from his own town as having merely pretended to do the operation in one of the cases he had reported, when, in fact, he had only "scraped the spinous process," sought for no other means of refuting such a damaging charge than an allusion to his adversary's character for veracity. No actual "chunk of old red sandstone" seems to have been thrown about in the meeting, but we trust that at future meetings nothing so suggestive of such an occurrence will happen.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 19, 1885:

DISEASES.	Week ending May 12.		Week ending May 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	6	1
Typhoid fever	8	3	9	2
Scarlet fever	82	12	74	19
Cerebro-spinal meningitis	8	7	3	3
Measles	142	22	98	15
Diphtheria	52	24	39	20
Small-pox	0	0	1	0

The Brooklyn Pathological Society Lectures.—The fourth lecture of a course given under the auspices of the society was delivered on Thursday evening, the 21st inst., at the Brooklyn Eye and Ear Hospital, by Daniel Ayres, M. D., LL. D. The subject was "Interpretations of the Microscope, with Illustrations."

The Massachusetts Medical Society will hold its one hundred and fourth annual meeting at Huntington Hall, in Boston, on Tuesday and Wednesday, June 9th and 10th. It is announced that the following papers will be read: "The Pathogenesis of Certain Affections of the Skin," by Dr. George N. Tilden, of Boston; "Consanguineous Marriages, their Effect upon Offspring," by Dr. Charles F. Withington, of Roxbury; "Labor complicated with Fibroids," by Dr. James R. Chadwick, of Boston; "The Climatic Treatment of Phthisis," by Dr. Harold Williams, of Boston; "How a Lesion of the Brain results in that Disturbance of Consciousness known as Aphasia," by Dr. Morton H. Prince, of Boston; "The Relation of Insanity to certain Nervous Affections," by Dr. Henry R. Stedman, of Roslindale; "Cremation in its Sanitary Aspects," by Dr. John O. Marble, of Worcester; "The Diagnosis and Treatment of Occipito-posterior Positions," by Dr. William L. Richardson, of Boston; and "The Influence of Ovariotomy on Surgery," by Dr. John Homans, of Boston. The Annual Discourse will be given by Dr. Franklin K. Paddock, of Pittsfield. Electrical and other apparatus will be exhibited on Tuesday, at the Institute of Technology.

The Oregon State Medical Society will hold its twelfth annual meeting at Portland on Monday, Tuesday, and Wednesday, June 8th, 9th, and 10th. Papers are expected to be read as follows: "Sprains," by Dr. G. C. Lane; "Urethral Stric-

tures," by Dr. R. A. Urquhart; "The Radical Cure of Hernia," by Dr. A. D. Bevan; "Leucorrhœa," by Dr. C. C. Strong; "Colds," by Dr. E. P. Fraser; and "Scrofula," by Dr. O. S. Binswanger.

The New York Neurological Society recently elected officers for the ensuing year as follows: President, Dr. W. R. Birdsall; first vice-president, Dr. L. Weber; second vice-president, Dr. C. L. Dana; recording secretary, Dr. G. W. Jacoby; corresponding secretary, Dr. W. M. Leszynsky; treasurer, Dr. E. C. Harwood; members of the Council, Dr. E. C. Seguin, Dr. T. A. McBride, Dr. E. C. Wendt, Dr. A. D. Rockwell, and Dr. B. Sachs.

The Alumni Association of the Woman's Hospital in the State of New York.—A society bearing this name was formally organized on Wednesday, May 20th. A large meeting of the former house-surgeons of the hospital was held, several out-of-town members being present, among whom were Dr. Baker, of Boston, Dr. E. C. Dudley, of Chicago, and Dr. Barrett, of St. Louis. Dr. Hunter was elected chairman, and Dr. Coe secretary. The society will meet semi-annually, its object being the discussion of topics connected with gynæcology, as well as the promotion of social intercourse among the members. The next meeting will be held on the third Wednesday in January.

Small-pox.—It will be seen by the report of infectious diseases which we publish this week that a case of the disease was reported in New York during the week ending on the 9th inst. It is said to be quite prevalent in one of the suburbs of London, new cases are still cropping out in Montreal, and last week one was discovered in Boston.

The New York Post-Graduate Medical School and Hospital.—The summer term of this institution will begin on June 2d, and continue until September 10th. The arrangements for instruction include a daily clinic in each of the practical departments, and the laboratory will be open during the entire term.

Medical Legislation in the State of New York.—Bills have passed the Legislature, and are now in the Governor's hands, as follows: Establishing a hospital for the treatment of wounded persons north of One Hundredth Street in New York; exempting the property of Mount Sinai Hospital from taxation; increasing the salaries of the police surgeons; authorizing the appointment of twenty additional sanitary inspectors in New York; exempting the property of the New York Skin and Cancer Hospital from taxation; and incorporating the New York College of Medicine and Surgery, which we understand to be of the "eclectic" school.

The Worcester, Mass., City Hospital has had the offer made to it by Mr. Stephen Salisbury to erect an additional building at his own expense, and it is announced that the Council has accepted the offer with thanks.

The Death of Dr. Edward Arnold Whaley, of Brooklyn, is announced as having taken place on Wednesday, the 13th inst. The deceased was a graduate of the College of Physicians and Surgeons, of the class of 1850, and a member of the New York Physicians' Mutual Aid Association and of the Medical Society of the County of Kings.

The Death of Professor Panum, of Copenhagen, the able and genial president of the last session of the International Medical Congress, is announced in the "Medical Times and Gazette" as having taken place on Sunday, the 3d inst.

The Death of Professor Henle, the well-known anatomist, is reported to have taken place in Berlin on Monday, the 18th inst.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 10, 1885, to May 16, 1885:*

Vollum, Edward P., Lieutenant-Colonel and Surgeon. Granted leave of absence for three months, to take effect when his services can be spared by his department commander. S. O. 110, A. G. O., May 14, 1885.

A board of medical officers—to consist of Lieutenant-Colonel A. K. Smith, surgeon; Major J. C. G. Happersett, surgeon; Captain James P. Kimball, assistant surgeon—is appointed to assemble at the United States Military Academy, West Point, N. Y., on June 1, 1885, to examine into the physical qualifications of the members of the graduating class and the candidates for admission to the Academy. S. O. 106, A. G. O., May 9, 1885.

McKee, James C., Major and Surgeon. Sick leave of absence still further extended four months on surgeon's certificate of disability. S. O. 105, A. G. O., May 8, 1885.

Brown, Justus M., Major and Surgeon. From Department of the East to Department of the Platte. S. O. 105, A. G. O., May 8, 1885.

DeWitt, Calvin, Captain and Assistant Surgeon. Ordered to Department of the East. S. O. 105, A. G. O., May 8, 1885.

Corson, Joseph K., Captain and Assistant Surgeon. Leave of absence extended ten days. S. O. 109, A. G. O., May 13, 1885.

De Loffre, A. A., Captain and Assistant Surgeon. Assigned to duty at Fort Sisseton, Dakota Territory. S. O. 46, Department of Dakota, May 4, 1885.

Kane, John J., Captain and Assistant Surgeon. Leave of absence for seven days extended one month. S. O. 109, A. G. O., May 13, 1885.

Carter, E. C., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 106, A. G. O., May 9, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending May 16, 1885.*

Fessenden, C. S. D., Surgeon. Granted leave of absence for thirty days. May 12, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. To proceed to Moss Point, Miss., for special duty. May 16, 1885.

Society Meetings for the Coming Week:

Monday, *May 25th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Lawrence, Mass., Medical Club (private).

Tuesday, *May 26th:* New York Surgical Society; New York Dermatological Society; Buffalo Obstetrical Society (private); Medical Societies of the Counties of Queens (Garden City) and Rockland, N. Y.; Boston Society of Medical Sciences.

Wednesday, *May 27th:* American Climatological Association (New York—first day); American Microscopical Society of the City of New York; New York Pathological Society; Connecticut Medical Society (Hartford—first day); Philadelphia County Medical Society (conversational); Auburn, N. Y., City Medical Association; Medical Society of the County of Monroe, N. Y. (Rochester); Berkshire District, Mass., Medical Society (Pittsfield).

THURSDAY, *May 28th:* American Climatological Association (second day); Connecticut Medical Society (second day); New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Harlem Medical Association of the City of New York; Pathological Society of Philadelphia; Roxbury, Mass., Society for Medical Improvement (private); Cumberland County, Me., Medical Society (Portland).

Proceedings of Societies.

MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting, held in St. Joseph, Tuesday, Wednesday, and Thursday, May 12, 13, and 14, 1885.

Tuesday's Proceedings.

THE attendance was unusually large, and the papers presented were more numerous and their interest was more uniformly sustained than at any session of this society which it had been the pleasure of your correspondent to attend. The meeting was organized at the hour appointed in the morning, one of the vice-presidents taking the chair, as the president had not arrived.

Addresses of Welcome were made on behalf of the citizens by the Mayor of the city, and on behalf of the Committee of Arrangements by its chairman, Dr. HIDDENS. On behalf of the association an appropriate response was made by Dr. TRADER, of Sedalia.

A committee was then appointed to prepare a suitable memorial of Dr. P. V. Schenck, a recently deceased member. The report was made on Wednesday morning.

Asiatic Cholera.—The organization having been duly effected, an adjournment took place till 2 P. M., at which hour the president, Dr. H. H. MIDDLEKAMP, took the chair, and, after the reading of the list of members enrolled by the chairman of the Committee on Credentials, the first paper was read by Dr. TRADER, of Sedalia. It was a brief account of his experience with Asiatic cholera. He had long ago formed the opinion that the administration of remedies by hypodermic injection offered the best prospect of favorable results. Previous to the epidemic of 1866–'67 he had supplied himself with solutions of quinine, morphine, atropine, etc.; he also had a glycerole of chloroform and of carbolic acid. Being called to see an elderly lady with well-developed symptoms of cholera of such severity that there seemed little or no chance of her recovery, he determined to afford her some relief from the severe cramps with which she was suffering. He therefore gave, as he supposed, a teaspoonful of the chloroform glycerole. Soon the patient complained that the medicine was killing her. He then saw that he had given a teaspoonful of the carbolic-acid glycerole. In a short time the patient became more quiet, and then fell asleep. The next day she was up and about, very much to his surprise, and rapidly made a complete recovery. Since that time he had made constant use of carbolic acid in the treatment of diarrhœa, especially those having a choleriform character.

The discussion which followed the paper was quite animated, and was prolonged for an hour or more. Some accepted unhesitatingly the bacterial origin of cholera, and therefore advocated the use of germicides. One gentleman repeatedly spoke of germicides as the cause of disease, evidently considering them a specific form of disease germs. Some advocated the prophylactic exhibition of minute doses of bichloride of mercury; others regarded massive doses of the mild chloride as the most reliable treatment after the disease had developed. One called attention to the impossibility of administering any efficient germicide in doses of sufficient potency and quantity to affect germs without at the same time compromising the life of the patient. Another thought that it would certainly be possible to destroy such delicate organisms as these bacteria by the administration of something which should coagulate the albuminoid material of which they were composed.

Dr. SLOAN, of Kansas City, noted the fact that in the first part of an epidemic no plan of treatment seemed to be of any avail, while in the latter part the disease was very much more amenable to treatment.

In closing the discussion, Dr. TRADER said that he attributed the success of the treatment in the case he had reported very largely to the anæsthetic effect of the carbolic acid rather than to any germicide action.

Atrophic Nasal Catarrh was the title of the next paper, read by Dr. J. C. MULHALL, of St. Louis. He stated that this disease did not follow nor depend upon hypertrophic disease of the nasal mucous membrane, nor was it the result of neglected and repeated "common colds." The adjacent cavities, the ethmoidal and sphenoidal sinuses, etc., were seldom affected. The disease he considered steadily progressive and incurable. What was regarded by the laity as a spontaneous cure was simply a cessation of the formation of the fœtid crusts and muco-purulent discharge by reason of the destruction of the mucous follicles of the membrane by the progressive atrophy. In his opinion the proper and thorough examination of the nasal cavities in cases of disease of those parts was greatly neglected, even by physicians who would be ashamed to prescribe for any intrathoracic disease without a thorough and careful physical examination. He thought that the practical use of the rhinoscope should be required as a part of the course of study in every medical school. Only by such an examination could a true diagnosis of these cases be formed. The treatment he advocated was cleansing of the nasal passages daily, or several times daily, with a solution of common salt or of bicarbonate of sodium, and the administration of general tonic medicines.

Dr. RUMBOLD, of St. Louis, dissented from Dr. Mulhall's views in some respects. The disease was almost, if not quite, always consequent upon the hypertrophic form of disease and upon common colds. Furthermore, he believed that the adjacent cavities were generally affected, and that when they could be reached with treatment the disease could be cured.

The Neglected Precursory Symptoms of Cerebral Disease was the title of the next paper, read by Dr. C. H. HUGHES, of St. Louis. The special symptoms which he discussed were such changes of temper or disposition or modes of mental action as were evinced by unnatural irritability, causeless fear, or undue conscious effort. He did not discuss the condition of insomnia or any but purely psychical phenomena.

The discussion on this paper was rather rambling, the only points of interest developed being that in a good many of these cases a palpable physical cause could be found by careful search, as was asserted by Dr. CAVELLE; and the reference by Dr. MUDD, of St. Louis, to the special value of close observation of symptoms as bearing upon the localization of definite cerebral lesions, and the importance of the influence of the nervous system in determining the result of surgical procedures.

The Report in Ophthalmology.—At the evening session the first paper was read by Dr. J. H. THOMPSON, for the subcommittee on ophthalmology. He called attention to the use of jequirity and cocaine, and to stretching of the infra-trochlear nerve in the treatment of glaucoma. He also noted with ap-

proval the tendency to use small probes and to discard the cutting instruments in treating stricture of the lachrymal duct.

Dr. FEYER made some remarks emphasizing the value of jequirity.

Bone Disease and the Treatment of Cicatricial Tissue.—Dr. LUTZ, of St. Louis, then presented a bone specimen and some photographs, with reports of two cases. The bone specimen had been obtained from a leg that had been amputated for epitheliomatous degeneration of the cicatrix formed after a serious compound fracture of the tibia, which occurred some years ago. The bone showed extensive erosion produced by the malignant growth. The photographs showed the excellent results which the author had obtained in an endeavor to relieve the deformity caused by cicatricial contraction after a very extensive burn, the arm being bound down to the side for about half the distance from the shoulder to the elbow. He had succeeded in freeing the arm so that the patient now had full use of it.

Dr. PREWITT thought that epitheliomatous and sarcomatous degeneration of scars and ulcers was not very rare. He had seen several such cases. The operative treatment was a subject of considerable interest. He thought the profession owed very much to Dr. Post, of New York, for the work he had done in that field, especially in the treatment of hands deformed by cicatrices from burns. The speaker described cases in which he had secured good results in relieving deformity of the face, caused by depressed cicatrices after injury, by making a subcutaneous incision, freeing the scar from its attachment to the bone, and bringing the cut surfaces into opposition by deep sutures.

Dr. HALLEY, of Kansas City, called attention to the fact that epitheliomatous growths in cicatricial tissue were less liable to recur than similar growths elsewhere.

The general tendency of the discussion favored early operative interference for the removal of malignant growths. Dr. JACKSON, however, stated that in every one of a number of cases in which he had removed scirrhous mammæ the growth had returned.

Malarial Disease in Children.—Dr. J. P. KINGSLEY, of St Louis, read a paper on this subject, drawing upon his persona experience in dispensary and private practice for data, as he found comparatively little in the text-books on the subject. Over the age of five years the manifestations of this disease differed little from those in the adult. He had seen the disease repeatedly in infants a few weeks old, occasionally in those but a few days old. He thought it possible that the infant might take in the malarial poison with the milk from a mother who was suffering from its effects. The manifestations of the disease in infants were irregular and obscure, and accordingly the diagnosis was sometimes difficult. Actual chills in young children were rare under one year; the cold stage and the sweating stage were absent; the invasion was frequently gradual. The cachexia was early developed; the complexion became pale, grayish, or yellowish. Enlargement of the spleen was more common among children than among adults. This enlargement was sometimes apparent only during or immediately after a paroxysm. There was sometimes a systolic murmur audible over the splenic region, a sound which resembled the uterine souffle. There was often a marked disturbance of the digestive organs. He had noticed two periods when children were specially liable to malarial trouble, viz., when school began in the autumn, and in the spring, when the warm weather was approaching. He had seen some cases in which epileptic and choreic manifestations were dependent upon malarial poisoning. He raised the question whether this fact did not offer an explanation of the value of arsenic in chorea. For treatment he relied on quinine, as a rule, giving two or three grains three or four times a day. Fowler's solution might be given in doses of five drops three times a day to a child of five years. In some cases he had used tincture of iodine and carbolic acid; in some the wet pack had given good results; and he had sometimes used the oleate of quinine.

Dr. MUDD, of St. Charles, stated that he had sometimes succeeded by having the patient wear upon the epigastrium a pad into which some sulphate of quinine was quilted. The pad should be dipped in alcohol before being applied to the skin. Bismuth, bicarbonate of sodium, and carbolic acid were the agents on which he relied to combat the irritability of the stomach so often present.

Dr. NELSON, of St. Louis, described a case of enormously enlarged spleen which he had seen in a child about two years old. He reported successful results from inunction of quinine with fresh lard in children under one year old. He did not find equally satisfactory results in children over that age.

Dr. F. M. JOHNSON thought the idea that little children did not have chills was erroneous. They could not express themselves clearly, but close observation would show that about noon-time there was a tendency to coldness of the nose, toes, and fingers. They were inclined to get into the warm sunlight. This was the origin of the popular superstition that playing in the sunlight gave children the chills. He agreed with Dr. Kingsley as to the absence of the sweating stage.

Dr. STRINGFELLOW, of St. Joseph, did not believe that little children had malarial disease. Years ago he had discontinued the administration of quinine to his little patients, and had treated the fevers of infancy and early childhood with small doses of calomel.

Dr. FISCHEL, of St. Louis, had had a similar experience.

Wednesday's Proceedings.

In the morning a committee was appointed to nominate officers for the ensuing year.

The Asylum Treatment of the Insane.—Dr. CATLETT, from the Committee on Psychological Medicine, presented a long paper on this subject, which was referred to the Committee on Publication without discussion.

Morbus Coxarius.—Dr. GRIFFITH then brought before the society a patient, a lad of about fourteen years old, who had been greatly deformed from morbus coxarius since very early childhood. The thigh was flexed upon the abdomen and the leg upon the thigh. By making a subcutaneous section of the femur, between the head and the trochanter major, with an Adams's saw, and then dividing the ham-string tendons, the speaker had been enabled to straighten the limb, which he had then placed in a plaster-of-Paris dressing. The result had been most satisfactory. The boy was able to walk about the room with the aid of a cane. In going any distance, he used a crutch as well. There was some movement in the false joint, which had not been anticipated.

The President's Annual Address was the next order of business. He spoke at some length of the responsibility resting upon the profession to encourage only such young men to study medicine as were really fitted to enter upon the work. He was strongly in favor of sustaining the compulsory three-term schools. He advocated placing the licensing power in the hands of a board of medical examiners. He urged immediate action on the part of the society looking toward the founding of a State medical library, and recommended an increase in the number of standing committees.

Diseases of Children.—Dr. HANNA then read a paper from the Sub-committee on Diseases of Children. It was well conceived and well executed, discussing some of the difficulties

which attend the work of the physician in treating diseases of children. He urged the use of little or no medicine, but scrupulous attention to the quality and quantity of the nutriment, and thorough familiarity with the physiological processes of child-life.

Typhoid Fever.—Dr. Wilson, of Salisbury, as a member of the Committeee on the Progress of Medicine, read a paper in which he opposed direct antipyretic treatment, regarding the fever as a necessary effect of the zymotic process, which, once being started, must be allowed to continue its course to full completion. He gave a dose of calomel at the outset to some of his patients where it seemed to be indicated, and gave quinine if there was considerable daily variation in the temperature, but his mainstay was the administration of alcohol and opium.

Dr. J. M. Allen thought the object to be aimed at was to "obviate the tendency to death." He urged very strongly the administration of tincture of digitalis, commencing pretty early in the disease, not waiting for evidences of cardiac failure. He would not give much quinine, believing that that tended to produce cerebral anæmia. He did favor the use of cold water in the form of a pack to the trunk or the anterior surface.

Dr. Dewey would give no quinine. He considered diet of great importance.

Dr. Records had tried the treatment with large doses of quinine. He knew that it would lower the temperature, but believed the course of the disease had been protracted from one to three weeks by this use of quinine. He now depended almost exclusively upon a milk diet.

Dr. Fitzgerald believed that quinine in large doses killed more than it cured. Following the plan of treatment recommended in von Ziemssen's "Encyclopædia," he fully believed that he had killed some of his patients in days past. He had learned to place great dependence upon "the cooling bath," placing the patient in a bath at 100° F. and allowing him to remain there for from ten to twenty minutes. He would rather not give opium, but would give milk freely, peptonizing it if there was failure of the digestive power.

Dr. Stringfellow favored the administration of antipyretic doses of salicylic acid.

A Collective Investigation of Pneumonia.—At the afternoon session, Dr. B. F. Hart presented a report as chairman of the Committee on Collective Investigation, giving an analysis of the answers given to a series of questions sent out with regard to pneumonia. The paper was well prepared and interesting. An animated discussion followed.

Proposed New Institutions.—Dr. E. M. Nelson, of St. Louis, offered a resolution requesting the Committee on State Medicine to consider the question of establishing an institution in the State for the instruction of idiotic or feeble-minded children, and also a central institution for the care of the chronic incurable insane, so as to relieve the overcrowded condition of the other institutions and allow of more effective classification and treatment of insane cases.

Orthopædic Surgery.—Dr. A. J. Steele, of St. Louis, read a report on orthopædics giving an account of the modes of treatment which he himself had found most effective in the treatment of club-foot and other deformities.

The Determination of Sex.—Dr. Funkhouser, of St. Louis, read a paper on the subject. He had performed a large number of experiments upon dogs, rabbits, and common fowls, and asserted that the ovaries had very little to do with the determination of sex, but that sperm from the right testicle would produce males, and that from the left testicle would produce females of progeny.

From the discussion which followed it was evident that by no means all accepted Dr. Funkhouser's conclusion. Some of them related experiences and observations which would certainly be accepted by most as refuting the theory advanced.

Injuries to the Large Joints.—In the evening a very able paper on this subject was presented by Dr. Brooks, of Carthage. He gave the results of his own experience in various methods of treatment, and the histories of a considerable number of cases.

The time and place of meeting was discussed, and, on motion of Dr. A. J. Steele, of St. Louis, it was decided to hold the next annual meeting in St. Louis, as the meeting of the American Medical Association was to be held there, and the time of meeting was fixed at 10 A. M. of the Monday preceding the day set for the first session of the American Medical Association.

The next order of business was the election of a president for the ensuing year. There were several candidates for the office, most prominent among whom were Dr. Catlett, of St. Joseph, Dr. Jackson, of Kansas City, and Dr. Prewitt, of St. Louis. After a pretty brisk contest and repeated ballots, Dr. Catlett was declared elected. [Dr. Catlett is Superintendent of the State Insane Asylum No. 2, and has won the esteem and respect of the profession of the State. He is worthily honored in this election.]

At a little before ten o'clock the business meeting adjourned, and at the Pacific House the members were made the guests of the local profession and other prominent citizens of St. Joseph. A banquet was spread in the large dining-room of the hotel, and, after full justice had been done to the bountiful provision that had been made for the inner man, toasts and responses were in order. The Mayor of the city made a brief and appropriate response on behalf of the city of St. Joseph. The speech of President Middlekamp was well received. One or two of the St. Louis men talked too long, and one in particular was slow in recognizing the fact that the applause which followed every sentence signified satisfaction that he must be so much nearer through. The best speech of the evening was that of one of the city editors in responding for "The Press."

Thursday's Proceedings.

Thursday morning the association was honored by a call and a short address by Governor Marmaduke.

Dr. W. F. Walker, of Mexico, presented a well-prepared Report on the Progress of Surgery.

Report of a Case of Ovariotomy, by Dr. J. P. Chesney, and the **Report on the Progress of Gynæcology,** by Dr. W. I. Heddens, both of St. Joseph, were read by title.

The Committee on State Medicine, by its chairman, Dr. J. H. Shields, of Hannibal, made a verbal report on the status of the law establishing a board of health and regulating the practice of medicine. Dr. Shields said that there had been such bitter opposition to the *personnel* of the board of health as constituted by Governor Crittenden that it had been impossible to secure any appropriation for further work. He believed that suitable effort on the part of the profession would secure the appointment of proper men by the present Governor if he was shown that the action of the Legislature was due to opposition to *the* board of health as then constituted, and not to *a* board of health as provided for in the statute. He offered a resolution, which was unanimously adopted, indorsing the statute and urging the appointment of representative men.

The Report of the Nominating Committee was then presented and adopted, by which action Dr. C. A. Todd, of St. Louis, was made vice-president; Dr. J. H. Thompson, of Kansas City, and Dr. J. C. Mulhall, recording secretaries; Dr. F. J. Lutz, of St. Louis, corresponding secretary; and Dr. C. A. Thompson, of Jefferson City, treasurer.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 13, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Dissecting Aneurysm of the Aorta.—Dr. E. G. Janeway presented the specimen in behalf of a candidate.

Cancer of the Rectum.—Dr. A. G. Gerster presented four specimens, representing different stages of cancer of the rectum. In three cases the rectum, including the cancerous mass, was extirpated, and in the fourth case the scoop was used. The youngest patient was a man thirty-four years of age; the next youngest, a woman of fifty-four years; the other two patients were aged sixty-four and sixty-five years, respectively. In the latter case the condition of the patient, both locally and generally, warranted only scooping out of the obstructing mass within the gut, and much relief followed the operation. Two of the other patients died, one directly from the influence of the operation, and the other from pneumonia about three weeks after the operation. All the specimens presented were of the adenoid variety, and there had been copious bleeding. After extirpation the stump should be well drawn down, so that there should be as little traction as possible upon the stitches, and, in case of retraction, so that the fæces should not contaminate the wound. Much pains should be taken to free the bowels of all hardened fæces before the operation. The wounds were dressed with iodoform. Regarding the cause of cancer in these cases, all of the patients had been accustomed to the use of the syringe as often as once or twice a day, and the right hand was employed, directing the point of the syringe toward the left side of the rectum, the seat of the commencement of the disease. Dr. Gerster had found the syringe a common cause of different forms of disease of the rectum besides cancer. In the case in which death occurred as a result of the operation, much difficulty was experienced in dissecting out the mass because of the very narrow pelvis. Retraction of the stump took place. Death was due to septic infection. In the case of the younger patient a plastic operation was done six months after the original operation because of incontinence of fæces.

The President remarked that cancer of the rectum was said in the text-books to occur more frequently in women than in men, but his experience had been the contrary.

Dr. Gerster had seen twenty-one cases, the number being pretty equally divided between males and females.

Pott's Disease of the Spine.—Dr. Lewis H. Sayre presented a portion of the upper lumbar vertebræ removed from the body of a man about thirty-five years of age, who, four years ago, fell over the dash-board of a wagon and sustained a severe wrenching of the back. He was at the time also exposed to the weather. From that date he began to suffer from severe pain in the back, extending down the legs. The patient was first seen by Dr. Taylor, and afterward by Dr. Janeway, who, thinking there was disease of the spinal column, sent the patient to Dr. Sayre. A diagnosis was made of incipient Pott's disease, there being apparently very slight projection over the last dorsal vertebræ, and other symptoms pointing to that disease. It seemed also probable that there was slight myelitis. The patient wore a jacket and jury-mast, which gave great relief. The case was taken into the courts, and certain well-known neurologists testified that there was no disease of the spine, but that the symptoms were due to lesion within the cord. Some time before the patient's death, which was in May, 1885, physical examination showed tubercular laryngitis and pulmonary tuberculosis, and shortly before death symptoms developed of tubercular meningitis. The autopsy showed basilar meningitis, and tubercles in various organs of the body, including the lungs and larynx. There were two ulcers in the upper lumbar vertebræ, communicating with a psoas abscess. The cord had not yet been examined microscopically. Some tubercles were found on the meninges.

Dr. Janeway remarked that, as had appeared in the history of the case, he had seen the patient, and had thought there was probably commencing Pott's disease. The case showed the importance of not being too positive concerning the possible results of a railroad or other injury; for instance, some held that such injuries could not cause disease of the spinal column. In the present case some of the neurologists who testified in behalf of the defendant maintained that there was posterior spinal sclerosis, others that there was multiple sclerosis, and others still that there was lateral sclerosis, and it was this diversity of opinion among the defendant's witnesses that caused the patient to receive such great damages.

Dr. V. P. Gibney had been very much interested in the history of the case because of the possible final results of such an injury. He at present had a patient under observation who had sustained an injury giving rise to comparatively slight immediate symptoms, but it was not certain that the symptoms would not in time assume a much graver character.

The President had once attended a man who received an injury while running an elevator, giving rise to paralysis of the muscles of the leg, bladder, and rectum, pointing to fracture of the vertebræ and myelitis. A compromise was effected, and the case was taken out of the courts. The patient was to-day, some years after the accident, apparently perfectly well.

The Pathology of Ether Narcosis.—Dr. R. W. Amidon presented the viscera of a cat dead from inhalation of ether. They showed congestion of the abdominal viscera, and overdistension of the right side of the heart, while the left contained no blood. It had been stated that death from ether narcosis was due to paralysis of the heart, but Dr. Amidon thought this case plainly showed that such was not the case, for the right auricle could still be made to contract, five hours after death. The real cause of death was respiratory failure. This pointed to the means of resuscitation in such cases, namely, artificial respiration, atropine, and, if necessary, venesection.

Dr. Janeway thought the usual cause of death during etherization in the human subject was obstruction to the trachea by vomited food. He had several times aspirated the right side of the heart in congestion of that side of the organ after contraction had ceased, but had not yet succeeded in reviving the patient.

The President had brought on respiration in one case of obstruction to the larynx from a blood-clot fifteen minutes after respiration had ceased.

Dr. Gerster had lost one patient during etherization, artificial respiration proving of no avail. Previous to the operation, which was for goitre, there had been marked dyspnœa. At the autopsy, catarrhal disease of the lungs and disease of the heart were found. He had resuscitated one patient whose heart and respiratory organs had ceased to act on the admission of air into the pleural cavity; Silvester's method caused the heart to beat after four minutes by the watch, and respiration commenced three minutes later.

INDIANA STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held in Indianapolis, Tuesday, Wednesday, and Thursday, May 12, 13, and 14, 1885.

Tuesday's Proceedings.

About two hundred delegates were present when the roll was called, and the attendance had nearly doubled by the time

the afternoon session opened. The meeting was called to order by the president, Dr. John H. Woodburn, of Indianapolis. After a prayer, by the Rev. Reuben Jefferys, the Committee on Finance and Credentials was appointed.

The Secretary's Annual Report was then read, showing a membership of nearly fifteen hundred. It was expected that Crawford, Harrison, Laporte, Shelby, Spencer, Vermilion, and several other counties would shortly organize societies. Reports from fifty-three societies showed that there had been seventy-nine admissions, three expulsions, fourteen deaths, fifty-four removals, twenty withdrawals, and seventy suspensions. Seventeen societies had not yet reported. The utmost harmony and good-will seemed to prevail among the local societies, and legitimate medical practice had never had a brighter outlook.

The Committee on Publication reported, through its chairman, Dr. Maxwell, that fourteen hundred copies of the "Transactions" had been prepared and distributed, at a cost of $711.90. The report was referred to the Committee on Finance.

The Report of the Treasurer, Dr. G. W. H. Kemper, of Muncie, showed the receipts to have been $1,194.78, and the balance on hand to be $51.17.

The Human Pancreas was the title of the first paper, read by Dr. David C. Bryan. It gave an anatomical and physiological description of the pancreas and its secretion, and accounts of several cases of pancreatic disease, with suggestions as to treatment. The paper was discussed by Dr. J. F. Hibbard, of Richmond, Dr. F. W. Beard, of Vincennes, and others, and referred to the Committee on Publication.

A Delegate from California, Dr. Ruggles, of Stockton, was introduced, and made a short address.

Should Consultations be encouraged or discouraged? was the title of the next paper, by Dr. Woods, of Seymour.

Alcoholic Inebriety was the title of a paper read at the afternoon session, by Dr. William Lomax, of Marion, in which indulgence in drink was regarded as a disease, to be treated as such. Although the production of liquor could never be entirely stopped, and ought not to be, its sale could be put under greater restrictions and its use much curtailed.

An Ethical Affair was then reported upon by the Committee on Ethics, that of a slight difference of opinion between two members of the Grant County Society. The committee took the ground that both members should be admonished "to differ in opinion no more." The decision was received pleasantly, and appeared to satisfy everybody.

Cancer of the Eye.—Dr. J. C. Stillson, of Indianapolis, read a paper on this subject. It dealt largely with histology, and was illustrated with colored drawings. The conclusion was reached that it was impossible to distinguish between benign and malignant growths of the eye at the outset, even with the microscope.

Strangulated Hernia was the subject of the next paper, by Dr. Wilson Hobbs, of Knightstown, in which two cases were related. A very interesting discussion followed, in which Dr. John Chambers, Dr. Eastman, of Indianapolis, Dr. Myers, of Fort Wayne, and Dr. Kitchell, of Columbia City, took part. The last speaker, in particular, condemned undue efforts at taxis.

Addison's Disease.—Dr. Evan Hadley, of Indianapolis, read a paper on the subject in which he related the history of a case. In the discussion, Dr. T. J. Powell mentioned a similar case that he had seen.

Cholera Infantum was the subject of the next paper, by Dr. W. B. Evan, of Willow Grove, who maintained that bella-donna was a specific for the disease. He had used it in a great many cases, and had never seen vomiting or purging after a dose. "Try it," he said, "and cry '*eureka!*'" In the discussion, an aged physician remarked that he would like to see the young doctor again in five years, when, he had no doubt, his cry would be, not *eureka*, but "I seek it." The author answered that Galen and all the other discoverers in medicine had once been laughed at, and "he could stand it."

The President's Address was read at the evening session, the vice-president, Dr. J. S. Gregg, of Fort Wayne, in the chair. Speaking to the question of our real increase in knowledge and improvement in practice, the president reviewed the practice of forty years ago, and compared it with that of the present time. His conclusion was, not only that the profession had gone steadily onward, but that a complete metamorphosis had come over it. Remarks upon the subject were made by Dr. Lomax, of Marion, Dr. Moffett, of Rushville, and others, largely of a congratulatory nature.

Wednesday's Proceedings.

Officers for the Ensuing Year.—In accordance with the report of the Committee on Nominations, officers were elected as follows: President, Dr. J. S. Gregg, of Allen County; vice-president, Dr. W. H. Hurst, of Montgomery County; treasurer, Dr. G. W. H. Kemper, of Delaware County; secretary, Dr. E. L. Elder, of Marion County; assistant secretary, Dr. W. H. Lopp, of Bartholomew County.

Trephining and Resection of the Spine, with a Report of Three Cases, was the title of a paper, read by Dr. C. B. Stemen, of Fort Wayne, which created quite a stir, as Dr. W. H. Myers, of the same city, denounced the report of one of the cases as false, and produced drawings of the spine in question, made by himself after the operation, by permission of the coroner. He stated that Dr. Stemen had simply scraped the spinous process a little, although he said he had trephined. Dr. Stemen closed the discussion with the simple remark that he would not answer any of the charges, but would only refer to Dr. Myers's reputation for veracity.

After a report by the Committee on Finance, approving of the accounts of the treasurer and other officers, the following papers were read: "The Geographical Pathology of Consumption," by Dr. G. W. McCaskey, of Fort Wayne; "Hereditary Phthisis Pulmonalis," by Dr. J. L. Conti, of Deerfield; "Consumption in Indiana," by Dr. C. S. Bond, of Richmond; and "The Infectious Nature of Tuberculosis," by Dr. Walter Schell, of Spencer. A general discussion followed on the subjects of these four papers.

Epidemics in Indiana.—At the afternoon session Dr. George Sutton, of Aurora, read a paper entitled "On the Epidemics in Southern Indiana in the Last Fifty Years," and Dr. Gatch, of Lawrenceburg, read another entitled "On Diphtheria during that Time." The two were discussed together.

Post-partum Hæmorrhage was the subject of the three following papers, by Dr. J. S. Hibbard, of Richmond, Dr. Moses Baker, of Stockwell, and Dr. M. F. Thomas, of Richmond, and they were discussed together.

Emmet's Operation.—Dr. L. H. Dunning, of South Bend, read a paper on this subject, which was discussed at some length by several members of the society.

At the evening session papers were read as follows: "Ganglia," by Dr. W. H. Myers, of Fort Wayne; "Dislocation of the Knee Joint," by Dr. George F. Chittenden, of Anderson; "Abdominal Surgery," by Dr. J. Eastmen, of Indianapolis; and "The Local Treatment of Carbuncle," by Dr. J. F. Hibbard, of Richmond.

Thursday's Proceedings.

Several papers were read by title, and a resolution was passed providing that in the future the annual meetings should continue for two days instead of three, that papers must be in

the hands of the Committee of Arrangements twenty-five days before the meeting, and that all papers of over three thousand words be returned to their authors, to be cut down to the required length—in case of refusal the same not to be published.

Committees for the Ensuing Year were appointed by the president as follows: *Committée on Ethics.*—Dr. F. S. Newcomer, of Indianapolis, Dr. J. E. Lyons, of Huntington, Dr. F. W. Beard, of Vincennes, Dr. H. D. Wood, of Angola, and Dr. William Flynn, of Marion. *Committee on Publication.*—Dr. E. F. Hodges, of Indianapolis, Dr. Allison Maxwell, of Indianapolis, Dr. E. M. Elder, of Indianapolis, Dr. W. H. Schultz, of Lebanon, and Dr. G. W. H. Kemper, of Muncie. *Committee of Arrangements*—Dr. J. Chambers, Dr. J. M. Oliver, Dr. G. V. Woolen, Dr. D. C. Bryan, and Dr. L. L. Todd, all of Indianapolis.

After a few remarks by the new president, the society adjourned, to meet in Indianapolis on the second Tuesday of May, 1886.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 7, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Physical Examination of Weak Chests, and the Differential Diagnosis of the several Forms of Early Phthisis.—Dr. E. Darwin Hudson Jr., read a paper with this title. Reference was made to the writings on the physical examination of the chest of Avenbrugger, Laennec, Piorry, Skoda, Allison, Gairdner, Walshe, Flint, Loomis, Leaming, Cammann, Clark, and others. It was evident that the chapter on physical examination of the chest, if regarded as closed, must be reopened to admit new facts and new interpretations of the old acoustic laws, in the light of a broader and changing pathological view. What he should offer regarding the differential diagnosis of the various forms of early phthisis did not relate to theories concerning the nature of the disease, but was an expression of conclusions drawn from personal observation and study during the past eighteen years. He regarded inflammation as the chief factor in developing pulmonary phthisis, and he believed that the great majority of cases of phthisis occurred in those not predisposed to it by heredity. In addition to the generally recognized physical signs of early phthisis, he believed that many students of chest acoustics had come to differentiate between forms of fibroid consolidation according to whether the process started from the bronchi, was centric and diffuse, or was distinctly of pleural origin.

When over a definite area the percussion note was decidedly flat or high-pitched, with relatively but a slight conduction of the normal sounds, unchanged in pitch and quality, and when the sounds were feeble and distant, the fibroid deposit was likely to be peripheral, starting from the pleura, the product of an imperfectly resolved pleuro-pneumonia, or of a local plastic pleurisy leading to underlying hyperæmia and subsequent hyperplastic fibroid. Whenever the flatness on percussion and the obscurity of the respiratory sounds were pronounced, especially if bilateral and attended with great reduction of respiratory motion on both sides, the deposit was likely to be more generally and diffusely interstitial. When the percussion note was relatively but slightly raised in pitch, being rather deficient in duration and devoid of pulmonary quality, and there co-existed a general enfeeblement and absence of volume of the respiration, the deposit was likely to have started from the bronchi. The presence of an exaggerated tubular quality of the inspiratory sound, with slight increase of pitch, with retarded tubular expiration, with or without râles, would be a further aid in determining whether the case was one of peribronchitis, bronchial thickening, or bronchial rigidity and dilatation.

Dr. Hudson spoke of the importance of examining all parts of the chest. Two areas, almost wholly passed over by examiners, often afforded most valuable information. They were the high axillary region and the inter-scapular space. In some cases of irregular pleuro-pneumonia, low and indefinite forms of pneumonia, the result of squalor and dissipation, or of malaria, or secondary to phthisis, the area of pneumonic consolidation, as evinced by bronchial breathing, existed only in the axilla. Particular attention was directed to the manner of examining the inter-scapular space, and to the advantage of examination in this locality because of the close proximity of the larger bronchial trunks and the hilum of each lung. Dr. Corson, more than any other person, had emphasized the importance of taking advantage of the great mobility of the scapulæ as a means of increasing the inter-scapular space. The patient should cross the arms in front, raise them upward at an angle of forty-five degrees, and let the hand grasp the convexity of the shoulder. A resort to this manœuvre greatly facilitated the study of chronic bronchitis, peribronchial fibroid deposit, and all forms of bronchial and pulmonary disease.

Regarding inspection, the author felt convinced that in a large proportion of chest cases, and in a large number of phthisical cases, an approximate diagnosis could be made by this means alone. Aside from the ordinary features generally noted during inspection, he would call attention to three in particular. The first related to the direction of the clavicle. Broad shoulders and a nearly horizontal inner half of the clavicle gave promise of fully developed lungs. The upward angle of the line of the clavicle as a whole was, in healthy chests, within a range of from ten to twenty degrees. When the clavicle was deflected backward and upward, at an angle of from thirty to forty-five degrees, it was an indication that the chest development was defective, and the presumption was in favor of lungs undeveloped at their apices.

A second point referred to the relation which slight curvatures of the spine bore to the condition of the respiratory organs. In a considerable number of cases of lateral curvature it would be found that its appearance had been subsequent to a pronounced attack of pleurisy or pleuro-pneumonia, or a period of long-continued unilateral thoracic pain with associated cough. It would also be noticed that in many of these cases the concavity of the primary curve and the convexity of the compensatory curves were toward the side presenting slight or notable diminution of respiratory motion; also that the curved section lay within a zone of the chest affording evidences of thickened pleura, fibroid phthisis, or peribronchial consolidation. Dr. Hudson inferred that in such cases the intra-thoracic changes of one side diminished the respiratory action of the overlying muscles, and that the stronger antagonizing muscles had caused curvature to that side.

A third point was the importance of observing changes in the individual intercostal spaces, the supra-clavicular space, the supra-sternal notch, and the epigastrium. A pronounced depression above and below the clavicle, occurring in a person with ordinary breadth of shoulders, and whose clavicles were but slightly deflected upward, was indicative of consolidation at the apex. The sinking in of the infra-clavicular space or of special intercostal spaces, synchronously with the inspirations, especially in chests which in general retained full expansion, pointed to peripheral fibroid degeneration of the lung with adhesion of the pleura. But if the expansion of the chest was diminished or suspended, the inspiration being diaphragmatic, then sinking of the supra-sternal notch, of the supra- and infra-clavicular and intercostal spaces, and of the diaphragm, synchronously with inspiration, pointed to a more diffuse and deeper deposit, shooting from the periphery to the center of the lungs.

He had also found in some cases fibroid contraction limited to the portion of lung covering the heart permit of cardiac impulse over an extended area. He thought there were three reasons why phthisis attacked the apices of the lungs more frequently than other portions—namely, because the apices were enfeebled by contraction of the upper part of the thorax; because this region was soonest reached and most easily invaded by catarrhal inflammations descending from the larynx and trachea; and because, when so invaded, it was not favorably affected by the energetic force of cough. Palpation was particularly valuable in relation to fremitus. As to percussion, it would be undesirable to detract from its diagnostic value, but its exclusively pulmonary origin was easily disproved.

Dr. Hudson devoted considerable attention to myo-œdema, first described in 1830 by Graves and Stokes, and named myo-œdema by Lawson Tait in 1871. The result of Dr. Hudson's observations concerning this so-called muscular tumor following a gentle stroke over the chest of phthisical patients was as follows: 1. That it was usually present in established phthisis where long-standing and progressive intra-thoracic disease had wasted the body. 2. That it frequently existed in incipient phthisis. 3. That it was exceptionally present in any other disease. His manner of calling out this physical sign was to percuss with a quick, firm blow with three finger-tips of the right hand upon the costal cartilages of either side. Instantly three little conoidal tumefactions appeared, remaining from one to three seconds. He was disposed to regard it as worthy to be added to the associated signs of pulmonary phthisis.

Speaking of the auscultatory signs, he said the absence or modification of the vesicular murmur had always, and properly, been regarded as a first warning of phthisis. He had for a long time regarded the conducted whisper as equal to or greater in value than changed vesicular murmur and conducted voice, and of far wider application in determining and differentiating the early stage of the three forms and the mixed cases of phthisis.

Dr. A. L. Loomis, while he might not agree with Dr. Hudson altogether, in the main could indorse the positions taken. Regarding inspection, those who had examined chests for many years came to recognize more and more the importance of careful inspection before proceeding to other methods of physical exploration. It often happened that the appearance of the chest compelled a diagnosis of early phthisis. He did not regard slight deformities of the chest as of much significance, for in examining over fifteen hundred healthy chests he had not found more than ten per cent. entirely symmetrical. When he first began to study physical exploration, he received the impression that the infra-clavicular space gave the most important indications of the condition of the respiratory organs, but he had afterward found that the inter-scapular space was of greater importance. He had found physical signs of phthisis in the inter-scapular space when they could not be found elsewhere. He also referred to what the author had said regarding the value of the examination of the axillary space. As to vocal fremitus, he had long since ceased to regard it as of great value in physical exploration; certainly it was of very little value in the early stage of phthisis. He laid more stress upon the importance of percussion than the author of the paper would seem to do, but it was often performed in a faulty manner. The whispered voice seemed to him far more than did the spoken word; it told him more regarding the condition of the pulmonary tissue, but especially regarding that of the pleura. The vesicular murmur varied so greatly in different persons and in different modes of breathing that one had to listen long before he could recognize slight variations which experienced auscultators professed were present. He could not recognize the vesicular murmur which was said to occur after the suspension of the inspiratory act; he had, however, often heard a muscle-friction sound. He regarded as of importance in the diagnosis of early phthisis three changes in the vesicular murmur—namely, softness, harshness, and interruption. The soft vesicular murmur, which was not heard in children, which was lost in old age, but which was present in the middle period of life, was very important. If it was absent in middle life, and replaced by a harsh sound, it indicated that there were changes in the bronchi—very likely tubercular changes which had not yet given rise to consolidation, and which might soon be followed by hæmorrhage. The significance would be greater if there was also a slight waviness of the inspiratory murmur.

Dr. R. C. M. Page said that, while Stokes and Graves had seen myo-œdema more frequently in the early than in the later stages of phthisis, his own experience had been the opposite. In his observation of about a hundred cases of phthisis pulmonalis during the past winter, he had invariably found that, as the disease progressed and the patient became more emaciated, the sign became more perceptible. Lawson Tait had observed it most marked on the side where the disease existed, but the speaker thought this was not invariable; he had found the sign most marked on the side where the greatest amount of emaciation was present. He thought it was due to muscular contractility, and that it existed in all cases of phthisis pulmonalis, and in some cases in which the other physical signs were not yet apparent.

Dr. E. G. Janeway had seen enough of myo-œdema to feel convinced that it was an unreliable sign of phthisis. Not only could it be made to appear over the chest, but also over the pectoralis major, the deltoid, the muscles of the abdomen, and those of the thigh. It could be most easily seen in emaciated subjects. It was due to muscle reflex or contractility. Regarding physical signs of phthisis, the most any of us could do was to say that certain signs when present indicated the condition of the lung beneath, that condition being either a condensation or partial consolidation, or a local bronchitis. The greatest difficulty was to determine what was the significance of such local condensation, consolidation, thickening, or bronchitis. There were chances of error in observation as well as in interpretation, and, consequently, no method of physical exploration should be neglected in doubtful cases. He attached special importance to percussion at the beginning and end of full inspiration, particularly in the supra-clavicular and supra-spinous regions. He would say that if there was any sign of value in the early stage of phthisis, it was the presence of râles in the small bronchi limited to the supra-scapular and the supra-clavicular fossæ. Subcrepitant râles in these regions in a patient of depreciated general health and a hacking cough were very significant. He also referred to the importance of determining the exact significance of consolidation if it was present, and then spoke of the tubercle bacilli, which should always be looked for by the most approved methods of microscopical study.

Dr. Hudson, in closing the discussion, said he had not hoped to cover the entire subject of the physical exploration of the chest in his paper, but he agreed in the main with what had been said in the discussion. He did not regard the term myo-œdema as correctly expressing his ideas concerning the cutaneous tumefaction or elevation observed under the circumstances referred to; he did not regard it as a muscle wave or reflex at all, but rather as a skin reflex, or cutaneous intumescence, as it had aptly been described. The elevation of the cutaneous surface in urticaria, for instance, would not be regarded as due to muscular contractility. He had not spoken of the tubercle bacilli, regarding that question as still unsettled.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of May 5, 1885.

The President, Dr. CHARLES G. STOCKTON, in the Chair;
Dr. FRANK H. POTTER, Secretary.

The Causes and Treatment of Lithæmia.—Dr. JAMES W. PUTNAM read a paper with this title. He said that in the exciting hunt after bacteria, micrococci, and other minute forms of life, as being the causes of pathological conditions, the tendency had been to overlook and slight the chemical origin of disease. The symptoms which an impoverished or perverted blood supply might give rise to were more tangible problems to study than the question of whether a bacillus was the cause of the disease or its result. The student of the chemical origin of disease found in lithæmia perverted physiological conditions brought on by a disobedience of the laws of eating, drinking, and exercise. The nutrition of the tissues was faulty—the blood supply containing certain noxious principles. These noxious principles must be removed by change and regulation of the diet, and by such medicines as he would mention. His attention had first been called to this subject by Dr. G. H. Lyman's article in the "Boston Medical and Surgical Journal" for December 13, 1883, entitled "Tinnitus Aurium and Vertigo as Prominent Symptoms of Lithæmia." This article referred to Dr. Da Costa's paper on the "Nervous Symptoms of Lithæmia," published in the "American Journal of the Medical Sciences" for October, 1881. From this the step was easy to consult Prout on "Lithic-Acid Diathesis," published in 1843, Draper on the "Nature of the Gouty Vice," 1875, and Fothergill on "Gout in its Protean Aspects."

This in the main was the literature of the subject. Prout long ago stated that lithic acid resulted from the imperfect assimilation, not only of the albuminous principles of the blood and chyle, but also of the albuminous textures of the body. This imperfect assimilation prevented them from being raised to the perfect standard that fitted them to become component parts of the blood. He presumed that the kidneys had the power to separate those products of imperfect digestion from the blood as lithate of ammonium. Budd, after stating that it was Dr. Prout who first called our attention to this class of diseases, said that Fothergill had taught us that certain peptones, instead of undergoing further elaboration, were turned aside and broken up prematurely into lithic acid and the lithates. These lithates did not represent tissue waste, for they had never been tissues. Draper also added that these products of imperfect assimilation, combining with the alkaline bases, were not only eliminated in excess by the kidneys, but were diffused through the tissues, giving rise to many forms of mechanical irritation.

Another theory assigned the cause of the production of lithic acid and the lithates to the imperfect formation of urea by the liver, the idea being that, on some account, the process of tissue metamorphosis was arrested before the principles destined for excretion could be transformed into urea. At any rate, the problem for us was, What were the unfavorable circumstances which caused nutritive material to be diverted from its destination and thrown off from the economy as useless, thus robbing the tissues of their needed supply? What were the causes? What were the symptoms? What was the remedy?

Among the first causes must be mentioned the hereditary tendency to gouty and rheumatic disease. The exciting causes lay in an unphysiological mode of life—careless eating and drinking, both as to quantity and as to quality. Over-eating threw more digested material into the blood than was needed for the repair of the tissues, and this over-supply was eliminated in the form of uric acid. An excess of carbonaceous food, even if the total quantity was normal, produced a like result. The oxygen in the blood was unable to perform its part in the chemical processes necessary to assimilation. This imperfect oxidation stopped at the formation of lithic acid, which accumulated in the tissues, producing its peculiar irritation. Whether the cause was too much food or too small a supply of oxygen, the result was the same. Thus the epicure and the dweller in an overcrowded and ill-ventilated tenement-house might exhibit the same symptoms from the accumulation of lithic acid in the organism.

As to the symptoms of the disease, their name was legion. A lithic-acid deposit might occur in any of the tissues of the body, each tissue responding to the irritation thus produced in its own peculiar way. The liability of the mucous membranes to disease from irritation was well known. In the gastro-intestinal tract disease was readily developed. Many symptoms called dyspeptic should really be called lithæmic. They were flatulence, costiveness, and intestinal colic; sometimes there was diarrhœa. If the deposit was in the muscular system also, there was pain with stiffness and soreness of the muscles as in rheumatism; if in the skin, there might be various skin diseases, such as acne, eczema, erythema, an intolerable itching, or else the pins-and-needles sensation. These produced visions of impending paralysis, which made the patient gloomy and despondent. The nerve sheaths might also become inflamed from this deposit, and sciatica and other neuralgias result. Other symptoms simulated those of severe brain or spinal disease, such as vertigo, tinnitus aurium, cramps, muscular twitchings, sleeplessness, and irritability.

Cases from Dr. Lyman and Dr. Da Costa were then quoted in which the nervous symptoms had been unusually severe. Besides the symptoms already mentioned, Da Costa had reported cases in which there were spells of languor and lassitude; others in which there was great depression of spirits amounting almost to melancholy. But, above all, the temper was unstable odors; were annoying, sounds were infuriating, nothing was pleasing; the man was "on edge," an acid blood making an acid disposition. Of the mental faculties, the memory suffered principally. This was recovered, however, as the patient regained his health.

The author then reported in detail three cases which he had had under observation. These cases presented most of the symptoms that had been mentioned, and corroborated the theoretical considerations above set forth. During their recital he outlined his treatment for this disease. The ætiology and pathology being accepted, the treatment should be directed to the removal of the cause.

If it was a diminished supply of oxygen, and the patient was living in close rooms, we should increase the supply by larger quarters, and advise exercise, so that respiration might go on more rapidly and thus the blood be more thoroughly oxygenated. If the error was in over-eating, the patient should be restricted and his diet should be simple. Meats, fats, pastry, rich gravies, and all fried foods should be prohibited. Add to this exercise and skin friction, and the patient would have begun to live aright. As to medicine, he was in the habit of giving five grains of blue pill every night for six nights, in the beginning of the treatment, with Hunyadi-János water in the morning. After each meal an alkaline powder should be taken consisting of

Bicarbonate of sodium	one part;
Nitrate of potassium	two parts;
Rochelle salts	three parts.

Of this a teaspoonful was dissolved in a part of a glass of water and taken after eating. Patients were constantly met

with who could be kept free from the lithæmic condition only by the most rigid and unrelaxed attention to diet, exercise, and the care of the excretions.

Dr. Putnam then presented his conclusions as follows: 1. Lithic acid and the lithates in the organism were explained on two different theories: (*a*) That they represented peptones arrested in the process of assimilation from a lack of oxygen. (*b*) That they represented arrest of tissue waste on the way to become urea. 2. Whichever theory was accepted, we knew that the presence of these substances was due to improper diet and lack of exercise. 3. The lithic-acid poison might affect any tissue and give rise to numerous symptoms; notably pain in the muscular system, the various neuralgias, itching and perverted sensations in the skin; gastro-intestinal symptoms, such as costiveness, flatulence, dyspepsia, and intestinal colic; cerebral symptoms, including cephalalgia, vertigo, tinnitus aurium, irritability, and loss of memory. 4. The treatment was simple, consisting of plain living, on fish and vegetables, regular exercise, and finally alkaline mineral waters and the alkalies generally.

Dr. F. W. Bartlett reported a case in which the symptoms had been severe, but which had yielded to treatment similar to that advised by Dr. Putnam. He called attention to the fact that the nails often presented transverse, instead of longitudinal, lines in patients suffering from lithæmia, and said that Bright's disease and some other diseases, such as endocarditis, might often be primarily cases of lithæmia.

Dr. M. D. Mann had had some personal acquaintance with the disease in question. He believed heredity to be a very important factor in the disease. Some members of a family might suffer from gout, others from rheumatism, and still others from lithæmia, as it had been described by Dr. Putnam. He had also observed that women at the menopause frequently suffered from this disease. Among the symptoms of which they complained at this time he specially mentioned great irritability of the bladder and a watery leucorrhœa associated with an elytritis of a low grade. These and their other symptoms might often be made to disappear by careful attention to the diet and exercise. As to treatment, he preferred a meat to a vegetable diet. He thought Dr. Putnam had not sufficiently considered the important part the starches and the sugars played in the production of lithæmia. It was important to avoid the use of them altogether, if possible, in these cases. It was also necessary for the patient to abstain from alcohol, beer, and the sweet wines, as they were potent factors for evil. Thorough mastication was likewise an important point in treatment.

Dr. Cronyn thought the question of heredity had some bearing on the difference in the lines of treatment advocated by Dr. Mann and Dr. Putnam. He called attention to an order of the Roman Catholic Church—the Trappists—whose members never suffered with gout. They lived exclusively upon a vegetable diet and drank no wine. They generally attained to a very old age.

Dr. Hasbrouck considered lithæmia a not infrequent cause of recurrent amygdalitis. Catarrhal conditions of the mucous membranes of the air-passages were also produced by it. He believed in the line of treatment advocated by Dr. Mann.

Dr. W. S. Tremaine had suffered from the disease, and had tried various sorts of treatment with varying degrees of success. He believed that on the whole the avoidance of the starches and sugars would give the best results. Mastication he considered of the greatest importance. This was apt to be neglected, and it was necessary to instruct the patient particularly on this point.

Dr. Weymouth had also suffered from the disease, and added his testimony to that of the others concerning its symptoms and treatment. In his case one of the earliest symptoms was a sore throat. He believed there was reason in both methods of treatment, and that the cases should be carefully classified before the treatment was decided upon. A peculiarity of some cases was in the urine remaining normal, not showing a deposit, as was observed in the majority of cases.

Dr. Tremaine confirmed this observation about the urine. He said its acidity was not increased, although the patient presented many of the symptoms due to the lithæmic condition.

Dr. Putnam said he always prohibited the sugars and alcoholic liquors, as well as all fried meats, pork, bacon, etc. He believed that the difference in the results was due to the difference in the cases. The quantity of food was as important as its quality. Too large an amount favored the production of lithæmia, from the inability of the system to assimilate it. The tendency of many cases of gonorrhœa to become gleet was due to the lithæmic condition, and relief was obtained by the alkaline treatment.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of January 22, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Photography applied to Gynæcology.—Dr. John Merritt read a paper with this title. [See page 276.]

Foreign Body in the Rectum.—Dr. Charles N. Dixon Jones read notes of the case of a man, sixty-three years old, who had consulted him on the 10th of the month, stating that for the preceding six months he had had a good deal of trouble with his bladder. He complained of pain and frequent micturition, the pain being increased on passing urine, which he was obliged to do as often as every two hours. For several days he had suffered with severe pain in the rectum, increased on defecation. Otherwise, he was in good health. He stated that he thought he had piles. On inspection, no rectal tumor was apparent, but with the finger the sphincters of the anus were found to be firmly contracted. Above the sphincter a hard body was detected, which, on further examination, receded into the hollow of the sacrum. The rectum was large and capacious. A dressing forceps was passed along the finger into the rectum, and made to seize the object. Some difficulty was met with in disengaging it from the folds of the mucous membrane, but it was finally withdrawn without injury to the rectum. It proved to be a piece of a sheep's rib. It was serrated at both ends, and one extremity terminated in a sharp point. It was an inch and an eighth long, five eighths of an inch wide, and a quarter of an inch thick. It had probably been swallowed with the man's food, and passed through the whole length of the alimentary canal.

Strangulated Femoral Hernia.—Dr. Hans Mohr read the history of a case in which, while he was senior house surgeon to the German Hospital in New York, he had been allowed to operate by the surgeon on duty, Dr. Lange, to whom he was now indebted for permission to publish the case. The patient was a woman, fifty-eight years old, who was admitted into the hospital September 12, 1884. Two days before, she had noticed the incarceration of a right femoral hernia with which she had suffered for several years, but which had always before been reducible, and had been retained with a truss. Her symptoms, which were not very intense, were tympanites, abdominal tenderness, nausea, and occasional vomiting, and her bowels had not moved for two days. The hernial swelling was as large as a large walnut, elastic and nodular to the feel, with a tympanitic percussion sound. Besides the hernia, the patient had a large

aneurysm of the arch of the aorta, which formed a pulsating swelling to the left of the sternum, at the level of the second rib. The administration of chloroform was therefore conducted with the greatest care, and, under anæsthesia thus induced, reduction was attempted without success. Kelotomy was then performed under the usual antiseptic precautions. The contents of the sac proved to be a loop of small intestine, of a bluish, hyperæmic color, with a small part of the omentum attached. The ring was very tight, and a number of shallow incisions were required before reduction could be effected, which was done without opening the sac. The omental protrusion was stitched to the edges of the internal abdominal ring in such a manner as to occlude it. Catgut stitches were passed through the skin and the facial tissues. No drainage-tube was used, as there had been scarcely any bleeding, and the wound had been very carefully disinfected and its edges coaptated perfectly. It was dressed with sublimated gauze, with slight pressure, to bring the surfaces into close contact. Primary union took place, without fever, and was complete on the tenth day, when the dressing was changed for the first time. The bowels were first moved on the fourteenth day, by the use of cod-liver oil, and on the 12th of October the patient was dismissed.

The event showed the marked inoffensiveness of kelotomy in an uncomplicated case, and the speaker would like to say that among the bad complications were to be reckoned delay in resorting to the operation and long-protracted trials at reduction. Of course we must be thorough in the antiseptic proceedings, a requirement that not only made surgical procedures more efficient, but loaded us with additional responsibility. In the language of Volkmann, the surgeon was nowadays like a manufacturer, from whom we had the right to expect good work.

A Demonstration of Koch's Comma Bacillus.—Dr. Arnold Stub read a paper with this title. [See page 574.] Dr. Stub was assisted in the demonstration by Dr. William H. Bates.

Dr. R. G. Eccles called attention to an offer made not long before by Dr. Klein, of England, to eat any preparation of cholera bacilli that might be made for him. This he could do with impunity under certain circumstances. Everybody knew that the stomach normally contained an acid fluid. The speaker had hoped that Dr. Stub would allude to Koch's experiments, and he regretted that it had not been done. That investigator had noticed the rise and fall of the number of bacilli found in the dejections to be coincident with the severity or mildness of the case. Most cases of cholera appeared at the beginning of the week, on Sunday or Monday, days on which the stomach suffered most, having its juice most diminished in acidity, in consequence of the strain due to overfeeding. A healthy stomach, containing a secretion of decided acidity, formed the best safeguard against cholera. The mere shape of the microbe was not a safe guide to its certain recognition, any more than the shape of a pill would tell the nature of its ingredients. Practically, there was no morphological distinction between the bacillus of anthrax and the *Bacillus subtilis* of hay infusion, but one of them was harmless and the other extremely virulent.

Dr. Stub would acknowledge that he could hardly distinguish the two, but still it was not impossible; of course the difference could be made out positively only by the color reactions.

Dr. Eccles remarked that microbes changed their form, and might appear to belong to one class at one time and to another at another time.

Dr. Stub admitted that this was true in the sense that a calf was a calf at first, but might afterward develop into a cow; but it was not true in the sense that a mouse would become a cat or a cat a mouse.

Dr. Eccles desired to be understood as Dr. Stub had illustrated in his parallel.

Dr. Stub had not seen in a medical publication any such statement from Dr. Klein as that he would swallow comma bacilli if they were prepared for him; he had only seen it in a newspaper, and consequently he had taken no notice of it in discussing the question of comma bacilli. At a recent meeting of the board of health in Berlin it had been stated that certain persons had offered themselves to be experimented upon with cholera bacilli; but, after the board had discussed the question, it had been decided to decline such offers as inadmissible so long as the lower animals were to be had for the purpose of experiment.

Immunity in Disease.—Dr. Eccles read a paper with this title. [See page 571.]

Dr. I. A. Platt did not fully appreciate the differences between Salmon's theory and those of the other investigators, but the idea that vaccinating a small-pox patient increased the danger was new to him.

Dr. Eccles said it had been demonstrated in thousands of cases.

Dr. Platt did not think the two poisons were alike, and therefore he could not see how the patient would get an additional supply of the poison.

Dr. P. H. Kretzschmar said that he was one of the "criminals" who vaccinated at any time, to prevent or to mitigate small pox. He, too, had experimented. He would not consider the dispensary incident mentioned in the paper. He did not wish it understood that the idea advanced in the paper was an expression of the society's views, for he at least was opposed to it.

Dr. E. A. Lewis spoke of a case that had come under the observation of Dr. John G. Johnson, who, having seen a butcher's boy enter a house where there was small-pox, advised his immediate vaccination, which was done. A few days later the boy was attacked with small-pox of a well-marked black, confluent type, but was well at the end of ten days spent in the Flatbush Small-pox Hospital. There were many cases on record of concomitant variola and vaccinia.

Dr. McManus alluded to text books which advised vaccination to mitigate small-pox.

Dr. A. Ross Matheson had seen a good deal of small-pox, including cases like the one mentioned by Dr. Lewis, and it had seemed to him that vaccination modified the graver disease.

Dr. Frank Little spoke of a case of varioloid in which he had vaccinated the patient on the third or fourth day, and the patient was in bed only one day. He had seen many such cases. He thought it well to vaccinate with a hypodermic syringe.

Dr. Risch suggested that perhaps the reader of the paper had meant attenuated small-pox virus instead of vaccine virus. His theory of acquired immunity was that the cells of the tissues became inured to the special irritation set up by the microorganisms, and so got to be proof against their further action.

Dr. Eccles said that three different theories had been advanced by three different men—Pasteur supposed that the invasion of the body by microbes resulted in the abstraction from the body of something that rendered the individual susceptible to the special disease engendered by the invading organisms; Klebs held the contrary view, and believed that a protective element was added to the body by these micro-organisms; Salmon believed neither of these views, but supposed that in time the cells became accustomed to the poison of the bacilli if the patient could survive its first depressing or toxic influence. He referred to Law's experiments, from which it appeared that after double inoculation with variolous and vaccinal virus an animal was always affected more than when either virus was used alone. The cases cited this evening had not been fair

offsets to those that he had spoken of, because of their indefiniteness.

Dr. Lewis dissented from the view that the variolous and the vaccinal virus were the same.

Dr. Eccles replied that the history of vaccinia showed that it was only small-pox modified.

Dr. Matheson alluded to an army experience of his own, going to show the protective value of vaccination.

Dr. John Merritt and Dr. Beach recalled experiences of like purport.

Dr. W. M. Hutchinson said that a few years ago he had vaccinated a large number of colored people while small-pox was in their neighborhood; he vaccinated all of them alike, whether they showed signs of small-pox or not. He thought that those who had been previously vaccinated had done better than the others.

Dr. D. C. Lewis recalled a number of instances showing the varying degree of protection conferred by vaccination in different persons.

After several other speakers had borne testimony to the prophylactic efficacy of vaccination, Dr. Eccles said that he regretted to have been misunderstood. The protective value of vaccination had long since been established, and no one could successfully deny it. He only objected to subjecting a person to the action of *both* poisons at the *same time*, as it had been abundantly shown, in the case of the lower animals, that the practice increased the danger.

The President congratulated Dr. Eccles on the spirit with which he had defended his position in the face of so much opposition.

Miscellany.

The American Climatological Association will hold its second annual meeting in New York on Wednesday and Thursday, the 27th and 28th inst. The following papers are expected to be read: Address by the President, Dr. A. L. Loomis, of New York; "The Climate of Mexico," by Dr. H. D. Didama, of Syracuse, N. Y.; "Antiseptic Inhalations," by Dr. Beverley Robinson, of New York; "Catarrhal Affections of the Nasal Cavities as a Cause of Pulmonary Phthisis," by Dr. W. C. Jarvis, of New York; "The Home Treatment of Consumption," by Dr. F. C. Shattuck, of Boston; "A Further Consideration of Pneumatic Differentiation, with a Demonstration of the Pneumatic Cabinet," by Dr. H. F. Williams, of Brooklyn; "A Rule for the Even Division of Climate based upon the Average of the Combined Atmospheric Humidities in the United States," by Dr. Charles Denison, of Denver, Col.; "The Diseases of Climate, and their Relations to Pulmonary Consumption," by Dr. J. H. Tuckle, of New York; "The Geographical Distribution of Phthisis in Michigan, with a Sketch of the Topography," by Dr. E. L. Shurly, of Detroit; "The Treatment of Laryngeal Tuberculosis," by Dr. E. L. Eagels, of Chicago; "The Problem of Acclimatization," by Dr. J. H. Platt of Brooklyn; "Tampa Bay as a Health Resort," by Dr. J. C. Wilson, of Philadelphia; "The Results of the Home Treatment of Consumption contrasted with those of Changed Residence and Climate," by Dr. E. D. Hudson, Jr., of New York; "Hay Fever and Allied Affections," by Dr. F. H. Bosworth, of New York; and "The History of the Stethoscope, with the Presentation of a Modification of the Camman Stethoscope," by Dr. D. M. Cammann, of New York. On Thursday evening the New York members will give a reception to the Delegates at the Theatre.

An Inventor Protected.—"It gives us much satisfaction," says the "Medical and Surgical Reporter" of Philadelphia, "to note that in the case of Dr. Carl L. Jensen against the firm of Koechler & Mattison, of this city, for their alleged infringement of his patented methods of manufacturing so-called peptone, the Circuit Court of the United States rendered a decision protecting Dr. Jensen in his rights, and putting a stop to the manufacture or sale of his product by the firm named. Not only is this law, but we are convinced that it is justice as well. A scientific man, who, through later years, has developed a process for the production of a chemical, and then gives the process publicity through the means provided in the patent laws, should certainly reap the returns of his toil and knowledge for the limited time provided by the laws. It argues a low morality in the man or firm who would try to despoil him of this legitimate fruit of his labors and knowledge.

"The Court said: 'That the plaintiff's patented product, "peptone pepsin," is of great utility and patentable, is undoubted. The infringement is conclusively proved. The defense, that, for more than two years prior to the patentee's application, this article had been exposed to sale, and second, that it had been described in certain publications, is not sustained by proof. No such article is shown to have been on sale, and no such process as employed by the plaintiff, or article manufactured by him, is shown to have been thus described.

"'Pepsin had been manufactured and sold for many years, but no "peptone pepsin," such as this patent describes. The publications relied upon show nothing more than suggestions and speculations of scientific writers, who had never tested the practicability of their suggestions, or demonstrated the truth or value of their speculations.'"

The Hypodermic Injection of Oil.—In a paper read before the Section in Practical Medicine, at the recent meeting of the American Medical Association, Dr. John V. Shoemaker, of Philadelphia, said that experimental and clinical observations had taught us that oils that could not be swallowed, or were rejected by the stomach, could be absorbed by inunction and subcutaneous injection, and numerous instances of the absorption and assimilation of oil and fat by the skin had also been reported, and their value in certain conditions, employed in this way, been fully recognized; but the more rapid and effective use of these agents, subcutaneously, while known, had had little or no practical application. Menzel and Perco first demonstrated the subcutaneous absorption of fat by injecting an ounce of it in a fluid state under the skin of a dog; in the course of forty-eight hours it disappeared, without leaving any local effect. The first practical application of this discovery was probably made by Krueg on an insane patient who refused to eat. Subcutaneous injections of olive-oil, twice daily, were then administered, affording sufficient nourishment to keep the patient in good bodily vigor. At the end of a month he was induced to take his food in the natural way, and the injections were discontinued.

Shortly after this announcement of the practical effects in Krueg's case, a most important result from hypodermic alimentation in a case of gastric ulcer was reported by Dr. James T. Whittaker, of Cincinnati. According to Dr. Whittaker's report, after other medication had been exhausted, the patient was given subcutaneous injections of drachm doses of milk, alternated with beef extract, every two hours for three days; the temperature declined, the pulse became stronger, and the pains and delirium disappeared. The milk and beef extract not being well borne by the skin, cod-liver oil was substituted for them, two drachms being given every two hours for two days, and one day as much as eight ounces was thus introduced. Two abscesses formed from the milk, but not any ill effects followed from the oil; not only was it well borne, but its introduction was free from pain.

The inability of some of Dr. Shoemaker's patients to bear medicine by the stomach had induced him, a few years ago, to test thoroughly the subcutaneous absorption of oil, and the effects which had followed its use in a number of diseases had been highly gratifying. The cases referred to (Dr. Shoemaker then spoke of a number of patients treated by this method) were but a few of the many that he had successfully treated by oil, hypodermically administered, alone or in conjunction with other suitable means. The laxative action of castor-oil, alluded to in the cases cited, had again and again been verified on many patients affected with constipation. It might also be advisable, in cases of apoplexy, to test the effect of a more active purgative oil by placing it beneath the skin in the form, for instance, of the cathartic principle of croton-oil. Not only had the rapid and satisfactory purgative result of oil used hypodermically been thus demonstrated, but its nutritive action had been shown to be valuable in debility, dyspepsia,

scrofula, tuberculosis, and certain diseases of the skin and nervous system. It was the quickest and best method of introducing oil into the system. It was an invaluable means of combating disease, particularly in the class of cases enumerated, where more nutrition was required, and also for those patients who were either unable to swallow oil or could not absorb and assimilate it by the alimentary canal. Oil could be used subcutaneously alone, or combined with other suitable agents that could be easily dissolved in it. It was a valuable menstruum for suspending other drugs for hypodermic use. It could be given in connection with a suitable diet, and even with other medication by the mouth, or used alone for alimentation. Oil deposited in this way in the tissues was absorbed, and was, no doubt, assimilated, and would alone keep up the nutrition of the body. It would at all times arrest or assist in mitigating scrofula, and would benefit tuberculous patients. It was especially useful in diseases of the alimentary canal, as well as in all affections depending upon deficient nutrition. It would very often overcome an impoverished state of the blood, and give tone and vigor to the system. For a purgative action, one or two injections of a drachm or two of castor-oil usually sufficed, but for a nutritive effect the same quantity of one of the bland nourishing oils—e. g., cod-liver oil or olive-oil—should be administered two or three times daily. In the event of alimentation depending solely upon the injections, they should be given about every two hours.

For the purpose of giving oil hypodermically a large syringe, provided with a needle of good caliber, should be used, and the instrument should have a capacity of from two to eight drachms. The injections could be made in almost any part of the body well provided with subcutaneous cellular tissue, into which the oil should always be thoroughly deposited. The points usually selected for the injections were the superior and inferior scapular and the sacral regions, on account of the subcutaneous cellular tissue being especially abundant there. Injections could also be made into the arms, the chest in front, laterally, and behind, the buttocks, and the legs. There was more or less irritation at the point of puncture of the skin, about the same as from the use of almost any other hypodermic injection. Sometimes there were also some attending smarting and burning, followed always with redness and swelling, or the formation of a nodular elevation, which usually disappeared in from twelve to forty-eight hours. No induration or inflammation followed the injections, provided the usual precautions were observed in using the hypodermic syringe properly, and the tissues of the person receiving it were in the normal condition. Oil had been so injected by him in very many cases, occasionally as much as half an ounce being used at a time, without setting up any inflammation of the skin, or producing any unfavorable results. The results so far realized demonstrated that by the hypodermic injection of oil certain conditions and diseases could be controlled, relieved, or cured. It was an invaluable method, on which full dependence could be placed, especially when the alimentary canal could no longer absorb and assimilate medicine, particularly oil.

Cocaine in Orthopædic Surgery.—In the course of the discussion following the reading of a paper, by Dr. E. H. Bradford, of Boston, on Club-foot, before the New York Orthopædic Society at its April meeting, Dr. Charles F. Stillman reported a case of talipes which had been operated upon while the foot was anæsthetized with cocaine; and he stated that this was the first case of club-foot on record in which an operation had been attempted while the foot was rendered insensible by the employment of that agent. The case was that of a young lady, twenty-five years of age, the daughter of a physician, and the deformity was congenital. It had been operated upon a number of times during early life, but had relapsed, and, when brought to him, exhibited the severest grade of talipes equino varus. The case had been under treatment mechanically for more than a year, and, although the foot had been brought into the median line, and could be retained there without effort, beyond this reduction was impossible without operative procedure, owing to the fact that the foot had been habitually walked upon during the many years of the existence of the deformity.

Dr. Stillman referred to the fact that, although the honor of the discovery of cocaine as a local anæsthetic belonged to Germany, yet to this country and to New York city belonged the credit of demonstrating that, if the drug was injected along the course of a nerve, the parts to which that nerve was distributed became locally and perfectly anæsthetized. To the researches of Dr. Halsted and Dr. Hall, of the Roosevelt Hospital (see "N. Y. Med. Jour.," Dec. 6, 1884, p. 643), he stated that the credit was due for the establishment of this great and valuable advance. In the case of talipes reported, Dr. Halsted injected some of the solution into the sole of the patient's foot, and in the course of ten or fifteen minutes the foot became so entirely anæsthetized that incision of the plantar ligament and plantar fascia was performed by Dr. Halsted, and *brisement forcé* afterward performed by Dr. Stillman, without the patient feeling either pain or discomfort. The patient said it felt as if the foot belonged to another person, so complete was the anæsthesia. The foot was then placed in plaster of Paris, which securely held it in its new and improved position, and there were no bad results, inflammatory or other, to report, although the operation had been done about a month previous to the time of the meeting of the society.

He then proceeded to discuss the future of cocaine in its relation to orthopædic cases. He contended that it would render operative procedures free from pain without the necessity for general anæsthesia, and that it would assist in shortening the time of mechanical treatment in severe cases, by enabling a slight and painless *brisement forcé* to be performed without recourse to the knife in many cases; also that, when the use of the knife was advisable, it would simplify the conditions which rendered its employment objectionable.

The Remedy against Unreliable Drugs.—Under this caption, our sprightly contemporary, the "Medical Age," of Detroit, says:

"The fact that the market is stocked with drugs which do not conform to the standard of purity and strength established by the U. S. Pharmacopœia requires no argument for its establishment. There is no practitioner who has not been disappointed in his expectation of results from medicines administered, and while, doubtless, this disappointment is occasionally due to an error of diagnosis, it is, unquestionably, most frequently traceable to a defect in the medicinal preparation. The physician is absolutely at the mercy of the pharmacist in this matter, and when it is remembered that the latter is subject to no control and that the facilities for detecting any delinquency of which he may be guilty are not generally possessed by the members of the medical profession, it is not a reflection on human nature to believe that the standard of purity and strength in drugs is not always conformed to.

"Various remedies against this evil to which the practitioner and his patrons are exposed have from time to time been suggested. That of governmental supervision of the pharmacist was referred to in our last, and its impracticability hinted at. Puss in the fable had but one trick to keep clear of the dogs, while the fox had a hundred. Puss, however, from her position in the tree, saw enough to convince her that reynard's claim was 'naught but fool's boast.' There is only one effectual remedy in the hands of the profession against dishonesty in pharmacy; all others are useless. That remedy is the proscription of manufacturers whom experience in the use of their drugs has demonstrated to be unreliable. This opens the question of the propriety of a physician's specifying on his prescription the name of the manufacturer whose preparation he wishes to have dispensed. Singularly enough, this still remains a disputed question. So long as no distinction is made by the prescriber, so long will the retail pharmacist be tempted to supply his stock from the products of such houses as will furnish them at prices affording the largest margin of profit. This is natural and quite legitimate from a commercial standpoint. Now, it is a self-evident fact that good goods can not compete in the matter of prices with those of inferior quality. The very natural consequence of these facts is that the shelves of the retailer, from which prescriptions are filled, are apt to contain, and do contain, much cheap and, therefore, inferior material. Unless the physician take pains to specify the brand which his experience has taught him is reliable, his patient runs the risk of having administered to him the cheaper, and presumably inferior, drugs, and all to the detriment of his interests, and at the expense of his physician's reputation.

"At the last meeting of the American Pharmaceutical Association this subject was presented in a paper, by Professor Wall, in such a manner that we can not do better than to quote from it. 'Pharmacy is followed by able and by incompetent men, and medicine is bought by indifferent, and by dishonest men. The same moral distinctions apply

to manufacturing pharmacists. If every druggist and every manufacturer were honest, skilled and trustworthy, no possible excuse could be urged by physicians for specifying brands; but under existing conditions it is frequently his sole protection from imposition by a knavish pharmacist or a tricky manufacturer. The right to express his preference as to the maker of drugs is identical in character to the right to indicate his preference for a particular pharmacist by the use of the drug-store blank. The physician has an unquestioned right to insist that only the best drugs, most faithfully prepared, shall be used in his prescriptions, and any method calculated to insure this result it is not only his privilege, but his duty to adopt. It is to be regretted that this policy should entail inconvenience, and often considerable expense and loss upon pharmacists, but until all demonstrate their unquestioned worthiness of confidence, until the passion for profit wholly dissolves before a sacred ambition for absolute purity and fidelity in all pertaining to pharmaceutical practice, checks upon the discretion of druggists will be both natural and necessary, notwithstanding that as a class their professional and personal character will bear favorable comparison with that of any other division of human labor. In those frequent cases when the specification in question is wholly unnecessary, by reason of the confidence which should exist between an intelligent physician and a competent pharmacist, it would seem that the latter's right to protest is co-equal with that of the former to specify, and, if offered with due courtesy, should be allowed to prevail.'"

The Health of Michigan.—From the reports to the State board of health for the month of April, for a summary of which we are indebted to the secretary, Dr. Henry B. Baker, of Lansing, it appears that, as compared with the preceding month, intermittent fever increased, and pneumonia, influenza, and quinsy decreased in prevalence. Compared with the average for the same month in the seven years 1879 to 1885, measles, intermittent fever, remittent fever, pneumonia, diphtheria, and scarlet fever were less prevalent. Diphtheria was reported from thirty places, scarlet fever from twenty-seven, measles from seventeen, and small-pox from three.

The Ohio State Medical Society will hold its fortieth annual meeting at Dayton on Wednesday, Thursday, and Friday, June 3d, 4th, and 5th. The officers are Dr. John C. Reeve, of Dayton, president; Dr. B. W. Davis, of Marion, Dr. D. J. Merriman, of Painesville, and Dr. J. F. Baldwin, of Columbus, vice-presidents; Dr. G. A. Collamore, of Toledo, secretary; Dr. E. C. Brush, of Zanesville, assistant secretary; and Dr. T. W. Jones, of Columbus, treasurer and librarian. The following are among the papers that are expected to be read: "Pelvic Hæmatocele," by Dr. C. A. L. Reed, of Hamilton; "Uterine Hæmorrhage and its Treatment," by Dr. J. W. Hoff, of Pomeroy; "A Rare Complication after Ovariotomy," by Dr. C. D. Palmer, of Cincinnati; "Some of the Complications of Strangulated Hernia," by Dr. R. Harvey Reed, of Mansfield; "Empyema," by Dr. D. Millikin, of Hamilton; "Vesical Explorations," by Dr. P. S. Conner, of Cincinnati; "Cases connected with Life Insurance Examinations, and Remarks," by Dr. I. N. Himes, of Cleveland; "The Treatment of Spinal Irritation," by Dr. G. W. Ryan, of Cincinnati; "Diseases of the Spinal Cord," by Dr. Philip Zenner, of Cincinnati; "Diseases of the Skin of Reflex Nervous Causation," by Dr. W. T. Corlett, of Cleveland; "Occipito-posterior Positions," by Dr. H. G. Landis, of Columbus; "Abdominal Sections," by Dr. R. B. Hall, of Chillicothe; and "The Voice," by Dr. C. H. von Klein, of Dayton.

The British Medical Association.—At the fifty-third annual meeting, to be held at Cardiff on the 28th, 29th, 30th, and 31st of July, two subjects of great practical importance will be discussed before the Section of Surgery. Mr. Tyrrell, of London, will introduce the subject of "Operative Interference in Intestinal Obstruction," and Mr. Reginald Harrison, of Liverpool, will read a paper introductory to a debate on "Bladder Tumors: their Diagnosis and Treatment."

A Sanitary Convention is announced to be held at Ypsilanti, Michigan, on June 2d and 3d, and July 1st, under the auspices of the State board of health, which will be represented by a committee consisting of Dr. J. H. Kellogg, of Battle Creek, Dr. Henry B. Baker, of Lansing, and Dr. V. C. Vaughan, of Ann Arbor.

The Presbyterian Hospital.—The staff of the hospital has lately been re-organized, and is now constituted as follows: *Consulting Physicians*—Dr. William H. Draper and Dr. Edward G. Janeway. *Consulting Surgeons*—Dr. Frederick Lange and Dr. Charles McBurney. *Visiting Physicians*—Dr. Andrew H. Smith, Dr. Thomas A. McBride, and Dr. William H. Flint. *Visiting Surgeons*—Dr. Charles K. Briddon, Dr. Lewis A. Stimson, and Dr. William S. Halsted.

The University of the City of New York.—The chair of anatomy, made vacant by the death of Professor Darling, has been filled by the appointment of Dr. Lewis A. Stimson.

THERAPEUTICAL NOTES.

Euphorbia Pilulifera in Asthma.—Marcet ("Bull. gén. de thérap."; "Ctrlbl. f. d. ges. Therap.") commends the active principle of this plant in the treatment of asthma. Its action is purely antispasmodic, so that it is useless in bronchitis. The dose is one grain, best given in a watery solution. The author has never found it necessary to give more than a grain and two thirds to produce the therapeutical effect. Dujardin-Beaumetz employs the tincture, the dose of which varies from ten to twenty drops. A syrup also is recommended, each teaspoonful of which contains a grain of the drug.

Boric Acid as a Preventive of Mammary Abscess.—Ressein ("Bull. gén. de thérap."), in a thesis on the use of antiseptics during lactation, says that, if any excoriation is detected, however slight, it should be dressed at once with a solution of boric acid (1 to 30) applied on a compress, the latter being covered with rubber cloth to prevent evaporation. The breast is to be carefully supported by means of proper bandages. Boric acid is preferred to other antiseptics because of its having no odor and not being poisonous.

Sedum Acre in Diphtheria.—Duval, of Madrid ("Siglo Méd."; "Therap. Gaz."), speaks in praise of this remedy, which he has employed in a great number of cases with perfect success. He gives small doses of the decoction every hour. Violent vomiting is produced, during which the false membrane is expelled. Besides loosening the membrane, the drug is said to disinfect the affected surfaces and to prevent fresh deposits. The juice is said to act powerfully as a local astringent.

Sozyglum Jabalonum in Diabetes.—Banetrala ("Rev. de thérap."; "London Med. Record") reports favorably concerning the use of this drug in cases of glycosuria. Within forty-eight hours after its administration was begun the amount of urine was greatly diminished, and there was a complete disappearance of sugar. The rind of the fruit is said to contain the active principle.

Pangium Edulus.—Chatel ("Jour. de méd. de Paris") has written a graduation thesis on the medicinal properties of this tree, which is a native of Java. The active principles are readily extracted by simple maceration of the bark or the leaves in cold water. The drug has decided narcotic properties, and in large doses it causes nausea, headache, and even delirium. It is sometimes employed as an anthelmintic.

A Lotion for Fœtid Perspiration of the Feet.—Martin ("Bull. gén. de thérap.") recommends the following solution:

Permanganate of potassium	15 grains;
Thymol	30 "
Distilled water	30 ounces.

Inner soles made of filtering-paper, cotton, or some like material, are to be moistened with the solution, and new ones should be used every morning.

Veratrine in Muscular Tremor.—Féris ("Jour. de méd. de Paris"; "Therap. Gaz.") recommends this drug in muscular tremor, especially when due to alcoholism or disseminated sclerosis. He gives four pills daily, each containing one one hundred and twenty-eighth of a grain. A cure, he says, may be confidently expected in from a week to two weeks.

Ozonein. Brand ("Jour. de med. de Paris") has discovered a method of condensing ozone and preserving it in a permanent form. This has hitherto been impossible, on account of the rapid change of ozone into oxygen. Ozonein is said to be a powerful disinfectant. Evaporated in hospital wards, it is a valuable means of purifying the atmosphere. It was used with excellent results during the recent cholera epidemic at Toulon.

Original Communications.

HYPERINOSIS

THE CAUSE OF DEATH IN A CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

BY ALLARD MEMMINGER, M.D.,
PROFESSOR OF CHEMISTRY AND HYGIENE IN THE MEDICAL COLLEGE OF SOUTH CAROLINA, CHARLESTON.

THE case which I shall shortly describe, of Bright's disease of the kidneys, is of interest and instructive, because of the decided tendency shown to the formation of fibrin in the blood, and the constant escape of white-blood corpuscles in the urine.

It has been repeatedly pointed out by observers that certain diseases have a special tendency to the formation of fibrin in the blood; for example, in acute articular rheumatism, pneumonia, and capillary bronchitis, this tendency is markedly noticeable; indeed, in all forms of acute inflammation where there has been a proliferation and migration of white corpuscles there is also an increase of fibrin.

According to Virchow, the white globules of the blood are multiplied whenever fibrin is morbidly increased; and, again, according to the same authority, there is a notable difference as regards the amount of fibrin produced in different parts when they are inflamed, hyperinosis being most marked in those abundantly supplied by lymphatic vessels and glands.

The nature and extent of the pathological relations of hyperinosis being not yet settled, it would be difficult for us just now to decide upon rational grounds how far this element enters into the history of all forms of Bright's disease, or else upon what grounds we should institute any special line of therapeutical treatment. What, however, does appear to us very probable is, that, as a proliferation of white-blood corpuscles is accompanied by an increase of fibrin, when these appear in the urine it is a sign of this proliferation; and, being thus apprised, we are in a position to most certainly predict an increase and deposition of fibrin in the circulatory system.

Directing our attention now to those constituents of the blood known as organic, we find that the most important of these are fibrin and albumin. Fibrin is that portion of the liquor sanguinis which solidifies when blood is withdrawn from the vessels, this process being called coagulation. Thus spontaneous coagulation, even when the proportions of fibrin and albumin are normal, takes place on the admission of atmospheric air, but only outside of the human tabernacle, since that vital principle within us called life holds in solution these two constituents; if, however, their relative proportions are changed, a silent, slow, but probably regular deposition takes place all through the circulatory apparatus, being most prominent in those parts in which the blood remains comparatively quiescent the longest, or else where some form of passive congestion has been kept up for a long time. Why this should take place we are as much at a loss to explain as the cause of the spontaneous coagulation of fibrin outside of the body. That this slow coagulation and deposition does take place in life, we are compelled to acknowledge from the fibrinous vegetations found in the heart and elsewhere after death; and that this also occurs when the albumin decreases is also forced upon us, or at least made most probable, since in all chronic cases of Bright's disease we are dealing with impoverished blood, indeed, some characterized by well-marked lukæmia—just such a condition, according to Virchow, productive of an excess of fibrin in the blood.

Having laid before you, in a somewhat hurried way, the salient point that in all cases of Bright's disease save acute tubal nephritis we are dealing with a condition bordering on leukæmia, we may add that in this we have a cause for the formation of fibrin in the system, which in turn keeps up the dropsical condition by the impediment offered the circulation, producing increased blood-pressure, and, consequently, increased albuminous exudation in the urine. I pass on to consider the case in question:

Samuel Butler, an inmate of the Charleston City Hospital, aged twenty-three years, was admitted January 17, 1885, suffering from general dropsy. From this time to the 1st of March, at which date I first saw the case, he was under the general stereotype treatment for dropsy, with occasional improvements and back-sets. A careful inquiry into the history of the case before admission into the hospital disclosed the history of marsh miasm. On examination, I found his kidneys slightly sensitive on pressure, not enough by itself to warrant the idea of acute inflammation; the heart-sounds were feeble, the systole being more so, but hardly more than usual in these anæmic patients; the lungs appeared to do their part quite well, pitch, quality, and intensity of the sounds in each being nearly normal; vesicular murmur clear enough, and, had the diaphragm been allowed free play, there would not have been the apparent difficulty experienced in breathing at times. The liver was slightly enlarged, and a little to the right and nearly under the ensiform cartilage it seemed a little sensitive on pressure. The spleen could not be felt, and the abdominal cavity was filled with fluid which was subject to many variations; at no time, however, was it in sufficient quantity to require paracentesis. His legs, arms, face, feet, and hands were each and all œdematous, but all alike subject to decided degrees of fluctuations. With the foregoing data I instituted an examination of his urine: albumin was constant, but hyaline and epithelial casts were scarce. White-blood corpuscles being found in numbers, I therefore determined the case to be one of Bright's disease in the first stage—namely, the large white kidney. With a view of increasing the urine, thereby diminishing, as I thought, the dropsy, I placed the patient on the use of an infusion of digitalis combined with acetate of potassium. The improvement from this line of treatment, as before said, was only temporary; but to so great an extent did it occur two days before his death that one of my staff remarked that he thought he would now get well. This improvement does not appear, however, in the examination of the urine on the same days, and which is given on the next page.

It is very probable this average diurnal passage of 500 c. c. had been such for some time, for on the seventh, eighth, ninth, and tenth it was as follows: 502, 400, 500, and 480. It is to be regretted also that no albumin determinations were made on these days. I think, however, we might safely conclude it was much the same.

March.	Reaction.	Specific gravity taken at 60° F.	Per cent. of albumin.	Cubic centimetres per 24 hours.	Grammes of albumin dried at 212° F. per 24 hours.
11	Acid.	1017	0·710	500	3·550
12	"	1018	0·610	480	2·928
13	"	1016	0·490	510	2·899
14	"	1015	0·530	500	2·650
15	"	1015	0·530	502	2·660
16	"	1016	0·530	510	2·703
17	"	1013	0·850	480	4·080
18	"	1012	0·570	650	3·705
19	"	1017	0·830	900	7·470
20	"	1016	1·010	400	4·040
21	Patient died.				

Before drawing your attention to the main points of this investigation, as well as the lesson to be learned from this case, I shall briefly relate a summary of the post-mortem appearances:

The lungs showed nothing of special interest; there was a slight congestion of a small portion of the left lung, and apparently of recent origin; there was no evidence of pleuritis, nor was there any fluid in the pleural sacs. In the pericardial sac there was a moderate amount of fluid, and, if this be taken as evidence of pericarditis, it must have been of very recent origin, since during life there were no symptoms pointing to the same, nor did I get any such evidence from my assistant, who saw the case a few hours before death. In the right sides of the heart there appeared vegetative deposits of buff-colored fibrin, and on the endocardial surface of the right auricle there appeared quite a considerable deposit of this sort. From the vena cava ascendens I drew a long plug of thoroughly organized, stringy, buff-colored fibrin, taking the exact mold of the vessel, and at the mouth of the pulmonary artery a plug of fibrin was found, apparently conveyed there by the blood-stream, having in the first instance been detached from the endocardial surface of the heart. This vegetative, fibrinous growth, together with a considerable blood-clot which occupied the cavities of the heart, fully accounted for the suddenness of the death. Indeed, on the morning of his death he seemed to be doing particularly well, when, after rising and walking around, he suddenly became faint, fell on his bed, and expired before medical aid could be obtained. Unfortunately, no examination was made of any other organs save the kidneys, an accident having caused the same. These organs were more or less enlarged, but neither would have weighed over seven or eight ounces; their surfaces were smooth and even, and well deserved the synonym "smooth kidney"; their color was a very distinct white, and was uniform in character; the enlargement was mainly in the cortical portions, and the cones preserved their compact appearance and general outline; the cortical portions were bloodless, and so to a certain extent did the cones themselves partake of this anæmia; a longitudinal incision brought forth a small amount of turbid serum, and, on further inspection, their surfaces appeared dotted with white or, rather, grayish specks. No microscopical examination was made, but, from the appearances just described, I am quite certain the same would have disclosed an accumulation within the uriniferous tubes of disintegrated epithelium, coagulated matter, and possibly a moderate proportion of fatty granules or oil-drops.

Having now completed our review of the post-mortem appearances, I return to the chemical examination of the urine, and invite your attention thereto.

For the sake of control as well as observing the results obtained by different processes, I instituted three methods of analysis: First by the acetic-acid method, then by the nitric-acid method, and finally by the so-called magnesium-sulphate process. I have placed only the results obtained by the first method for your consideration, since a multiplicity of figures would only confuse. I may remark, however, in passing, the other methods gave somewhat lower results, and in the order in which I have placed them. I hope, however, to investigate this matter more closely shortly, and make the same the subject of another paper.

In each case the entire content of urine for the twenty-four hours was taken, a sufficiency carefully filtered, and, after the precipitation and coagulation of the albumin had been effected, the same was weighed on a tared filter, and therefrom the per cent. in weight calculated on the urine by volume.

On reviewing these figures, it becomes quite apparent the specific gravity is no criterion whatever as to the amount of albumin present; for, compare the per cent. of albumin in the urine passed on the 16th with that passed on the 20th, their specific gravities are alike, their per cents. of albumin far apart. Again, the specific gravity, being by some misunderstanding only taken in the albuminous urine, loses all significance as an indicator of solid matter, and, therefore, of drain on the system other than that caused by the loss of albumin.

It is to be regretted that no determinations of urea appear in these columns, seeing the final result of this case. This—apparent oversight—was not deemed necessary, since uric acid appeared in large amounts, and, therefore, it was reasoned there could be but little danger of uræmic poisoning; indeed, I have fallen into what might be called a lazy way of judging of possible uræmia by the amount of uric acid found; if, on qualitative examination, I find considerable amounts of uric acid, I feel pretty safe in letting alone; if, however, I get a negative result, I then proceed to estimate urea.

The watery portion, as also the number of cubic centimetres of urine per diem, is robbed of its significance from the fact that strong diuretics had been constantly used. If, on the other hand, such strong kidney stimulation was attended with no increase of flow, does it not point significantly to the thorough disorganization of the blood—yes, to the loss of balance in the arterial pulse, the ascendency of fibrin in the circulation?

A continued stimulation under these conditions could but bring increased congestion in the already swollen kidneys, and it is indeed doubtful to my mind if, under these conditions, an increase of urine would not be worse for the patient. Compare, for example, the per cent. of albumin passed on the 19th, when, for some unaccountable reason, the urine ran up to 900 c. c. Had this been constant, would not the drain have been much greater, and the end precipitated?

It therefore teaches us, I think, the lesson of caution in the use of these agents, which, as long as the blood remains near normal, may do good, but which, so assuredly as it contains an excess of fibrin, will be injurious.

Indeed, we go so far as to say that when white-blood corpuscles appear in the urine, barring for the present cases of

acute tubal nephritis, strong diuretics are contra-indicated. If such action be deemed necessary, the free use of distilled or, in the absence of the same, of rain water will be sufficient to create a flow and keep open the tubes. The desirability of using a compound highly charged with oxygen, and which at the same time readily parts with its oxygen, has suggested itself to my mind, but as yet I have had no experience in such use; I trust, however, at some future time to test the effects of hydrogen dioxide.

When the use of diuretics is attended with good results, it is, we are inclined to think, from other causes, most probably in cases of acute tubal nephritis, and not in chronic cases, attended with the escape of white-blood corpuscles in the urine. If dropsy is to be combated, we must rely upon diaphoresis and catharsis, and not unnecessarily expose the kidneys to increased congestion and renewed inflammation.

I shall not offer in these cases any line of treatment other than that which has for its aim the renewal and support of the blood-system. Were there a preparation which could increase the albumin in the blood, of course this would meet the requirements; but, with the present state of our knowledge, we must be content with the expectant form of treatment, and, by giving tone and vigor to the system, allow Nature to rebuild her structures, renew her edifice, and make whole again.

AN ANALYSIS OF THE FIRST ONE THOUSAND DEATHS IN THE AMERICAN LEGION OF HONOR.*

By J. FOSTER BUSH, M. D. (Harv.),
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It is a well-recognized fact that valuable insurance statistics are obtained by the classification and compilation of the returns from various sources.

As a contribution to this work I have made an analysis of the first thousand deaths which occurred in a beneficiary organization of which I am a member.

At the time the one thousandth death occurred the order had, in round numbers, 53,000 members, of whom 5,327 were females.

Of the whole number of deaths, 128, or 12 3/10 per cent., were of females.

The ratio of the death-rate was *one* to every fifty-three members, which is in excess of what the death-rate should be.

In our male risks the death-rate was 1·825 per cent., while that of the females was 2·402. Comparing these figures with those given in the "Actuaries' Systems and Tables of Life Insurance," which are 1·028 per cent. for males, and 1·1581 per cent. for females, it will be seen that both our death-rates are in excess, and that especially the death-rate of female risks is more than double the standard rate.

It may be said that the number is too small from which to draw correct conclusions, but they furnish data which, in connection with like reports from kindred organizations, will prove valuable.

The difficulty in making an exact classification (and the chief source of error) lies in the fact that often the death is attributed to two or more diseases, or to diseases of different organs, as, for example, "Typhoid fever and Bright's disease," "Dropsy due to disease of the heart, kidney, and liver," and many other returns of a like nature. In cases of doubt, I have in many instances examined the proofs of death, getting thereby as near the true cause as possible.

The arrangement by tables gives a better idea of the result than any other way.

The following table gives the per cent. of deaths from each class of disease.

Of constitutional diseases the deaths numbered:

From cancer	33, or 3 3/10	per cent.
" phthisis	99, or 9 9/10	" "
" other constitutional causes	23, or 2 3/10	" "
Deaths from the zymotic diseases numbered	182, or 18 2/10	per cent.
" " diseases of the urinary system	48, or 4 8/10	" "
" " " " nervous system	143, or 14 3/10	" "
" " " " circulatory system	74, or 7 4/10	" "
" " " " respiratory system	167, or 16 7/10	" "
" " " " digestive organs	121, or 12 1/10	" "
Unclassified	110, or 11	" "

Concerning the chronic diseases I will go somewhat more into detail. There were 153 deaths from chronic constitutional diseases, 15 3/10 per cent. of the sum total.

Of these, those from cancer may be classed as follows:

Cancer of the stomach	9
" " uterus	5
" " liver	4
" " bowels	2
One each of the stomach and liver, throat, pancreas, and abdomen	4
Location not specified	9

A classification in groups, by ages, gives us:

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	14	11	8
Shortest time in order	5 mos.	1 mo.	4 mos.
Longest time in order	3 yrs.	3 yrs. 4 mos.	3 yrs. 1 mo.
Average	1 yr. 8 1/2 mos.	1 yr. 3 8/11 mos.	1 yr. 8 7/8 mos.

As a comparison of the weight in the cases of death from cancer and from phthisis with the normal average is introduced, as pointing to the advisability of the acceptance of the risk, I have inserted the following table of standard weight, giving also the minimum and maximum limit, so that the contrast may be easily made:

Height.	Minimum limit.	Normal average.	Maximum limit.	Height.	Minimum limit.	Normal average.	Maximum limit.
Ft. in.	Lbs.	Lbs.	Lbs.	Ft. in.	Lbs.	Lbs.	Lbs.
5 0	100	120	140	5 8	118	156	194
5 1	102	124	146	5 9	121	162	203
5 2	104	128	152	5 10	124	168	212
5 3	106	132	158	5 11	127	174	221
5 4	108	136	164	6 0	130	180	230
5 5	110	140	170	6 1	133	186	239
5 6	112	144	176	6 2	136	192	248
5 7	115	150	185				

To show the relative height to the weight, with the increase or diminution of weight from the normal average, the following table of the thirty-three deaths from cancer is given:

* Read before the Boston Society for Medical Observation, December 1, 1884.

No. of death.	Height.	Weight.	WITHIN THE LIMIT ALLOWED, BUT MORE OR LESS THAN THE AVERAGE.	
			More.	Less.
	Ft. in.	Lbs.	Lbs.	Lbs.
61	5 7	130		20
85	5 4	133		3
123	5 6	140		4
137	5 10	138		19
183	5 3	140	8	
197	5 6	130		14
202	5 1	125	1	
326	5 6	188	44	
353	5 7½	150		3
393	5 2	110		14
405	5 2	137½	9½	
458	5 1	100		24 out of limit
472	5 8½	135½		4½
498	5 8	155		1
510	5 11	163		11
513	5 5½	138		4
518	5 4	112		22
555	5 5	135		5
570	5 11	165		9
601	5 8	148		8
607	5 7½	160	7	
631	5 8	156	correct weight	
655	5 1	120		4
729	5 6	155	11	
741	5 4	130		6
784	5 11½	167		10
818	5 8	156	correct weight	
825	5 5	136		4
839	5 10	195	27	
850	5 6½	187	40	Out of limit.
871	5 7	160	10	
900	5 9	148		14
947	5 7	156	6	

An analytic study of these weights in this list of persons dying from cancer gives us ten cases where the weight is in excess of the normal standard, and twenty-one in which the weight is lower than we had a right to expect, while two had the correct relative weight to the height.

In the list of phthisis I have included only those credited to that disease. Undoubtedly, however, some deaths attributed to "pulmonary hæmorrhage," "chronic pneumonia," and "ulceration of the larynx," should have been included under this head. Dividing the whole number into groups, we have:

	Under 15 years of age.	Between 15 and 55.	Over 55.
Number of cases	75	17	9
Death occurred after admission, in the shortest time, in.	3 mos	10 mos.	1 yr.
In the longest time	5 yrs 4 mos.	5 yrs.	3 yrs. 2 mos.
The average time was	1 yr. 7 mos	2 yrs. 1⅔ mo.	2 yrs. ⅓ mo.

The age usually given as the minimum at which those having a phthisical family history can be accepted for insurance as a good risk is thirty-five years, the physical examination showing that no disease exists. But more than three-fourths of those dying of phthisis in this series were under forty-five years of age. It would therefore seem as if the time set by the companies was at too young an age to be safe, and that at forty-five years the risk of death from that cause was better than at thirty-five, and that the former number should be considered the limit rather than the latter. This age, however, is a little above the average age of those admitted to the order, so a slight allowance should be made in this estimate.

Of the other constitutional diseases, twenty-three in number:

The death after admission in the shortest case was 4 mos.
" " " " " " longest case was 2 yrs. 9 mos.
" average for the 23 cases was..... 17 yrs. 8⅔ mos.

Tabulating the ninety-nine cases of deaths from phthisis in the same manner as those from cancer, we have

No. of death.	Height.	Weight.	WITHIN THE LIMIT, BUT MORE OR LESS THAN THE NORMAL AVERAGE.	
			More.	Less.
	Ft. in.	Lbs.	Lbs.	Lbs.
13	5 0	115		5
32	4 11	105		11
38	5 11	152		22
41	5 8½	147		9
95	5 8½	160		1
97	5 9	160		2
107	5 10	135		33
155	5 6½	115		32
161	6 4	145		59
166	5 8	160	4	
193	6 0½	155		28
206	6 0	165		15
216	6 1	155		31
224	5 5	164	24	
246	5 10	200	32	
248	5 10	155		13
250	5 6	135		9
253	5 8	140		16
256	5 10	155		13
259	5 2	130	2	
268	5 5	160	20	
328	5 8	170	14	
331	5 10½	140		31
334	5 9	137		25
339	5 10	145		23
340	5 7	134		16
349	5 5	125		15
352	5 9	150		12
363	5 10	155		13
371	5 10	138		30
373	5 11	145		29
433	5 3	127		5
437	6 1	165		21
448	5 4½	125		12
456	5 8	146		10
465	5 4	115		19
478	5 0	112		8
493	5 11	170		4
496	5 7	145		5
503	5 0½	95	below the limit	27½
523	5 9	160		2
534	5 6	125		19
536	5 4½	122		16
540	6 0½	150		33
546	5 6	145	1	
552	5 10½	174	3	
582	5 10	142		26
592	5 11	145		29
595	5 9½	150		15
596	5 6	172	28	
599	5 10	135		33
600	5 4	130		6
605	5 8	168	12	
610	5 4	135		1
611	5 8	158	2	
624	5 9	150		12
633	5 8	148		8
634	6 0	150		30
649	5 2	103		25
685	5 7	131		19
686	5 9	138		24
700	5 9	145		21
703	5 9½	135		27
705	5 10	155		19
712	5 8	140		16
717	5 4	118		18
719	6 2¼	180		15
720	5 6	195	51	
721	5 8	160	4	
724	5 8	130		14

No. of death.	Height.	Weight.	WITHIN THE LIMIT, BUT MORE OR LESS THAN THE NORMAL AVERAGE.	
			More.	Less.
	Ft. in.	Lbs.	Lbs.	Lbs.
728.....	5 7	135		15
732.....	5 11	137		37
739.....	5 5	134		6
740.....	5 7	125		25
743.....	5 7	137		12
744.....	5 6½	130		17
752.....	5 10	157		11
808.....	5 11	146		28
815.....	5 4	125		11
822.....	5 7	135		15
829.....	5 5	124		16
833.....	5 10½	131		40
842.....	5 11	162		12
844.....	6 0	155		25
847.....	6 0	133		47
854.....	5 8½	124		35
869.....	5 4	135		1
874.....	5 4	120		16
882.....	5 10	175	7	
885.....	5 5	119		21
913.....	5 8	155		1
924.....	5 8	145		11
927.....	5 7½	150		3
936.....	5 5½	127		15
946.....	5 7	136		14
960.....	6 3	218	20	
969.....	5 10½	168		3
999.....	5 3	120		12
1000.....	5 10½	165		6

In comparing the height to the weight in the cases of phthisis, I find that, out of the 99 cases, 15 were over the standard weight, and that 84 were below that given as the right proportion.

Dr. Joel Seaverns, in the "Boston Med. and Surg. Journal," Oct. 23, 1884, says:

"The general directions in companies and societies are that, while the proportion is the natural one, a variation of twenty per cent. in either direction is not to be deemed a cause for rejection. I am inclined to think that, as regards the candidates of light weight, less latitude should be allowed, and that a variation of even fifteen per cent. in that direction makes the risk hazardous." Later in the same article he states that such candidates are exceptionally prone to constitutional disease.

Though I have not calculated the per cent. in the above reported cases, it will be seen that the same general tendency exists, and that the twenty per cent. average is too liberal an allowance on the minimum side.

While these tables of the relative height to the weight do not *prove* that a less weight than the standard is to be considered a bad risk, they show the *probability* of it.

Under the head of deaths from diseases of the urinary organs, the number dying of "Bright's disease" was 21.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases.....	8	7	6
Death after admission:			
Shortest time.....	1 yr. 2 mos.	1 yr. 1 mo.	5 mos.
Longest time.....	2 yrs. 7 mos.	3 yrs. 4 mos.	3 yrs. 2 mos.
Average time.....	2 yrs. 6 mos.	1 yr. 7 mos.	1 yr. 11⅓ mos.

Of nephritis there were nine cases.

Under 45 there were 5; between 45 and 55, 1; over 55, 3.

Death after admission:

Shortest time..... 6 months.
Longest time..... 4 years 3 months.
Average for the 9 cases..... 1 year.

Of deaths from uræmia there were eight.

Under 45 there were 4; between 45 and 55, 1; over 55, 3.

Death after admission:

Shortest time..... 1 year 4 months.
Longest time..... 3 years 9 months.
Average time of death after admission.... 2 years 2⅝ months.

Diseases of the nervous system. There were 44 deaths from apoplexy.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases.....	14	13	17
Death after admission:			
Shortest time.....	1 mo.	1 mo.	1 mo.
Longest time.....	2 yrs. 7 mos.	3 yrs. 3 mos.	3 yrs. 7 mos.
Average time.....	1 yr. 0⅛ mo.	1 yr. 2⅜ mos.	1 yr. 6⅓ mos.

There were 17 deaths from paralysis.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases.....	3	5	9
Deaths after admission:			
Shortest time.....	6 mos.	6 mos.	1 mo.
Longest time.....	3 yrs. 8 mos.	3 yrs. 1 mo.	2 yrs. 3 mos.
Average.....	2 yrs. 1 mo.	1 yr. 8⅔ mos.	1 yr. 3¾ mos.

There were 23 deaths from heart disease.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases.....	6	5	12
Average time of death after admission to the order..	1 yr. 8⅔ mos.	1 yr. 3½ mos.	1 yr. 8⅝ mos.

The rest of the deaths given under the head of the circulatory system were from:

Aneurysm..... 5
Valvular disease..... 4
Fatty degeneration of the heart..... 5
Hypertrophy of the heart..... 5
Angina pectoris..... 6

Dividing these into two classes—one containing those under 55 years, the other those over 55 years of age—we have the average time of death after admission as follows:

	Under 55.	Over 55.
Aneurysm.....	1 mo.	1 yr. 7 mos.
Valvular disease.....	2 yrs. 6 mos.	1 yr. 4 mos.
Fatty degeneration.....	1 yr. 10 mos.	1 yr. 3 mos.
Hypertrophy.....	1 yr. 5 mos.	1 yr. 2 mos.
Angina pectoris.....		1 yr. 2 mos.

Under the head of "unclassified" are recorded four cases of death from the puerperal condition. The number dying of disease depending upon gestation was seven, but one is classed under the head of pyæmia, one under peritonitis, and one under albuminuria.

Dr. Wilson, in his report for 1882, alluded to the subject of pregnancy and the effect it had on life, and quoted authorities to show that such cases were not bad risks. The percentage of seven one hundredths of one per cent. tends to show that he was right, though personally I regard pregnancy as a sufficient ground for rejection, the risk from intercurrent and subsequent diseases being very great.

Those classed under the head of "suicides" number 25, $2\frac{5}{10}$ per cent., though undoubtedly some deaths included under the head of "accident" and "overdose of medicines" might properly be classed as from self-destruction.

Of this number, it was not stated what means was employed in	16	cases.
Poison was used in	4	"
The pistol was used in	2	"
Hanging in	3	"

Classified according to the States:

New York	4	Wisconsin	2
California	4	Indiana	1
Ohio	3	Illinois	1
Pennsylvania	3	Missouri	1
Texas	2	North Carolina	1
Massachusetts	2	Virginia	1

Concerning the acute diseases I have nothing in particular to say. It was through the courtesy of the secretary, Mr. Adam Warnock, that the records of the office were placed at my disposal, and I have to thank him and his efficient clerks for aid in looking up the facts necessary to the preparation of this paper, which, in a tabulated form, gives the deaths by States, and those dying of each disease.

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
CONSTITUTIONAL DISEASES.									
Phthisis	15	18	12	20	10	12	5	7	99
Cancer	..	1	4	2	5	4	6	11	33
Rheumatism	..	..	2	2	1	1	..	2	8
Dropsy	..	1	..	..	1	4	2	1	9
Anæmia	..	..	1	..	..	..	..	..	1
Necrosis of the sternum	..	..	1	..	..	..	..	..	1
Granular synovitis	..	..	..	1	..	..	..	..	1
Ovarian	..	..	..	..	1	..	..	..	1
Marasmus	..	..	..	..	1	..	..	..	1
Inanition	..	..	..	..	..	..	..	1	1
Total	15	20	20	25	19	21	13	22	155
ZYMOTIC DISEASES.									
Typhoid fever	9	14	6	9	6	8	3	7	62
Typho-malarial fever	2	6	3	3	5	3	2	4	28
Malarial fever	2	3	4	2	2	..	2	2	17
Pyæmia	1	1	3	3	2	1	3	..	14
Congestive fever or congestive chill	1	1	1	2	..	1	1	2	9
Erysipelas	..	..	1	1	1	..	3	3	9
Remittent fever	..	1	2	1	..	..	2	3	9
Dysentery	..	1	1	3	1	..	1	2	9
Small pox	..	..	2	1	..	..	1	..	4
Diphtheria	1	..	1	1	..	..	..	..	3
Intermittent fever	..	..	..	1	1	..	1	..	3
Carbuncle	..	..	..	..	1	..	..	2	3
Typhus fever	..	..	1	1	1	..	..	..	3
Cholera	1	..	..	..	..	..	1	1	3
Yellow fever	..	1	1	..	..	..	..	..	2
Diarrhœa	1	..	1	..	..	..	..	..	2
Scarlet fever	1	..	..	..	..	..	..	..	1
Cholera morbus	..	..	..	..	..	..	..	1	1
Total	19	28	27	28	20	13	20	27	182
DISEASE OF THE URINARY ORGANS.									
Bright's disease	..	2	..	3	2	4	4	6	21
Nephritis	..	..	1	1	3	1	1	2	9
Uræmia	..	..	..	..	1	..	1	3	8
Cystitis	..	..	..	1	..	..	3	1	5
Hæmaturia	..	..	..	..	..	1	..	..	1
Addison's disease	..	..	..	1	..	..	..	..	1
Diabetes	..	..	1	..	..	..	1	2	2
Tumor of the kidney	..	..	..	..	..	..	..	1	1
Total	..	2	5	6	6	6	9	14	48

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
DISEASES OF THE NERVOUS SYSTEM.									
Apoplexy	1	3	3	3	5	5	8	16	44
Paralysis	..	..	2	1	..	1	4	9	17
Congestion of the brain	4	3	4	4	2	3	1	1	22
Meningitis	..	2	2	1	1	2	3	1	12
Cerebro-spinal meningitis	2	1	1	1	..	1	..	2	8
Paresis (cerebral)	..	1	1	2	2	1	2	3	12
Disease of the brain and spinal cord	..	1	..	1	1	..	..	2	5
Inflammation of the brain	..	1	..	..	3	2	2	..	8
Compression or concussion of the brain	..	..	..	1	1	..	..	2	4
Insanity	..	1	..	..	1	..	..	1	3
Nervous exhaustion	..	..	..	..	..	..	1	1	2
Tetanus	..	..	..	1	..	..	1	..	2
Abscess of the brain	..	..	..	1	..	..	..	..	1
Myelitis	..	..	..	1	..	..	..	..	1
Convulsions	..	..	1	..	..	..	..	..	1
Embolus	..	..	..	..	..	1	..	..	1
Total	7	13	14	17	16	16	22	38	143
DISEASES OF THE CIRCULATORY SYSTEM.									
Heart disease	..	..	..	3	3	1	4	12	23
Valvular disease	..	..	1	..	1	..	1	6	9
Fatty heart	..	..	..	..	..	1	1	5	7
Angina pectoris	1	..	..	..	..	..	1	4	6
Aneurysm	..	..	..	..	1	..	..	4	5
Paralysis of the heart	..	..	1	1	..	..	1	2	5
Rheumatism of the heart	..	..	..	..	..	1	..	2	3
Pericarditis	..	..	..	..	..	1	..	..	2
Embolism	..	..	1	..	..	..	..	1	2
Dilatation of the heart	..	..	..	1	..	..	1	..	2
Hydro-pericardium	..	..	..	..	..	..	1	1	2
Syncope	..	..	..	1	..	..	..	..	1
Exophthalmic goitre	..	..	1	..	..	..	..	..	1
Endocarditis	..	..	1	..	..	..	..	..	1
Hypertrophy of the heart	..	..	1	1	1	1	..	1	5
Total	1	..	6	7	6	5	11	38	74
DISEASES OF THE RESPIRATORY SYSTEM.									
Pneumonia	6	11	14	18	16	10	17	25	117
Bronchitis	..	2	..	1	..	3	3	1	10
Congestion of the lungs	..	2	1	..	..	1	3	2	9
Disease of the throat and tonsils	..	2	3	..	1	..	2	..	8
Hæmorrhage of the lungs	1	..	2	1	1	..	..	..	5
Pleuritis	..	..	..	..	..	1	1	1	3
Abscess of the lung	..	1	..	..	..	..	..	1	2
Asthma	..	..	..	..	..	..	..	2	2
Asphyxia	..	..	..	..	..	..	..	..	2
Empyema	..	1	1	..	..	..	..	..	2
Œdema of the lung	..	..	..	2	..	..	..	..	2
Inflammation of the lung	..	..	..	..	..	..	..	1	1
Pneumo-hydrothorax	..	..	..	..	1	..	..	..	1
Apnœa	1	..	..	..	..	..	..	..	1
Disease of the lung	1	..	..	..	..	..	..	..	1
Total	9	19	23	21	19	15	30	31	167
DISEASES OF THE DIGESTIVE ORGANS.									
Stomach:									
Inflammation of	..	..	1	..	1	2	1	3	8
Ulceration of	..	2	..	..	..	1	..	3	6
Hæmorrhage of	..	..	..	2	..	..	..	1	3
Congestion of	..	..	1	..	..	..	1	..	2
Stricture of	..	..	..	1	..	..	..	..	1
Liver									
Cirrhosis	..	1	..	..	1	2	..	5	9
Jaundice	1	..	..	2	..	..	1	..	4
Atrophy of	..	..	..	..	..	..	2	1	3
Hypertrophy of	..	..	..	..	..	..	..	1	1
Hepatic colic	..	..	..	1	..	..	..	1	2
Disease of	..	..	..	..	..	1	..	..	1
Congestion of	..	..	..	..	..	..	1	..	1
Inflammation of	..	..	3	3	4	2	3	2	17

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
Bowels:									
Peritonitis	5	1	5	2	1	4	2	1	21
Inflammation of	1	1	1	2	3	2	3	2	15
Congestion of	..	..	..	1	..	..	2	..	3
Hæmorrhage of	1	..	..	..	..	1	1	..	3
Ulceration of	..	..	2	..	..	2	..	..	4
Bilious colic	..	..	..	..	..	1	..	..	1
Paralysis of	..	..	1	..	..	..	..	..	1
Gastro-duodenal	1	1	..	..	..	1	..	..	3
Hernia	..	..	..	..	..	..	..	2	2
Gastro-enteritis	..	1	..	1	..	1	..	..	3
Disease of the pancreas	..	..	..	1	..	..	..	..	1
Enlargement of the spleen	..	..	1	..	..	..	..	..	1
Fæcal impaction	..	..	1	1	..	..	..	1	3
Intestinal obstruction	..	1	..	..	..	..	..	1	2
Total	9	8	16	17	10	21	16	24	121

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
UNCLASSIFIED.									
Accident	2	2	9	3	7	5	3	4	35
Suicide	1	1	3	6	7	2	2	3	25
Murder	..	..	2	..	1	..	..	..	3
Overdose of medicine	1	..	..	1	..	1	..	..	3
Sunstroke	..	..	..	..	..	..	1	..	1
Surgical operation	..	..	..	..	..	..	1	1	2
Pistol or gunshot wounds	1	..	5	5	2	2	1	..	16
Drowning	..	2	2	3	3	2	..	..	12
Scalds and burns	..	2	1	1	..	..	..	..	4
Internal hæmorrhage	..	..	1	..	..	..	..	..	1
Puerperal condition	1	1	2	..	..	..	..	..	4
Unknown	..	..	1	..	..	..	..	..	1
Judgment of the court	..	..	..	..	..	..	..	2	2
Total	6	8	26	19	20	13	8	10	110

TABLE OF DEATHS FROM 1 TO 1,000, INCLUSIVE, OCCURRING IN THE AMERICAN LEGION OF HONOR, FROM SEPTEMBER 5, 1879, TO MARCH 1, 1884. SHOWING THE NUMBER OF DEATHS IN EACH STATE, THE CAUSE OF DEATH, AND THE NUMBER DYING OF EACH CAUSE, WITH THE NUMBER OF MEMBERS IN EACH STATE, AND THE RATIO OF DEATHS.

STATES.	CONSTITUTIONAL			Zymotic Diseases.	Disease of Urinary Organs.	Disease of Nervous System.	Disease of Circulatory System.	Disease of Respiratory Organs.	Disease of Digestive Organs.	Unclassified.	Total.	Male.	Female.	Total.	Number of members.	Ratio of death, 1 to
	Cancer.	Other Constitutional Diseases.	Phthisis.													
New York	6	2	16	25	11	23	12	30	19	23	167	142	25	167	10,263	61.4
Texas	2	3	5	35	3	13	1	21	19	13	115	92	23	115	3,221	28.0
Massachusetts	6	2	22	15	8	14	7	12	16	10	112	95	17	112	5,625	50.2
Pennsylvania	3	1	13	24	5	16	7	13	6	8	96	93	3	96	5,795	60.3
California	1	3	3	14	2	10	9	8	11	12	73	56	17	73	3,644	49.9
New Jersey	2	2	9	8	4	5	4	12	1	3	50	44	6	50	3,013	60.2
Ohio	2	3	4	8	2	6	2	8	6	7	48	45	3	48	2,089	43.5
Georgia	..	1	2	13	1	10	2	3	7	3	42	38	4	42	1,369	30.6
Maryland	..	2	3	1	2	3	6	7	3	2	29	28	1	29	1,951	66.2
Wisconsin	2	..	6	3	1	2	3	8	..	3	28	24	4	28	1,595	21.8
Virginia	..	1	3	2	..	5	5	6	1	3	26	23	3	26	1,072	41.2
Missouri	1	1	..	1	1	4	1	7	5	4	25	20	5	25	2,007	80.2
Illinois	..	..	3	5	..	2	1	6	2	5	24	23	1	24	1,738	72.4
Tennessee	..	1	2	9	2	..	2	..	2	4	22	20	2	22	705	32.0
North Carolina	1	..	2	4	..	2	3	4	3	1	20	17	3	20	807	40.3
District of Columbia	2	1	1	..	1	2	3	5	4	..	19	18	1	19	648	34.1
Arkansas	..	..	..	2	1	4	1	5	2	1	16	16	..	16	382	23.8
Mississippi	..	..	..	2	..	1	1	4	4	..	12	9	3	12	590	49.1
Louisiana	..	..	..	5	..	4	1	1	..	..	11	10	1	11	1,070	97.2
Maine	1	..	2	1	1	1	1	..	1	1	9	9	..	9	508	56.4
Alabama	..	..	..	2	..	4	..	..	1	1	8	7	1	8	457	57.1
Minnesota	..	..	1	1	..	2	..	..	3	..	7	7	..	7	360	51.4
West Virginia	..	..	..	..	1	3	..	1	..	1	6	6	..	6	212	35.3
South Carolina	..	..	..	..	1	3	..	..	..	1	5	5	..	5	528	105.6
Iowa	1	..	..	..	..	2	..	1	..	2	6	6	..	6	256	42.6
Rhode Island	1	..	1	..	..	..	..	..	1	1	4	4	..	4	465	116.2
Nebraska	..	..	..	1	..	1	..	..	1	1	4	3	1	4	318	79.5
Canada	..	..	..	..	..	1	..	2	1	..	4	4	..	4	70	17.5
Indiana	..	..	1	..	..	..	1	..	1	..	3	3	..	3	86	28.6
Kentucky	..	..	..	..	1	..	..	..	1	..	2	2	..	2	128	64
Connecticut	1	..	..	..	..	..	1	..	..	..	2	2	..	2	289	144.5
Oregon	..	..	..	1	..	..	..	1	..	..	2	..	2	2	88	44
Michigan	1	..	..	..	..	..	..	..	..	..	1	..	1	1	146	146
New Brunswick	..	..	..	..	..	..	..	1	..	..	1	1	..	1	132	132
Sandwich Islands	..	..	..	..	..	..	..	..	1	..	1	..	1	1	76	76
Total	33	23	99	182	48	143	74	167	121	110	1,000	872	128	1,000	52,868	
Male	22	19	86	156	43	132	66	146	103	99			872			
Female	11	4	13	26	5	11	8	21	18	11		128				
Total	33	23	99	182	48	143	74	167	121	110		1,000	1,000			

The Value of an Autopsy.—A consultation was held by four physicians. The patient asked his attending physician the result of their deliberation. He was told an agreement could not be arrived at; that three of the doctors were of one opinion, while he (the attendant) held another. "How, then, will the matter be settled?" anxiously asked the patient. "The autopsy will decide the question," was the reply.

HÆMATURIA.

By H. RAPHAEL, M. D.,

ATTENDING PHYSICIAN TO BELLEVUE HOSPITAL OUT-PATIENT DEPARTMENT, CLASS OF GENITO-URINARY DISEASES AND SYPHILIS.

(*Concluded from page 580.*)

It was formerly supposed to be possible to diagnosticate hæmorrhage from the kidney or from the bladder by the aid of litmus-paper. But in profuse hæmorrhage the alkaline blood totally neutralizes the acidity of the urine, and the urine will react alkaline though the bleeding is not from the bladder. Moreover, the urine may have been rendered alkaline by the use of alkalies or mineral waters taken by the patient, or, where chronic cystitis complicates the disease, the pus will completely neutralize the acidity of the urine; in such cases we may have an alkaline reaction of the urine in hæmorrhage from other points than from the bladder. Again, we often see bleeding from the bladder with markedly acid reaction of the urine. This is generally the case where *no* purulent catarrh of the bladder is present and where the hæmorrhage is capillary. Thus the mere reaction of the urine on litmus-paper is of no value whatever.

But the presence or absence of carbonate of ammonium in the urine is of more importance. Where it is present in considerable quantities, it is highly probable that the bleeding comes from the bladder, the urea of the urine, as a result of decomposition in consequence of the abnormal cystic contents, having been converted into carbonate of ammonium. Hence the presence of ammonio-magnesian-phosphatic crystals in the sediment of the urine is of the utmost importance in the diagnosis of bleeding from the bladder, because these crystals incontestably prove the presence of carbonate of ammonium in the urine.

The presence of carbonate of ammonium in the urine is readily detected by its pungent odor. Vogel advises boiling some of the urine in a test-tube tightly corked, through which a piece of glass tubing is fixed containing a strip of moistened red litmus-paper. The escaping moisture carries with it the vapor of the ammonia that is present over the litmus-paper, converting the red into a blue color. A more handy method, but not quite so certain, is to dip a strip of red litmus-paper in the urine, noting the intensity of the change to blue, and then allowing it to become dry. If the now blue-colored paper becomes red again, it is proof that a volatile alkali was present, producing that color; but, if the paper remains distinctly blue on drying, it shows that a fixed alkali (most likely carbonate of sodium) is present. This test is, however, only effectual in distinctly alkaline urine.

The color of the urine is often of material aid in the diagnosis. Reddish-brown or coffee-colored urine has always been regarded as containing blood from the kidney, and bright-red colored urine has been ascribed to bleeding from the bladder. In the main these conditions hold good. The brown and reddish-brown colors of hæmaturia are due to decolorized hæmoglobin, and can only occur in those cases where blood and urine well mixed are retained for some time in the urinary organs. This is generally seen in capillary hæmorrhages, the blood and urine being mixed slowly, drop by drop, the blood corpuscles being slowly acted upon by the warm urine, corroding them, the component parts of the urine finally transforming the red hæmoglobin into the brownish methæmoglobin. As a marked example of this kind we may mention capillary hæmorrhage of the bladder due to carcinoma of that organ. In more active hæmorrhage, for instance, in cases of rupture of a larger blood-vessel in the bladder, the case is altogether different. Here a large amount of blood is poured out at once into the urinary apparatus, generally into the bladder, distending it suddenly, and this sudden distension of the bladder stimulates it to expel its contents, and the blood is evacuated long before the component parts of the urine have an opportunity to disorganize the hæmoglobin and blood corpuscles. Hence, since hæmorrhage from the bladder is usually due to rupture of a larger blood-vessel, and bleeding from the kidney is most frequently of capillary origin, the brownish-red or brownish-black colored urine is ascribed to bleeding from the latter, while the bright-red or blood-red color is diagnostic of the former.

The specific gravity of the urine in hæmaturia is only of importance from a diagnostic point of view, from the fact that hæmorrhage from the pelvis of the kidney and from the kidney proper not infrequently is attended by such diseases of these organs (pyelitis) as give rise to polyuria, which of itself produces a lowering of the specific gravity of the urine, while bleeding from the bladder with co-existing cystitis is but seldom attended by polyuria, the urine itself, as regards its specific gravity, remaining normal.

The form of the coagula, when present, will often enable one to ascertain the source of the hæmorrhage. If the coagula have the appearance of recently solidified blood, are soft, and dark-red in color, it is evident that the blood has but recently been poured out, not yet being bleached by the urine; but if the coagula are of a pale or dirty yellow color, looking like flesh, it is plain that they have been for some time in the urinary organs and been subjected to the action of the urine. Simon says that short or oblong bleached, or dirty-yellow colored coagula generally originate in the dilated pelvis of the kidney, and appear in the urine some time after severe bleeding of the kidney. Irregularly shaped, torn, ragged, or broken coagula are supposed to come from the bladder; but they are not at all characteristic, for the bleeding spot may be in the kidney just as well as in the bladder, the blood having reached the bladder in a liquid condition and then become coagulated. They do not invariably occur in hæmaturia. They are never seen in capillary hæmorrhage, because here every drop of blood exuded is immediately mixed with an equal, if not larger, amount of urine, and are only met with where the bleeding is profuse, or in places in which the quantity of the blood exceeds the amount of urine present—for instance, in the pelves of the kidneys and the ureters; they only occur in the bladder when that viscus is well-nigh free from urine.

The microscopical examination of the sediment of the urine affords very important data in cases of hæmorrhage of the kidney. In capillary hæmorrhage of the kidney, *roulaux* of blood corpuscles or casts and epithelium-cells of the kidney, tinged brown by the coloring matter of the

blood, are present; nothing, however, characteristic of hæmorrhage from the kidney is found in the sediment of the urine in cases of bleeding from larger vessels. Doubtless some epithelial cells are washed away by the blood-stream, but they are not easily found, and the microscope detects nothing but blood corpuscles in the sediment. Nor does the microscope show anything characteristic in cases of bleeding from the bladder, save where a cystitis is at the same time present; in that case a greater number of epithelial cells from the mucous membrane lining the bladder, and crystals of phosphate of ammonium and magnesium, are found.

The source of the hæmorrhage may be in the kidney and its pelvis, in acute fevers, for instance, or in parenchymatous nephritis, in calculi of the kidney, thrombosis, neoplasms, and injuries of the kidney, the use of poisonous drugs; from the bladder, injuries, neoplasms, calculi, ulcerations of the neck of the bladder; from the urethra, in acute inflammations and injuries due to accidents or the use of instruments.

As an extended discussion of these various morbid conditions would prolong this article very much, since its object mainly is the description of the most practical measures that are best calculated for the treatment of hæmaturia, I intend briefly to describe those remedies only which have been found most useful in arresting bleeding from the genito-urinary organs.

In the treatment of hæmaturia, both local and general remedies may be required. In the milder form the bleeding will often cease spontaneously, or at the most local remedies alone will suffice; but, where the hæmorrhage is so profuse as to endanger life, the best known hæmostatics, both general and local, will have to be employed. But, be the hæmorrhage profuse or not, the physician should insist that the patient should rest in bed with his hips elevated. Cold in the form of wet compresses, applied over the renal region or over the pubes and perinæum, is very useful. Bladders filled with ice placed upon these wet compresses will keep them cold for an indefinite length of time, and avoid the necessity of changing them often. In bleeding from the bladder, cold-water enemas and injections into the bladder itself, by the aid of a catheter, will often be of the utmost service; no metallic catheter, however, should be employed, as it often aggravates the bleeding. In using cold-water injections into the bladder, care should be taken to ascertain that no large coagula have formed in that viscus. Some surgeons advise first removing the coagula by the aid of a large-sized catheter and suction syringe. It must not be forgotten, however, that the efforts to remove the coagula and the use of instruments in the bladder are apt to give rise to fresh bleeding; hence these measures are only to be resorted to when other measures have failed. If the coagula have become solidified, and it is found impossible to extract them by the aid of a catheter and syringe, and the bladder is unable to expel them by its own expulsive efforts, it will be best to leave them to the action of the urine, which sooner or later becomes decomposed, giving off carbonate of ammonium, which, in its turn, acts quickly upon the clots, decomposing and disorganizing them, causing them to break down and to crumble away, and they are then readily expelled by the contractions of the bladder and washed away by the stream of urine through the urethra. It will, however, scarcely ever be necessary to use instruments for the removal of bloo d-clots from the bladder; and most writers on the subject are of the opinion that it is hazardous to do so. One of the most efficient remedies for the arrest of hæmorrhage from the kidney or bladder, according to my experience, is dry cups over the kidneys or hypogastric region. The *modus operandi* of this remedy needs scarcely to be explained here. From twenty to thirty dry cups may be applied and reapplied if necessary. In one very severe case of hæmaturia all known remedies failed to arrest the bleeding till the patient was cupped. Where the bleeding is due to fissures or ulcers of the neck of the bladder, blisters to the perinæum are often very efficacious. In an unusually interesting case of hæmaturia due to this cause, reported by me in the "New York Medical Journal," May 26, 1883, the hæmorrhage was finally arrested and the patient cured by the application of two blisters over his perinæum. Internally, ergot in liquid form, thirty to forty drops every hour of the fluid extract, or ergotin, hypodermically, is often an efficient hæmostatic.

In protracted hæmorrhage due to exuberant neoplasms in the bladder, Sir H. Thompson recommends the use of a solution of nitrate of silver injected into the bladder through a catheter. A mild solution (gr. j to water ʒ ij) should be used at first, and gradually increased in strength if necessary.

Urethral hæmorrhage is readily controlled by the use of cold water injected into the urethra, and, should this fail to arrest the bleeding, the penis should be compressed with strips of adhesive plaster or bandage, with a catheter in the urethra.

As an instance of a grave form of hæmaturia, the following case may be mentioned here, if only to show how difficult it is sometimes to locate the site of the lesion:

Francis D., aged forty-two, married, merchant, was hurt by being jammed between an iron gate and the frame, the gate striking him in the median line of the body. About half an hour afterward, on attempting to urinate, the stream was preceded by a clot; the urine that followed was more or less mixed with blood; his under-clothing and lower extremities, on examination, were found to be bloody. He had severe pain in the region of the right kidney, extending downward to the right testicle and glans penis, and also over the pubes. He was obliged to micturate frequently. Sometimes the urine was bloody, then again it would be clear; sometimes he passed clots of blood, and often drew out long, vermiform clots from the urethra. He had more or less pain both before, during, and after micturition; as soon as urine or blood collected in the bladder the pain recurred, and he would be obliged to urinate again. His appetite was bad, his sleep was disturbed, his pulse ran up to 98, and his temperature to 102°. He had a pinched, haggard expression, moaned a good deal, and was distressed, no matter what position he assumed. He had evidently lost a good deal of blood before I saw him, as he was pale and anæmic. I gave him morphine (hypodermically) for the relief of the pain, and ordered cups to be applied over the region of the kidney for the arrest of the bleeding, both succeeded admirably, and enemas to clear out his bowels. When the urgent symptoms had subsided I ex

amined, by the aid of bougies, and found a stricture at the bulbous portion of the urethra, which would not admit a 14 F. bulb sound. This was subsequently confirmed by Dr. Stephen Smith, who was of the opinion that it was the result of a laceration of the urethra, which occurred at the time of the accident, and was the lesion that gave rise to the bleeding. Patient recovered from his hæmaturia, but has not yet regained the full caliber of his urethra. Since the accident he has also, he states, been impotent, having lost all virile powers.

In this case it was impossible to locate the site of the lesion from the appearance of the urine, it varied so both in character, quantity, and color. The chief location of the pain, the right lumbar region, would seem to indicate that the right kidney had sustained an injury, while the formation of long, vermiform coagula, and the subsequently discovered lesion of the urethra, would have justified the conclusion that the bleeding was caused by an injury anterior to the neck of the bladder. I am very much inclined to the belief that both conditions obtained here, and their co-existence is not incompatible under the circumstance.

Book Notices.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume I. Pathology and General Diseases. Philadelphia: Lea Brothers & Co., 1885. Pp. 14–35 to 1094, inclusive.

The names of the editors and their collaborators are a sufficient guarantee that this work is not one of those compilations such as flood the medical publishers, and the medical public, at the present day.

It is impossible to present more than a brief *résumé* of the contents of the book in a short notice. The first one hundred and twenty-five pages are devoted to a discussion of "General Morbid Processes." The writer, Dr. R. H. Fitz, has succeeded admirably in compressing his broad subject into the narrow limits assigned to it. He has brought it fully up to date, and, while concise, he is never obscure. It is not every writer who possesses the ability to infuse life into such a well-worn theme.

Dr. Hartshorne writes on "General Etiology, Medical Diagnosis, and Prognosis." His subject is a broad one to be discussed in fifty pages, so that the matter of diagnosis must necessarily be skimmed over in a manner that is anything but satisfactory.

Dr. Billings contributes a short, but suggestive, article on "Hygiene." He divides his subject as follows: I. Causes of disease, means of discovery and prevention. II. Personal hygiene in its relations to the practice of medicine. III. Public hygiene in its relations to physicians. The article is marked by the author's well known, strong common sense: the style is clear and forcible.

Mr. George E. Waring has a short paper on "Drainage and Sewerage."

The second division of the work includes "General Diseases," which are thus subdivided:

Dr. Hutchinson writes on simple, continued, typhoid, and typhus fevers. The article upon "Typhoid Fever" comprises a hundred pages, and is most interesting and exhaustive; the treatment is particularly good.

Dr. Pepper's excellent article on "Relapsing Fever" leaves nothing unsaid. The criticism might be offered that its length was rather greater than was justified by the relative importance of the subject. But it should be remembered that, in a book which is the joint product of so many minds, a certain unevenness in the length and character of the articles is unavoidable.

"Variola," "Varicella," and "Erysipelas" are briefly, but satisfactorily, treated by Dr. Hyde.

Dr. J. Lewis Smith has an interesting monograph upon "Scarlet Fever," which, however, might have been greatly condensed by the omission of a number of reports of cases, and the simplification of the matter of treatment.

Dr. Hardaway avoids these errors in writing on "Rubeola."

Only eighteen pages are allowed to "Malarial Fevers," a curious inconsistency, since over three times as much space is given to relapsing fever.

There is a good *résumé* of "Yellow Fever," by Dr. Bemiss. The article on "Diphtheria," by Dr. Jacobi, is the most elaborate and scholarly of all. "Cholera" is thoroughly discussed by Dr. Stillé, the section on ætiology showing an immense amount of research. Koch's theory receives careful attention. The able article on "Epidemic Cerebro-spinal Meningitis" is by the same author. Dr. Keating writes on "Pertussis," Dr. Wilson on "Influenza."

Among the closing essays, by far the most important are Dr. Watson's on "Pyæmia and Septicæmia," and Dr. Lusk's on "Puerperal Fever." Dr. Lusk's ideas upon this subject are already well known, so that it is only necessary to add that the present article is a thoughtful exposition of the latest views upon this subject, marked by the thoroughness of research and by the lucid style which distinguish this author's writings. The paragraph upon treatment is particularly good.

In conclusion we desire to add that the volume is very creditable to the American profession. Imperfections it has, without doubt, but they are largely such as can with difficulty be avoided in a work which covers so much ground, and bears the impress of so many different hands. We trust that in the next volume there will be an effort made to adapt the length of each paper to the importance of its subject.

The type, binding, and general appearance of the book are excellent.

Elements of Surgical Diagnosis. By A. Pearce Gould, M. S., M. B. Lond., F. R. C. S. Eng., Assistant Surgeon to the Middlesex Hospital, etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. viii–584.

The author of this little work enjoys an enviable reputation as a teacher of surgery, so that the book with which his name is associated will be sure to carry with it the promise of usefulness. The reader will not be disappointed in any expectations which he may have formed. The simple, unpretending volume is, like its author, accurate and scholarly. No important facts with reference to surgical diagnosis have been omitted, but the criticism which we feel obliged to make is that the arrangement of these facts is not always a felicitous one. We are impressed with the amount of valuable information that is contained in every page, yet it is not so disposed as to be accessible at short notice. Doubtless the demands of the publisher required the condensed form of the paragraphs, but the appearance of the text, as well as the convenience of the reader, would have been better consulted if the symptoms had been arranged so far as possible in columns. In his discussion of the different subjects the author follows a natural sequence. Treating of general diagnosis first, he next considers injuries of the head, spine,

neck, chest, abdomen, and pelvis; then injuries of the upper and lower limb. He next discusses tumors, swellings, ulcers, and gangrene; this includes the first twenty-two chapters of the work. Chapters XXIII to XLIV, inclusive, deal with the diagnosis of surgical diseases, the same order being observed as in the case of injuries. In other words, the author divides his book into two parts, one of which is devoted to injuries and the other to diseases. This is certainly convenient for reference, however it may differ from the traditional custom of surgical writers.

Among the many excellent chapters we notice particularly those on injuries of the head and spine and on special injuries of the limbs. Chapter XV, on "The General Diagnosis of Swellings and Tumors," is a long and excellent one. The paragraph upon "Fluctuation" (page 255) contains the clearest and most practical directions that we have read for avoiding errors in the detection of this important sign. The chapters upon diseases of the joints, of the breast, of the testicle, and of the urinary organs are very good. The closing chapters upon affections of the hand and foot are very brief, and are not quite so thorough as the others.

To characterize Mr. Gould's system in a few words, we should say that it was eminently analytical and practical. He believes in using common sense above all in making a diagnosis, and, moreover, in following a method. In our opinion his book will prove an invaluable aid to students, and it will be an excellent idea for practitioners to acquire the habits of care and accuracy which it inculcates. But the best thing about Mr. Gould's book is that it is not a compilation; it is the outgrowth of experience, and is correspondingly valuable.

A Hand-book of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues, by FRANCIS DELAFIELD, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. MITCHELL PRUDDEN, M. D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York, etc. New York: William Wood & Co., 1885. Pp. xvi–575.

As is stated in the preface, this book is really a second edition, although it has received so many additions as to be essentially a new work.

A glance at the table of contents will show that its scope of the work is a broad one. Part I, comprising forty-six pages, contains directions for making post-mortem examinations and some general hints with reference to the preservation and preparation of pathological specimens. Part II, including pages 47 to 154, covers a wide range of subjects, embracing general changes in the blood and tissues, animal parasites, bacteria and their relation to disease, inflammation, and tumors. Part III extends from page 154 to page 483, and treats of the pathological changes in all of the separate organs of the body, including the bones and the muscle. Part IV is devoted to concise descriptions of the lesions found in several general diseases, as well as after death from accidents, poisoning, etc.

The strong point of the book lies in its admirable illustrations. We desire to call particular attention to the drawings in the section on "Tumors," as being beautifully and faithfully executed. The subject of the "Respiratory System" is also finely illustrated. The text is necessarily concise, but in most instances no important facts have been omitted. The authors follow Orth in the plan of their hand-book, but they happily avoid the extreme brevity and frequent obscurity which mar that writer's style. The sections upon the nervous and respiratory systems are specially valuable. The student will be puzzled by the seven distinct varieties of Bright's disease, a description of which will be found under the head of "The Urinary Apparatus." Under the head of "Lesions of the Female Organs of Generation" we note as most readable the sections on tumors of the uterus and on ovarian cysts. The important subject of diseases of the tubes has received very little attention. The paragraphs upon diseases of bone are concise and to the point. The brief account of the appearances to be seen after death from typhoid fever, typhus, cholera, etc., as well as in cases of violent death, will be extremely useful to the practitioner as well as to the student.

We have no hesitation in affirming that this book is worthy of the highest commendation, for its mechanical execution, even if it possessed no other merits. But the subject-matter is well arranged, all irrelevant material has been rejected, and, while the editors sometimes err on the side of brevity, they are never tedious. The drawings (notably some of those by Dr. Prudden) are superior to any of the sort that we have seen. The type, binding, and general appearance of the volume are most pleasing.

Holden's Anatomy. A Manual of Dissection of the Human Body. By LUTHER HOLDEN, late President of the Royal College of Surgeons of England, etc. Fifth Edition, edited by JOHN LANGTON, Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, etc. With over Two Hundred Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xix–17 to 886, inclusive. [Price, cloth, $5; sheep, $6.]

In its present form this is truly an admirable manual of dissection. Although dealing with a subject which has been ably handled by many other English anatomists, notably by Heath and Ellis, the author has infused so much of his own individuality into his work that it can not well be compared with any similar book. The most serious criticism upon the present edition is that it is rather too bulky for use in the dissecting-room. The cuts are small but clear, and the only occasion for regret is that they are not more numerous.

It seems unnecessary to introduce much minute anatomy into a dissector's manual, nor does the average student generally follow out the elaborate directions for preparing the special sense-organs.

The volume is enriched by numerous foot-notes, which contain many curious and valuable surgical as well as anatomical facts. The work of the editor, which relates principally to the dissection of the nervous system and sense-organs, has been well done.

The publishers' task has been executed in a manner above reproach.

A Manual of Human Physiology, including Histology and Microscopical Anatomy; with Special Reference to the Requirements of Practical Medicine. By Dr. L. LANDOIS, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Translated from the Fourth German Edition. With additions by WILLIAM STIRLING, M. D., Sc. D., Regius Professor of the Institutes of Medicine or Physiology in the University of Aberdeen. With 176 Illustrations. Vol. I. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xxxi-514. Price, $4 50.

This is one of the most successful translations that we have seen for a long time. Aside from the fact that the German has been rendered into smooth, readable English, the translator's additions possess a positive scientific value.

As the editor aptly remarks, the popularity of Landois's work lies chiefly in the fact that the author "never loses sight of the fact that the student of to-day is the practicing physician of to-morrow." Instead of divorcing physiology and pathology, as is the custom in most text-books, in the present volume the natural sequence is continually traced. In order to adapt the work to the wants of English readers, Dr. Stirling has made a number of additions to the histological portions, and has introduced many new illustrations. All of the recent apparatus employed in physiology is described and figured. The type and binding are up to the best work. We note with some surprise the absence of an index, which is a serious defect in a book otherwise so admirable. It is, doubtless, the intention of the editor to introduce this at the conclusion of the second volume.

The Therapeutics of the Respiratory Passages. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital Medical College, etc. New York: William Wood & Co., 1884. Pp. vii–316. [Wood's Library of Standard Medical Authors.]

The writer has shown great research in the collection of his material for this volume. It is, however, rather the book of the scholar than of the practitioner. The subject is well discussed, in places even exhaustively so, but one feels, after a careful perusal, that the difficulty lies in selecting the useful and in discarding the non-essential. It is difficult to see the necessity of introducing historical sketches of modes of treatment that are now practically obsolete. It would have been more satisfactory to find the subject treated of in fewer pages, and we think nothing of importance would have been omitted. It might be wished that the author had spoken with more positiveness and had drawn his conclusions rather from observation than from reading. The book will amply repay the reader the time necessary for its study, and forms a useful *résumé* of the important subject upon which it treats.

The Basic Pathology and Specific Treatment of Diphtheria, Typhoid, Zymotic, Septic, Scorbutic, and Putrescent Diseases generally. By George J. Ziegler, M. D., late Physician to the Philadelphia Hospital, etc. Philadelphia: George J. Ziegler, M. D., 1884. Pp. 225. [Price, $2.]

To quote from the preface (in part), the author endeavors to show that all diseases classed as scorbutic, necræmic, typhoid, zymotic, septic, infectious, malarial, gangrenous, or putrescent, are dependent upon or complicated with one common basic, alkaline, pathogenic factor—ammonia. In the treatment, this prime morbific factor must be decomposed, neutralized, or removed by acidulous agents. The book, in spite of the superfluity of adjectives and the involved style, is interesting reading, although neither the author's premises nor his conclusions will meet with entire acceptance. In these times of medical skepticism it is refreshing to find a book of positive conclusions in regard to therapeusis, even though we may, in many respects, disagree with the author.

A Treatise on Physiology and Hygiene. By Joseph C. Hutchinson, M. D., LL. D., etc. New York: Clark & Maynard, 1884. Pp. 314.

To write a popular treatise upon physiology and hygiene that shall be trustworthy in teaching and yet be within the comprehension of the average lay reader, is indeed a difficult task. The perusal of this book shows that the writer has acquitted himself well. While the teaching upon alcohol may seem, perhaps, too severe, the position is plainly stated. By no means the least interesting portions of the book are the foot note quotations, very apt from various writers upon kindred subjects. The book seems eminently well suited to the purpose for which it was written.

Female Hygiene and Female Diseases. By J. K. Shirk, M. D., etc. Lancaster, Pa.: Lancaster Publishing Co., 1884. Pp. 102.

This very readable little book treats of the more common symptoms of the diseases of women. One could wish that more stress had been laid upon the hygiene and much less upon the medicinal treatment of the diseases, especially the recommendation of the bromides, the prolonged use of which, although by no means so harmful as that of chloral, is certainly not devoid of unfortunate results.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Obstetrical Society of London. Vol. XXVI, for the Year 1884. With a List of Officers, Fellows, etc. London: Longmans, Green, & Co., 1885. Pp. lxvi–375.

A Treatise on Abdominal Palpation as applied to Obstetrics, and Version by External Manipulations. By A. Pinard, Associate Professor in the Faculty of Medicine of Paris, etc. With 29 Woodcuts inserted in the Text. Translated by L. E. Neale, M. D., Chef of the Obstetrical Clinic and Demonstrator of Obstetrics in the University of Maryland. New York: J. H. Vail & Co., 1885. Pp. 101.

Twenty-fifth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y., for the Year ending September 30, 1884.

Correspondence.

LETTER FROM CINCINNATI.

The Close of the Winter's Work at the Colleges.—The Medical Societies.—The Ethical Question.—The State Medical Society.—The late Dr. Clendenin.—Changes in the College Faculties.—Sanitation in the State.

Cincinnati, *May 21, 1885.*

Medical matters are certainly quite as dull here as they can be elsewhere. The regular lecture sessions in our three colleges were all concluded before the middle of March. There has been a general abandonment of the old-time farce of a "reading and recitation term." There is neither a post-graduate nor a spring college in Cincinnati. It follows, therefore, that with the departure of the winter students there occurs a general suspension of activities in medical circles. In former years clinics were given twice or three times a week in the City Hospital; we are not, however, aware of the presence in the city of enough students to justify this show of vitality, and we lack information that the lectures are being delivered. It may be that this is all for the best, and that the long rest from March till September assures an increased stock of energy to be expended in the next winter's lectures.

There are two general medical societies in Cincinnati—viz., the Academy of Medicine and the Cincinnati Medical Society. The Cincinnati Obstetrical Society is the only special organization in the city. There are, however, a number of private medico social clubs, where other than medical topics are discussed. It would seem that a city having from six hundred to eight hundred physicians could easily sustain this number of organizations, but the generally meager attendance at the meetings, particularly of the Academy and the Cincinnati Medical Society,

would seem to indicate otherwise. The fact is that either animosity or apathy interferes with the popularity of both these societies. The time was when there was but one society in Cincinnati, and that was the Academy of Medicine. About ten or twelve years ago Dr. Reamy, then a new-comer to Cincinnati, made a declaration in debate to the effect that there "were members of the Academy in otherwise good standing who were guilty of criminal abortion." It so happened, but at whose connivance was never ascertained, that representatives of the daily press were present, and the decidedly sensational scene that ensued was spread before a scandal-loving public with great fidelity to details. An effort was made to get Dr. Reamy to make his charge more specific. He declined to give names, but stuck to his original declaration. A motion was then made to expel him. On this motion the party lines were closely drawn. Dr. Reamy was a member of the faculty of the Medical College of Ohio; his immediate antagonists were of the faculty of the Miami Medical College. The third party, the Cincinnati College of Medicine and Surgery, kept its hands off and watched the fun. The vote came and Reamy was vindicated. The Miami people said no man could maintain his self-respect and remain a member of the Academy. They accordingly resigned and organized the Cincinnati Medical Society, which has been in operation ever since. This is the brief outline of one of the most acrimonious fights that ever ruffled the surface of professional circles in Cincinnati. The feelings then engendered have succeeded in keeping many people from both the Academy and the Cincinnati Medical Society, for in that way alone was it possible to maintain friendship with both factions. The result has been a dearth of good matter presented at both societies. The active participants in the old fight are, however, gradually retiring from the field of active practice and are fortunately quite unable to leave their hatreds as a heritage to the new generation. While a union of both societies is hardly probable, at least in the near future, it is understood that the bloody chasm is about to be bridged by the organization of a county association. In that both factions can meet without compromising their original positions, and the suburban and rural practitioners can be brought into affiliation.

The "code question," which has torn up New York, is the irrepressible issue of the near future in Cincinnati. It is asserted by members of the Cincinnati Medical Society that members of the Academy consult with irregulars, and the Academy people return the charge. If all the witnesses in the case are credible, the conclusion is irresistible that some individuals, at least, in both camps do not decline a fee when it is to be obtained by transcending the provisions of the code. It is a fact that in Cincinnati a large proportion of physicians do extend more or less of recognition to irregulars. They do it, if not clandestinely, yet not openly. The practice is much more than winked at. If the physicians who meet irregulars in consultation were to frankly compare notes under this head, they would be surprised to find what a formidable party they comprised. There is but little doubt that the comparison of notes will be made some day, that the revelation of strength will be made, and that the assertion of the position will then ensue. When that time comes there will be a repetition here of the war that has so recently been waged in New York. The old lines will be readjusted, and the medical politics of that eventful hour will bring strange bedfellows.

The Ohio State Medical Society will meet at Dayton, June 3d, 4th, and 5th, under the presidency of Dr. J. C. Reeve, of that city. The programme that has been issued affords a text for some wholesome criticism. Dr. Reeve, who enjoys great personal popularity with the profession of the State, was energetic in his efforts to secure a full and interesting programme, and he was ably seconded by Dr. Collamore, of Toledo, the very efficient secretary. The net result of this effort was a promise of eleven papers that are announced on the programme. The profession of Ohio should blush at such an exhibit. The fault, however, is chiefly with the society itself. It is not organized on a representative basis. It is a sort of "free-for-all, go-as-you-please" affair, graduation and membership in a local society being the only prerequisites of membership. An effort was made four years ago to reorganize the society on a representative basis, the design being to convert it into an association. The salient features of the proposed reform consisted in making every member of a regular, local society, by virtue of that fact, a member of the State association; and making it necessary for all papers to be presented to the State association to have been first read before, and referred by, a local society. The legislative work was to have been done by a body of delegates. These changes would have given a force and a meaning to medical organization throughout the State. It is understood that an effort will be made this year to accomplish something in the way of reform.

Professor William Clendenin died recently. The profession is conscious of its loss. One of the most unassuming men, he was one of the most worthy in the profession. The first health officer of Cincinnati, he left his impress upon the sanitary history of the city. The professor of anatomy for nearly a quarter of a century in the Miami Medical College, the fruits of his labors are to be found in the qualifications of his pupils. The impersonation of amiability, he will ever abide in the hearts and memories of those who knew him.

Some changes have taken place in the faculties of the different schools of the city. The death of Dr. Clendenin resulted in the promotion of Dr. Taylor to the deanship of the Miami College. We are not informed that the chair—that of anatomy—so long held by Dr. Clendenin has has been filled; indeed, it will be difficult to get any one who can acceptably follow that lamented teacher. The Miami College has suffered seriously from the loss of Mussey, who died several years ago; of Clendenin, who was unfit for duty last winter; of Murphy, who has sought rest on the retired list; and of Williams, who has become too busy to give his former attention to teaching. This takes from the list the names of those who have given to that school much of the prestige it has enjoyed, and threatens to seriously cripple its future usefulness.

The Cincinnati College of Medicine and Surgery has made but a single change. Dr. Bohlander retires from the chair of chemistry, which is given to two of the most distinguished chemists of the West—Professor E. S. Wayne, M. D., Ph. D., and Professor William Dickoré, Ph. D., the former taking didactic, the latter practical chemistry. Dr. Wayne was for a long time connected in a teaching capacity with the Cincinnati College of Pharmacy, and Dr. Dickoré was formerly identified with the Maryland Pharmaceutical College, Baltimore, and with the chemical department of the University of Giesen, at which latter institution he graduated. The friends of the school are to be congratulated on the change.

The State of Ohio is but poorly provided with sanitary legislation. There is no State board of health, and the boards existing in the towns and villages have their powers largely modified by municipal ordinances. The result is a great diversity of authority with an entire absence of a central and co-ordinating power. The Legislature has adjourned without doing anything in this direction, although cholera is knocking at our national doorways and every necessity for co-operation of sanitary authorities exists. In this exigency a conference of the sanitarians and health officers of the State has been suggested. The conference will probably be held at no distant date.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 30, 1885.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The second volume of the "Annual Report of the Secretary of the Navy, for the year 1884," is devoted to the surgeon-general's report for the year 1883. It comprises three hundred and seventy-three closely printed octavo pages, and includes a great deal of narrative and statistical matter of interest not only to the medical officers of the navy, but to the profession in general. The limitations of our space do not admit of our making more than this comprehensive allusion to the great bulk of the contents of the volume, and, so far as our present remarks can be made more specific, they will have to be restricted to the brief introductory portion that appears over Surgeon-General Gunnell's signature.

Small as our navy is, it seems that the incomprehensible parsimony of Congress has failed to furnish adequate means of ministering to its sick seamen. All that the surgeon-general can say of the hospitals at Chelsea, New York, Philadelphia, Norfolk, Washington, and Mare Island is that they have been "kept in as efficient condition as the limited appropriation for repairs of hospitals would permit." He adds that serious embarrassment has resulted from the inadequate number of employees to care for the sick and to maintain a proper state of the buildings and grounds. As an offset to all this, however, it is mentioned that satisfactory arrangements have been made with civil institutions, so that enormous outlays of money have been rendered unnecessary.

The people living in the neighborhood of Portsmouth, N. H., having protested against the presence of infected vessels in their harbor, it is proposed to establish a quarantine station on Widow's Island, in Penobscot Bay. It is estimated that a small pavilion hospital may be established there, together with the necessary offices, at an outlay of not more than $5,000. What the "offices" are to be used for is not very apparent, since the plan seems to contemplate the stationing of but one official at the post, who is to be only a keeper, to take charge of the property when it is not in use and to be withdrawn on the arrival of an infected vessel, in which event "the charge of the island and anchorage will be turned over to the officers of the vessel." We trust that this arrangement is intended to apply only in the case of naval arrivals.

The progress of the Museum of Hygiene is very satisfactory. At the date of the report the collection numbered six hundred and fifty articles. In addition to Sanderson's physiological apparatus the experimental laboratory has had added to its equipment the appliances for such special investigations as Koch's cultivation apparatus, Hemple's and Winkler's gas apparatuses, a spectroscope, a polariscope, a photometer, and other special instruments.

The surgeon-general makes a vigorous and well-founded plea to the Government to authorize him to provide the officers of the medical corps with such facilities for post-graduate instruction as are now furnished for the line officers, and it is difficult to see on what grounds so reasonable a request can be much longer refused. Certainly it may be hoped that the surgeon-general will not again have to make such a statement as this: "At my request, the three medical officers attached to the Greely relief vessels are now, *at their own expense*, attending selected courses on subjects of principal interest to them, but I regret that *I am not enabled to provide them with tickets for the full course.*"

THE STUDY OF CHEMISTRY IN MEDICAL SCHOOLS.

We have been somewhat apprehensive lest our recent utterances upon this theme should call forth some remonstrances from those who felt interested in preserving this branch of science in the curriculum of medical schools. We have been all the more pleased, therefore, to remark that the sentiments which we expressed have been approved of, not only by a well-known professor of chemistry in a neighboring city, who has sent us a letter on the subject, but also by our worthy contemporary, the "Journal of the American Medical Association." The latter recently published an editorial in which the writer digressed to discuss the matter of preliminary medical examinations in general. We shall not revert to this theme again, but, at the risk of repeating, shall merely add, to what we have already said, that general chemistry is one of the useless appendages of a medical education—an extra limb, in short, which may be removed without detriment to the body at large, while its removal will add to the symmetry and usefulness of what remains.

We do not question the value of this science—far from it. We regard it as a most important element in a liberal education. Our academies and universities give too little attention to it, or render an attractive subject distasteful by dwelling too much upon the theoretical side of it. Let increased interest be awakened in the study of chemistry, but keep it in its proper place. Do not make it a nuisance to a man who has begun the practical part of his education, and naturally weighs every study by its actual value to him in his professional career. We believe that the time will come when medical schools will refuse to patch up the defects in the student's preliminary education, and will assume that a man who has not a decent knowledge of the sciences has no right to aspire to be a physician.

TRAINED NURSES.

Our readers have already enjoyed the privilege of perusing Dr. Peabody's finished address to the pupils of the New York Hospital Training School, which was published in a recent number of the "Journal." We desire to call particular attention to it, and to point out that the writer's sentiments agree closely

with those which we recently expressed. The point to which we would specially refer is Dr. Peabody's objection to the "semi-technical training in scientific subjects" which is imparted to the nurses in some of the hospitals in New York. There will not be wanting those who will think that he takes too extreme a view on this matter, but careful reflection will, we think, convince even the most ardent believer in higher education for nurses that this ought not to consist simply in "an imperfect conception of important facts." "A good nurse," as Dr. Peabody aptly puts it, "need not know that there is such a thing as a palmar arch." The fact is, that one of the great objections urged against training-school nurses, especially by practitioners of the old school, is that they are too "high-toned"; that they have acquired just enough theoretical knowledge to make them above their position. There is much truth in this. We would not ignore the honorable and self-sacrificing character of the profession to which so much importance has of late years been attached. The advantages of skilled nursing are appreciated even by those of the laity who have little faith in doctors. But it should never be forgotten that the nurse wins the confidence of her employer only in proportion as she remembers her position and confines herself strictly to its duties. It seems sometimes as if those who were least conscious of the dignity of their calling, and did not know that there was any self-sacrifice about it, attained nearer to the ideal of devotion than those who were over-burdened with a sense of that dignity. Many a lesson of true, unrequited service might be learned from the members of the religious sisterhoods, who, while they are ladies in the true meaning of the term, accept the most menial tasks without a murmur. We might dwell upon other portions of Dr. Peabody's address, but we have confined ourselves to that one which seemed the most important.

MINOR PARAGRAPHS.

AMERICAN PHARMACEUTICAL PREPARATIONS ABROAD.

It has come to be no secret that the recent advances that have been made in pharmacy in this country have not altogether missed being appreciated abroad. Especially is this true of Great Britain, where American preparations have been very much resorted to during the past few years. This has come to pass in spite of the drawback that these preparations fell technically under a class of imports upon which the laws in force in a community committed to free trade authorized the collection of a duty. This obstacle, we are glad to learn from the "Medical Times and Gazette," is likely soon to be done away with, and our manufacturing pharmaceutists may then confidently look for a considerable increase in their foreign trade. We are happy to add that such an event would be nothing more than they have justly deserved.

INDIAN HEMP AS A CAUSE OF INSANITY.

The "Indian Medical Gazette" devotes an editorial article to *Cannabis indica* as a cause of insanity in India, and gives some interesting particulars from a Report on Lunatic Asylums in Bengal for the year 1883, by which it appears that, out of two hundred and thirty-two insane patients admitted and readmitted during the year, the causes assigned for the affection were moral in twenty cases, and physical in one hundred and eight, no cause being given in one hundred and thirty-four. Of the cases in which a physical cause was assigned, seventy-six were ascribed to intemperance in the use of "ganja" and other forms of hemp. The "Gazette" infers, however, that in many of the cases the addiction to hemp was the result rather than the cause of the insanity.

THE MAGAZINE STYLED "BABYHOOD."

Several issues of this little magazine have come to us, and we have examined them with much satisfaction. At the outset we felt that there was some reason to look for its rising above the level of the numerous catchpenny publications with which it was almost impossible to avoid comparing it, and, as the successive numbers have appeared, any doubts that we entertained have been wholly overcome. We feel safe in assuring our readers that in no way can they contribute more surely to the dissemination of sound ideas concerning the care of babies among the anxious and sometimes over-solicitous mothers that they have to deal with than by advising them to subscribe to "Babyhood." The medical editor is Dr. Leroy M. Yale, of New York, whose name is a sufficient guarantee of the quality of the medical teaching given in its pages.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 26, 1885:

DISEASES.	Week ending May 19.		Week ending May 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	6	1	1	0
Typhoid fever	9	2	17	4
Scarlet fever	74	19	87	16
Cerebro-spinal meningitis	3	3	5	6
Measles	98	15	96	8
Diphtheria	39	20	50	20
Small-pox	1	0	0	0

The Michigan State Medical Society will hold its twentieth annual meeting at Port Huron, beginning on Wednesday, June 10th. Besides the Address by the President, Dr. Donald MacLean, of Detroit, papers are expected to be read as follows: *Section in State Sanitation.*—"The Quantity of Alcohol given off in Bread-baking, and remaining in Fresh and Stale Bread," by Dr. A. B. Prescott (the discussion to be opened by Dr. R. H. Stevens); "On Legislation to obtain the Publication of Constituents upon the Labels of Proprietary Medicines," by Dr. A. B. Prescott (the discussion to be opened by Dr. H. B. Baker); "On the Comparative Value of some Antiseptics, determined experimentally," by Dr. N. H. Williams; "On Practical Disinfection," by Dr. V. C. Vaughan (the discussion on this and Dr. Williams's paper to be opened by Dr. A. B. Lyons). *Section in Obstetrics.*—"On Tubal Pregnancy," by Dr. J. H. Bache (the discussion to be opened by Dr. Manton); "On the Treatment of the Perinæum," by Dr. W. P. Manton (to be discussed by Dr. Dunster and Dr. Kinne); "On Complete Atresia of the Vagina and Loss of the Urethra and the Base of the Bladder," by Dr. T. J. Sullivan (to be discussed by Dr. Carstens and Dr. C. H. Leonard); "On Sterility," by Dr. C. H. Carstens (to be discussed by Dr. G. K. Johnson and Dr. A. F. Whelan); "On Primary Cancer of the Vagina," by Dr. C. H. Leonard (to be discussed by Dr. N. W. Webber and Dr. C. W. Morse). "On Post-partum Hæmorrhage," by Dr. A. F. Kinne (to be discussed by Dr. H. E. Smith, Dr. W. Parmenter, and Dr. Shepard). *Section in Ophthalmology.*—"The Hygiene of Students' Eyes."

by Dr. H. B. Hemenway (the discussion to be opened by Dr. R. J. Kirkland); "Iritis; its Relation to certain General Diseases, and its Treatment," by Dr. C. J. Lundy (the discussion to be opened by Dr. L. Connor). *Section on the Temperance Question.*—"The Physiological, Pathological, and Therapeutical Action of Alcohol," by the Chairman, Dr. A. B. Palmer (the discussion to be opened by Dr. A. F. Whelan). *Section in the Practice of Medicine.*—"Food for Diabetics," by Dr. J. A. Post (the discussion to be opened by Dr. V. C. Vaughan); "Germs in Medical Practice," by Dr. W. H. DeCamp (the discussion to be opened by Dr. E. L. Shurley); "The Microscope in Medicine," by Dr. C. H. Stowell (to be discussed by Dr. J. A. Post, Dr. E. Boise, and Dr. M. Logere); "Migraine," by Dr. O. B. Campbell (the discussion to be opened by Dr. A. R. Smart); "Abscess of the Cerebellum, and Complications," by Dr. C. George (to be discussed by Dr. Munson, Dr. Flinterman, and Dr. Burr); "Sudden Death after Continued Fevers," by Dr. G. P. Andrews (the discussion to be opened by Dr. G. K. Johnson); "The Treatment of Vomiting with Large Doses of Oxalate of Cerium," by Dr. W. R. Chittock (the discussion to be opened by Dr. S. P. Duffield). *Section in Surgery.*—"The Anæsthetics of the Future, or Coming Anæsthetics, with a History of all Anæsthetics to the Present Time," by Dr. S. P. Duffield (to be discussed by Dr. Wade and Dr. Brodie); "Surgical Cases, and Clinical Notes on the same," by Dr. I. E. Brown (the discussion to be opened by Dr. H. O. Hitchcock); "External Perineal Urethrotomy, with a report of Cases," by Dr. H. O. Walker (to be discussed by Dr. E. L. Kimball and Dr. J. B. Griswold); "The Origin of Cancers and Tumors," by Dr. T. A. McGraw (to be discussed by Dr. McCall and Dr. Book); "The Management of the Diseases incident to Hypertrophy of the Prostate," by Dr. H. C. Wyman (the discussion to be opened by Dr. T. A. McGraw); "Plaster of Paris in the Treatment of Fractures," by Dr. H. McCall. *Miscellaneous.*—"The Medical Examination of Applicants for Life Insurance," by Dr. H. F. Lyster (the discussion to be opened by Dr. H. O. Walker).

It is announced that the following-named gentlemen are expected to be present as guests: Dr. Goodell, of Philadelphia, Dr. Hingston, of Montreal, Dr. Strong, of Cleveland, and Dr. A. Reeves Jackson, of Chicago. It is thought that a paper may be read by Dr. Hingston, on "Stone in the Bladder," and one by Dr. Strong, on "The Climacteric in the Male."

Glanders is reported to be prevailing to a considerable extent in the neighborhood of Montreal.

A Rumor of Cholera at Marseilles.—The London correspondent of the "New York Times" professes to have information of the occurrence of a case of cholera at Marseilles, and quotes the opinion of Dr. Bossano that the town is in bad sanitary condition, and will probably not escape the disease this year.

The Protective Inoculation of Yellow Fever, it is reported, is now being tried in the Mexican army.

A New Hospital in New York. The corner-stone of the Manhattan Hospital, at the corner of One Hundred and Thirty-first Street and Tenth Avenue, was laid last Saturday.

Small-pox is reported to be raging in Page County, Iowa, and it is said that the president of the board of health has the disease.

The Epidemic at Paris Roads, Pa.—During the past week the newspapers have published reports of the prevalence of a malignant affection of the throat in the village. Investigation seems to have shown that the disease is diphtheria.

The Death of Dr. J. B. Treadwell, of Boston, took place on Wednesday, May 6th. The deceased was born in Newmarket, New Hampshire, and was graduated from the Harvard Medical School in 1862. During the late civil war he served in Massachusetts regiments as assistant surgeon and as surgeon, and was assistant surgeon-general of the State on the staffs of Governor Washburn, Governor Talbot, and Governor Gaston. He was a skillful microscopist, and had given much time and study to the examination of blood with reference to distinguishing human blood from that of the lower animals. He was a member of the Massachusetts Medical Society and of the Suffolk District Medical Society.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 17, 1885, to May 23, 1885:*

De Loffre, A. A., Captain and Assistant Surgeon. Relieved from duty at Fort Sisseton, Dakota Territory, and ordered to Fort Totten, Dakota Territory. S. O. 52, Department of Dakota, May 14, 1885.

Brechemin, Louis, Captain and Assistant Surgeon. Ordered for temporary duty at Fort Omaha, Neb. S. O. 44, Department of the Platte, May 18, 1885.

Munday, Benjamin, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Klamath, Oregon, and ordered to Fort Walla Walla, Washington Territory. S. O. 72, Department of Colorado, May 12, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending May 23, 1885.*

Mead, F. W., Passed Assistant Surgeon. Detailed as member of Board for physical examination of candidates for appointment as cadets in the Revenue-Marine Service. May 18, 1885.

Society Meetings for the Coming Week:

Monday, *June 1st:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Chicago Medical Society; Boston Society for Medical Observation; Hartford, Conn., Medical Association; Providence, R. I., Medical Association; St. Albans, Vt., Medical Association.

Tuesday, *June 2d:* New York Neurological Society; Buffalo Medical and Surgical Association; Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Columbia (Chatham), Franklin, Herkimer, Niagara (Lockport), Orange (Goshen), Saratoga, Schoharie, Ulster (Kingston), and Yates, N. Y.; Hudson (Jersey City) and Warren, N. J., County Medical Societies; Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *June 3d:* Ohio State Medical Society (Dayton—first day); New Hampshire State Medical Society (Concord); Philadelphia County Medical Society (regular); Medical Societies of the Counties of Cattaraugus and Richmond (Stapleton), N. Y.; Penobscot County, Me., Medical Society (Bangor); Orleans County, Vt., Medical Society.

Thursday, *June 4th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Obstetrical Society of Philadelphia; Ohio State Medical Society (second day).

Friday, *June 5th:* Ohio State Medical Society (third day).

Saturday, *June 6th:* Manhattan Medical and Surgical Society, New York (private); Clinical Society of the New York Post-Graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

Letters to the Editor.

THE INTERNATIONAL MEDICAL CONGRESS.

CORRESPONDENCE BETWEEN Dr. A. JACOBI, OF NEW YORK, AND Dr. J. V. SHOEMAKER, OF PHILADELPHIA.

NEW YORK, *May 25, 1885.*

To the Editor of the New York Medical Journal:

SIR: I inclose the following copy of a recent correspondence with Dr. John V. Shoemaker, of Philadelphia:

1. Dr. Jacobi to Dr. Shoemaker.

110 WEST THIRTY-FOURTH STREET, NEW YORK, *May 3, 1885.*

Dr. J. V. Shoemaker, Philadelphia.

DEAR SIR: The "Medical News" of May 2d contains, on page 494, the following: "Dr. J. V. Shoemaker said new-code men had made threats at Copenhagen, in his presence; hence the statement that he had made was true, as men who had made these threats were now on the committee." As far as I know, the only new-code man on the General Committee of the Ninth International Congress is myself. It is natural, therefore, that I should be anxious to know if you accuse me of having made threats.

Very respectfully yours,

A. JACOBI, M. D.

2. Dr. Shoemaker to Dr. Jacobi.

PHILADELPHIA, PA., *May 5, 1885.*

Dr. A. Jacobi.

DEAR SIR: The account in the "News" was not exactly as I made the remarks. As near as I can remember, the concluding sentence was, the statement that I had made was true, as the new-code men were fully represented in the Congress, which was the very best evidence of their recognition by the committee.

Your respectfully,

J. V. SHOEMAKER.

3. Dr. Jacobi to Dr. Shoemaker.

NEW YORK, *May 7, 1885.*

Dr. J. V. Shoemaker.

DEAR SIR: Besides the "Medical News," to which I referred you in a previous note, you are reported in the "Medical Record" of May 2d to have said that "the committee yielded to the threat made by the new-code men at Copenhagen that, unless they were recognized, they would use their influence to prevent the Congress from coming to the United States." I can not but repeat that I must request you, as I am the only "new-code man" on the committee, to explain what induced you to make the statement you are credited with, or what may have been the cause of the uniform reports in the journals.

Very respectfully yours, A. JACOBI, M. D.

4. Dr. Shoemaker to Dr. Jacobi.

PHILADELPHIA, PA., *May 9, 1885.*

Dr. A. Jacobi.

DEAR SIR: I stated in my remarks, which have not been fully reported in any of the accounts that have appeared, the predictions made at Copenhagen, which have been verified by the present arrangement of the Congress. Yours truly,

J. V. SHOEMAKER.

5. Dr. Jacobi to Dr. Shoemaker.

110 WEST THIRTY-FOURTH STREET, NEW YORK, *May 11, 1885.*

Dr. J. V. Shoemaker, Philadelphia.

DEAR SIR: The "Boston Medical and Surgical Journal" of May 7, 1885, page 456, has the following sentence: "Dr. Shoemaker repeated that the new-code men had made threats at Copenhagen." The "New York Medical Journal" of May 2, 1885, page 500, writes as follows: "Dr. John V. Shoemaker . . . alleged . . . that the new-code men present [at Copenhagen] had openly threatened that they would prevent the acceptance of the invitation unless they received full recognition; as a consequence they had been recognized, as was shown by the fact that they had been given some of the prominent positions with reference to the Washington meeting." These reports agree fully with those I quoted in my previous notes from the "Medical News" and the "Medical Record." Thus, you will pardon me for saying that your two notes did not answer my questions concerning the language quoted. Permit me to ask again: (1) Did you say the new-code men had made threats at Copenhagen? (2) If so, what are the facts supporting such charge? (3) If not, what was the remark you made? Pardon me for requesting an answer, for I have to repeat again that I am the only new-code man on the General Committee who can have been referred to.

Very respectfully yours,

A. JACOBI, M. D.

6. Dr. Shoemaker to Dr. Jacobi.

PHILADELPHIA, PA., *May 13, 1885.*

Dr. A. Jacobi.

DEAR SIR: Your letter of May 11th is before me. It affords me pleasure to assure you that in my remarks at New Orleans I said nothing that was intended to personally implicate you. You need offer no apology for your persistency, as this explanation would be due any gentleman who regards himself compromised. I infer from your letter that a personal explanation is what you want, and I am glad of this opportunity to place in your hands such documentary evidence as will exonerate you if you have been wrongly accused by others. If you want any further information for public purposes, I have but to add that it will be *forthcoming* at the *proper time and place.* You will agree with me that your claim upon me can be only personal, not all [? at all] affecting individuals. So, let me again assure you that I shall be most happy to make any explanation that will relieve you of any censure that my remarks may have brought upon you personally.

Yours respectfully,

J. V. SHOEMAKER.

7. Dr. Jacobi to Dr. Shoemaker.

May 14, 1885.

Dr. J. V. Shoemaker.

SIR: Your note of May 13th convinces me that you mean to persist in evading a straightforward and honest answer. I asked a few direct and intelligible questions, and you refuse to give anything but circumlocution. When you spoke in New Orleans you knew you said what was untrue, and, now that you are called upon for an explanation of your conduct, you try to wriggle out of your responsibility. You are altogether mistaken if you think—which I do not believe you do—that I need or desire any justification or exoneration at your hands. You know that what you said at New Orleans about threats being made was not true, and your letters show that you have not the courage to stand up to it.

A. JACOBI, M. D.

Note.—A letter of Dr. Shoemaker's which arrived two or three days afterward I returned to its writer unopened.

A. JACOBI.

VACCINATION AFTER EXPOSURE TO SMALL POX.

BROOKLYN, *May 26, 1885.*

To the Editor of the New York Medical Journal:

SIR: Through an error of mine, Dr. Eccles was made to say, in the discussion on his paper, published in the last number

of the "Journal," that the effects of combined vaccinal and variolous inoculation had been "demonstrated in thousands of cases," whereas he referred to similar demonstrations with other disease poisons, and applied the general principles naturally deduced from these numerous experiments in the specific discussion following his general paper.

Lower down in the same column the doctor is credited with saying that Law's experiments consisted in the double inoculation of vaccinal and variolous virus, with results more harmful than when either was used alone. What he did say, and what I had intended to say in the report, was, that, applying the inferences logically to be drawn from his experiments (of course with other disease poisons), it would compel us to conclude that a double vaccinal and variolous inoculation would be of greater detriment than the single inoculation with variola.

It is, unfortunately, upon those two points that you attack Dr. Eccles in your editorial. You will therefore do the doctor an act of justice by making these two corrections in your next issue if this note reaches you in time; if otherwise, I should be gratified to have my error announced to the doctor's credit in the succeeding number.

Very sincerely yours,

A. H. P. Leuf, M. D.,

Secretary of the Brooklyn Pathological Society.

Does Vaccination Mitigate Variola when Performed after Exposure?

131 Prospect Place, Brooklyn, N. Y., *May 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: After reading the debate following the reading of Dr. Eccles's paper before the Brooklyn Pathological Society, and published in the last issue of the "Journal," a solution of the debated question offered itself.

First I wish to state that I believe, as Dr. Eccles held, that vaccinia virus is attenuated variola virus. This view is supported by those cases on record in which cows have been successfully inoculated with variola virus; and the lymph from the ensuing vesicles, having been used on human beings, has caused much more severe constitutional symptoms, with a local lesion resembling and identical in nature with that produced by inoculation with vaccinal virus taken from a human being, or from a cow inoculated with virus from another cow, a horse, or a human being. Of course in these latter cases, in which the constitutional symptoms are less severe, the virus is more attenuated and less virulent.

The theory of Salmon seems to be the most probable one yet advanced, and on that I base my argument, which is very short.

The premises are two: 1. The period of incubation of variola is ten to thirteen days, while that of vaccinia is only three to five days. 2. The virus of variola has to take root and form a colony or culture wherever and however it can, while that of vaccinia is offered the most favorable conditions for its multiplication, growth, and absorption by the lymphatics, that expedites [illegible] and shift secure.

Now, suppose inoculation with both poisons to occur synchronously. In this case might not the cellular elements become [illegible] to the presence of the rapidly developed microbes of vaccinia and consequently be less affected by that less attenuated and more virulent virus of variola? In this case the vaccination would mitigate the small-pox.

On the other hand, suppose inoculation with variola poison to occur to-day, and a vaccination to be done seven or eight days hence. Then both poisons would be developed synchronously, and, being a like in kind, might not that of vaccinia add to the severity of the resulting illness?

Can not this be accepted as a compromise?

Warren C. Sneden, M. D.

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of May 19, 1885.

The President, Dr. Charles A. Leale, in the Chair.

Advances in the Study of the Ætiology of Disease.—Dr. E. G. Janeway read a paper on this subject, which was devoted chiefly to a review of the germ theory and a mention of the cocci which had been recognized by the adherents to that doctrine as the probable cause of various diseases. Dr. Janeway was disposed to place pneumonia among the infectious diseases, and narrated some instances coming under his observation comparatively recently which went to show its infectious nature. At the opening of his paper he paid a tribute to Virchow, and stated that the Carnegie Laboratory, in the lecture-room of which the meeting took place, would offer advantages in the study of bacteriology scarcely to be found elsewhere in this country.

Specimens of Ulcerative Endocarditis and of Abscess of the Liver were then presented by Dr. Janeway. The first specimen was one of abscess of the liver, and constituted the last of a series of seven described in a paper read at the recent meeting of the New York State Medical Association. The history of this case was not then complete. The man was twenty-seven years of age, was admitted into Bellevue Hospital in January, 1885. May 10, 1884, he lifted a heavy weight on the hand, resting his elbow against the region of the liver, and after that he was troubled with more or less pain, and the evident symptoms of abscess of the liver which finally developed were attributed to the injury which he was supposed to have sustained on that occasion. Dr. Janeway first saw the man in November, 1884, and made a diagnosis of abscess of the liver, basing his opinion upon the following points: viz., pain in the right shoulder, pain in the right side, marked enlargement of the liver, particularly in an upward direction, and the history of injury. Pus was withdrawn by the aspirating needle at a point over the liver where the patient complained of the greatest amount of spontaneous pain. The pain in the right shoulder disappeared after the aspiration, and remained absent until the sac had filled again. The fluid, as in most cases of abscess of the liver, contained few pus cells. Three subsequent aspirations were made, withdrawing sixty-four, eight, and fourteen ounces of pus, similar to that withdrawn at the first operation—chocolate-colored, with few pus cells. After the last aspiration the man exposed himself to rainy weather, and, about the time when it was intended to aspirate again, the abscess burst into the lung and chocolate-colored fluid was coughed up. Two days later an opening was made in the seventh intercostal space on the right side, entering an abscess, which was washed out with boric and salicylic acids. The patient's strength gradually failed, and he died a few days ago of exhaustion. There had been a little dullness near the apex of the right lung. The autopsy showed the sac of the abscess to be situated between the diaphragm, the liver, and the costal pleura, and pus had worked its way up along the œsophagus and trachea, causing a localized empyema at the right apex. Certain viscera were undergoing amyloid change, and there were ulcers in the intestine which Dr. Jane-

way regarded as a sequela of the hepatic disease rather than as a cause.

Dr. Janeway also showed a heart illustrative of ulcerative endocarditis, with numerous bacteria in the vegetations. He was disposed to think that ulcerative endocarditis was of more common occurrence than was generally believed, and said that it might be unattended by other diseases, such as rheumatism, etc., or it might simulate typhoid fever, typhus fever, etc., the evidence of the real nature of the affection being obscure and perhaps altogether unobserved. In the case of a girl his diagnosis had been based upon hemiplegia, fever, a double murmur at the base of the aorta, and slight systolic and regurgitant murmurs.

Dr. Austin Flint, Sr., asked whether the association of the ulcers in the intestine and the abscess of the liver in the same patient was a mere coincidence, or whether there was a pathological connection.

Dr. Janeway replied that he thought the intestinal ulcers were consecutive to the hepatic abscess, and were probably dependent upon the generally reduced state of the patient's health, and perhaps upon continuous septic poisoning. There were other cases in which the hepatic abscess followed ulceration of the intestine; there might be one or more hepatic abscesses.

Demonstrations of the Three Comma Bacilli were made by Dr. H. M. Biggs, who regarded that of Koch as diagnostic of Asiatic cholera, and as probably causative of the disease, although positive proof of that fact had not yet been obtained. The results of the implantation of the comma bacillus in the duodenum of dogs or other animals did not afford proof of the kind required by the rules laid down by Koch.

An Apparatus for determining the Proportion of Urea in Urine was presented by Dr. Austin Flint, Jr., at the request of Dr. W. H. Greene, of Philadelphia. Dr. Flint demonstrated the difference in the manner of determining the amount of urea in the urine according to Dr. Greene's method and the method proposed by Dr. Doremus.

The President made a few remarks on the illumination of dark cavities, and introduced a gentleman who exhibited a combined electric light and tongue depressor for laryngoscopic examinations, and improvements on the Grenet battery.

Dr. Lincoln said the objection to the tongue depressor combined with the electric light was that the mechanism would probably obstruct the view of the larynx in the mirror. The modifications of the Grenet battery seemed to be improvements.

NEW YORK SURGICAL SOCIETY.

Meeting of May 12, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Observations on Acute Spontaneous or Infectious Osteomyelitis.—Dr. F. Lange read a paper on this subject.

Dr. A. C. Post, a few years ago, saw a boy fifteen years of age who had been stopping at some watering place where he was attacked with multiple osteitis affecting one arm, the opposite forearm, and one thigh near the knee. He was brought to the city within five or six weeks, when he had a large abscess at the upper fourth of the arm. Dr. Post cut down upon the bone, found necrosis of the shaft of the humerus, and removed a piece of bone about 3 cm. in length. The shaft afterward united with the epiphysis and formed a solid arm. The affection in the neighborhood of the knee became so serious as to require amputation.

The case was remarkable for the number of bones affected and the rapidity with which the disease pursued its destructive course.

Dr. A. G. Gerster said that the question raised by Dr. Lange as to whether early operation was capable of preventing necrosis was an interesting one, and he had had a single experience which might throw some light upon the subject. About six years ago a middle-aged woman presented herself at the German dispensary. She had a very high temperature, and her intellect was considered clouded, but when she was aroused from her listless condition she said she had severe pain in the lower portion of one of the arms, and, on examination, the usual signs of acute infectious osteo-myelitis, involving the lower portion of the diaphysis of the humerus, were found, consisting of doughy white swelling, pitting on pressure, and sensitiveness to the touch, etc. The elbow joint was semi-flexed and contained an effusion which was not purulent, as subsequent puncture and aspiration demonstrated. The symptoms were so grave that, having the necessary assistants and the means of moving the patient, Dr. Gerster cut down upon the bone at once, thinking that if the pus could be released symptomatic relief would follow, although he did not expect to prevent necrosis. By a long incision, therefore, he laid bare the posterior portion of the humerus, taking care not to injure the joint or the musculo-spiral nerve, and discovered that then, three days after the inception of the disease, extensive necrosis already existed. The necrosis extended into the epiphyseal body. The periosteum was found infiltrated, and here and there he discovered the bone of a yellowish gray color, and not bleeding when cut.

He mentioned the case to show how early necrosis would sometimes take place in these cases, and he believed that a few hours were sufficient where extensive involvement occurred and where one or more of the larger vessels became obstructed. In the present case a portion of the bone was removed by chiseling and gouging, an antiseptic dressing was applied to the limb, and the patient was sent home. He watched the case for five or six days after the operation, and then the patient was removed to a hospital, where he lost sight of her. But the fever and local symptoms, the pain especially, did disappear after this operative measure, and the woman's general condition was very much improved. It was probable, however, that suppuration followed.

With regard to early interference, it should be borne in mind how difficult an early diagnosis sometimes was. He recalled a case which he saw in consultation where the seat of the disease was in the pelvis, in one of those portions which were not accessible to exact examination. The os ischii was diseased, and the patient was in a typhoid condition. Regarding causation, it might be stated that he had suffered for many years from purulent catarrh of the middle ear. Being in an unconscious condition, the patient was unable to give any account of symptoms, and only a suspicion of osteo-myelitis could be arrived at until the third day, when a very marked and extensive œdema of one of the lower extremities developed, which was especially distinct about the upper part of the thigh close to the pelvis, and then the diagnosis of osteo-myelitis was established. In that case operative procedure was out of the question, as the disease was within the pelvis. The autopsy revealed extensive destruction of one os ischii and a purulent accumulation extending to the sacrum, with purulent infiltration of all the muscles attached to the pelvis and passing down to the thigh.

With regard to the long-continued quiescence of bacteria retained at the point of the primary osteo-myelitic attack, Dr. Gerster mentioned a case observed in the German Hospital and subsequently treated by Dr. Lange, who followed him in the surgical service. A man apparently had had acute osteo-myelitis at the lower portion of the diaphysis of the femur, when eighteen years of age, which was followed by extensive [illegible]

sis and removal of sequestra, and finally cure within three years after the attack. The quiescence continued until he was sixty-five years of age, when the disease was renewed in the old focus. Dr. Gerster found no sequestrum, but a quantity of deciduous, ulcerating granulations.

Secondary Carcinoma of the Axilla; Amputation at the Shoulder Joint; Sudden Development of Hemiplegia with Aphasia; Death.—Dr. L. A. Stimson presented a specimen consisting of a tumor removed from the axilla of a woman forty-five years of age, with a history of cancer of the breast beginning at the age of thirty-five, which had been removed three times—twice by caustics and the last time by the knife—four years and a half before she came under his observation, about the first of last April. She was then a thin, spare woman, in apparently good health, without cachexia, but complained of pain in the axilla, which had steadily increased, and was accompanied with swelling of the right arm. On examination, Dr. Stimson found in the scar, left by removal of the last tumor, one or two nodular masses, and in the axilla, the skin of which was tightly retracted, a cauliflower-like surface, moist but not ulcerated, and adherent to the tumor, which passed upward behind the pectoralis major muscle, and was quite firmly fixed to the deeper parts. There was no evidence of any glandular enlargement above the clavicle, and there were no signs of intra-thoracic disease. The patient was exceedingly anxious to be relieved of the tumor, but Dr. Stimson told her that it was improbable that it could be removed and the arm saved, as it so involved the blood-vessels of the axilla that, if they were left, only a portion of the tumor could be removed, which it was not worth while to do. A fortnight later the patient returned, and asked to have the operation performed, which was undertaken on the 22d of April. The involved skin was circumscribed by an elliptical incision extended down the arm to expose the vascular and nervous bundle; this was traced upward until it was lost in the tumor, and then the dissection was carried over the anterior surface of the tumor, until the nerves and the artery were again found coming out from the upper part of the growth, making it evident that they had passed entirely through the mass. There were present at the operation Dr. Sands, Dr. Post, and Dr. Detmold, and at this stage of the operative procedure a consultation was held, and it was agreed by all that the arm should be removed at the shoulder, which was done, and the artery was tied just below the clavicle. All of the tumor was completely removed. The wound was closed and dressed and the patient was placed in bed, when her temperature was taken and it was found to be normal: the pulse 90, and fairly good. Two hours afterward, the patient having partly recovered from the ether, the pulse suddenly fell to 50, and the patient again became unconscious. The unconsciousness continued through the night, and she constantly moved the left arm, waving it to and fro; in the morning her temperature was 102° F., and her pulse 140. Although conscious, she was unable to speak, and when addressed would point to her mouth, as if to indicate inability to speak. She was hemiplegic on the right side, including the face. The patient remained in this general condition until five o'clock in the afternoon, when she died.

Some of the medical gentlemen regarded it as a case of cerebral embolism, but where the embolus came from Dr. Stimson was unable to say. The patient, however, had given a history of [illegible] the exact nature of which had not been ascertained. She had on several occasions had distress in the region of the heart with intermittence of breathing, and it was suspected that she was troubled with cardiac disease. No autopsy could be obtained.

The [illegible] of the artery and nerve running through it. The loss of blood during the operation was trifling. The sudden fall of the pulse to fifty after she came from under the ether, followed by unconsciousness, with waving of the arm to and fro, followed by hemiplegia and aphasia, pointed very plainly to some cerebral lesion.

In reply to a question by Dr. Gerster, Dr. Stimson said there was no thrombus observed in the subclavian artery when it was divided.

Strapping of the Testicle.—Dr. Post mentioned a case with reference to some details in the mode of procedure. It was one of gonorrhœal epididymitis in which, in the subacute stage, he resorted to strapping the testicle. In isolating the cord for this purpose there was often difficulty in preventing the adhesive plaster from cutting the skin. Lint was usually interposed, and sometimes there was difficulty in keeping it in position. To obviate these difficulties, Dr. Post adopted the following plan: After having the scrotum shaved and the opposite testicle drawn out of the way, he passed a roller bandage, about fifteen to twenty mm. in width and half a metre in length, around the cord and over the upper part of the testicle, and then used a strip of India-rubber adhesive plaster, about twelve to fifteen mm. in width and half to three quarters of a metre in length, passing it spirally over the testicle until he reached nearly the lower extremity of the organ, and then applied the radiated straps in the ordinary way.

The peculiarity of the method consisted chiefly in using one long strip of plaster instead of several short ones, and it facilitated the operation very much and accomplished the object in a much more satisfactory way.

The President raised the question concerning the advantage of strapping the testicle at all. His experience was against its usefulness, and had been such as to lead him to abandon it altogether.

Dr. Post said his experience had been entirely the reverse of that of the president. He did not strap the testicle in the acute stage, but when there was a disposition to chronicity he had invariably found that the pain was promptly relieved and the swelling rapidly subsided when the pressure was made in the proper manner and at the proper time. In the present case, from the time of the first application there was a marked sensation of comfort to the patient, and a marked diminution in the size and hardness of the swelling.

Dr. C. K. Briddon did not favor the strapping of a swelled testicle, and had had much better results by the use of a very thin elastic bandage; in order that it might lie smoothly over the testicle, it must be very thin and not more than an inch wide.

Dr. Post thought it difficult to cover the testicle completely with the elastic bandage. He thought everything depended upon carrying out the details of the procedure, and in that respect he found a number of turns of the narrow bandage to answer a much better purpose than a single strip of lint, which was apt to crowd against the upper part of the tumor, and he had found difficulty in keeping the strip of lint usually employed in place.

The President remarked that the narrow bandage was used in the New York Hospital twenty years ago, the plan of treatment being identical with that mentioned by Dr. Post, except the use of rubber plaster. His impression had been that the swelling would go away nearly as quickly without it as with it, and with less pain.

Dr. Post remembered one case where he was called in consultation—one of prostatic disease where the use of the catheter had caused swollen testicle, and where one of the gentlemen present was a specialist in genito-urinary diseases, and a man of considerable eminence. It was determined to have the patient's

testicle strapped, and this gentleman undertook it, and did it in an extremely bungling way, which did no good whatever. If well done and done at the proper time, Dr. Post felt positive that the strapping almost always if not invariably proved useful.

Dr. GERSTER thought the president's remarks entirely correct—that in most of these cases treatment by strapping was unnecessary. He believed that indiscriminate strapping or elastic compression was unnecessary, and therefore harmful. There were, however, some cases in which the infiltration remained stationary, sometimes eight, ten, or twelve weeks elapsing without improvement, and which did not yield so readily to any other method as to compression of the organ. But, in general, he thought strapping of the testicle after orchitis was overdone.

Dr. POST said, Suppose a person found that invariably it was a source of comfort, was there any reason that it should not be done?

The PRESIDENT said it was a procedure which could not always be accomplished satisfactorily even by specialists.

Dr. GERSTER mentioned one complication which might arise from strapping the testicle, namely, a disagreeable eczema of the scrotum, which was more difficult to cure than the infiltration for the removal of which it had been applied.

Dr. L. M. YALE could add his testimony with reference to the frequent occurrence of eczema of the scrotum which rendered it necessary to abandon all local treatment.

The PRESIDENT directed attention to the fact that in the New York Hospital the house surgeons had obtained very good success in the treatment of acute epididymitis by the use of the Paquelin cautery, making half a dozen stripes running over the swollen cord down to the middle third of the testicle.

Dr. BRIDDON said he had heard of like success in the out-door department of the Roosevelt Hospital.

Dr. GERSTER had been unable to ascertain which had been most relieved, the pain, or swelling, or infiltration.

The PRESIDENT remarked that the pain was notably relieved, but the infiltration took the usual time to subside.

Dr. J. C. HUTCHISON had for a number of years treated painful epididymitis by making an incision half an inch in length through the tunica albuginea, and invariably with the result of relieving the pain at once.

Dr. GERSTER had treated these cases by pricking the tunica vaginalis, allowing the fluid to ooze out, this giving great relief from pain.

The PRESIDENT had adopted the method mentioned by Dr. Gerster several times with satisfactory results, and in several instances had carried the bistoury into the tunica albuginea, but had never made an incision in it as mentioned by Dr. Hutchison. He would fear the occurrence of atrophy or eversion of the testis.

Dr. GERSTER thought there was nothing more sure to relieve the pain than the application of five or six leeches to the inguinal region along the cord.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of May 7, 1885.

The President, Dr. B. F. BAER, in the Chair;

Dr. W. H. H. GITHENS, Secretary.

Secondary Ovariotomy.—The PRESIDENT read the following report of a case, and exhibited the specimen, a small papillomatous cyst: Mrs. S., aged thirty three, married first at fifteen years of age, became a widow at twenty, and married again at twenty-six. She had one child only, by the first marriage, seventeen years ago. She had enjoyed good health, except that she had always been very nervous, until nine years ago, when she suffered from an inflammation in the pelvic region, which confined her to bed six weeks. She had suffered ever since from profuse and frequent metrorrhagia with paroxysms of left ovarian pain. About four years ago she also began to suffer from hysterical attacks of an epileptoid character. Two years after these nervous manifestations appeared, in the spring of 1883, she noticed that her abdomen was beginning to swell. The growth continued to increase and with it the metrorrhagia, pain, and epileptoid seizures. She also lost flesh rapidly and became weak and bedridden. In January, 1884, ovariotomy was performed. After her recovery, which was slow and despaired of for some time, she enjoyed comparatively good health. The menstrual flow became regular and painless and the convulsions ceased entirely, but in the following September she had another attack of uterine hæmorrhage which lasted three weeks. The pain also returned, in character like that attending the development of the first tumor, but it was now located on the right side instead of the left. In October she consulted the author's friend, Dr. D. J. Miller. The pain and hæmorrhage were at that time very severe, and she was weak and anæmic. On examination, Dr. Miller found an abnormal development, in the region of the right broad ligament, of about the size of an egg. This was closely adherent to and apparently within the folds of the ligament. It was very tender to the touch, but there were no constitutional evidences of acute inflammation. Shortly after this she had a recurrence of the epileptoid convulsions. Treatment seemed to control the symptoms for a time, but from the latter part of December they increased steadily. The constant drain from the metrorrhagia, the increasing violence and frequency of the paroxysms of pain, and the convulsive attacks began to tell in a marked degree upon her health in loss of flesh and strength. In February, 1885, through the kindness of Dr. Miller, the author saw the patient. At that time the growth had attained the size of a large orange; it occupied the right side of the pelvis, displacing the uterus to the left, and seemed to be closely attached to the broad ligament and the uterus. He agreed with Dr. Miller's diagnosis of ovarian cystic disease, and, although the tumor was evidently adherent to the uterus and broad ligament, and therefore probably did not have a pedicle, he advised its removal for the relief of the grave symptoms. The operation was performed April 7th. An incision three inches in length was made, half an inch to the right of the old cicatrix, passing through the body of the right rectus muscle. After clamping all bleeding vessels, he opened the peritoneal cavity and found that the omentum was adherent to the line of union of the first incision, which had been about eight inches in length, and that adhesions also existed between portions of intestine and the situation of the former pedicle on the left of the uterus. The necessity of pushing the omentum and intestine aside to get at the tumor and fear of breaking the adhesions by so doing, together with the small size and deep situation of the cyst, made the required manipulations exceedingly difficult. When he obtained a view of the upper surface of the tumor, it looked not unlike the gravid uterus in color and vascularity. Its outer wall was interlaced with a network of veins, some of them as large as a quill. Exploration with the fingers showed it to be so deep in the pelvis and so closely attached to the uterus, the Fallopian tube, and the broad ligament, that they all seemed to be one mass, the whole attached by a broad surface to the pelvic floor. The prospect of completing the operation was now anything but bright, because of the danger of opening this very vascular wall for the purpose of enucleation. But he began with an attempt to separate adhesions, and, after patient, gentle, but persistent efforts, they began to yield, and he was finally enabled to get two fingers around the posterior surface of the tumor without producing much hæmorrhage. He next

passed a small trocar of the aspirator and drew off about six ounces of a straw-colored fluid; this gave a little more room, and he now hoped to be able to remove the tumor entire. With that purpose in view, he endeavored to separate it still farther from its attachments, but so much hæmorrhage occurred that he was compelled to desist. He next very carefully broke the outer wall of the cyst with his finger and proceeded to shell out the lining membrane; but it was so friable that it gave way and his finger entered the cavity of the partially collapsed sac. He found it filled with a papillary, cauliflower-like growth. This he removed to prevent its escape into the peritoneal cavity, where he feared it might propagate by contact if lost and allowed to remain. He then completed the enucleation of the internal surface of the tumor. The thick and vascular external wall was now so thinned and drawn out that it formed a sort of pedicle. This he transfixed and ligatured, cutting away the redundant portion. Then, after thoroughly removing all foreign material, he closed the abdominal incision with seven silk sutures and returned the patient to bed. She recovered promptly from the ether, showing no evidence of shock. At 8 P. M. her temperature was normal and her pulse 126. On the evening of the second day her temperature rose to 101° F., and a free metrorrhagia occurred. The temperature fell within a few hours to 99·4°, and did not afterward rise above 100°. On the fourth day he found union so complete and solid that he removed the sutures. She sat up on the nineteenth day, and had now entirely recovered from the operation. The effect on the hystero-epilepsy and other nervous symptoms would be reported subsequently by Dr. Miller.

It was of vital importance to every woman who had to submit to the operation of ovariotomy that the condition of the opposite ovary should be thoroughly investigated. If it was found to be diseased, even slightly, he thought it should be removed to shield the patient from the danger of a probable second operation. But when such nervous symptoms as existed in this case were present, though the opposite ovary should be found to be healthy, he thought it imperative upon the surgeon to remove it, in the hope of relieving these symptoms. It did not add much to the danger of the operation; indeed, in his own practice it would seem to have had the reverse effect, for he had lost but a single patient from double ovariotomy, though about one third of his cases had been of that character.

Dr. Montgomery took exception to the statement of the advisability of removing the other ovary. The second ovary, even if slightly diseased, might be the source of repeated pregnancies. He had, in one case of ovariotomy, left the other ovary, although it was enlarged and contained several small cysts; pregnancies and the birth of living children occurred subsequently, but there had been no sign of another ovarian tumor. In some cases it might be advisable, but no such fixed rule should be formulated.

Dr. Goodell had performed one hundred and forty-four ovariotomies, and had had secondary operations in two of them in which the remaining ovary was apparently healthy at the time of the primary operation. In all cases after the menopause he had removed the second ovary, even if it seemed to be perfectly healthy.

The President was much gratified to have Dr. Goodell's indorsement of his opinion about the advisability of removing the second ovary.

Oophorectomy.—Dr. Montgomery reported the case of Mrs. C., aged forty-two, who consulted him in November, 1884, with the following history: She was married but had never become pregnant. She menstruated once when fourteen years old and not again until the age of seventeen, when she became regular, but the flow was always preceded for a few days by severe cramp-like pains, which continued during the menstrual period. In her earlier menstrual life the flow was quite free, but afterward it had been scanty. The pain was felt in the back and in each inguinal region. She had an attack of small-pox during her fourteenth year, but otherwise had enjoyed good health until a few years ago. Two years since she noticed that she was losing flesh; her appetite became poor, and she had constant nausea and frequent vomiting. The pain in the back and inguinal regions occurred in the after-part of each day, was exceedingly distressing, and interfered with her rest at night. This pain was greatly aggravated by walking, standing, riding, and by coition. When she came under his care she had lost considerable flesh, had a very irritable stomach, and was never free from pain an entire day at a time. The uterus was retroverted, apparently bound down to a thickened mass posteriorly, and presented a catarrhal endometritis. Pressure upon the fornix vaginæ gave rise to severe pain. Some efforts were made to rinse the uterus by means of tampons of cotton, but they only increased the pain. The patient soon became unable to move about and was confined continuously to bed. The pain was constant during the greater part of the twenty-four hours, so that during the last three months she had had but three nights of uninterrupted sleep, though morphine was given daily. The trouble, from the first, had been ascribed to ovarian disease, and every effort was made to improve her condition preparatory to the removal of the ovaries, but without avail. Her emaciation became extreme, when it was decided to run the risk of the operation. At this time her menses had been absent about two months. The ovaries were removed on the 18th of April. They were situated in Douglas's *cul-de-sac*, behind and beneath the uterus, and were slightly adherent. Both ovaries were enlarged and hard, and presented a number of small cysts. Cysts were found also in the broad ligaments. The wound was closed with silk sutures and dressed with salicylized cotton. Her subsequent comfort was very much interfered with by the pressure from lying, which, in spite of all precautions, produced a small slough over the sacrum. Her highest temperature, 102° F., was reached at 6 P. M. on the 20th. The wound healed by first intention. The sutures were removed on the sixth day. After the third day no anodyne was given, but she slept nine hours each night. All her old distressing symptoms vanished as if by magic, her appetite and digestion became good, and she began to improve in general appearance. There had been no recurrence of the pain since the operation.

Condyloma Urethræ.—Dr. Henry Beates read a report of a case which had closely simulated epithelioma in appearance. Mrs. D., a nullipara, aged twenty-nine, sought relief from an intense dysuria which was of a little more than a year's duration. A history indicating an attack of gonorrhœa, while not positive, was probable. A year or two after her marriage she was attacked with either acute cystitis, urethritis, or gonorrhœa, which disappeared, but was followed, after the lapse of two or three months, by frequent micturition and vesical tenesmus. After a few weeks a urethral discharge, purulent in character, was noticed, followed soon after by the development of condylomata on the margin of the meatus urinarius. At the same time the tenesmus and dysuria increased, and, by interference with sleep and the suffering entailed, resulted in impairment of health. Remedies had been prescribed, but no examination of the local condition had been made. When the patient was first seen by the author she was almost constantly harassed with tenesmus, and was suffering intensely. She would retain the urine as long as possible, and void it only when the voluntary control of the bladder was overcome by the vesical contraction. Examination revealed numerous condylomata originating from the margin of the meatus and the interior of urethra. The

meatus and its surrounding neoplasms were bathed in a sanguineo-purulent fluid, and the inferior border and membrane of the vestibule were the seat of destructive ulceration. This latter so closely simulated the appearances seen in ulcerating epithelioma that that diagnosis was confirmed by a gentleman who saw the case with him. The external growths were snipped off with scissors, and the bleeding was stanched with nitric acid. After preparatory treatment, anæsthesia was produced, the urethra was dilated, and the condylomata, which were numerous and derived from the urethral membrane only, were removed with the dull curette. A curious point was the distinct demarkation of the morbid condition, which was limited at the vesical terminus of the canal, and the perfect freedom of the vesical membrane from the growths. A solution of chloral, iodine, and carbolic acid was thoroughly applied, and had the effect of stopping hæmorrhage. The ulcerated tissue and a portion of the urethral flow were excised, and the margins were treated with nitric acid. The microscope revealed hypertrophy of the mucosa, with increase of epithelial elements and capillaries. Four years had now elapsed, and no evidences of return had presented themselves. He believed the cause of these condylomata to have been a specific urethritis, which, becoming chronic, by its irritating discharge determined the growths.

Leio-myoma of the Uterus.—Dr. BEATES also reported the case of Mrs. M., a German, aged thirty-seven, the mother of one child, whose history was free from neoplastic predisposition. At the age of thirteen the catamenial function was started, and became regular soon. There was congestive dysmenorrhœa for a few months at first. She married at the age of nineteen, conceived two years later, and was delivered at term after a tedious instrumental labor. About a year later a steadily increasing menorrhagia commenced, with leucorrhœa. She was unsuccessfully treated for this for two years, and came under the care of a well-known practitioner of Philadelphia, since deceased, who introduced pieces of lunar caustic into the uterine cavity, and allowed them to remain there until they dissolved. After a few weeks the menorrhagia was relieved, and fair health was enjoyed for more than two years. The hæmorrhage recurring, she again visited Philadelphia, and was treated with the dull curette and intra-uterine applications. She remained free from her trouble for three years, during which time she met with financial reverses, and was subjected to the depressing influence of trouble. She had never been impregnated since the birth of her only child. Hæmorrhage recurring, she entered a hospital in western Pennsylvania, where she remained two years under unsuccessful treatment. All treatment was abandoned, and the hæmorrhages were endured for nearly five years, when threatening death brought her again to Philadelphia. She attended the Nurses' Home Charity, where the speaker saw her when he was an assistant in 1879. Her treatment included iodine to the cavity, ergot and gallic acid internally, and the curette. In October of the same year she placed herself under his care. He was called to see her, and found her in profound syncope. She had occasionally manifested mental aberration, due entirely to her exsanguinated state, and for two or three months was bleeding almost constantly. A laminaria tent was promptly inserted, and a thorough examination made, which disclosed the presence of a neoplasm, occupying the right lateral and posterior uterine wall. Its contour was regular, its base broad, and its consistence that of uterine tissue. Its submucous location was determined, and enucleation effected. The growth was as large as a doubled fist, and required division before it could be extracted. It weighed nine ounces. Profuse bleeding occurred during the operation, and the shock was alarming; reaction occurred, however. Microscopic examination revealed a typical leio-myoma uteri of the telangiectatic type. When last heard from, a few months ago, she was enjoying excellent health.

Three Cases of Ovarian Cystoma were then reported by Dr. BEATES.

CASE I.—The patient was fifty-one years of age. The sac was aspirated, and thirty-seven pints of typical ovarian fluid were removed, in February. By May the cyst had refilled and the tumor was removed. The room was heated to 80° F., and a steam atomizer nebulizing carbolized water was kept in constant action. The incision was five and a half inches long. The bleeding points were secured before opening the peritoneal cavity. There were no adhesions. The pedicle was dropped. The sutures of silver wire used in closing the abdominal wound were inserted in such a way that the peritoneal surfaces were apposed fully three quarters of an inch below the incised edges. The dressing consisted of adhesive strips, antiseptic gauze, absorbent cotton, and a flannel binder over all. The convalescence was pyrexial, characterized by abrupt exacerbations on the seventh and thirteenth days. The patient sat up on the twenty-eighth day, and made a good recovery. The pyrexial convalescence he attributed to the use of carbolic acid and the heat and exhaustion induced by the absurd custom of maintaining a close, moist, and overheated atmosphere during the operation.

CASE II.—The patient was a lady aged fifty-one. The menopause had occurred four years before, and she noticed an abdominal tumor at the time of the change. This would diminish in size during the catamenia. The past two years the suffering had been great, and, while the tumor was of medium size, the disturbance of the digestive functions was as great as that encountered in enormously developed cysts. Sleep for the past four months had been seriously interrupted. In January, 1884, her health not admitting of surgical procedures, and, in consequence of fever and pain in the sac, aggravated by the least movement, and indicating an acute inflammatory condition, he aspirated, with the view of removing what he believed to be the determining cause of the inflammatory attack, over-distension, and also to prevent additional adhesions from forming. He withdrew eighteen pints of a dark chocolate-colored fluid which was typically ovarian but contained a large amount of cholesterin. The result of the aspiration was everything to be desired; the pyrexia promptly disappeared, sleep was secured, the digestive function restored, and a rapid gain of strength established. By April the sac was so filled as to again occasion constitutional disturbance, and ovariotomy was performed. This time he abandoned entirely carbolic acid and the overheated, moist, and oppressive atmosphere. Strict cleanliness was observed, and corrosive sublimate was used with the atomizer remote from the patient. The temperature was maintained as nearly as possible at 70°. In an omental adhesion was found a large artery, which was the chief source of blood-supply to the cyst-wall. The pedicle was found to be a tendinous-like structure. The sac was almost universally adherent in the pelvic cavity, and adhesions were especially strong over the broad ligament and fundus uteri. These were so developed that it was considered by a gentleman present an impossibility to effect removal. In dealing with this complication the fundus uteri was deprived of its thickened peritoneal covering and the parenchyma exposed. This was the source of hæmorrhage, which was stopped by dissecting up flaps on the anterior and posterior aspects and bringing them together over the bleeding surface and securing them with six interrupted silk sutures. After removal of the sac and the introduction of the abdominal sutures, and just as he was about to close the wound, blood swelled up. The cavity was quickly reopened and the bleeding surface discovered after lengthening the incision to a point above the umbilicus and well down over the pubis. The hæmorrhage

originated in the separated folds of the broad ligament, and was only stopped after numerous silk ligatures had been applied; between fifty and sixty were required within the pelvis and abdominal cavities before bleeding was well controlled. Failing to secure a bleeding-point in a pocket, Monsel's solution was applied. The operation occupied two hours and thirty-five minutes. One pound and a half of ether was consumed. The temperature of the patient after the operation was over was depressed, and attention was here called to a point, which was the determination of the degree of depression of temperature to which it was safe to subject a patient during a surgical procedure. In ovariotomy, where the securing of bleeding areas was an essential to success, the import of this would easily be appreciated, and, if a definite knowledge could be established, there would not be any fatal cases due to septic complications, the direct result of oozing that might be prevented. Reaction was prompt. Dressing was applied as before. Tympanites developed during the next twelve hours, and to a degree that jeopardized life. This was overcome with the faradaic current, antiferments, and the rectal tube. There was no pyrexial complication, and recovery was without further untoward symptom.

Case III.—A young married lady, aged twenty-five, suffered from an ovarian tumor which developed within a period of nine months. The cool room, shower of carbolic acid, and strict cleanliness characterized the conditions of the operation. Corrosive sublimate was the antiseptic employed. The operation was uncomplicated, and recovery was prompt.

Dr. Goodell complimented Dr. Beates on the case requiring so many ligatures, as nothing was so demoralizing as free hæmorrhage as a complication in abdominal surgery. He criticised the three-fourths inch application of peritoneal surfaces, as it was likely to fold into the wound when it was closed and cause faulty union. He inquired about Dr. Beates's experience as to hernia after abdominal section. He doubted the necessity of the rule to avoid section of the recti muscles. If, in inserting stitches in closing the wound, good coaptation of the muscles was secured, hernia would probably be less likely to happen. He preferred silk sutures to metal ones for closing the abdominal wound, as they might all be inserted, and sponges used to catch any bleeding, before any of them were closed.

Dr. Montgomery remarked that some operator (name forgotten) had proposed section through the recti muscles for the express purpose of securing good coaptation and sound union. He had tried this method and had had good results and no hernia.

Dr. Parish had passed sutures through the recti muscles and had obtained good results and no hernia. He used silk, and had not been troubled with suppuration along the suture tracks.

The President thought that if an operator once used silk sutures he would not again use silver wire. In the case he reported this evening, the incision was necessarily through a recti muscle. He had perfect union and no suppuration.

Dr. Beates had never had a hernia resulting from abdominal section. In the second case violent retching and vomiting caused him great anxiety, but the sutures held firmly and union was firm throughout. In the second and third cases silk sutures were used, but pus was found in their tracks in six or seven days.

Papillary Ovarian Cysts.—Dr. Goodell exhibited specimens removed from three women, with the following histories: The first one was removed on March 29th, at the University Hospital from a woman who had borne two children by her first husband, but had not conceived since her second marriage seven years ago. The cyst was of the right ovary, weighed about twenty pounds, and its lower portion had to be enucleated from the broad ligament which overlapped it. It had burst a few hours before the operation, and the abdomen was filled with a dark, syrupy fluid. The special point of interest was the papillary growths found in large numbers, both on the inside and the outside of the cyst-wall. The broad ligament and pelvic peritonæum were also studded with them, and the left ovary, otherwise healthy, was so bound down and enveloped with them as to make its removal impossible. The woman's convalescence was uninterrupted, yet Dr. Goodell could not but believe in the malignancy of the cyst, and he was disposed to attribute the diffused patches of papillomata to infection from some previous rupture of the cyst-wall, of which, however, there was no history.

The next two cases were operated on at his private hospital on the same day, April 12th, and both did well. In each one both ovaries were affected with papillary growths, while in one of them, the right, the cyst had evidently burst some weeks previously, as the abdomen contained a dirty fluid, and, apart from the history of sudden abdominal pain, the ovary was represented by a mass of papillomata of about the size of one's fist, around the base of which were the remains of the cyst-wall. These two cases he deemed benign because there seemed to be no infection outside of the ovary. They were probably cases in which the cystic degeneration began at the hilum of the ovary.

The President remarked that these growths were found in almost all small ovarian cysts, especially when they were enveloped in the broad ligament. They were not malignant but were of very rapid growth, and were accompanied by pain and local congestion.

Dr. Parish had found in one of his patients an ovarian tumor as large as a man's head. The other ovary was the size of a hen's egg, and its walls had undergone calcareous degeneration; the pedicle was short and calcareous; suppuration followed its removal, and a fistulous opening was left, probably depending on the presence of the calcareous matter.

Lithotomy.—Dr. Goodell also exhibited a calculus weighing over an ounce and a half, which he had removed a week ago. The lady was seventy-four years old, and was also aphasic and paralyzed from a stroke of apoplexy received five years previously. Ether was therefore given with extreme caution, and fortunately no bad results followed its use. Finding the stone to be a very large one, Dr. Goodell decided not to crush it but to remove it by lithotomy. This was accordingly done, but a good deal of difficulty was experienced in coaxing the stone through the opening. On account of the cystitis present, the opening into the bladder was left unclosed, except at those points where sutures were introduced merely to stop troublesome hæmorrhage. The relief was immediate, and the convalescence uninterrupted.

The Obstetrical Forceps as a Speculum and Protector to the Vagina in Operations upon the Fœtus.—This was the title of a paper by Dr. Joseph Price and Dr. G. G. Fabbit, read by Dr. Beates. Even a casual examination of the records of gynæcology showed them to be scored over and over again with cases the sad history of which was the result of the reckless and unintelligent use of the obstetric forceps. The late Dr. John S. Parvey gave the mortality of ovariotomy as 37½ per cent. (according to Dr. D. H. Agnew, "Surgery," Vol. ii, page 821), "a fatality quite as great as that resulting from Cæsarean section." As a careful perusal of the writings of Schroeder, Tait, and others showed how often this operation, when styled "successfully done," was followed by genital fistulæ, extensive sloughing, etc., we had good reason to believe that mutilations and contusions of the soft parts were no mean factors in accounting for the heavy mortality. Foreign reports indicated that the mortality was much greater abroad than in this city. A late Irish obstetrician reported six consecutive

deaths after ovariotomy. Though the conventionalities and artificial modes of living in the large cities of America might render necessary the more frequent performance of minor operations in childbirth, the more successful results must be attributed to the generally conservative teachings of our schools with reference to manipulations in deformed pelves. It was to be regretted that exceptions to such teaching existed. A celebrated New York teacher, who boasted "three thousand cases and a year at Vienna," recorded one of his cases in which the cephalotribe slipped eight times, the operation being completed with a blunt hook. Cases were known in which the cervix has been entirely cut away, and in which, in trephining the base of the child's skull, the mother's sacrum had been sawn into. With such records before them, the writers felt that no apology was needed for presenting for the discussion of this society a new and wise use for the forceps as a protector of the soft parts, and for fixation of the head during operations upon the fœtus. A justly celebrated writer and teacher of this city, after the publication of a paper advocating this measure in the "Medical News," August 2, 1884, called attention to the fact that the idea was not a new one, as shown by an extract from "Blundell's Principles and Practice of Obstetrics," published in 1834. The writers were well aware that obstetrical works reported cases in which the head was perforated after ineffectual traction had been made with the forceps without removing the instrument and the delivery subsequently accomplished safely (Hodge, "System of Obstetrics," pp. 252, 272, etc.). The use of these previously reported cases was, however, clearly accidental. Indeed, the profession seemed to have lost sight of the fact that the primal use of the speculum was to enable the operator to use craniotomy instruments safely and expeditiously. Abulcasis so used it in the eleventh century (quoted by Schroeder). The design of this paper was to claim the *intentional* use of forceps as a protector of the soft parts of the mother, and for fixation of the head. The only previous intentional use of the forceps in such manner known to the writers was some years ago by Dr. De Forest Willard, a member of this society. In using the forceps after the manner referred to in the title, when the destruction of the fœtus was clearly indicated, a pair of forceps, as wide in the blades as the diameter of the pelvis would permit, was applied in the ordinary way, and used for fixation and compression of the head while the vault was being perforated and broken or folded up. The retraction of the tissues by the instrument permitted safe and expeditious work. If preferred by the operator, the blades might be separated to their respective sides of the pelvis and held by assistants, recrossing and locking them to make compression and traction. Cases were cited supporting the views advanced. The Hodge and Davis forceps was used in five of the operations—in the last two a special forceps designed by Dr. Price, and made for him by Mr. Kolbe, having the following peculiarities: Thin, flat blades, one inch and three quarters wide, to allow of easy application in markedly deformed pelves; the Hodge curvature for use at the superior strait; the absence of fenestræ to increase the strength of the blades for powerful compression and traction, and to afford more ample protection in operative procedures during perforation, etc.; a greater cephalic curve, so that the points came in apposition to prevent slipping; a screw at the end of the handles, to cause greater compression than could otherwise be exerted.

Dr. Beates also exhibited another forceps designed by Dr. Price, one blade of which terminated in a thin, flat, sharp-pointed perforator; this was covered with a leather shield to protect the soft parts during its introduction; this shield was not removed, but the perforator cut through it when it was pressed firmly against the fœtal cranium. The other blades terminated in a blunt screw which was intended to be screwed into the spinal canal of the child for traction.

Alexander's Operation.—Dr. W. H. Parish gave a sketch of the history of Alexander's operation, and reported that on December 30, 1884, he performed the operation on a patient in the Philadelphia Hospital. Her general condition was not very favorable for any operation. She was about forty years of age, of small stature, and in a debilitated condition. She suffered with a chronic bronchitis; the uterus was in a condition of retroflexion and retroversion, and was also so prolapsed as to approach ordinarily the vaginal outlet, and, when engaged in severe labor, protruded, according to the patient's statement; but the latter statement may have been erroneous, as there was a rectocele of about the size of a hen's egg. There was also an old laceration of the perinæum, one that extended nearly into the rectum. He performed the Alexander operation because of the posterior displacement. He did not expect to remedy, except to a limited extent, the prolapse of the uterus, or to get rid of the rectocele at all. He expected that a subsequent operation would be performed for the restoration of the perinæum. After cutting down upon the right external ring, he found no difficulty in recognizing the terminal portion of the round ligament or in causing it to run through the canal when drawn upon by the finger; it was about the size of a crow-quill and did not suggest strength; it appeared in a condition of atrophy from the stretching to which it had long been subjected. The left ligament was also easily recognized, but it would not run through the canal. It could not be drawn out, and doubtless was adherent to the canal, and also held in the pelvis by abnormal adhesions dependent upon a pelvic cellulitis of old date. The right ligament was drawn out about two inches and cut off. The left one was shortened about half an inch. While the ligaments were being drawn out the uterus was held anteriorly in the median line by means of a uterine sound. The round ligaments were then stitched to the columns of the rings and the abdominal incision closed with silver wire and covered with iodoform dry dressing. A Hodge pessary was introduced and the patient placed in bed on her back with thighs flexed. The bronchitis was aggravated by the ether, and severe coughing became very troublesome. The concussion of the coughing would at times force out the pessary. The abdominal adhesions healed in about three days by granulation, after limited erysipelas had appeared. The erysipelas was not severe, and was probably dependent upon hospital influences. The posterior displacements were partially relieved, but he did not think the benefit secured to the patient amounted to a great deal. He had seen but one other Alexander operation reported in this country. He thought the value of the operation should be tested. He was not enthusiastic in its favor, but was willing to give it a trial. Certainly it was not difficult; perhaps the chief difficulty consisted in recognizing the round ligaments, but they were more easily found in the living subject than in the cadaver. There was no danger of hæmorrhage, and apparently no danger of traumatic peritonitis. Probably the only source of danger was from septic infection, and this, under favorable surroundings, could scarcely occur.

The President thought that in many cases the operation would be valuable—for instance, cases of retroflexion without adhesions, and those in which the pessary would get into the angle of the flexion and lose its usefulness, and in which a stem would not stay in place. It would be less dangerous than Tait's plan of laparotomy and stitching the uterus to the abdominal wound.

Dr. Parish remarked that Dr. Alexander recommended that both round ligaments should be drawn out before either of them was stitched. He recommended it for such cases as the president described, but did not limit its usefulness to such. He

also thought it would prove a valuable auxiliary previous to operations for the cure of rectocele, cystocele, and lacerated perinæum.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of October 21, 1884.

The President, Dr. William M. Polk, in the Chair.

The Symptomatology of Rickets.—Dr. A. Jacobi read a paper with this title, which he reserved for publication.

The Durability of Celluloid Pessaries.—Dr. F. P. Foster presented a pessary composed of copper wire covered with flexible celluloid, which had been worn constantly for more than two years, except at night, and was still in very good condition. The question of the durability of the material had been raised at a former meeting, and he thought this case, and a number of others in which he had used the celluloid pessary, showed that the instrument could be worn a long time without material change.

The Question of the Propriety of Puncturing the Abdomen to relieve Tympanitic Distension.—The President had inferred from the reading of the minutes of the previous meeting that the members had considered puncturing the abdominal cavity for the relief of tympanites of doubtful propriety. He thought there were certain cases in which, other measures having failed, this procedure should be resorted to—for instance, in a certain case in which he had performed hysterectomy, the patient certainly would have died from pressure upon the vital organs from an over-distended abdomen had he not made several punctures of the abdominal parietes. The confined gas was about half an hour in escaping, and the measure was regarded as a risky one, but the circumstances justified it, and the patient recovered.

Henry J. Garrigues, M. D.,
Benjamin F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Meeting of November 18, 1884.

The President, Dr. William M. Polk, in the Chair.

Oophorectomy for Dysmenorrhœa.—Dr. Bache McE. Emmet presented a specimen, and related the history of the case. [See page 244.]

Dr. James B. Hunter was glad to hear Dr. Emmet lay stress on the importance of leaving the healthy ovary in this case. He had had two cases in which he had hesitated as to the propriety of removing ovaries, and had decided not to interfere with them. One of the women had subsequently had a child, and another two children.

The President asked if it was always possible to decide simply from the gross appearances whether an ovary was diseased or not.

Dr. Emmet replied in the negative, and added that recent authorities, especially Martin, were of the opinion that, if there was any doubt, it was better to remove the ovary.

A Menstrual Uterus. Dr. Emmet also showed a uterus that had been removed from the body of a patient who had died of peritonitis while menstruating. At the autopsy, the pelvic organs were found to be intensely congested and the uterus retroflexed. A blood clot, of the size of a walnut, was found in the uterine cavity. The interior of the organ was lined with a decidua membrane, which, on microscopic examination, was found to be composed of epithelial cells in a state of fatty degeneration. The left ovary contained a recent corpus luteum.

Dr. H. T. Hayes thought that the congested appearance of the pelvic organs might be explained by the uterine displacement.

An Operation for the Cure of Retroversion of the Uterus.—Dr. Hunter stated that, about three weeks ago, he had performed an operation for the cure of retroversion by denuding a surface on the posterior vaginal wall, and another on the posterior lip of the cervix, and then bringing the two together. He was then under the impression that this procedure was original with himself, but he had since received a letter from Dr. O. E. Herrick, of Grand Rapids, Mich., in which that gentleman stated that he had for several years practiced that method with success.

Dr. T. Addis Emmet described an operation which he had seen performed by Dr. Alexander, of Liverpool, for the cure of retroversion by shortening the round ligaments. Dr. Emmet thought that such an operation as Dr. Hunter had mentioned could not be successful, since it involved too much traction on the bladder. In all of these operations the parts became so stretched that the procedure was useless.

The President asked what Dr. Alexander considered as the limit of shortening of the round ligaments in his operation.

Dr. Emmet replied that Alexander drew the ligaments out until an assistant, who kept his finger in the vagina, ascertained that the uterus was in proper position. In the operation which he saw, fully two inches of slack must have been removed.

The President remarked that he regarded the operation as a rational one.

Dr. Emmet said that he had held for many years that simply anteverting the uterus was not enough to keep it in place.

Ovariotomy Four Weeks after Delivery.—Dr. Hunter had had a patient who was delivered at full term the first week in October. Her abdomen was very large at the time of confinement, and grew no smaller afterward. Her attendant stated that the delivery had been rapid and easy. On the 5th of November Dr. Hunter removed a cyst weighing upward of seventy pounds—one of the largest that he had ever seen. The patient made a good recovery.

Prolapse of the Urethral Mucous Membrane.—Dr. T. Addis Emmet reported the case of a patient who had entered his service at the Woman's Hospital, complaining of constant micturition. She had had a number of growths removed from the urethra. At the last operation a red-hot knitting-needle had been applied to the mucous membrane of the urethra, and a condition of stenosis had resulted. The urethra had been inverted back into the bladder, because of the cicatrix at the meatus, which prevented it from prolapsing externally. The cicatrix was dissected off, a button-hole made in the urethra, and the excess of mucous membrane brought into the wound. After some weeks the artificial fistula was closed, and the patient was now quite well. The speaker was convinced that such a condition of prolapse was common, and that it was due to sliding of the entire mucous membrane, from the neck of the bladder down to the meatus, before the pressure of the child's head.

Dr. A. Jacobi asked about the relative frequency of real polypi and polypoid prolapse of the mucous membrane. He believed that polypi in the urethra could be treated as they were elsewhere, by simply twisting them off.

Hypertrophic Elongation of the Cervix Uteri.—Dr. B. F. Dawson reported a case in which he had made this diagnosis. The patient's only complaint was that something protruded constantly from her vulva. The vagina was found capacious, and the cervix much elongated. The fundus uteri was in its normal situation. The probe showed the depth of the canal to be five inches and a half, of which only an inch and a half belonged to the body of the organ. When the patient stood up, the cervix protruded from the vulva to the extent of two inches.

Dr. T. A. EMMET asked if she had been examined in the knee-chest posture, to ascertain its effect on the uterus. Receiving a negative reply, he said that he thought that that test would have shown that the case was really one of prolapse. In his opinion, there was generally atrophy of the cervix in such cases, instead of hypertrophy.

Dr. COLIN MACKENZIE asked if this elongation was generally supra-vaginal or infra-vaginal.

Dr. EMMET thought that, if ever there was any hypertrophy, it was confined to the supra-vaginal portion. By amputating such a cervix, we sometimes set up a cellulitis, and thus indirectly effected a cure. Of some twenty cases that had come under his care in the last twenty-eight years, he could recall but two or three in which the elongation had been real.

Dr. HANKS asked how Dr. Emmet would treat these cases.

Dr. EMMET said the question was a difficult one to answer satisfactorily. In some cases he had amputated the cervix, with and without results; in some he had used stem-pessaries; he had discharged a few of the patients as incurable; and in still other cases spontaneous cure had followed. In the few instances in which he had not been able to obliterate the apparent elongation of the vaginal portion by the use of a little force, the condition had evidently been due to some inflammatory process. He would not be understood to say that hypertrophic elongation did not exist, but it was rare.

Dr. E. L. PARTRIDGE wished to know what changes would take place in such a cervix if pregnancy occurred.

Dr. EMMET knew of no such occurrence. Nearly all his own patients had been unmarried. In case of pregnancy, nature would probably restore the parts to a better state.

Dr. PARTRIDGE alluded to a case that had come under his own observation in which there was but little shortening of the cervix during pregnancy. The condition proved very embarrassing in the induction of premature labor, done on account of placenta prævia, and then the child's head had to be dragged through a long, narrow canal. After labor, the cervix returned to its natural state.

The PRESIDENT thought there were two interesting points in Dr. Partridge's case: 1. The probability of an enlargement of the uterine cavity, which agreed with a commonly received theory of the causation of placenta prævia; 2. The absence of marked shortening during pregnancy.

Laparotomy under Cocaine Anæsthesia.—The PRESIDENT related a case of this sort. The patient was a man, who had a suppurating hydatid cyst of the liver. [The history of the case has been published elsewhere.]

HENRY J. GARRIGUES, M. D.,
B. F. DAWSON, M. D.,
FRANK P. FOSTER, M. D., *ex officio*,
Committee on Publication.

Meeting of December 2, 1884.

The President, Dr. W. M. POLK, in the Chair.

An Obstetrical Forceps.—Dr. E. L. PARTRIDGE presented an obstetrical forceps which resembled that of Dr. Alexander S. Hunter in the manner in which the handles of the instrument were locked, and in general form that of Dr. Garland, of Boston. The object of the instrument was to meet the needs of a certain class of obstetrical cases in which it was not convenient to make use of a forceps with long handles. The blades of the instrument presented were nearly as long as those of the ordinary forceps, but were lighter, the oval was more marked, and the handles were much shorter and were firmly locked when grasped by the hand of the operator, so as to preclude the possibility of slipping and of compression of the cranial bones. It was intended for use in those cases in which labor was being somewhat delayed, the woman suffering considerable pain, and the head arrested, but not firmly impacted, a moderate distance from the vulvar outlet. In such a case the instrument could be employed without exposing the patient, and even without turning her in bed, thus avoiding apprehensions of a grave operation. If necessary, the forceps could be used in cases in which the head was engaged high up, but it was not intended as a substitute for the long-handled forceps, except in the class of cases mentioned.

Dr. H. T. HANKS thought that the reasons given by Dr. Partridge for the use of the small instrument were exceedingly pertinent. There were many cases in which, although labor would doubtless terminate normally if allowed to continue, we could save the woman an hour or two of suffering, without injury to her or to the child, by the use of such a forceps, which did not make it necessary to place the patient in the obstetric position or use ether. He had been accustomed to use a similar forceps in this class of cases, without turning the woman on the bed, without an anæsthetic, and without sending for assistance.

The PRESIDENT had employed Sawyer's forceps for delivering in the class of cases referred to by Dr. Partridge, using it in the manner described by him and by Dr. Hanks, and he regarded the practice as entirely justifiable, as it involved no risk, spared the mother much pain and exhaustion, and avoided the semblance of a grave operation. He recognized advantages in the handles of Dr. Partridge's instrument. Of course it was not intended to take the place of the long-handled forceps in cases in which great traction force was required. One might suppose that the question as to the propriety of the use of these instruments in this class of cases was entirely settled, but he would venture to say that there was no other question aside from that pertaining to antiseptic midwifery regarding which there was a greater variety of opinion among obstetricians. He said this because he frequently met with people even in the city who manifested great horror at the suggestion of instrumental delivery, believing that instruments should be employed only in extreme cases.

Dr. HANKS wished further to emphasize the importance of the obstetrician exercising his skill toward shortening the duration of pain by the use of the forceps in cases in which natural delivery would be unnecessarily postponed from an hour to three hours by inefficient pains. This question in city practice would doubtless be decided within a few years in favor of interference on the part of the physician, but in the country there probably would always remain more or less prejudice against the use of the forceps except in extreme cases.

The PRESIDENT said that, inasmuch as the subject of the use of the forceps was under discussion, he wished to say a word in favor of the Tarnier forceps as opposed to the various instruments which had been brought forward as substitutes. About two weeks ago he delivered a woman in her third confinement. Her first labor had lasted about twenty-four hours, and the child was saved. Her second labor lasted about twenty-six hours, and the child was born dead. He first saw her after she had been in labor for some hours, and, from the condition of the abdomen, from the fact that he could feel no presenting part, and from the additional fact that there was the glove-finger projection of the bag of waters, he concluded that there must be some obstruction to delivery. The patient was anæsthetized, and, on introducing his hand into the vagina, he readily determined the existence of contraction of the pelvis at the superior strait, the antero-posterior diameter being estimated to be a little less than four inches, apparently from unusual projection of the promontory of the sacrum. The transverse diameter seemed to be normal. He pursued the course which he usually adopted in such cases,

viz., deferred interference for eight or ten hours for the purpose of allowing as much dilatation and molding of the child's head to take place as possible, and then put on Tarnier's forceps. He thought that this instrument gave a much more direct line of traction—a line which more nearly coincided with the axis of the superior strait than could have been obtained with any of the modifications of the instrument which he had seen, and he believed that there would have been failure to deliver, or at least loss of the life of the child, had any other forceps been employed. Again, he believed that the compressive power of the Tarnier forceps was, by virtue of its arrangement, greater than that possessed by any of the substitutes, and this was an important fact in obtaining a firm grasp upon the head before it had become engaged in the pelvic canal, where the bony walls would aid in retaining the blades in position.

Dr. Hanks asked whether in the occipito-posterior position rotation could be allowed to take place without removing the forceps.

The President replied in the affirmative, and said it often happened, in cases requiring instrumental delivery, that any delay in waiting for rotation of the occiput anteriorly would endanger the life of the child, and, in order to hasten delivery, it was better to continue the use of the forceps, although at some risk to the perinæum. He further remarked that he believed rotation took place rather as a result of resistance offered by the floor of the pelvis as a whole than by any special prominences.

Dr. Partridge remarked that it had always seemed to him unwise to try to induce rotation by means of the forceps in cases of occipito-posterior position, but what should be done was not to prevent rotation if it was inclined to take place during the use of the forceps.

The President agreed with the remark made by Dr. Partridge.

Dr. F. P. Foster inquired of the president how often he found delivery to take place with the head of the child in the occipito-posterior position.

The President replied, Very rarely, and he believed it never occurred except in cases in which the uterus failed to contract well. He perhaps had seen three or four cases in which the child was born with the occiput forward.

Dr. Hanks could recall but one case in which the head was born in the occipito-posterior position, but he believed the number of cases of occipito-posterior position in the commencement of labor was much greater than that usually given in the books; from his recent observations he thought the proportion was nearly fifty per cent.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

An Honor to a New York Surgeon.—The King of Greece has recently conferred on Dr Morris H. Henry, of New York, the Golden Cross and created him an officer of the Royal Order of the Savior. The honor was conferred for services rendered to medical science, on the recommendation of the faculty of the University of Athens.

The New York State Medical Association. The Third District Branch will hold its first annual meeting at Syracuse on Tuesday, June 9th. Papers are expected to be read as follows: "On the Varying Degree of Severity of Symptoms in Strangulated Inguinal Hernia," by Dr. Frederick Hyde, "The Ordinary Treatment of Nasal Catarrh," by Dr. Nathan Jacobson; "A Puzzling Case of Abdominal Tumor," by Dr. W. W. Munson; "Tubercular Consumption never Inherited, always Produced," by Dr. H. D. Didama; "Operation for Deviated Septum Nasi," by Dr. F. W. Ross; "Recent Advances in Dermatological Therapeutics," by Dr. F. W. Putnam; "Pistol-Shot Wounds of Kidney and Lung," by Dr. George P. Merritt; "Perityphlitis," by Dr. Theron A. Wales; "Typhoid Fever as we see it in Central New York," by Dr. H. L. Elsner; "Swing-Suspension in Cases of Deformed Spine," by Dr. C. L. Squire; "Diabetes," by Dr. G. C. Smith; and "Puerperal Insanity," by Dr. C. F. MacDonald.

The Statue of Bouillaud was inaugurated at Angoulème on the 16th inst., as we learn from the "Gazette hebdomadaire de médecine et de chirurgie."

The Statue of Pinel, given to the municipality of Paris by the Société médico-psychologique, will be inaugurated by the society, says the "Progrès médical," on the 13th of July. It has been set up in the Place de la Salpêtrière.

The Berlin Medical Faculty.—The "Gazette médicale de Paris" states that Dr. Robert Koch has been made ordinary professor of hygiene, with the title of medical privy councilor.

The French Association for the Advancement of the Sciences will hold its fourteenth session at Grenoble, as we learn from the "Union médicale," from the 13th to the 20th of August, under the presidency of M. Verneuil.

THERAPEUTICAL NOTES.

Troches of Hæmoglobin.—Benczur ("Dtsch. Med.-Ztg.") reports upon the hæmoglobin treatment as carried on in von Ziemssen's clinic. Troches were prepared from ox-blood. The daily amount of hæmoglobin given was about twenty-five grains. Not only was there a marked improvement in the cases of anæmia thus treated, but no gastric disturbance was observed, such as follows the administration of large doses of iron.

Parthenine.—Tovar, of Havana ("Crón. Méd.-Quir."; "Therap. Gaz."), has employed this alkaloid in several cases of intermittent fever, as well as in neuralgia of malarial origin. He gives about a grain and a half every hour until ten doses have been taken. Relief is experienced within a few hours.

Valerian in the Treatment of Diabetes Insipidus.—According to a writer in "Schmidt's Jahrbücher" ("Therap. Gaz."), valerianate of zinc and tincture of valerian, if administered for a long period, exercise a favorable influence over this disease.

Oil of Thyme in Rheumatism.—The "Bulletin général de thérapeutique" gives the following formula:

Essential oil of thyme	} each, 10 grains;
Soap	} each, 10 grains;
Powdered althæa	q. s.

Divide into six pills. Two to be taken before each meal.

The Inhalation of Defibrinated Blood.—Fubini, of Palermo ("Centralbl. f. d. med. Wissensch."; "Dtsch. Med.-Ztg."), has performed numerous experiments on both healthy and anæmic subjects for the purpose of determining whether defibrinated blood can be introduced into the system through the medium of the respiratory tract. He employed a mixture of twenty parts of defibrinated ox-blood and eighty parts of a 0·75-per-cent. solution of salt. This was introduced into the lungs by means of an atomizer. No irritation was observed, and the pulse and respiration were unaffected. After a number of inhalations, anæmic patients improved decidedly, and the number of the red blood-corpuscles was notably increased.

A Laxative Mixture.—Labbée ("Union méd.") suggests the following:

Sublimed sulphur	12 drachms;
Powdered senna	5 "
Essence of lemon	5 grains;
Syrup	q. s.

Dose, from two drachms to an ounce.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON.

BY AMBROSE L. RANNEY, M. D., NEW YORK.

LECTURE I.

IN the diagnosis and treatment of nervous diseases, no agent is more generally applicable than electricity. Its brilliant and often instantaneous effects and the prevalent belief among the laity that electricity is practically identical with the vital forces of the human body have conduced largely to the general use and *frequent abuse* of this important agent.

Thousands of electric batteries are sold yearly by the various manufacturers to persons both in and out of the medical profession. Many who buy them are utterly ignorant of the principles of their construction, and equally so of the indications for their use. A very large majority of the medical profession possess only a faradaic battery or a magneto-electric machine. They employ such a battery upon every case which to their mind requires electricity. A few, in our larger cities, own a galvanic battery; but, as a rule, those who do so are unable to repair it themselves when the connections become oxidized or when it fails to act from a multitude of other causes. In my experience, it is very uncommon to meet a medical practitioner (outside of those who are specially interested in neurology) who thoroughly understands electro-physics and many important facts relating to the uses for which special forms of batteries are best adapted. I have deemed it wise, therefore, to include in this course of lectures a terse and practical statement of the more important facts which should be mastered before the treatment of disease by electricity is attempted, and to shed some light upon the forms of current which are indicated in the treatment of many of the nervous diseases commonly encountered. I shall include in these remarks some practical suggestions respecting the selection of batteries and the care of them. The uses of electricity in diagnosis, as well as its therapeutical properties, will be also presented in as concise a form as is comportable with clearness of statement.

PART I.—ELECTRO-PHYSICS.

Under this heading we shall first discuss the varieties of electric currents which may be produced (the faradaic, galvanic, magneto-electric, and static). We shall then consider the construction of a galvanic cell and its many modifications. It is important that you know the principles of construction of the various galvanic cells offered to the profession for medical uses, as well as the advantages and disadvantages of each as a part of a medical outfit. In the third place, you should be made familiar with many new terms which are commonly used to-day in electrical literature, and also the application of Ohm's law to electrical problems. Finally, you should acquire a familiarity with the many attachments to a battery. These are essential to its proper use, and their purposes should be well understood. Under this heading I shall give you some practical hints respecting the selection, care, and repair of an electrical outfit for medical purposes.

VARIETIES OF ELECTRIC CURRENTS.

A few of the more important facts relating to this agent (which we are constantly called upon to employ in the treatment of various types of disease) should be thoroughly understood by all who intend to use it. Time will not permit of a detailed description of the different properties of electric currents. These can be acquired from any of the standard works upon physics. It is necessary, moreover, that the points presented here should be briefly and simply stated.

The GALVANIC CURRENT (called also "*voltaism*," the "*battery current*," and the "*constant current*") is one which is derived by chemical decomposition or heat from one or more pairs of elements directly. When the body is placed between two electrodes connected with such a battery in action, the current traverses the part of the body embraced between the electrodes before it returns to the battery—starting at the positive pole (the anode), circulating through animal tissue, and returning to the negative pole (the cathode). The polarity remains unchanged under all circumstances.

Muscular contractions are produced only when the current is closed or broken, or when its intensity is increased. A very weak current fails to produce muscular contractions. In connection with the description of the tests employed in the diagnosis of nervous diseases ("Med. Record," March 22 to June 28, 1884), suggestions have been made by me which may be reviewed in this connection with advantage.

By peculiar arrangements of the elements of a battery, the galvanic current can be modified as follows: (1) To produce a white heat (cautery battery); (2) to insure chemical changes in living tissues (electrolysis); and (3) to aid in many of the mechanical arts, such as electro-plating, electric lighting, telegraphy, etc.

The FARADAIC CURRENT (called also the "*induced*" or "*interrupted current*") differs from the galvanic in that it is an induced current of high tension, which is produced by the magnetizing and demagnetizing of a bar of soft iron or a bundle of soft-iron wires by means of a galvanic current.

The circuit of the generating cell is made to pass through a coil of insulated wire, known as the "*helix*," which surrounds the iron to be magnetized, *but it does not itself pass to the electrodes and thus to the patient.**

* This is a point which can not be too strongly impressed upon the minds of the profession. Its accuracy can be readily proved. If the binding-posts of the primary coil of a faradaic machine be united by means of a large copper wire, the current generated in the galvanic cell which runs the interrupter will pass through the wire rather than through the helix which surrounds the iron core, because the wire affords less resistance. The interrupter will then remain stationary, as the iron core is no longer magnetized. Again, the interrupted or faradaic current has no chemical properties. This would not be the case if the current of the generating cell passed to the binding-posts of the faradaic machine. Finally, the external resistance of the human body

When the current of the generating cell passes through the helix, the soft iron is magnetized and draws the interrupter in contact with it.* This breaks the circuit and demagnetizes the iron. The interrupter is then returned to its former place by a spring. This step reconnects the generating cell with the helix, and again allows the iron to be magnetized. The interrupter is again drawn in contact with it. Thus the current is constantly broken and restored by a simple device known as the "*interrupter*," or "automatic circuit-breaker." An *induced current within the iron core* of the helix is thus produced. This is the current which passes through the electrodes to the patient.

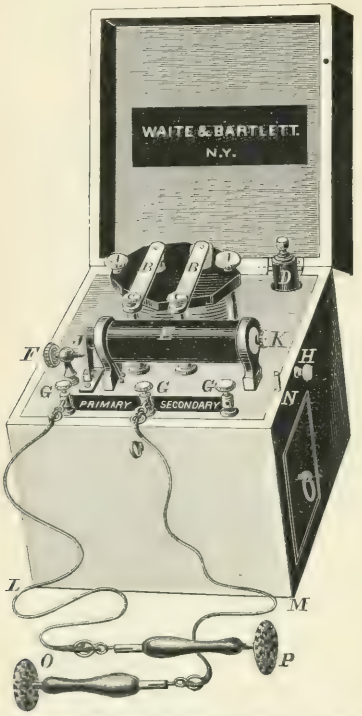


Fig. 1.—One of the Many Forms of Faradaic Machine. *BB*, connecting rods attached to the elements of the exciting cell; *D*, a drip-cup, in which the zinc element is placed when not in use (it should contain mercury); *E*, primary and secondary coils; *F*, adjusting screw for the interrupter (*J*); *G*, binding-posts; *K*, plunger; *L*, *M*, rheophores; *O*, *P*, electrodes. The next figure will explain the action of the different parts. The faradaic instruments of different manufacturers vary more or less in their mechanical devices and perfection of workmanship, but the principle of all is the same.

Much ingenuity has been shown in the construction of the "interrupter" of a faradaic machine. It is very desirable that *slow and rapid interruptions* may be produced at the will of the operator. If a machine only insures rapid interruptions, the slow interruptions can be effected by the use of an "interrupting electrode."

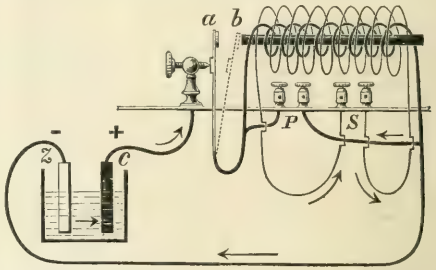


Fig. 2.—A Diagram designed by the Author to illustrate the Construction and Action of a Faradaic Machine.—*Z*, zinc element; *C*, carbon element; *P*, binding-posts for the primary coil; *S*, binding-posts of the secondary coil; *a*, the interrupter when the circuit is passing to the helix; *b*, the interrupter when the circuit is broken. The screw (shown in contact with *a*) allows of the adjustment of the interrupter to the bundle of soft-iron wires within the primary helix, thus making the interruptions fast or slow at the will of the operator. The patient is connected with the battery in action by means of cords attached to the binding-posts at *P* or *S*. These cords are not shown in the diagram, but are shown in Fig. 1. The arrows show the direction of the currents. The zinc is marked as the negative element (−), and the carbon as the positive (+) element of the battery. Note that the wire of the primary coil is represented as coarser than that of the secondary; that the secondary coil has no connection with the elements of the cell; that the current going to the primary binding-posts is generated by the iron core, and is not that which originates in the galvanic cell; and that the interrupter has a small piece of platinum soldered upon it where it comes in contact with the screw, so as to prevent oxidation at that point. Patients feel the current made by the "break" more than that from the "make" of the circuit; hence one electrode apparently gives a stronger current.

The power of producing electrolysis, and some other chemical properties peculiar to the galvanic current, are wanting in the faradaic.

Never attempt to combine a galvanic and faradaic battery. Separate cells should be employed for each, as the faradaic battery requires a cell of greater capacity than those used in portable galvanic machines. They may be placed in the same case, but each should be perfectly independent of the other. If a battery is designed for transportation, it is best to have one of each rather than two combined in one case.

The faradaic current is an *alternating current*, i. e., one which goes in opposite directions at each make and break of the circuit. It is strongest when the current is broken. These facts are not generally recognized by the profession. The polarity changes with each interruption. The so-called "cathode" of a faradaic battery is felt the strongest by the patient.

The helix of a faradaic machine is usually surrounded by a secondary coil of wire, known as the "*secondary helix*." This coil has no *connection with the elements of the generating cell.* The current produced within it is induced by the passage of the current (formed within the generating

* The expression "in contact" is not strictly correct. The interrupter never actually touches the iron core, because its magnetic action ceases before it reaches it.

cell) through the "primary helix," which magnetizes and demagnetizes the iron core. It is, therefore, called the "*secondary current.*" It has high tension, is alternating, and is employed in telephonic lines, chiefly on account of its high intensity. It is modified in strength by regulating the amount of the secondary coil which overlaps the primary—the smaller the extent of the overlap, the weaker the current. A sliding tube of metal is sometimes made to pass over the primary coil, or between it and the primary coil. This accomplishes the same results as if the helix was movable.

The primary and secondary coils of a faradaic machine are made of wire of different thickness and length. Many of those sold are poorly constructed. They are the most important features of the instrument, and should be made with the greatest care and of the best materials. A fine finish of brass mountings and varnish does not always indicate good workmanship in the coils themselves.

Induced currents develop in the individual coils of the wire forming the primary spiral, as well as in the iron core which it invests, and also in the secondary helix. These currents are of no therapeutical value without the iron core, as they lack sufficient intensity.

If the secondary helix is composed of very fine wire, the current induced within it is extremely painful. The number of coils and the thickness of the wire selected for the primary and secondary helix should be graduated to a proper relation to each other and the electro-motive force of the generating cell employed.

The term "*primary current*" is often used as synonymous with the galvanic. It is incorrectly applied by some authors to that faradaic current which is induced by the magnetizing and demagnetizing of the soft-iron core of the helix.

Static electricity is derived from friction. A revolving plate, or by preference several plates, of glass may be employed as a generator. Static electricity is sometimes called *franklinism.*

This form of current has high tension, but it possesses no chemical properties. When a patient is charged with it, it is necessary that the *chair upon which he sits should be insulated* by glass or rubber under the legs. When highly charged, sparks may be elicited from the body of the patient through the clothing. This is not always desirable, but it often renders its application easy, and on that account is mentioned as an advantage by manufacturers of these instruments.

Experimentation has shown that this form of electricity is accumulated upon the periphery of the object charged (as explained in all works upon physics). It apparently does not permeate very deeply below the surface.

The magneto-current (called also the "*dynamic current*") is derived from a *permanent* or *electro-magnet, in front of which an armature is made to revolve.* The armatures are composed of a core of soft iron wound with insulated wire, and the currents produced are formed within them by *breaking the lines of magnetic force.*

The stronger the magnet, the more rapid the breaks made in the current by the revolving armatures, and the greater the number of turns in the spiral wire of the armatures, the more intense is the current.

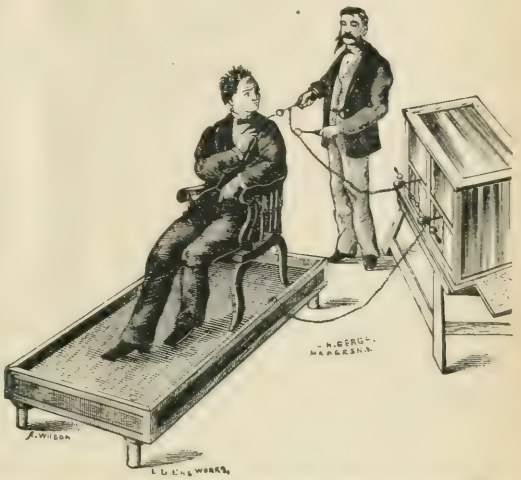


Fig. 3.—A Static Machine in Use. The "direct spark" is here represented as being drawn, *i. e.*, the patient being charged positively and the electrode being connected with the negative pole of the machine. No Leyden jars are employed in this form of administration of static electricity. The "indirect spark" is more commonly employed than the direct, one pole being attached, in this case, to the insulated platform, the other being grounded by a brass chain, and the electrode being grounded by a chain attached to a gas-pipe, a water-faucet, or the like. (See Fig. 30.)

This form of current possesses great electro-motive force or intensity. Currents of this kind are of an alternating character. By means of an automatic commutator (polarity changer), they may be carried, however, in one direction, and, when so, they assume properties similar to those of galvanic currents. Electric lighting, electro-plating, and many other similar applications to the mechanical arts, are to-day accomplished by means of dynamo-machines at a minimum cost as compared with battery currents. They are practically obsolete as a machine for medical purposes, as the current is unsteady when hand-power is employed.

"Magneto-current" machines (which are turned by a crank when in use) are often sold to physicians. They are of little value. They cost as much as a good faradaic instrument, and are not to be compared with the latter. The current generated in both is practically the same, but it is irregular in point of strength in the magneto-current machine, and uniform in the faradaic instrument.

The Galvanic Cell—its Varieties, and the General Principles of its Construction.

All substances have an electrical condition which is inherent or capable of being developed. This condition is known as the "potential" of a body. The electrical condition of the earth (which may be regarded as fixed and as a reservoir without limit) is used as a standard of comparison of the "potential" of any given substance.

Those bodies from which electricity tends to flow toward

the earth are known as "*positive bodies*" or bodies of "*high potential.*" They are designated by the plus sign (+). Those which tend to draw electricity from the earth are called "*negative bodies*" or bodies of "*low potential,*" and are designated with the negative sign (—). Almost every known substance may, therefore, be classified either as positive or negative under certain circumstances. Subsequent explanations will make this more apparent to you.

When we speak of the "RELATIVE POTENTIAL" of two bodies, we mean the *difference in degree* of the potential of each.

The bodies thus compared must both be positive or negative. One metal, for example, may have a potential seventy times that of the earth, and another one hundred times that of the earth. Both may be positive, yet one is negative as compared with the other. Two such metals have been happily compared to reservoirs at different levels (De Watteville). The tendency between two bodies of different relative potentials is for the current to flow from the body having the highest potential to that possessing the lower potential, thus tending to establish an equilibrium between them. In a galvanic cell, the element most corroded by the fluid of the cell has the highest potential (positive element).

The difference in equilibrium between the "potentials" of two bodies regulates the intensity of what is known as the "ELECTRO-MOTIVE FORCE" of the bodies selected; because the want of equilibrium is the force which starts the flow of an electric current in all cases. The size of the elements has nothing to do with it.

The simplest form of a GALVANIC CELL consists of two bodies (whose potentials differ widely) immersed in a fluid which tends to excite chemical decomposition of one of the elements. Zinc and carbon are commonly selected for the elements and dilute sulphuric acid for the exciting agent.

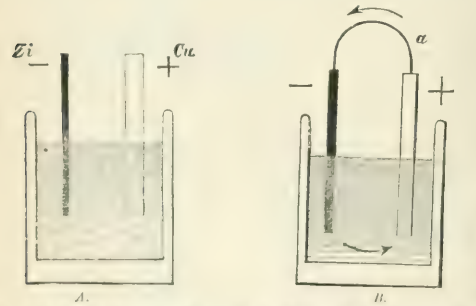


FIG. 4.—A SIMPLE GALVANIC ELEMENT after Erb. *Zi*, zinc element; *Cu*, carbon or copper element. The fluid is composed of diluted sulphuric acid or a solution of one of the salts. In *A* the current is open; in *B* it is closed by a wire connecting the elements. The arrow shows the direction of the current outside of and within the cell.

The zinc is strongly acted upon by the fluid, while the carbon is not; hence the zinc becomes the positive pole and the carbon the negative. In most batteries of this type the zinc is covered with mercury (amalgamated), to render the action of the cell more uniform and to prevent local action upon the zinc. It also tends to preserve the zinc.

An apparently discordant fact should be remembered—i. e., that the wire connected with the carbon of such a cell (the negative element of the cell) is the *positive pole* of the battery. This is because the electric current passes through the liquid from the zinc to the carbon, and back through the external circuit from the carbon to the zinc. (Fig. 4, *B.*)

When the elements of a cell are connected externally by a wire, a current of electricity flows continuously from the cell-elements through both the wire and fluid. This is known as a "*complete*" or "*closed circuit.*"

The RESISTANCE offered to the passage of the current from the *carbon to the zinc* is the "external resistance"; that between the *zinc and the carbon* is known as the "internal resistance" of the cell.

The INTERNAL RESISTANCE of a galvanic cell may be modified as follows: (1) By the *distance* between the elements; (2) by the *size of the elements;* (3) by the *intervention of some foreign body* (such as a porous cup) between the elements; and (4) by the *character of the fluid* in which the elements are immersed. The nearer the elements are placed, the larger their size, the more direct the passage of the current, and the better the conducting power of the fluid used, the less the internal resistance of the cell, and *vice versa.* The internal resistance of a cell may vary between a fraction of an ohm and one hundred ohms, according to its construction and its excitants.

The EXTERNAL RESISTANCE is modified by the *length*, the *diameter*, and the *character of the conductor* employed. When any substance (such as the human body, for example) is placed between the electrodes, the resistance offered to the passage of a current by the interpolated substance must be added to that afforded by the conductors themselves. The resistance of the human body varies from 600 to 18,000 ohms. It is extremely low in subjects afflicted with general anasarca—probably because an excess of fluid renders the body a good conductor. The average resistance of the human body is not much above 2,500 to 3,500 ohms. The resistance afforded by the body is modified (1) by the saturation of the electrodes; (2) by the moisture of the surface of the body; (3) by the tissues through which the current is directed; (4) by pressure made upon the electrode; and (5) by many other factors which will be mentioned hereafter, among which the addition of salt to the water in which the electrodes are moistened is a very important one.* In cautery batteries the external resistance is increased about $\frac{1}{213}$ of a degree centigrade when the platinum wire is raised (De Watteville). Thus heat may be a factor in modifying the external resistance to be overcome.

The relative resistance of living tissues is represented by the following figures (100 being taken as the maximum): The eye, 4; muscle, 6; nerve, 10; cartilage, 20; tendon,

* In testing this point lately by means of a Brenner's rheostat, I found the resistance from right palm to left palm, in a boy of thirteen years of age, to be 17,500 ohms, when pure water was used and the electrodes pressed firmly against the skin of both palms. Adding a teaspoonful of salt to the water and again soaking the sponges reduced the resistance to 7,500 ohms. This illustrates well the necessity for so simple a precaution when employing electric currents upon animal tissues.

20; fat, 75; bone, 100; skin, 100. Thus the eye offers only $\frac{1}{25}$ the resistance afforded by skin and bone; muscle, $\frac{1}{16}$; nerves, $\frac{1}{16}$; cartilage and tendon, $\frac{1}{3}$; and fat, $\frac{3}{4}$. The epidermis, when dry, is practically a non-conductor of electrical currents.

Respecting this point, De Watteville happily remarks that "the human body may be compared to a vessel bound with a poorly conducting material (the skin), unequally packed with non-conducting solid particles, the interstices being filled up with a saline fluid of fair conductive power. The parts most densely packed with solid particles are represented by the bones; those where liquid predominates, by the muscles. Between the two are found the nerves, viscera, etc."

Before we leave the discussion of the various forms of electric currents employed in medicine, it may be well to impress upon your minds some of the more important facts relating to faradaism and galvanism by means of a table in which the two are contrasted with each other. Such a table is not, to my knowledge, to be found in any work upon electricity. It may prove of service to you in many ways:

THE FARADAIC CURRENT	THE GALVANIC CURRENT
Is an "induced current."	Is due to *chemical decomposition* of one or more of the elements of a galvanic cell.
Is produced by the *magnetizing and demagnetizing* of a core of soft iron.	Its polarity is constant. The negative element of the cell becomes the positive pole of the battery.
Its polarity changes with each "make" and "break" of the circuit.	The current is a continuous one.
The current is an interrupted one.	It does not produce muscular contractions, except when the intensity is increased or when the circuit is made or broken.
It produces muscular contractions of an apparently continuous character, provided the interruptions are very rapid.	Each pole has a special therapeutical action peculiar to it under all circumstances.
The polarity is inconstant, because the currents constantly alternate in their direction.	Is administered chiefly by the "polar method."
Is seldom administered by the so-called "polar method."	Separation of the poles does not materially intensify the pain.
Separation of the poles intensifies the pain greatly.	Has a remarkable power of penetrating animal tissues placed "in circuit."
The "secondary current" has greater penetrating power than the "primary current." Neither equals the galvanic current in this respect.	Possesses inherent chemical properties, hence its power of producing electrolysis, and its use in electro-plating, electro-lighting, etc.
It has no chemical properties. It may be modified by an automatic commutator, so as to throw its currents constantly in the same direction, as in a dynamo-machine. In this case it possesses chemical attributes.	A galvanometer will show only one deflection, i. e., the difference in strength of the "make" and "break" currents. This deflection is the same under all circumstances when the machine is in use. It does not, therefore, indicate the strength of the current conveyed to the patient.
	There is no difference in the action of the poles.
	Produces galvanometer deflections which are proportionate to the strength of the current employed.
	The anode is the sedative pole; the cathode is the stimulating pole.

(To be continued.)

Original Communications.

REPORT ON CHOLERA.

PART I.*

BY J. E. BAKER, M. D.,
BROOKLYN.

CHOLERA EPIDEMICS.—Cholera is endemic in India, where it has existed for centuries, prevailing more or less all the time. In other parts of the world cholera exists mainly in great epidemics, having their starting-point in India during some virulent outbreak there.

The first great epidemic, it is said, began to spread from India in 1817, but did not reach Europe until 1829, arriving in England in 1831. The following year, 1832, in early spring, it landed at Quebec, then extending up the St. Lawrence by the great lakes to Chicago, and thence to other parts of the United States. This, the first epidemic, continued in different parts of the world, and finally disappeared about 1834, seventeen years after it first spread beyond the confines of India.

The second great epidemic, and the most fatal, began to extend from India about the year 1841, and reached England in 1848, and America, at New Orleans, in 1849, prevailing in different parts of the country for four or five years.

The third great epidemic began its march from India in April, 1865, reaching England July 10th, the same year, and America, May 1st, the following year, 1866, at New York.

A fourth epidemic of cholera commenced its westward course from India in 1883 and extended to Europe in June, 1884, and, unless its rate of travel is different from that of former epidemics, or unless it is kept back by sanitary science, it will surely complete its journey as in former epidemics.

Aside from the great interest in the probable visitation of cholera to this country, is that shown by the vigorous researches made bearing upon its etiological relations by the leading scientific men of the day.

For these investigations men have been sent from differ-

* Read before the Medical Society of the County of Kings, April 21, 1885.

ent countries to the various cholera districts. The German Government has sent a commission, with Dr. Koch at its head. The English Government has sent a commission similar, with Dr. Klein as its leading spirit. The French Government, besides sending out a commission of its own men, has sent out two Swiss physicians under its direction.

Two of the ablest papers that have appeared recently in this country on the present status of the study of cholera were penned by Dr. Frank Hamilton and Dr. Flint, Sr. The latter may be fairly considered an exponent of the principles enunciated by Koch, while Dr. Hamilton represents a class who discredit the deductions of Koch, as might be inferred from the following statement which he makes in reference to cholera, that "microscopical studies have taught us absolutely nothing."

The Comma Bacillus.—The question at issue is this: Is the doctrine true which assumes that the so-called comma bacillus is the essential cause of epidemic cholera?

Koch reports that it is present in all well-marked cases, that in one hundred examinations it was absent in none. The French commission refuse to accept Koch's conclusions; although in twenty-four autopsies made by them a micro-organism was found in all but three cases, yet their report declares that they "do not feel authorized to attribute a specific action to the microbe which they found in great abundance in the majority of cases."

Koch not only found it present in well-marked cases of cholera, but found it absent in diseases other than cholera. Dr. Lewis, of the British army, who has studied cholera both in India and Marseilles, severely criticises Dr. Koch's report, and makes the statement that he has frequently found the comma bacillus in the salivary secretions of the mouths of healthy persons, but Koch shows that these are of a different form, and that they have been known for some years. Dr. Flint ("New York Medical Journal," October 25, 1884) adds this fact in support of Koch's view, that he is "not aware that in any instance as yet the presence of this parasite has been demonstrated by the culture-test except in cases of cholera. Obviously this test is essential in order to remove all doubt as to the accuracy of microscopical observations."

Not only is the cultivation-test considered important as bearing on the identity of the comma bacillus, but a still more deciding factor in the fate of this micro-organism is the test by inoculation. Whether the cholera-germ is inoculable or not is a feature of the researches so far involved in great uncertainty. Dr. Flint aptly says that "if, as in the case of the *Bacillus tuberculosis*, the parasite of cholera, after a series of cultivations, is capable of producing the disease by inoculation, the proof of its being the essential cause is absolute."

Besides the experiments of Koch, the two Swiss physicians sent out by the French Government report that they produced the disease in animals by inoculation. There are other experimenters who have reported the same success; but, from the fact that other equally eminent investigators have obtained negative results, it must necessarily follow that the demonstration of the comma bacillus as the essential causative agent of cholera can not at present be received with universal satisfaction.

The severest blow, however, the comma bacillus has received is at the hands of the English commission. A preliminary report, given by Dr. Klein last November, briefly says this: That the comma bacilli are not characteristic of cholera, since they are present in diarrhœa and dysentery; that they behave precisely like other putrefactive organisms when cultivated artificially; and, finally, that all attempts made by the investigators to induce cholera in animals, by either feeding or inoculation with these germs, have signally failed.

It is reported that Dr. Klein has even shown his contempt for the microbe theory by swallowing a quantity of the bacilli without harmful result, but this freak is laughed at in Berlin by the friends of Koch, who assert that it proves nothing except that a suitable nidus is needed for the bacilli to develop in, as in other acute specific diseases, which Dr. Klein did not have.

Some French physician has also swallowed cholera matter in the form of a pill without bad results, but, when the same was given to dogs and guinea-pigs, death soon followed.

However, all these investigators seem to agree on one fact—that there is a specific cholera-germ, but that the comma bacillus is this germ all will not admit. This much is reasonably certain, that, whatever may be the fate of the comma bacillus, the tests by cultivation and inoculation will be the chief means of its final establishment or overthrow.

Bearing upon the general nature of the disease, the following points are interesting, as well as showing the chief characteristics of the infecting material:

1. The manner of transportation and diffusion of the cholera-germ.
2. The sudden onset of the disease and rapid prostration following.
3. Filth an essential factor.
4. Possibility of the disease being "stamped out."
5. Necessity of prompt treatment.

1. *Transportation and Diffusion.*—With reference to its transportation, Dr. Hamilton ("New York Medical Journal," Nov. 15, 1885) says that "the cholera-germ may be conveyed from place to place by clothing or by any other textural fabrics, by articles of food, by water, and by animate and inanimate substances. It may be conveyed for a considerable distance by the air. How far it can be thus conveyed it would be impossible to say, but probably much would depend upon the force of the wind and other atmospheric conditions. There is, no doubt, a limit to its conveyance by this method, and I have reason to believe that it can not be thus conveyed beyond a mile or two."

Dr. Leale, in a recent article on the study of Asiatic cholera ("New York Medical Journal," Jan. 3, 1885), makes the statement that "histories of past epidemics in this country clearly inform us that it enters, by commerce with infected ports, by either the contaminated clothing of passengers or polluted rags." The doctor adds that "newly manufactured woolen or other goods have never been the carriers of disease," but that "old rags and the wearing apparel of those from infected places are to be specially guarded."

That these germs are carried chiefly by means of wear-

ing apparel and polluted rags there are many curious and perfect illustrations. The following are a few: Dr. Atlee, of Pennsylvania, in a report of cholera in 1873, states that "a car-load of emigrants came from Philadelphia to Columbia, Pa. Two or three of these emigrants, who were ill of cholera, were put out on the platform at the railroad station. Some gentlemen, seeing them at the point of death, carried them to a shed and waited upon them. In forty-eight hours these emigrants and these gentlemen were dead, and the disease spread in the town."

An illustration of its extension by means of old clothing is given in a report by Dr. Leale of the entrance of cholera in the vicinity of 440 West Fifty-second Street, New York city, during 1866. "The person attacked was a driver, Peter Crow, on the Tenth Avenue cars, and while in perfect health at 4.30 P. M. Sunday, August 12th, he sat upon some baggage that had been carried on the front of the car by a party of five German emigrants who had just landed at Castle Garden. While sitting on their bundles of clothing, he states that he felt a peculiar chilly sensation, and that when he arrived at his home, seven hours afterward, at 11.30 P. M., he commenced to have nausea, vomiting, and purging, which were soon followed by severe and painful cramps." "Within twenty-four hours from the time he came in contact with the infected clothing he was in the profound collapse of the algid stage of cholera."

Another interesting example occurred at the close of the second great epidemic at Suspension Bridge, a small village twenty-two miles from Buffalo. Dr. R. J. Rogers, the only physician practicing there at that time, in a letter to Dr. Frank Hamilton, says that about the 15th of July, 1854, a company of German emigrants were dumped upon the banks of the river from the cars, awaiting transportation across the then unfinished bridge. Two or three cases of what were called cholera morbus were reported, and, on visiting them, he found unmistakable symptoms of Asiatic cholera. One of the men died in a few hours. The report goes on to say that the residents began to be attacked the following day.

Dr. J. H. Rauch, secretary of the Illinois State Board of Health, gives a striking instance of the portability of the infective agent of cholera. In an address before the National Conference of State Boards of Health in 1873, Dr. Rauch says that "there were outbreaks of epidemic cholera at Carthage, Ohio, Kandiyohi County, Minnesota, and Yankton, Dakota, caused by cholera poison packed up in the household effects of emigrants in Holland, Sweden, and Russia, respectively; these emigrants sailed from healthy ports, in healthy vessels, and were subjected to the usual sanitary requirements of the period. They passed through New York and all the intermediate territory without injury to the public health. But, when their infected goods were unpacked in the interior of the continent, they liberated the poison which gave rise to the local outbreaks."

These examples just related clearly confirm the manner in which the cholera germ is usually carried; besides, they decidedly illustrate that this germ is long lived. It has been stated that this germ becomes inert in a very brief period, and that it is destroyed by desiccation; but surely these statements must be taken with a grain of allowance in the face of the foregoing facts.

2. *Sudden Onset and Rapid Prostration.*—That the onset of cholera is sudden and the prostration following rapid, goes without saying. The visitation of every epidemic exemplifies that fact. In the Peter Crow case, reported by Dr. Leale, it will be remembered that there was vomiting with purging seven hours after he was exposed to the bundle of rags on the street car, and within forty-eight hours his father and mother were stricken down with the disease.

Dr. Rogers, above quoted with reference to the Suspension Bridge scourge, says that "the visitation was remarkable for the suddenness of its appearance, its short duration, the number of cases, and its terrible fatality." On the second day after the landing of the emigrants, a tramp, a ship-carpenter, and three laborers were attacked, and all died after a very brief illness. A few days later a number of laborers attended a wake of a patient who died of cholera, and, of those present at the wake, five died within twenty-four hours. Dr. Leale says that "the period of incubation is only of a few hours' duration, acting as rapidly as yeast acts upon dough." Dr. Rogers further makes the observation bearing upon the rapid and profound prostration following the attacks, that "one remarkable feature of the epidemic was that in a majority of the later cases there was an absence of the usual premonitory symptoms, many of the patients being in collapse within an hour. In the earlier cases, however, there was the usual vomiting, and then the rice-water discharges, accompanied with no pain usually, but with great lassitude and dejection, followed by cramps, confined mostly to the muscles and tendons of the toes, a gradual lowering of the temperature, profuse sweating and great thirst, the skin assuming a leaden color and losing its contractility, the pulse deserting the wrist, the tongue becoming cold, and the voice husky. As the period of unconsciousness approached, there would be restlessness, and, long after the cessation of the pulse, there would be considerable muscular activity. During the two or three most fatal days I would find the patients, within a few hours of the attack, with a cold tongue and pulseless, and with such a degree of hoarseness that they could only speak in a whisper, and still they could get up and walk about the room. Some had no vomiting or purging, and lived but a few hours."

3. *Filth an Essential Factor.*—Mr. John Simon, the chief medical officer of the English Privy Council, in a report to Parliament, says that "cholera derives all epidemic destructiveness from filth, and especially from excremental uncleanliness."

Dr. F. A. Burrall* states that "the chosen haunts of cholera are in low, dark, damp, overcrowded dwellings, and among the ill-fed, badly clothed, filthy, and dissipated, where this disease makes its greatest ravages."

In addition to these conditions requisite to render the communication of cholera by the ordinary methods effective, Dr. Frank Hamilton mentions low lands and freshly

* Burrall on "Cholera."

exposed soil. With reference to the former he says: "If these lands are alluvial, and especially if underlaid with clay so as to retain moisture, they favor the propagation of cholera as well as of other diseases."

The report of the Registrar-General of England for 1848–'49 concludes with the statement that "the cholera rapidly diminishes a few feet above the low ground on a level with the Thames." It was during this same epidemic that the disease proved so terribly fatal at Toledo and Sandusky, Ohio, where in the latter city it is stated seventeen physicians died from the disease. Both these cities are located on low and exceedingly rich alluvial plains. During the Suspension Bridge epidemic referred to, Dr. Rogers states, "more than nine tenths of the victims resided on the narrow flats bordering the river on both sides," and, "of all the fatal cases, but five occurred in that portion of the village which was situated above these low plains."

As to the effect of the freshly exposed soil, the following, reported by Dr. Frank Hamilton, is interesting: "On Saturday, July 24, 1852, a ditch was commenced for the purpose of laying pipes through Ellicott Street, Buffalo. On Monday the work was renewed, and it was open completely on Tuesday. The excavation brought to the surface a large amount of alluvium underlying made ground of clay and sand. The cholera was prevailing in a mild form in some other parts of the city, but Ellicott Street had always been regarded as healthy, and had almost entirely escaped in previous epidemics. It was occupied by the best class of citizens. There were twenty residences upon the portion of the street corresponding with the ditch. On Monday the first case of cholera occurred among the residents, and on this and the following days there were nineteen cases and nine deaths. The ditch was closed, by order of the Mayor, on Wednesday, and from this date there were no new cases of cholera."

Dr. Flint says, with reference to the influence of filth, that "some striking facts observed in India bearing on this point have been noted by Koch. It seems that in certain parts of India the water used in bathing, washing, cooking, and drinking is contained in tanks which are liable to become polluted by human excrement as well as by various kinds of filth. The occurrence of localized epidemics of cholera in the vicinity of these tanks had been a matter of frequent observation. Such a localized epidemic occurred during Koch's visit in India. About one hundred persons, living in huts situated in the vicinity of a tank, had been attacked with cholera. Examinations of the water in this tank showed the presence of the comma bacilli. The disappearance of these from the tank was coincident with the ending of the cholera epidemic. Examinations of water in other tanks were negative as regards the presence of these bacilli. That the water in the tanks gave rise to cholera had been previously the opinion of medical practitioners in India, and it had been observed that the substitution of pure water in certain situations had led to the disappearance of the disease."

At Suspension Bridge, Dr. Rogers says, "after the disease began to subside, on examination, under the Bellevue House, a large amount of filth was found to have accumulated, and also stagnant water. There was no cellar. Two men brought from Lockport were employed to clean the premises and remove the filth, and both of them died in a day or two of cholera."

One would think it almost useless to multiply instances showing the part that filth occupies in the prevalence of cholera; but the examples given illustrate the fact so graphically that they easily bear repetition in emphasizing the prominence of this element in the study of the ætiology of this dread disease.

4. *Possibility of the Disease being "stamped out."*—Whether this disease can be kept away or checked, or made to disappear entirely, is a question for the most urgent consideration. That the disease is easily controlled and quickly yields to efficient sanitation, or, as it is tritely termed, the "stamping-out" process, there is abundant evidence to prove.

During the epidemic of 1866, at the Crow houses on West Fifty-second Street, cases continued to recur, even with the ordinary methods of disinfection and fumigation; but just as soon as Dr. E. B. Dalton, Sanitary Superintendent of the Board of Health, took it in hand, employing on a larger scale the most vigorous and effective methods, burning all suspicious articles, not a single case of cholera followed. In Dr. Dalton's report of the disease during the year 1866, during which time over one thousand deaths occurred in New York city, he makes the statement that "fumigation, either with chlorine or sulphurous-acid gas, has, with two exceptions, been followed by complete immunity from the disease."

The most striking illustration of the efficacy of the so-called "stamping-out" process is seen in a report given by Dr. Frank Hamilton, who had complete control of the sanitary conditions of Blackwell's Island during the sudden and violent outbreak there in 1866. The following is, briefly, Dr. Hamilton's report: "On August 1st there were 29 new cases and 10 deaths; on August 2d there were 33 new cases and 14 deaths. On the next day (August 3d)," says Dr. Hamilton, "the most important sanitary changes had been made, some of which were very radical, and were in operation. On this day, August 3d, there were 30 new cases and 13 deaths; August 4th, 21 new cases and 4 deaths; August 5th, 12 new cases and 7 deaths; August 6th, 4 new cases and 3 deaths; August 7th, 1 new case and 1 death."

It will be seen, from this statement, that the epidemic began to decline from the day that the sanitary changes were enforced, and in four days—that is, on the 7th day of August—there was but one new case. Dr. Leroy M. Yale, one of the house staff there at that time, says, in a report, that on August 7th, the fourth day after the introduction of the rigid sanitary measures, "the epidemic was virtually at an end."

It is said that, in New York city, during the summer and autumn of 1866, cholera occurred in three hundred and sixty-two houses more or less widely separated from each other, and so completely was its diffusion checked that in no instance did the disease spread proximately beyond the house in which a case or cases occurred. Dr. Flint makes

the assertion that "never before or since, in any other part of this or in any other country, have measures for the prevention of epidemics of cholera been devised so scientifically, so thoroughly carried out, nor so successful in the results as those employed by the New York Metropolitan Board of Health in 1866 and 1867. The fact should be cited everywhere as evidence that cholera is a disease which may be stamped out by efficient sanitary measures efficiently employed."

5. *Necessity of Prompt Treatment.*—Aside from the immense practical importance of cholera prevention is the necessity of immediate treatment.

Cholera is classed, along with small-pox, measles, etc., as an infectious disease, the latter running a certain definite course, neither of them susceptible of being aborted. Not so, however, with cholera. It is the general belief that, if predisposing causes be removed and appropriate and immediate medication employed, perhaps a majority of cases will speedily recover.

But there must be no delay. Dr. Hamilton says that "it is not often that a patient is saved to whom remedies are not applied until the period of collapse has arrived; but a large proportion are saved by appropriate remedies employed in the earlier stages of the disease." Dr. Yale, in a report on cholera at Blackwell's Island, says that, of those brought first to the "diarrhœa hospital," not one died. The terrible fatality of the Suspension Bridge epidemic was no doubt due in a great measure to the fact that so many of the cases went into collapse so quickly, long before the arrival of the physician.

Dr. Flint, who has had extensive clinical observations in the treatment of cholera, says that "there is no disease with greater certainty controlled at the outset than this." In order to carry out these prompt measures, he maintains that "the only effectual plan is to organize a sanitary police, and provide for one or two domiciliary visits daily at every house within the limits of the epidemic, the purpose of the visits being to inquire if any one be affected with diarrhœa, to impress the importance of immediate attention to it, and, when circumstances render it necessary, to supply at once appropriate remedies. . . . Abundant proof of the successful operation of the system of house-to-house visitation was furnished by its practical results in London and other towns in Great Britain during the epidemic of 1849."

As to medication, the list of remedies in fashion at the present day is not very long. Calomel has its advocates. Venesection has always had its friends and enemies. Even in the stage of collapse, where one would think blood-letting dangerous and where no one would seem to doubt the efficacy of external warmth and stimulants, it is asserted, on no less an authority than that of Dr. Parkes, who had a large clinical experience in India in 1843, that blood-letting and cold affusion were used with success in this stage, the embarrassed circulation being relieved and the respiration stimulated in the same manner that a new-born babe's respirations are quickened by the application of cold water.

There is one drug, however, concerning which there has been a great deal said, and that is opium. During the first stage, Dr. Flint says, in his recent article, "the controlling remedy *par excellence* is opium. Let opium, conjoined with rest of the body and of the digestive organs, be judiciously employed before the characteristic choleraic dejections occur, and the further development of the disease is prevented with almost absolute certainty. Let this treatment be promptly resorted to as soon as choleraic dejections have taken place, and, in a large proportion of cases, the disease is arrested."

This is putting the early treatment and its results in a nutshell. The positive manner in which it is expressed, coming from so eminent an authority, must necessarily carry great weight with it. If the statement be true, or even partially true, considering the fact that during the past century one million lives annually on an average have fallen victims to this terrible Oriental plague, the necessity for immediate medication becomes vastly more manifest and markedly emphasizes the immense responsibilities of those whose duty it is to care for the health of large municipalities.

The usefulness of opium in an epidemic of cholera morbus was seen a few years ago at Turk's Island, West Indies. The epidemic was attributable to impure water. The drinking-water there is rain-water collected from the roofs of houses into large tanks. When there was a scarcity of rain the water became quite low in the tanks, and consequently mixed with the sediment at the bottom. This epidemic lasted several weeks, and ended when plenty of rain filled the tanks with pure water. At this time there were nearly a hundred people stricken down, and the attacks of some were so sudden and severe that they had to be carried home. One grain of opium in pill was given hourly until relief was obtained, then given every two or three hours, as the case indicated. There was not one death during the entire epidemic, and all the cases yielded so readily to the drug that no other remedies were resorted to, except, however, in a few who were peculiarly susceptible to the effects of opium on the skin. In these cases large doses of astringents were used, but with apparently little effect, and, as in those cases that did not receive immediately the routine treatment, recovery seemed to follow much more slowly. In the few cases that were quite severe, where the stomach was not in a condition for the reception of medicine, morphine by the hypodermic needle was used with admirable results.

Now, assuming that, in the early stage, opium has a positive effect in controlling this disease, which we may grant for the present is due to some specific germ, it would be curious to know what the peculiar action of the drug is. Of course, whether the germ is narcotized or whether it is destroyed directly or indirectly by checking the alkalinity of the intestinal contents, is at present all speculation. Dr. Hamilton says: "It is only necessary to suppose, what seems probable, that the period of life or activity of the germ in the human system is brief, and that opium holds the secretions in a normal condition until the germ perishes or the force of the virus is expended" ("New York Medical Journal," November 15, 1884).

In conclusion it may be stated:

1. That cholera occurs mainly in great epidemics, starting in India and moving in a westerly direction.

reaching America usually about a year after its appearance in Europe.

2. That the fourth great epidemic has reached Europe.

3. That the identity of the comma bacillus as the causative agent of cholera is not as yet accepted by all scientific investigators.

4. That the manner of transportation and diffusion is generally by means of rags and polluted clothing, the latter being worn usually by emigrants.

5. That the incubation period is very short, the onset of the disease very sudden, and the prostration following quite rapid.

6. That filth in all its forms is a necessary concomitant to the disease. Filth may exist without cholera, but cholera seldom prevails without filth.

7. That the disease can be arrested and completely stamped out by efficient and vigorous sanitation, as has been demonstrated beyond all question.

8. That in addition to the extreme importance of efficient sanitation is the absolute necessity of the prompt attention to immediate treatment by the method of house-to-house visitation within the cholera limits, and, if need be, the instant removal of patients to hospital accommodations.

REPORT ON CHOLERA.

Part II.*

By WILLIAM HENRY THAYER, M. D.,
BROOKLYN.

To the report just presented by Dr. Baker I wish to add a few words on the pathology of cholera, with a brief review of the most approved methods of treatment; an outline of the epidemic of 1866 in Brooklyn and New York, with a description of the means employed to arrest it. I have taken the liberty to speak in the first person, as suited to the nature of my paper.

In a report of this kind, designed chiefly to initiate a discussion in the society bearing mainly on the subject of prevention and treatment of cholera, it is not desirable for me to devote much time to detailed description of the disease. It is enough to say, in the language of Dr. Parkes, who wrote in 1847, from five years' experience of cholera in India, that "it is primarily a disease of the blood; and the changes induced in the function of respiration, directly consequent on the alteration of the blood, are the proper and distinctive symptoms of the disease." The purging, vomiting, and cramps are speedily followed by the symptoms belonging to the circulation, that group of symptoms which marks the algid stage, "which afford the only measure of the severity of the case, and from them only can a correct prognosis be formed."

Dr. Parkes says: "The vast majority of untreated cases die."

The first indication, when the patient is seen at the outset, is to arrest purging. For the purpose absolute rest is required, with astringents and sedatives—such as acetate of lead with opium, or laudanum, or the mixture prepared by Dr. Squibb, in 1866, of camphor, capsicum, chloroform, and opium.

But astringents and all other measures may fail to arrest the purging, and the algid symptoms begin to appear. "The list of remedies which have been used in cholera to counteract the deeper and more important changes in the blood comprises all the stronger medicines known to physicians at the present day," says Parkes, "and it appears to me," he continues, "no one medicine has been found more efficacious than another." The warm bath is injurious. Cold affusion is grateful, and sometimes temporarily beneficial. Stimulants are quite useless, and indeed hurtful. Venesection was much in favor with East India surgeons at one time, but in subsequent epidemics the results were unfavorable. Calomel, strychnine, sulphuric acid, chloroform, camphor, saline enemata, enemata of brandy and water, repeated doses of castor-oil, ice-bags to the spine—these are the remedies which have been used with more or less apparent success by different men in different epidemics.

My personal experience in 1849 and 1866 leads me to say that very little time should be spent in any attempt to arrest the diarrhœa by astringents or kindred medicines. When the algid symptoms begin to appear, it is too late to cure the disease by stopping the diarrhœa. Indeed, some observers believe it to be salutary. Every one who has had experience in cholera knows that the diarrhœa is no index of the severity of the disease. The cases most rapidly fatal are those in which the evacuations are least. This fact gives color to the opinion held by some that the discharge from the bowels is the means of eliminating the choleraic poison.

In 1849 the experience of East India surgeons led me to bleed the patients. In a dispensary practice in which I saw a number of cases there were some recoveries under venesection: in the case of one man, whose radial pulse was already entirely absent, and blood could for some minutes only be forced out drop by drop from the median basilic vein by continual "stripping" of the arm from the wrist to the elbow, I think it was a full half-hour before it flowed spontaneously. When this occurred, the skin began to grow warm and less livid, respiration became easier, and the patient went on to recovery. But there were others, whose condition seemed more hopeful when first seen than this man's, who were bled while there was a radial pulse, who did not for a moment improve under the venesection.

In 1866, when I had charge of the Hamilton Avenue Cholera Hospital, venesection was not employed there. After a trial for a few days of various remedies which had been most approved, all the cases not hopelessly advanced were treated with calomel, in doses of from three to ten grains, according to the age of the patients, repeated at hourly intervals till three or four were taken, or bilious dejections began. The results were gratifying. We had eighty-four patients with cholera, of whom twenty-six recovered and fifty-eight died. Thirteen only of these entered the hospital before the algid stage; of these, twelve recovered; they were treated with calomel from their entrance. The one who died had no calomel. Seven of the fifty-seven who entered in the stage of collapse recovered under the calomel treatment. The mortality is far greater than it would be

* Read before the Medical Society of the County of Kings, April 21, 1885.

if the patients came under treatment at the outset of the disease; two thirds of these were already in the stage of collapse when they entered the hospital.

The general plan of treatment was absolute rest, no food while vomiting continued, ice or water in frequent small quantities, astringents and opiates if seen very early; but if diarrhœa continued, or if there was the slightest hint of algid symptoms, calomel in repeated doses until bilious evacuations were produced. After this, nourishment in small quantities. But this general plan was so far varied that, after the calomel treatment was adopted in the hospital, we never gave astringents or opiates, or took any direct method to arrest diarrhœa; all patients not hopelessly collapsed and past the power of absorbing medicines were put on calomel at once.

Emetics have been recommended to be given until vigorous emesis is produced, resulting sometimes in the discharge of undigested food long retained, which the involuntary vomiting of cholera had not dislodged. According to Dr. J. C. Hutchison, who had charge of the Brooklyn Cholera Hospital in 1854, after emesis produced in this way the choleraic vomiting usually stopped.

The calomel treatment was pursued in the four cholera hospitals of New York and Brooklyn in 1866, with about the same results in all. It met with favor in Europe and in the U. S. Army. The "Report on Cholera in 1867" in "Circular No. 1, Surgeon-General's Office, 1868," contains favorable testimony to its efficacy from many army surgeons. In 1854, Dr. Hutchison, who treated one hundred and forty-four cases in his hospital, made no attempt to check the diarrhœa, but gave one grain of calomel every hour; and all those who entered the hospital in the first stage recovered.

Nevertheless, an examination of cholera reports in several epidemics in Europe and India discovers nearly as favorable testimony of the use of some of the other remedies already enumerated; and shows that longer experience with any plan of treatment is needed to establish its value, and that remedies sometimes owe their apparent success to the mild character of the epidemic. The remedies thus far addressed to the algid stage of the disease have been empirical. In the first stage there seems to be a clear indication to arrest diarrhœa. But the essential nature of the fully formed disease consists of material alterations in the blood; not merely in loss of serum—which is not so considerable as frequently takes place in "cholera morbus"—but in disorganization of the red corpuscles, by which its oxygenating power is lost or impaired. The blood is invariably deeply carbonized after the formation of the algid stage, and, on exposure to the air, is very slow to absorb oxygen. The expired air contains no trace of carbonic acid, and has an excess of oxygen—a condition fairly attributable to the abnormal condition of the red corpuscles. The patient dies asphyxiated. Whatever mode of treatment is to be beneficial after the disease is fairly established must include remedies which have an influence beyond checking the discharges; they must have the power of arresting the destruction of the red corpuscles, a result to be attained by staying the germination of the specific cause of cholera within the body. Now, has calomel the power to do this, and are there other medicines equally effectual?

Parkes says "the vast majority of untreated cases die." But such a statement must be taken as referring to the Hindoo population, who sicken and die in their hovels in the concentrated choleraic poison arising from the saturated ground, not only refusing medical treatment, but neglecting all improvement of their unhealthy surroundings. Such an opinion may not be correctly given of persons at rest in a well-ventilated building, in a wholesome locality, carefully nursed, and, after these provisions, trusted to their natural restorative powers. There is probably a self-limitation in cholera, and, if the patient is not rapidly killed by the alterations of the blood, the system slowly recovers itself. This is still an open question. I am unable to produce any favorable reports of cases in which no medicine was administered; unless we except the following statement of Dr. Hutchison in his report: "Whenever in any case we are at a loss to know what treatment to adopt, or if we find the patient growing worse under the influence of remedies that we think best adapted to the case, the better plan is to rely on the *vis medicatrix naturæ*. This I have repeatedly done with much satisfaction, patients in the deepest collapse having reacted without any treatment—in one case without even ice, beef-tea, or external applications." But, according to Dr. Hutchison's report, patients received in the first stage were treated with repeated small doses of calomel, and all recovered.

The returns of the mortality from cholera in Brooklyn and New York in the various hospitals and public institutions, and in the community outside, are instructive as to the influence of their various circumstances upon the mortality, as will be seen by the following table:

	Cases.	Deaths.	Percentage of deaths
Brooklyn Cholera Hospital, 1854.....	144	88	61
Brooklyn, Hamilton Ave. Hospital, 1866...	84	58	69
" City Park Hospital, 1866.....	18	11	61
Kings County Penitentiary, 1866	87	67	77
Brooklyn cases, outside hospitals, 1866....	572	408	71
New York Red House Hospital, 1866.....	50	33	66
" Battery Hospital, 1866.	149	107	72
Blackwell's Island Lunatic Asylum, 1866...	98	62	63
" " Workhouse, 1866.....	204	147	72+
" " Almshouse, 1866.....	111	90	81
" " Charity Hospital, 1866 ..	50	42	84
" " Penitentiary, 1866.....	19	7	36

By this table it will be seen that in cholera hospitals the percentage of deaths ranged from 61 to 72, averaging 65⅝, nearly 66, while the percentage of deaths in Brooklyn outside of hospitals was 71. A large majority of the hospital patients were in the algid stage on admission, and some of them moribund; but most of those who were still amenable to treatment recovered, who, under their average circumstances in tenement houses, would have died.

The returns from the penitentiary on Blackwell's Island probably give a fair showing of the results of cases placed in the most favorable circumstances; nineteen cases and seven deaths = 36 per cent. The subjects averaged twenty-seven years of age, were probably generally vigorous, and were where they came under treatment at once and were

not removed. Hospital patients, on the other hand, are aggravated by transportation when they need absolute rest, and have been ill for hours when put under treatment.

The workhouse had 72 per cent. of deaths, the patients being older and less vigorous; the almshouse 81 per cent., the patients being still older and generally broken down; and the Charity Hospital 84 per cent., the inmates being already diseased.

I suppose it may be maintained as an undisputed fact that cholera is extended from the subject to other persons by the evacuations only. Further time is required to settle the question whether the comma bacillus is the essential germ of the disease. But this is immaterial while we know that the evacuations contain the poison, and all of it. This places the extension of cholera within our control. The history of the epidemic of 1866 affords many instances of the possibility of arresting the epidemic promptly by suitable disinfection. It is not possible always to trace the cases to their source of infection. Thus, in Brooklyn the first case was in Walcott Street, Twelfth Ward, July 7th. Other cases occurred within the next four days in the Third, Fourth, Sixth, Ninth, Twelfth, Seventeenth, and Nineteenth Wards, points widely distant from each other. In New York three cases occurred in the first week of May, the third case being five miles from the others. There was no evidence of the source of infection in any of them. Thorough disinfection of the premises was made, and no other case was seen in New York for a month.

In these two cities, cholera was confined almost exclusively to tenement-houses, or such places as the miscellaneous filthy hovels on the wet and foul soil of the Twelfth Ward of Brooklyn, or institutions where many persons were crowded together. And the experience has been the same everywhere. The cholera poison does not easily germinate or develop in clean places. It requires moisture and filth. In the four cholera hospitals of Brooklyn and New York no case occurred among the attendants, who were numerous and passed their whole time in the buildings.

The chief means of arresting the epidemic are ventilation of houses and chemical destruction of the excreta. In 1849 it was not yet known or suspected that the epidemic was to be arrested by disinfection of the excreta, and no attention was paid to them; nevertheless, there were many single cases of cholera in private houses, where there was nothing to prevent its extension but cleanliness and good ventilation. And even in a public institution in Boston—a temporary home for destitute children—which had perhaps thirty inmates, the matron died under my care after nine hours' illness, and was buried from there two or three days later, yet no other case occurred in the house. At that time, therefore, cleanliness and ventilation were all that aided in any limitation in checking the spread of cholera. It was regarded as an epidemic whose extension was due to atmospheric conditions unknown and uncontrollable.

At present, it having been demonstrated that the excreta carry the poison, which may be transmitted from the sick to the well through drinking water which it has contaminated, or through the air of confined apartments which it has infected, the indications are clearly for the chemical destruction of all discharges and the thorough purification of the clothing and bedding of the sick, and a provision for water for household uses from sources entirely beyond possibility of contamination by cholera poison. In the matter of drinking-water, Brooklyn is safe, for the Health Commissioner has at last succeeded in having every well within the city limits filled up, so that the whole water supply now comes from Hempstead, some miles in the country. All that remains, therefore, is to destroy the excreta. If this is thoroughly done, no disinfection of houses after the death or removal of cholera patients—by steam, sulphurous-acid gas, chlorine, or any other method—can be necessary, because no germs or cholera poison will have escaped into the air, or, if escaped, will have been retained within doors if the building has been constantly and thoroughly ventilated.

To disinfect the excreta we may employ bichloride of mercury or chloride of lime, either one of which is deemed effectual by the Committee on Disinfectants of the American Public Health Association. They advise chloride of lime dissolved in water, in the proportion of four ounces to the gallon of water—one pint of this solution to be added to each discharge in cholera, to be left in the vessel ten minutes before it is emptied into the water-closet; or corrosive sublimate and permanganate of potash, dissolved in soft water, two drachms of each salt to the gallon. This is equally effective, and has the advantage of being inodorous, but the discharge requires to stand in the vessel an hour after the solution is added before being emptied into the water-closet.

The Committee of the Public Health Association assert that sulphate of iron is not a germicide, but valuable as an antiseptic, "its low price making it one of the most valuable agents for the arrest of putrefactive decomposition in privy vaults." That it exercises a restraining influence upon the development of disease-germs can hardly be questioned when we consider what good results followed its use in 1866. In the Hamilton Avenue Hospital it was systematically added to every dejection; and if it is inert, then we must believe that the most complete ventilation is an all-sufficient disinfectant. The hospital occupied one floor of a building measuring seventy by one hundred and ten feet, high-studded, with all its many windows and three large doors constantly open, through which there was a fresh breeze blowing most of the time. The other three hospitals in the Metropolitan Sanitary District used sulphate of iron as a disinfectant in the same way, and no case of cholera originated in any one of them.

"In the New York hospitals of the Health Department all bedding and clothing soiled or used by the patient was boiled in a solution of permanganate of potassium for two hours, and then removed and boiled in pure water. Chloride of lime, or Labarraque's solution of chlorinated soda, was scattered freely about the floors." In the Hamilton Avenue Hospital the floors were scrubbed with soap and water; the blankets and other clothing, after removal from a patient, were immersed in a barrel of water to which a pint of Labarraque's solution had been added, and, after remaining there twenty four hours, were boiled and washed.

One woman washed these clothes for five weeks. Mattresses and pillows were thoroughly aired; if wet, they were burned.

There were several striking instances during the epidemic of 1866 of its prompt arrest in public institutions by dispersion of the inmates and thorough disinfection. A notable one is that of the workhouse on Blackwell's Island, where, under the direction of Professor Frank H. Hamilton, the inmates were distributed as far as the vacant places in the building would permit, disinfectants were thoroughly used, the diet was improved, and every possible step was taken for cleanliness and the chemical destruction of the excreta. The epidemic began to decline from the day these measures were fully carried out, and in five days it ceased entirely. It lasted nine days, during which time 123 of the 800 inmates died.

At the Kings County Penitentiary, which had eighty-seven cases, all the inmates who were well were removed to tents outside the prison on the 5th of August. Only six cases occurred after removal to the tents, and three of these were in attendants, who continued to sleep in the prison.

The cholera poison does not spread far from its source. Lebert says: "According to the most recent investigations, it is well established that cholera is as old as the human race in India, and that the mouths of the Ganges and Brahmaputra are to-day, as they have been from time immemorial, the centers of departure of the great Indian epidemics of this disease" (Ziemssen, i, 353). Parkes, speaking of the disease at Moulmein, in Burmah, says: "For many months it was confined almost entirely to the houses situated on or over the river, and chiefly to the south end of the town. One side of the main street runs close to the river, and the great majority of cases occurred on this side." "The only Europeans attacked at the commencement of the epidemic were the sailors belonging to the ships in the river; the ships nearest the shore suffered most. Thus nine cases occurred on board H. M. brig Britomarte, lying close in shore; she was moved about a mile away, into the center of the stream, and no more cases occurred." "No case occurred in the European and native regiments, whose barracks are situated half a mile from the river, although these men were allowed unrestricted intercourse with the bazaar."

In several European steamers that arrived with cholera on board during the spring of 1866 the disease was confined to the steerage, where it originated, no case occurring in the cabin. On board the steamer England there were two hundred and fifty deaths by cholera during the voyage, but no cabin passenger was ill. The same is true of the Virginia, which arrived on the 18th of April; no cabin passenger was affected. In Brooklyn, in the Twelfth Ward, where nearly half the cases occurred, the disease clung especially to certain houses, situated nowise worse than many others, and peculiar only in having cholera cases already there. It is difficult to understand its spreading around the world at long intervals only, rather than prevailing every year wherever a suitable nidus can be found, without admitting some other means of transmission besides personal contamination. But this is the only means of extension thus far demonstrated; and we find it possible to check its extension as soon as discovered.

By far the most important consideration is the removal, before the invasion of the epidemic, of all media for the development of cholera-germs in the soil, or the air of houses and localities, by measures of general and local purification, and especially by complete sewerage of every inhabited district, and by every possible provision against crowding and the faulty construction of houses.

THE EPIDEMIC OF TYPHOID FEVER IN PLYMOUTH, PA.

By HERMANN M. BIGGS, M. D.,
INSTRUCTOR IN THE CARNEGIE LABORATORY,
AND A. A. BRENEMAN, S. B.,
LATE PROFESSOR OF INDUSTRIAL CHEMISTRY IN CORNELL UNIVERSITY.

(*Concluded from page 579.*)

THE course of the epidemic of typhoid fever at Plymouth during the last two weeks would seem to justify the conclusions reached by the authors in the first portion of this article ("New York Medical Journal," May 23d). During this period a large number of new cases have developed, and many deaths have occurred. It appears, from what evidence is at hand, that since the 1st of March about one thousand cases of typhoid fever have occurred in the town and vicinity, nearly one hundred of which have proved fatal.

The continued appearance of new cases proves conclusively that the conditions favorable to the development of the disease still exist. Although some of these cases probably have arisen from transmission of the disease by direct contact with the sick, still, in the presence of the much more usual and potent means of infection which the drinking-water affords, as already suggested, too much stress should not be laid upon this.

In our former article it was shown that the wells had become the favorite source of drinking-water, as a consequence of the universal conviction that the use of the hydrant water was the cause of the outbreak. It was then pointed out that the use of water from wells which from the nature of their surroundings must be contaminated by privy drainage would probably serve as a new means of extending the disease. The actual condition of these wells, then, becomes an important factor in the investigation of the epidemic and in judging of its probable course in the future. In the analysis of the water of the Davis well it was plainly shown that the pollution of the soil about the house had resulted in the pollution of the well. The analyses of the waters taken from other wells in the town have been completed, and the results, together with those previously reported, are tabulated below.

Plate cultivations have been made of the micro-organisms present in the water of the Davis well (as in the chemical analysis this water showed the greatest contamination) for the purpose of determining, if possible, whether the typhoid bacillus was present here. The work of isolating all the germs found has not yet been completed, and nothing can be definitely stated as to the ultimate results. How-

ever, it may be mentioned that this water contains micro-organisms in large numbers and of many species, among which are many putrefaction germs. The first two series of plate cultivations (in which the dilution of the water with beef-peptone gelatin was in about the proportion of one to fifty) were rendered useless by the enormous number of colonies which developed in them. This, taken in connection with the chemical analysis, is certainly a very significant fact.

For the benefit of those who may not understand the method of making cultivations of micro-organisms found in water a word of explanation may be added. In preparing the cultivations a small quantity of water (which has been collected with the most careful precautions) is added to a tube of sterilized beef-gelatin that has been previously liquefied by heat. This, after being thoroughly shaken, is poured on to a sterilized glass plate, where it gelatinizes in a thin layer. The micro-organisms which have been mingled with the gelatin, and are thus separated and isolated, are fixed where they fall, and from each individual a colony develops. In this way the development of the colonies of the different germs may be studied, and, by the peculiarities which the different colonies show in their growth, the germs can be isolated with comparatively little difficulty:

	Ammonia.			
	Free.	Albuminoid.	Chlorine.	Solid matter.
1. Reservoir	·014	·162	·15	2·10
2. Davis Well*	4·241	·175	3·80	29·20
3. Susquehanna River	·020	·135	·20	4·80
4. Well, S. W. cor. Nottingham and Second Streets.	·017	·033	1·55	15·70
5. Well, N. E. cor. Nottingham and Second Streets.	·008	·021	1·40	8·70
6. Well, J. Ives, Lee and Franklin Streets	·012	·030	2·70	17·50
7. Public Well, cor. Nottingham and Back Streets	·025	·034	2·25	20·10

The terms used in the headings of the different columns have already been explained, and their significance in water analysis has been indicated. The most striking results are shown in the column headed *chlorine*, and upon these rests principally the evidence of contamination of the wells. It was to be expected that a considerable degree of organic contamination would be shown by the analysis, in view of the general unsanitary condition of the village, but the columns headed *free* and *albuminoid ammonia*, respectively, can hardly be said to fulfill this expectation.

The water of the Davis well, No. 2, is a typical example of a water contaminated by household slops and privy drainage, and its condition perfectly illustrates the consequence of polluting the soil in the vicinity of a well with such matter. But this well is exceptional among most of those taken, in being shallow (fifteen feet) and close to a house from which these liquids are thrown out upon the ground. The four remaining wells from which samples were taken were all of better character, so far as their surroundings would indicate, than the Davis well.

No. 4 represents a well sixty feet deep, situated at the top of the hill, on the corner of Nottingham and Second Streets. The ground immediately about the well was clean, and its slope rendered pollution by surface drainage unlikely. Moreover, the depth of the well gave its water the advantage of more thorough filtration through the soil, and of a larger area of collecting ground.

No. 5 is twenty-five feet in depth, also in a favorable position, its opening being in a cleanly and well-kept door-yard, elevated some distance above the road, and free from danger of surface drainage.

No. 6 is in the front door-yard of a well-kept and attractive cottage, but stands opposite to and much lower than a row of dwellings on the other side of the street, and would undoubtedly be in the way of the surface drainage from these. Many cases of typhoid fever existed in this row of houses at the time of our visit.

No. 7 is, perhaps, the worst well in respect to surface drainage. It is very shallow (ten or twelve feet in depth), and stands at the foot of the hill on Nottingham Street, its mouth being loosely walled in and nearly level with the roadway. There are no houses above it within one hundred yards on the same side of the street, but the opposite side is lined with dwellings. Its most immediate danger consists in the washings of the roadways and of the gutters. Almost opposite to it was an open kitchen-drain, discharging its contents into the gutter. The well is said to become turbid and foul with every rain. It is largely used by the families in the neighborhood, but it had evidently been but little cared for, and its bottom was covered with rubbish.

We have, then, in Nos. 4 and 5, probably, wells among the best in the town, so far as immediate sources of pollution are concerned, and in Nos. 6 and 7 wells more likely to be foul. The analyses indicate for none of them any high proportion of ammonia, free or albuminoid, and hence no objection can be found to them so far as organic matter is concerned. As organic matter is itself the most significant ingredient of polluted waters, the case, so far as these wells are concerned, rests only upon the proof that other ingredients characteristic of sewage exist in them. It is in this respect that the figures in the column headed *chlorine* are significant. The water of the reservoir contains only 0·2 grain of chlorine to the U. S. gallon; that of the Susquehanna River, 0·15; while none of the well waters contain less than ten times the latter proportion, and the variation of chlorine is closely in accordance with the general indications of the surroundings in each case. If this chlorine was a common constituent of the soil of the whole neighborhood, a certain uniformity might be looked for in the proportions shown by the wells and streams; but, if the conditions of increasing chlorine are precisely those of increasing population and multiplication of privy vaults in a given area, it is difficult to escape the conviction that the abundance of common salt in kitchen slops and in human excreta stands in close relation to the high proportion of chlorine in the waters of these wells. Moreover, the waters which are highest in chlorine have invariably, in the

*Owing to an error in the table of analyses given in the first part of this paper, the Davis well was erroneously reported as pumping to the river, and the Davis well was consequently not mentioned in the table here given.

samples examined, been highest also in nitrates, so far as qualitative tests can show, and the latter, as the final products in the disintegration of organic putrescible matter, serve, therefore, only to emphasize the conclusions just drawn. The quantitative determination of nitrates and nitrites would probably have strengthened this conclusion, but, unfortunately, the time required forbids such an extension of the work at present.

It should be said, also, that there exists in every soil a certain capacity for withdrawing from solution and fixing ammonia which enters it, and a soil must be rich in salts of ammonia, and in the organic matters from which these are derived, before much ammonia can be carried far from its source by water. Albuminoid matters, from which the so-called albuminoid ammonia results in the process of water analysis already described, exists largely in contaminated water as very finely divided, flocculent, often semi-transparent masses, and the mechanical filtration performed by the soil accounts perhaps sufficiently for the limited quantity of such matters in the waters of these special wells. In chlorine and nitrates, then, the former especially, we have practically the only matters characteristic of sewage which can be carried to a great distance through a soil, unless certain open channels of communication are found; and the presence of these substances may, therefore, be regarded as foreshadowing the more remote contamination which is slowly advancing upon a well that includes a privy or cesspool within its drainage area.

The wells examined were probably better than the average of the wells in the village, and, if the indications of present contamination in these are slight, they show at least what may be looked for in wells less favorably situated, or even in these wells themselves at times when the minute channels of the soil are flushed by heavy rains. It is much to be desired that a systematic examination of a large number of wells in Plymouth be made at the present time. The opportunity offered for adding to the evidence already at hand to establish the connection between drinking-water and disease is an exceptional one.

The question of the general health of Plymouth previous to the present epidemic has been purposely avoided in the earlier portions of this article, but a few words are necessary now. From what could be learned from a number of prominent physicians residing in Plymouth, it appears that there have been a large number of cases of typhoid fever in the town during the last two or three years, and especially in the year ending January 1, 1885. From the best evidence at hand, it is probable that not fewer than a hundred and fifty cases occurred during that year. In view of the present epidemic, it becomes an important point to determine what was the cause of so large a number of cases in a town of the size of Plymouth. Impure drinking-water is, of course, the most probable source of the disease. Furthermore, it does not seem likely that the hydrant water was responsible for these cases, and the whole matter is satisfactorily explained by supposing the well waters to be contaminated. This has already been rendered probable by our analyses. Moreover, it was found that many families which did not possess wells of their own used water from the neighbors' wells for drinking purposes during the summer.

The possibility of a general contamination of the well waters being shown, the conditions which now exist in Plymouth are such as to render it a matter for the most serious consideration. More than a thousand cases of typhoid fever have recently occurred within a limited area, and the excreta of these patients, for the most part at least without previous disinfection, have been deposited in the ground within this area. This same area is also the collecting ground for numerous wells, the water of which is used for drinking. With warm weather and the continued existence of the disease, each day increases the danger of infection through the use of well water. If such water is to be used at all, therefore, it should only be used after thorough boiling. This to a certain extent has been done. The water of the reservoirs, however, is certainly more capable of control as regards its purity, and, under proper sanitary supervision, can be kept so free from contamination that it is on all accounts to be preferred for the supply of the village.

In concluding this article, the authors would gratefully acknowledge the courtesy and assistance received from physicians and others in Plymouth, and from Dr. Taylor, of Wilkesbarre, to whom they are indebted for the first published explanation of the cause of the epidemic.

NEW YORK, *June 1, 1885.*

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Voice Use and Stimulants. By Lennox Browne, F. R. C. S. Ed., etc. London: Sampson Low, Marston, Searle & Rivington, 1885. Pp. xii–147. [Price, 3*s.* 6*d.*]

A Revised and Enlarged Edition of Clark's New System of Electrical Medication. By A. W. Tipton, M. D., Topeka, Kansas. Chicago: Charles J. Johnson, 1885. Pp. 264. [Price, $3. $4.]

What to do in Cases of Poisoning. By William Murrell, M. D., F. R. C. P., Lecturer on Materia Medica and Therapeutics at the Westminster Hospital, etc. Fourth Edition. London: H. K. Lewis, 1884. Pp. 212.

A Treatise on Medical Examination for Life Insurance. By J. R. Levan, M. D., Medical Director of the Fidelity Mutual Life Association. Philadelphia: W. F. Fell & Co., 1885. Pp. 184.

Annual Report of the Secretary of the Navy, for the Year 1884. Vol. II. [Being the Report of the Surgeon-General of the Navy for the Year 1883.] Washington: Government Printing-Office, 1884. Pp. 373.

Forty second Annual Report of the Managers of the State Lunatic Asylum, at Utica, for the Year 1884.

Fourteenth Annual Report of the Managers of the Buffalo State Asylum for the Insane, for the Year 1884.

Thirty-ninth Annual Announcement of Starling Medical College, etc., Session of 1885–'86.

On the Significance of the Development of Optic Neuritis in Cases of Purulent Inflammation of the Middle Ear. By Charles J. Kipp, M. D., Newark, N. J. Reprinted from the "Archives of Otology."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, JUNE 6, 1885.

THE NEW YORK COLLEGE OF MEDICINE AND SURGERY

Whatever craving there may be for the Governor to sign the bill chartering the "New York College of Medicine and Surgery" we believe to be a sentiment in which the promoters of the scheme have no rivals. Not only is there no need of another medical college in New York, but it is exceedingly doubtful if another one could succeed, provided its workings were at all legitimate. Least of all is there any room for a new "eclectic" concern. A minimum of teaching being all that that sect can endure, it is of course not to be supposed that any competition of a sort calculated to lead to excellence can be at the bottom of the project, and it seems as if this consideration alone ought to determine the Governor to withhold his signature from the bill. But there is another fact in the case that may appear more tangible to the official mind, and that is the circumstance that the individuals engaged in the enterprise have not complied, to the satisfaction of the Regents of the University, with the very gentle requirements of the general law under which they might become incorporated, but have chosen to depend upon the special legislation which they succeeded in carrying through the Legislature, and which they now ask the Governor to complete.

Apparently with the intent to do away with any aversion on the part of the Governor to practically overrule the judgment of the Regents, the promoters of the bill have taken the position that the Regents were governed by what they are pleased to term a "prejudice" against their sect, and that hence they were obliged to ask for special legislation. There is of course no ground for such an allegation, but that it will serve the purpose of creating a certain amount of popular sympathy there can be no doubt, and this sympathy is what they rely on for carrying their point with the Governor. It is a familiar move, and in this instance it would be of little interest to the community but for the fact that it has been pushed to the legislative phase of the project, one of the chief spokesmen of the proposed faculty having gone so far as to publicly accuse a Senator of having explicitly stated that he ought to be given a pecuniary recompense for favoring the bill in view of the criticism to which such a course would subject him from the regular physicians in his district. It is easy to see that the [illegible] the Senator" mouth for demanding a bribe is of itself calculated to call forth the same sort of popular sympathy for the movement as that which we have already mentioned.

PERINEORRHAPHY

On reading a recent article in the "Medical Press," by Dr. Greig Hewitt, on the restoration of the perinæum, we were reminded how numerous were the operations for repairing lacerations of this structure, and, on the whole, how complicated they were. One is almost appalled, on glancing over a European treatise on gynæcology, to note the strange, weird diagrams which represent the different methods of denudation practiced by foreign operators. Our own surgeons have not failed to employ their inventive faculties in this direction, so that there are now almost as many "new" operations for lacerated perinæum as there are pessaries. The general practitioner has been hopelessly muddled by the multiplicity of the latter, and there is reason to believe that the difficulty in choosing between the various operations of perineorrhaphy may lead him to regard it as a more complicated procedure than it really is.

We can see no particular advantage in Dr. Hewitt's operation over others. The author is evidently a firm believer in the idea of the perineal body—an idea, we venture to predict, which is destined to be dropped. It is extremely desirable that teachers of gynæcology should follow the lead of Dr. Emmet in trying to bring minor operations within the range of general practice. This can not be effected while every man continues to insist upon his own pet methods to the exclusion of every other. It seems to us that more thought will have to be devoted to the study of the normal functions of the perinæum, and some approach to agreement as to the nature of those functions secured, before a well-defined appreciation can be attained to by the profession at large of the merits of the various operations for its injuries.

HOW SHALL THE PHYSICIAN CLEANSE HIS HANDS?

Dr. Forster, of Amsterdam, contributes an article on this subject to the "Centralblatt für klinische Medicin." He calls attention to the great importance of physicians' thoroughly disinfecting their hands before leaving a case of infectious disease (especially any of the exanthemata), and at the same time he asserts that few of the disinfectants now in use really have the power of destroying those microspores which are recognized as so dangerous an element in modern medicine. After a series of careful experiments in the hygienic institute at Amsterdam, in which every precaution was taken to avoid error, the author decided that a solution of carbolic acid of the strength of two and a half per cent. was not capable of "sterilizing" the finger, but that a solution of corrosive sublimate of the strength of one to two thousand formed a reliable antiseptic wash. He urges that the latter be adopted by all physicians as well as surgeons.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 2, 1885:

DISEASES.	Week ending May 26.		Week ending June 2.	
	Cases	Deaths.	Cases	Deaths
Typhus	1	0	5	1
Typhoid fever	17	1	12	1
Scarlet fever	87	16	60	12
Cerebro-spinal meningitis	5	6	5	3
Measles	96	8	88	17
Diphtheria	50	20	78	27
Small-pox	0	0	1	0

The Medical Society of the State of New York.—The Governor has signed a bill empowering the society to regulate its own membership.

The Study of Sanitary Engineering is henceforth to form a part of the course at the School of Mines of Columbia College, and it is announced that the chair will be filled by Dr. John S. Billings, of the army.

The International Sanitary Conference at Rome is reported to have passed a resolution declaring that a ship not provided with a medical officer should undergo a consular inspection at Suez. This measure, together with the five days' quarantine of infected vessels determined upon, seems to have stirred up no little opposition among the English, and one of the leading London newspapers declares that England can not assent to such a regulation, which it looks upon as an embargo on all Oriental commerce and as "further evidence of the unfriendly spirit of the European powers, led by France."

The Maine Medical Association will hold its thirty-third annual meeting at Portland on Tuesday, Wednesday, and Thursday, June 9th, 10th, and 11th. The programme includes the following papers: "Cases of Acute Rheumatism," by Dr. A. S. Thayer, of Portland; the President's Address, by Dr. T. A. Foster, of Portland; "The Law of Heredity," by Dr. A. M. Peables, of Auburn; "Report of Cases," by Dr. E. H. Hill, of Lewiston; "A New Perineal Operation," and "Results of Tait's Operation," by Dr. S. C. Gordon, of Portland; "Morphine as a Substitute for Hanging in the Execution of Criminals," by Dr. F. H. Gerrish, of Portland; "The Treatment of Bright's Disease," by Dr. I. T. Dana, of Portland; "A First Series of One Hundred Cases of Cataract," by Dr. E. E. Holt, of Portland; "The Employment of the Insane," by Dr. B. T. Sanborn, of Augusta; "Abdominal Surgery: its Growth and Triumphs," by Dr. C. R. Crandall, of Portland; "Intra-capsular Fractures of the Femur," by Dr. S. H. Weeks, of Portland; "Some Rare Cases of Diseases of the Throat, and Treatment," by Dr. O. St. C. O'Brien, of Bristol; a Report on Necrology, by Dr. S. C. Gordon, of Portland; and the Annual Oration, by Dr. S. H. Weeks, of Portland.

The Long Island College Hospital held its twenty-sixth annual commencement at the Brooklyn Academy of Music, on Wednesday, the 3d inst., and the degree of doctor in medicine was conferred on a class of forty-seven candidates.

The American Climatological Association.—At the recent annual meeting, held in New York, the following-named gentlemen were elected officers for the ensuing year: Dr. William Pepper, of Philadelphia, president; Dr. Frank Donaldson, of Baltimore, first vice-president; Dr. Beverley Robinson, of New York, second vice-president; Dr. J. B. Walker, of Philadelphia, secretary and treasurer; Dr. J. C. Wilson, of Philadelphia, Dr. E. D. Hudson, Jr., of New York, Dr. Bruen, of Philadelphia, and Dr. J. H. Tyndale and Dr. F. H. Bosworth, of New York, members of the Council.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 24, 1885, to May 29, 1885:*

Hartsuff, Albert, Major and Surgeon. Ordered from Department of Missouri to Department of the East. S. O. 121, A. G. O., May 27, 1885.

Brown, H. E., Major and Surgeon. Ordered from Department of the East to Department of the Missouri. S. O. 121, A. G. O., May 27, 1885.

Calvin, DeWitt, Captain and Assistant Surgeon. Ordered to duty at Newport Barracks, Kentucky. S. O. 107, Department of the East, May 22, 1885.

Hall, William A., Captain and Assistant Surgeon (David's Island, New York Harbor). Ordered for temporary duty at Willet's Point, N. Y., during absence of post surgeon. S. O. 121, A. G. O., May 27, 1885.

Spencer, William G., Captain and Assistant Surgeon. Ordered for duty at Fort Sisseton, Dakota Territory. S. O. 55, Department of Dakota, May 20, 1885.

Society Meetings for the Coming Week:

Monday, *June 8th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Norwalk, Conn., Medical Society (private); Burlington, Vt., Medical and Surgical Club.

Tuesday, *June 9th:* New York State Medical Association (Third District Branch—Syracuse); Massachusetts Medical Society (Boston—first day); Maine Medical Association (Portland—first day); New York Medical Union (private); Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, *June 10th:* Massachusetts Medical Society (second day); Maine Medical Association (second day); American Microscopical Society of the City of New York; New York Pathological Society; New York Medico-Legal Society; Medical Societies of the Counties of Cayuga and Tompkins, N. Y. (Ithaca); Philadelphia County Medical Society (conversational).

Thursday, *June 11th:* Maine Medical Association (third day); Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Pathological Society of Philadelphia; South Boston, Mass., Medical Club (private).

Friday, *June 12th:* Medical Society of the Town of Saugerties, N. Y.

Saturday, *June 13th:* Obstetrical Society of Boston.

Letters to the Editor.

THE JACOBI-SHOEMAKER CORRESPONDENCE.

Philadelphia, *June 1, 1885.*

To the Editor of the New York Medical Journal:

Sir: Permit me to say, in reference to the recently published correspondence between Dr. Jacobi and myself, that the letters were of a personal nature, and were injected into the journals without any authorization on my part, or cause on the part of Dr. Jacobi. I have nothing to retract from the statements which I made at the meeting of the American Medical Association at New Orleans. They are absolutely true, and can be substantiated by better evidence than the words of Dr. Jacobi. When the time that I deem proper shall arrive, I will demonstrate the non-truthfulness and real inwardness of Dr. Jacobi's assertions in such a way that not one of your impartial readers will have any doubt of the justice or of the propriety of my remarks at New Orleans.

I have no desire to haudy words with Dr. Jacobi on questions of veracity. My status in my own community is certainly as good as that of Dr. Jacobi in New York. I have never referred to or mentioned him in public in connection with the

American Medical Association or the International Congress. At present he is simply his own accuser in the matter; but it is well said that "the wicked fleeth when no man pursueth."

Yours respectfully,

John V. Shoemaker.

THE LOCAL ORIGIN OF TYPHOID FEVER.

Muscatine, Iowa, *May 28, 1885.*

To the Editor of the New York Medical Journal:

Sir: In reading Dr. Biggs's article in your journal on the source of contagion of the Plymouth epidemic of typhoid fever, some experiences of my own have been vividly brought to memory. I have been practicing in this county more than thirty-two years, consequently have had opportunities of seeing several epidemics of typhoid fever, in three of which I could certainly locate the cause of infection. The first was in 1868. A tramp had died of typhoid fever in the town of West Liberty, Iowa, some time during the latter part of August, and was buried in the corner of the cemetery close to the public road. Soon after or about that time a family bought a lot directly across the street from the cemetery and built on lower ground, digging a well eighty-five feet from where the tramp was interred. The following fall was an exceedingly wet one. The ground (which was black loam on clay, and, some ten feet below that, quicksand) had become saturated with water, so that the well and cellar were full to the surface of the ground.

The family, consisting of the parents and ten children, used this water for drinking and household purposes. The father and mother had suffered from typhoid fever before leaving England. They escaped, as did one son who worked away from home. The nine other members contracted the fever in an aggravated form, and two grown daughters died. As none of the neighbors who nursed them would drink the water, from the first, on account of the surroundings, the contagion did not extend beyond the family.

The second occurred in the family of an old physician of a neighboring village in 1869. The first person attacked was the old doctor, in whose case a satisfactory diagnosis was not made until convalescence commenced, when other members of the family began to show unmistakable signs of typhoid fever. This was before the days of fever thermometers, and the only symptoms presented by him were constant hiccough and a very scanty secretion of urine. The hiccough was constant, sleeping and waking, for three weeks, and the secretion of urine did not exceed four ounces a day during that time. There was no diarrhœa and no eruption. When others of the family sickened I commenced looking for a cause. I found the cellar in good condition. When questioned about their well, they said there could be nothing the matter with that. It had been an open one with windlass and bucket until a month previous, when a pump was put in and the well tightly inclosed, and, as they supposed, thoroughly cleaned.

They brought me a glass of the water, which looked very clear and tasted excellent. Not being satisfied with what they said of the well, I went upon a tour of inspection. I found an old privy within sixteen feet of it, with a pit of some four feet in depth beneath it, curbed with boards, which had been there some fifteen or sixteen years, and was full to the top, but still in use. The curbing of the well was then removed and a direct communication between the vault and the well was demonstrated. On the water being pumped out there was found in the bottom a barrel of semi-fluid fecal matter, mixed with various articles thrown in by children, showing that the impurity had been present for a long time, remaining immovable while free communication with the air was kept up; but, when tightly inclosed, its poisonous qualities soon becoming manifest. All the nurses and help about the house, who were in the habit of drinking that water even for a few days, were taken in due time with the fever, quite an epidemic arising therefrom. But after stopping the use of the infectious water no other case occurred. Upon careful inquiry, I was unable to discover that there had ever been a case of typhoid fever in the house previous to the old doctor's attack. Dr. W. W. Riddle (now dead), who assisted in the treatment of the family, and had lived in the village since that house was built, was certain that such was the case.

Of the ten to fifteen cases there originating, all ended in recovery but one.

I was forced to suspect that typhoid fever arose *de novo* in that drinking water.

In the fall of 1875 I was more fully convinced of the occasional autocthonous origin of typhoid fever.

A farmer had built a house on a high and dry bluff free from malarious influence.

The water-supply was a well, deep, and not close to any possible source of infection. The family had lived in the house ten years, and no physician, except myself, had ever been called to them. I am positively sure that there had never been a case of typhoid fever on the premises. They had a family of seven children, healthy and rugged.

During the month of December, 1874, the mother died of puerperal albuminuria. The father, being a dissipated man, the care of the family fell in a great measure upon two little girls, twelve and eight years old. Consequently, the sanitary condition of the residence was soon none of the best. In August, 1875, the oldest daughter was attacked with typhoid fever, which ran a rapid course to perforation, peritonitis, and death. Soon after the rest of the family were stricken down by the disease.

I had them removed from their unsavory home and scattered around among their relatives, where they could have the best of care and nursing. Four of the seven died.

After their removal, two women of the neighborhood volunteered to clean the house. They found in a little closet behind the cook-stove a half-bushel of dirty, putrid dish-cloths, which had been thrown there by the children as they became too filthy for use. The women said that the offensive smell that arose from them when removed exceeded anything within the range of their experience. They both contracted typhoid fever, but recovered after a severe run of it.

Knowing that the weight of authority is against me, I can not help believing that the infection originated spontaneously within that heap of rags, and was communicated through the medium of the atmosphere.

A. Ady, M. D.

Proceedings of Societies.

CONNECTICUT MEDICAL SOCIETY.

Ninety-fourth Annual Convention, held at Hartford, Wednesday and Thursday, May 27 and 28, 1885.

The President, Dr. B. N. Comings, of New Britain, in the Chair.

Wednesday's Proceedings.

Meeting of the President and Fellows.

The meeting was held in the County Court House, and was called to order at 3 P. M. Dr. S. B. St. John and Dr. P. V. Burnett were appointed a Committee on Credentials.

The President's Address.—The society was reminded that during the year several distinguished members had died. Among them was Dr. C. W. Chamberlain, of Hartford, one of the vice-presidents of the society, who had held the office of secretary for eight years, and who at the time of his death was secretary of the State Board of Health. By his well-trained intellect, his constant care in all his work, and his broad scholarship, he accomplished results which would cause his name to be long remembered by the profession. In regard to the business which was likely to be brought before the society, perhaps the most important was the consideration of the proposed charter. A special meeting had been held to consider this matter last January, but no definite decision was reached at that time. A vote was, however, passed to refer the subject to the county societies for discussion, and inviting them to report the results of such discussion. Only two counties had handed in any expression of opinion.

The adoption of the proposed charter would involve a radical change in the government of the society. At present the county meetings were primaries where delegates were elected to represent the members of the county societies at the business meetings of the State society. It was now proposed to make every member of each county society a fellow of the State society. It seemed proper that such a radical change should be well considered, and then finally disposed of. The question of the resumption by the society of the power of conferring degrees was less important, because the power was not used. It was as if one were to consider in regard to an old piece of furniture, for which he had no use, whether he would dispose of it or would send it to the attic and keep it. The society was reminded that the subscriptions which had been received for reprinting the "Transactions" were insufficient to meet the expense incurred. The president, in his official capacity, last autumn, had attended the opening of the new hospital at Bridgeport. The profession was to be congratulated that Fairfield County had so fine a hospital.

Appointment of Committees.—The PRESIDENT then announced the following committees: *On Unfinished Business*—M. C. White, J. G. Stanton, L. Holbrook. *On County Resolves*—M. Storrs, J. La Pierre, H. F. Hammond. *On Business*—S. B. St. John, G. B. Packard, W. C. Wile. *On Honorary Members*—W. H. Carmalt, F. Rogers, C. H. Pinney. *Auditing Committee*—W. Deming, A. B. Worthington. *To Nominate Essayists*—S. G. Hubbard, C. H. Rogers.

Treasurer's Report.—Dr. E. P. SWASEY reported that the balance in the treasury at the beginning of the year was $682.92. The receipts for the year ending May, 1885, had been $653.40, making a total of $1,336.32. The expenditures had amounted to $687.20, leaving a balance, at the end of the year, of $649.12. There was still due from the county societies $93.60. The republication of the "Transactions" of the society from 1792 to 1830 had involved an expense of $597.70, of which $245.50 had been raised by subscription. It was recommended that some action be taken to encourage delinquents to pay their taxes.

Subsequently Dr. Swasey introduced the following: "*Resolved*, That the county clerks be empowered to drop from the roll without further action the names of those members who persistently neglect to pay their taxes, without showing sufficient evidence of their inability to do so." This being in effect an amendment of the By-laws, action upon it was, in accordance with the rules of the society, postponed until next year.

Proposed Amendments to the By-laws.—The Committee on Unfinished Business reported, in regard to the proposition made last year, that the ex-presidents should be formed into an advisory committee who should be *ex officio* fellows of the society, that it was not probable that such action would be legal, and that, if it was legal, it was not expedient. They also reported that it was not expedient to appoint any additional committees. The report was accepted and adopted.

Nominating Committee.—The secretary announced that, in several counties, the By-law requiring each county society to designate one of the fellows to act as a member of the Nominating Committee had not been complied with. The fellows present from these counties were directed to choose one from their own number to serve upon the committee. The following gentlemen were at length announced as a committee to make nominations: H. G. Howe, of Hartford County; P. Cassidy, of New London County; J. W. Wright, of Fairfield County; H. F. Hammond, of Windham County; W. S. Munger, of Litchfield County; P. V. Burnett, of Middlesex County; F. Gilnack, of Tolland County; H. A. Carrington, of New Haven County.

The Separation of the Society and the Medical School.—Dr. M. C. WHITE, of New Haven, stated that at the last session of the General Assembly application had been made for approval of action which had been taken by the Corporation of Yale College and the Connecticut Medical Society in dissolving the relation which had long existed between the two. An act had been passed legalizing the separation and restoring to the society the privilege of examining candidates and conferring degrees. It was the opinion of legal counsel that the society must signify its approval of the action of the Legislature within six months in order to secure the enjoyment of these rights. Such action on the part of the society was necessary to formally perfect the work already done. Dr. White accordingly introduced the following:

"*Resolved*, That the president and fellows of the Connecticut Medical Society hereby approve and accept the powers and responsibilities conferred and implied in the recent action of the General Assembly 'Confirming Agreement between Yale College and the Connecticut Medical Society.'

"*Resolved*, That the secretary be directed to file a copy of these resolutions with the Secretary of State."

These resolutions were opposed by a number of gentlemen who regarded it as a mistake for the society to resume the functions of examining and licensing and conferring degrees. They were favored by others who saw in them nothing more than an acceptance of something for which the society had asked. The resolutions were finally adopted by a vote of 22 to 14.

The Proposed Charter.—Dr. STORRS, chairman of the Committee on County Resolves, reported that the only matters brought before the committee related to the new charter. The majority of the counties were either opposed to any change or were indifferent. The committee therefore reported that the proposed change was inexpedient, and should be indefinitely postponed.

Dr. S. G. HUBBARD objected to such a disposition of the subject, because the counties had not had sufficient opportunity to discuss it. He therefore offered the following resolutions as a substitute for the action proposed by the committee:

"*Resolved*, That the proposed charter be published in the 'Proceedings,' and that action be postponed to the annual meeting of 1886.

"*Resolved*, That a committee of three be appointed to obtain an expression of opinion in regard to the adoption of the main features of the proposed charter from every member of the State society, and report the result at the next annual meeting of the society."

The first resolution was adopted by a vote of 17 to 16. The second resolution was then also adopted. The president subsequently appointed the following gentlemen to act as a committee for the above-mentioned purpose: M. C. White, of New Haven,

W. G. Brownson, of New Canaan, and L. S. Paddock, of Norwich.

Nomination and Election of Officers.—The Nominating Committee recommended the following list of officers for the ensuing year: *President*, E. C. Kinney, of Norwich; *Vice-President*, Samuel Hutchins, of Danielsonville; *Treasurer*, E. P. Swasey, of New Britain; *Secretary*, S. B. St. John, of Hartford; *Committee on Matters of Professional Interest in the State*, C. J. Fox, of Willimantic, W. H. Holmes, of Waterbury, and A. M. Shew, of Middletown; *Committee to Nominate Physician to the Retreat for the Insane*, R. S. Goodwin and L. Holbrook; *Committee of Publication*, I. W. Lyon, with the secretary and treasurer, *ex officio*; *Committee of Arrangements*, C. A. Lindsley, C. E. Park, M. C. O'Connor; *Dissertator*, F. E. Beckwith; *Alternate*, A. E. Abrams; *Delegates to the American Medical Association*, W. C. Wile, G. L. Porter, G. W. Avery, E. A. Hill, F. L. Dickinson, C. E. Hammond, H. W. Buel, I. G. Porter, and C. H. Pinney; *Delegates to the Maine Medical Society*, A. A. Holmes and H. F. Hammond; *to the New Hampshire Medical Society*, James Campbell and C. C Godfrey; *to the Vermont Medical Society*, C. M. Carleton and W. W. Knight; *to the Massachusetts Medical Society*, L. B. Almy and A. B. Worthington; *to the Rhode Island Medical Society*, W. H. Carmalt and J. B. Kent; *to the New Jersey Medical Society*, F. E. Beckwith and C. H. Rogers; *to the New York Medical Society*, S. G. Hubbard and C. H. Bill.

The secretary was instructed to cast the ballot of the society for the gentlemen nominated.

Application for Examination.—A communication from the Fairfield County Society was read, stating that a practitioner of twenty-eight years' standing in that county, who was a graduate of an eclectic medical college, desired to be admitted to the society, and was willing to undergo an examination in order to demonstrate that he possessed the requisite qualifications. Action thereon was indefinitely postponed.

Committee on Examinations.—It was reported that several members of this committee visited the Medical Department of Yale College in June last, examined the papers of the candidates for graduation, took part in the oral examination, and approved of the conferring of the degree of doctor of medicine upon nine candidates. This was the last time that a committee of the society would perform these duties.

The Auditing Committee reported that they had examined the report of the treasurer and found it correct.

The Annual Tax of two dollars, payable June 1st, was voted to be assessed upon each member.

The Annual Volume.—Seven hundred copies of the "Proceedings" of the society were ordered to be published.

The Reprinted "Proceedings."—It was explained that the cost of reprinting the "Proceedings" of the society previous to 1880 had considerably exceeded the original estimates. An expense of thirty or forty dollars had been incurred in having a copy made, with a type-writer, from the original records, in order to avoid exposing these valuable documents to the risk of mutilation at the hands of the printers. The estimate was made for an edition of eight hundred, but a thousand copies were ordered. The expense of delivering the volumes to the members through the mail was considerable, and had not been taken into account. To meet the deficiency, it was proposed to assess upon each member an additional tax of one dollar and twenty-five cents, payable June 1, 1885, subject to rebate in proportion to the amount already paid in for this object by each county. After some discussion the society voted to pay the deficiency out of the moneys deposited in the bank, instead of laying a special tax.

Honorary Members.—The Committee on Honorary Members recommended that Dr. Austin Flint be elected an honorary member. According to the rules of the society, action upon this recommendation was postponed until next year.

Communications from other States.—Letters from the State societies of New Jersey and Nebraska, in regard to medical education, were brought before the society, and referred to a committee of two, with the request that a report thereon be presented at the next meeting. C. E. Worden and H. A. Carrington were appointed such committee.

The Next Meeting.—It was voted to hold the next meeting in New Haven, on the fourth Wednesday of May, 1886.

At 6.20 P. M. the society adjourned.

In the evening Dr. G. P. Davis gave a very pleasant reception to the members of the society at his residence, 30 Woodland Street, which was attended by a large number of physicians from all parts of the State.

Thursday's Proceedings.

Annual Convention of the Society.

The meeting, although appointed for 9 A. M., was not called to order until 9.40 A. M.

Report of the Secretary.—Dr. St. John reported that during the year thirty-seven new members had been admitted to the society. Eight members had died and fourteen had removed, leaving a net gain of fifteen. The present total membership was four hundred and ninety-six.

Annual Address.—The president, Dr. Comings, chose as the subject of his annual address "Nervousness," which he proposed to treat not as a disease, but as a condition. Nervousness, the result of organic disease, he did not propose to consider in this connection. New Englanders had the credit of being the most nervous people in the world. They were also the "smartest" and most "go-ahead" people. It was a question whether we had not better go slower, be more deliberate in our movements, and become less nervous. It was desired to call attention to the extremely nervous condition of a large percentage of New England people, and to consider the cause. We had been living fast for a quarter of a century. There had been a rapid and universal increase of nervousness. In more than 40 per cent. of cases the cause of insanity was unknown. It was a condition which was not dependent on any organic lesion. This form of insanity was largely due to nervousness, and was one phase of it. A large number of our nervous patients were not insane, though they vibrated very close to insanity at times, and in states of excitement closely resembled lunatics. Nervousness was characteristic of New England people. They even took their recreation in a hurry. Americans had a chronic habit of restlessness, excitement, and push in their daily life, at home or abroad, sick or well. The peculiarity cropped out everywhere. Nervousness was growing to be a characteristic of all persons whose standard of health was below par, and it complicated the symptoms of many real diseases.

The speaker then related several illustrative cases, in both males and females, which had occurred in his own practice, and quoted one case which had been reported by Dr. S. Weir Mitchell. The first great cause of nervousness was heredity. While our domestic animals were improving in successive generations, our children were deteriorating. The Puritan stock was also deteriorating in numbers. A radical change in our physical habits perhaps accounted partially for these disastrous changes. Over-pressure in schools was also a fruitful cause of nervousness. Statistics and personal observation alike confirmed this. In our own State a large proportion of the children in the graded schools suffered seriously from overwork in their studies. They became nervous and irritable at home, lost their appetite,

and ran down generally during term-time. Everything that tended to overwork or unnecessary excitement must be abandoned. We had now too much school, too little recreation, and as a result invalid children. In conclusion, with children under twelve years of age, one half the time now devoted to study should be devoted to physical development.

Report on Matters of Professional Interest.—Dr. WORDEN made the report in behalf of the committee. He spoke in terms of the highest praise of the Yale Medical School, and of its efforts in behalf of a higher education of medical men. In order to elevate the standard of medical education, three plans were pointed out. First, an endowment, public or private, for each college, which should make salaries secure. Second, prevention by law of the entrance of the unlearned into our medical schools. Third, regulation of the practice of medicine by law within the State. The committee recommended that an attempt to accomplish this be made before the next Legislature.

The committee had instituted a collective investigation of new remedies. As a result of the inquiries made and the replies returned, the conclusion had been reached that *Cascara sagrada* had been almost universally found to be a valuable remedy, especially in the constipation of old people. The preponderance of testimony—in the proportion of two to one—was that digitalis had no cumulative action. Convallaria was a valuable substitute for digitalis, especially when given in large doses at long intervals. The *Piscidia erythrina* could not supplant opium. Reports in regard to the oleates had been meager. They did not seem to meet the requirements of practitioners.

Cocaine.—Dr. W. H. CARMALT, at the suggestion of Dr. Worden, was invited to make a few remarks about the new anæsthetic. He said that he had used the four-per-cent. solution of Merck's or Squibb's cocaine. That of other dealers he had found less satisfactory. In experiments upon the eye the results were very striking. In removing foreign bodies its effect was excellent. In deeper operations, *e. g.*, iridectomy, it was necessary to introduce the drug deeper into the tissues, and this was not safe on account of the danger of introducing impurities. The same thing was true in the operation of cutting the tendons of the muscles in cases of strabismus. In the operation for cataract its use was almost a revelation as regarded ease of operation. The retention of the consciousness of the patient was a great advantage, and the absence of nausea also contributed to the securing of a favorable result. In small operations, such as the removal of tumors, it was excellent. Its use was also very satisfactory in throat troubles, particularly in making examinations. Here it might be applied with a brush or in the form of spray. He had seen none of the ill effects from this use of the drug which had been reported by Dr. Lefferts.

Indorsement of the President's Address.—At this point in the proceedings the following resolution was introduced:

"*Resolved*, That the Connecticut Medical Society indorse heartily the sentiments and opinions regarding the effects of over-pressure in our schools upon the health of the children, as set forth by our president in his annual address."

Essayists.—The Committee to Nominate Essayists reported the following names: Hartford County, R. M. GRISWOLD; New Haven County, S. D. GILBERT; Fairfield County, J. W. WRIGHT; Windham County, H. F. HAMMOND; Litchfield County, W. S. MUNGER; New London County, J. G. STANTON; Middlesex County, T. B. BLOOMFIELD; Tolland County, H. S. DEAN. The report was adopted.

Delegates from Other Societies were introduced by the president. They were Dr. JAMES F. BROWN, of Manchester, N. H., Dr. S. T. DAVIS, of Orleans, Mass., Dr. MUNSELL, also of Massachusetts, Dr. C. A. WYLIE, of Vineland, N. J., Dr. WILLIAM H. PALMER and Dr. WILLIAM F. HUTCHINSON, of Providence, R. I. Each gentleman as introduced made a few pleasant remarks expressing his pleasure at being able to participate in the meeting, his interest in the proceedings, and the kindly feeling which he felt toward the profession of the State. Dr. BENJAMIN E. COTTING, of Boston, an honorary member of the society, was also introduced and made a short and humorous address.

Cases of Interest.—Reports of interesting cases were next called for. Dr. WILLIAM C. WILE, of Sandy Hook, was the only member who responded to this invitation. He stated that he was a firm believer in a modified form of Listerism, and employed antiseptic precautions in nearly all of his operations, paying particular attention to the preparatory treatment of the patient, to cleanliness, and the spray. The latter was not directed upon the wound or the patient, but was made to fill the room with an antiseptic atmosphere. Using this method, he had performed, in three years, seventy-nine capital operations with only four deaths. These were a case of total extirpation of the uterus by the vaginal method for carcinoma, an exsection of the hip joint, an amputation at the shoulder after a railroad injury, in which death resulted from shock, and an ovariotomy. He gave the histories of eight cases, several of which were accompanied by drawings from life by Dr. A. W. Leighton, of New Haven. The cases reported by Dr. Wile were as follows:

Kelotomy at Seventy-nine.—The patient, a well-nourished Irishman, had had a large inguinal hernia for a number of years. He had worn no truss, and had not suffered much annoyance from it. After the hernia had been strangulated for twenty-four hours, ether was administered, and unsuccessful attempts at reduction by taxis were made. A considerable quantity of gas and fluid was then drawn off through a fine aspirator-needle, and taxis was again tried without avail. Kelotomy was then performed in the usual manner, adhesions, which were strong and abundant, were broken down, the sac was opened, and the intestine returned with considerable difficulty to the abdominal cavity. The patient recovered rapidly without a single untoward symptom. This case taught that even people of extreme age bore formidable operations, and recovered from grave conditions, without any special constitutional manifestations.

Amputation of an Erysipelatous Arm.—A negro, twenty-nine years of age, had been suffering for three weeks with erysipelas. At the end of the first week abscesses appeared along the inner and outer surfaces of the arm, forearm, and hand. The disease continued to advance until it involved the whole of the cellular tissue of these parts. Large abscesses also formed over the pectoral muscles. When, at the end of three weeks, Dr. Wile saw the patient, the arm and side presented a frightful mass of decomposed tissues. The patient was anæmic, exhausted, without appetite, with a high temperature and a feeble, rapid pulse. It was a most unpromising case for operation, and yet that seemed to be the only chance of saving his life. After he had taken a good dose of whisky, ether was administered. The arm was then amputated, by a double-flap operation, an inch and a half below the shoulder joint. It was difficult to obtain sound skin for the flaps, as a great deal of it had sloughed off, leaving the muscles exposed. The wound was washed with a strong solution (1 to 20) of carbolic acid, a drainage-tube was inserted, and the flaps were brought together as well as possible. An incision was then made through the connective tissue from the axilla to the ilium, from which large quantities of pus were evacuated. This also was thoroughly washed out with a strong solution of carbolic acid, and allowed to heal from the bottom by granulation. The operation lasted about half an hour, and the patient rallied from the effects of it very slowly and unsatisfactorily. After a tedious

convalescence he, however, finally recovered with an excellent stump.

Reproduction of the Shaft of the Tibia.—A boy, twelve years old, had had a number of sinuses on the front of his left leg for about a year. These were found to lead down to dead bone. The discharge from the sinuses had produced extreme exhaustion. After a month's preparatory treatment an operation was performed. The periosteum was carefully divided, and the whole of the shaft removed. Much diseased bone at either end was also removed with the gouge. The periosteum was preserved as nearly intact as possible. The cavity left after complete removal of the diseased bone was packed with absorbent cotton, moistened with a strong solution of carbolic acid. The boy rallied nicely from the operation. The same constitutional treatment was employed as before the operation. Healthy granulations sprang up, and there was soon evidence of the production of new bone. After two months the new shaft was sufficiently strong to allow of the fitting of a shoe, to which were attached side-braces, with joints at the ankle, which grasped the limb, just below the knee, by means of a steel padded band. By this time the external wound had healed, and the boy was allowed to walk on crutches. The tibia was now strong and well formed, and the termination of the case was all that could be desired.

Formidable Injury to the Hand.—This case illustrated the recuperative power of nature in severe injuries. An Irishman, forty-four years old, had his hand drawn between two heated rollers, weighing two tons apiece, and revolving at a distance of one sixteenth of an inch apart. The dorsal surface was but little injured, as the lower roller was not very hot and was moving slowly. The palmar surface, however, was fearfully lacerated and cooked. The bones were badly crushed, and the fingers, with the adherent flesh, were not more than an eighth of an inch in thickness. The second finger was terribly lacerated, and the end nearly torn off. The patient and his friends absolutely refused to allow any operative interference. The parts were well drawn together and dressed with a solution of carbolic acid (1 to 40), which was renewed every fifteen minutes. Subsequently an ointment of carbolic acid (1 to 20) was substituted for the solution. The patient recovered with only two stiff fingers, the second and third. The bones never fully recovered from the flattening to which they had been subjected, and after three years were not more than three sixteenths of an inch thick.

Operation for Talipes in an Adult.—A female, thirty-three years old, was born with both feet deformed in the same degree, the deformity being that known as talipes varo-equinus. During childhood she was of a delicate constitution, did not learn to walk until late, and had never been able to walk far without great fatigue. A little unusual exertion always made the feet tender and inflamed, so that she was obliged to lie in bed several days in order that they might regain their usual condition. When nine years old, while she was crossing a rye-field, the sole of the left foot was penetrated by a large piece of stubble and badly cut. It became swollen and exceedingly painful, and she was confined to her bed for several weeks. When she recovered, the position of the foot was greatly changed for the better. She commenced using it, and after several months it was restored to its natural position. Twenty-four years later Dr. Wile found the right foot frightfully distorted. On the side of this foot were large callous spots, which were inflamed and tender. She could take no comfort in walking or standing, and yet was obliged to be on her feet much of the time. The patient having been etherized, Dr. Wile divided the tendo Achillis, all of the plantar fascia, and some of the lateral ligaments and fascia. The foot was then brought into its normal position by the exercise of considerable effort, and a permanent dressing applied. This was allowed to remain for two weeks. Massage and electricity were employed for two years with the effect of developing the muscles of the leg and foot. About one month after the operation a laced shoe was fitted to the foot, to which an artificial muscle was attached. Recovery was gradual but uninterrupted. At the end of six years she was able to use her foot for every purpose for which any foot could be used, and without undue fatigue. She was able to dance upon it, and could walk fairly long distances.

Operation for Genu Valgum in the Adult.—A female, aged thirty-three, had an attack of chronic diarrhœa when eleven months old, and did not commence to learn to walk until she was four years old. At this time the inclination of the knee to turn inward was noticed. The deformity did not increase until she was eighteen years old. From this time until she reached the age of thirty she could not walk so far, and began to notice a difference in the angle at the knee, which was also painful at times. During the next three years she suffered considerable pain in the hip and ankle joints, and after walking farther than usual was apt to be attacked by a "catch" or cramp which compelled her to stand still for a moment. After a splint had been worn for several months with no benefit, Ogston's operation was performed. The inner condyle was severed from its attachments. The external hamstring muscles were divided subcutaneously. The constricting bands and contracted ligaments were also divided, the detached condyle was pushed up by the side of the shaft of the femur, and the limb was brought into its natural position. An antiseptic carbolized-gauze dressing was applied to the wound, and the whole limb enveloped in a plaster-of-Paris bandage. By the operation the deformity was entirely removed, and after several months the patient could walk without limping if the steps were taken slowly. This was believed to have been the first time that this operation had been performed in this country upon an adult.

Other cases related by Dr. Wile were: Removal of a simple cyst of the left ovary, weighing twenty pounds, from a patient sixty-two years old, with recovery; removal of a large fibrocystic tumor of the right ovary from a patient who, after the operation, was found to be addicted to the habitual use of opium, and who died on the fifth day; recovery from traumatic tetanus, following the ingestion of enormous doses of chloral, aided by inhalations of chloroform.

The Diagnosis of Insanity.—Dr. P. Cassidy, of Norwich, read a long essay discussing the question: "Are there any symptoms or criteria by which we may diagnosticate insanity from crime when made as a plea for criminal acts?" He pointed out the great importance of the subject, the uncertainty at present surrounding it, the necessity for careful and accurate observations thereon, and the possibility of making brilliant discoveries.

The hour for adjournment being near at hand, essays on "The Internal Use of the Germicides," by Dr. W. W. Knight, of Hartford; "The Treatment of Stricture of the Urethra," by Dr. Frank H. Whittemore, of New Haven; "Angina Pectoris," by Dr. S. Turner, of Chester; and "Centennial Observations on the Past, Present, and Future of the Connecticut Medical Society," by Dr. S. G. Hubbard, of New Haven, were read by title, and referred to the Committee on Publication.

Inasmuch as a greater part of the meeting had been occupied by the reading of the president's address and one essay, to the exclusion of other essays on important practical subjects, the following resolution was moved and carried unanimously:

"*Resolved*, That hereafter all papers, except the president's address, be limited to thirty minutes."

At 1.30 P. M. the society adjourned for the annual dinner, which was served at the United States Hotel.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of April 21, 1885.

The President, Dr. J. A. McCORKLE, in the Chair;

Dr. Z. T. EMERY, Secretary.

Cholera was the subject of a report from the Committee on Hygiene, embracing a paper by Dr. J. E. BAKER and one by Dr. WILLIAM H. THAYER. [See pages 629 and 634.]

Dr. ARMOR would not take up the time of the society with ætiological and other questions so well presented in the papers just read. He had, however, had a good deal of practical experience in the treatment of cholera during its prevalence in this country at its last visitation. He was at the time visiting physician to the Commercial Hospital at Cincinnati, and for weeks and months the hospital was never free from cases of cholera in all stages of the disease. His practical experience with the disease then had led him, perhaps, to study it since with more than usual interest, and, while we might possibly be taking some steps in advance in its ætiology, he doubted whether there was a corresponding advance in its general management. There was one point hinted at in one of the papers to which he could not assent, namely, that the choleraic discharges were in any sense curative, and therefore to be favored by eliminative laxatives or cathartics. He thought the theory of similarity of action was not applicable to the treatment of cholera. It appeared to him that whatever might be the nature of the specific cause —a question now so much discussed—a profound impression was at once made upon the nerves of organic life, the disease in this respect resembling very much the *algid* forms of the malignant, congestive remittent fevers of the South. The intense thirst, coldness of the extremities and surface, the great prostration of strength, the shrunken features, hurried respiration, and husky voice, accompanied by violent purging and vomiting, all pointed to a profound enervation of the nerves of organic life. The excessive prostration, which was one of the most marked features of the disease, followed, as a rule, the great drain of the serous elements of the blood, and many of the symptoms which followed were doubtless largely due to the absolute physical condition of the blood. It ceased to permeate the finer capillaries because suddenly drained of its serum. Hence the value of early treatment to arrest this dangerous stage of collapse. The more wrinkled and purplish the skin, the colder the surface, and the feebler the pulse, the nearer the patient was to the collapse stage of the disease. And it was worthy of note in this connection that the absolute body-heat not infrequently dropped three or four degrees below the normal—in which respect the condition resembled surgical shock. The whole clinical picture of the disease appeared to show that in proportion as the serous elements of the blood were largely and suddenly withdrawn from the circulation, there was a corresponding rapidity in the onset of the dangerous stage of collapse. The quantity of fluid discharged through the mucous membranes was out of all proportion to the amount absorbed—so that we had exosmosis largely predominating over endosmosis—a condition unfavorable to the absorption of medicines. In the early stage of cholera he would therefore at once resort to hypodermic injection of morphine, to which he would add minute doses of atropine—a treatment which was followed by such excellent results in sporadic cholera or cholera morbus. In the early stages of cholera he relied very much on small and oft-repeated doses of calomel combined with opium, and he preferred giving the opium in the form of the gum thoroughly triturated with sugar of milk. He had more confidence in calomel and opium thus administered—to which in some instances he added the acetate of lead—than in any other remedies. Of course hot applications to the surface, such as the essential oil of mustard dissolved in alcohol, followed by hot poultices or cloths wrung out of hot water, should be constantly employed. His experience had also led him to place much reliance in the more advanced stage upon a combination of creasote, strychnine, and turpentine. He gave it in a well-diluted emulsion of gum arabic, alternating it, in special cases, with sulphuric acid and small sustaining doses of opium. The creasote, turpentine, and acid were valuable styptics, and minute doses of strychnine tended to correct the depressed condition of innervation. After the more violent stage of vomiting and purging had passed by, repeated doses of infusion of capsicum served to lessen the gastric distress, and to facilitate the action of other remedies administered at the same time. One point had not been alluded to in the papers read, and that was the large number of patients who survived the more acute stage of the disease and died of the secondary complications, especially the complete suppression of urine. In the epidemic through which he had passed, a very considerable number died from this cause. Meningitis and gastritis were also occasional complicating elements. For suppression of the urinary secretion there was, perhaps, nothing equal to the free ingestion of water. Give the patients as much as the stomach could absorb, he said. Injections of warm and slightly saline water might also be thrown high into the bowels. Diuretics in such cases were of little or no account.

Medical Director ALBERT L. GIHON, of the navy, having been invited to take part in the discussion, said he appreciated the compliment, but felt that he hardly had a right to trench upon the time of the society. If this were merely a clinical discussion, he would quite agree that it was better for the naval medical officer to be seen and not heard. He was aware that the popular idea of the medical officer of the navy was that he knew nothing of the diseases of women and children, and he believed it to be a prevalent notion among the profession that he did not have a very extensive acquaintance with disease in any shape. Possibly this might be true. It was very certain that to-day there was little disease on shipboard. This, however, was because the door has been barred against its entrance. What did gain admission slipped in by unprotected or remissly guarded approaches. But this had not always been the case, as his friend and former collegue in the navy, Dr. A. N. Bell, could testify. When they entered the naval service, a daily sick-list of fifty in a crew of two hundred and fifty was not unusual. That was in the days of wet decks, insufficient ventilation, and poor food. Since then naval medical officers had succeeded—though only after much opposition often amounting to indignity and insult—in placing ships in a better condition from a sanitary point of view. They were now, as a rule, kept clean, dry, and better ventilated; the men were well fed and well clad, and the medical officer boasted with most reason who had the fewest sick on board his ship. And this is no less true on shore, where that naval hospital was considered the most fortunate which had thinly populated wards, with only an occasional invalid breaking the long row of clean, white beds. Not only that, but captains themselves had come to be proud of the report of the medical inspecting officer who commended their clean, dry decks and healthy ship.

Now, this was germane to the subject under discussion. Recently the Surgeon-General had been applied to for the experience of the navy in regard to cholera, and, somewhat unexpectedly, he had found that the official sick reports had had very little to say about it. On further inquiry, however, it appeared

that our ships had more than once been where cholera prevailed—in its very home—during the season of its greatest virulence; that they had been anchored off cholera ports and up cholera rivers, and, nevertheless, there had been few or no cases on board. It was rife all around them, yet the vessels were free from it; and this was the contribution the naval medical corps made to the history of cholera—that it was possible to live amid it, in the season when it prevailed, and yet not have it on board; by using only distilled water for drinking; by having only good food, and that properly cooked; by avoiding overwork and exposure to intense heat; by having the berth-deck well ventilated and the sleeping men on the spar-deck protected from falling dew; and by having every particle of offensive accumulation removed from the ship. This was a record of which the medical corps had just reason to be proud. A clean ship, however, was not one which presented merely clean decks and bright brass-work. It was one in which every out-of-the-way corner had been thoroughly cleared of filth and *débris* of whatever sort, the timbers opened and washed, bilge-water and bilge-air removed, the holds and even the barrels of provisions stored within them swept and whitewashed. It would not do to have white decks and attractive cabins and leave the holds and bilges filled with fœtid filth—and what was true of the ship was as true of the dwelling on shore. The house was not clean in which there were pretty parlors and neat bed-chambers, while the cellar was allowed to remain dirty and foul. He had only that morning visited a friend residing in one of the best quarters of Brooklyn. As he entered the parlor he was struck by the close, offensive atmosphere. The mother greeted him and exhibited with pride a puny, pallid, sickly child. Calling attention to the close and heavily draped windows, and the oppressive air of the apartment, he asked about the cellar, and learned that the doors and windows were kept shut to exclude the moldy smell from it, and that it had contained an inch or two of water all winter. The landlord had refused to do anything to remedy it, attributing the leakage to the neighboring houses. A similar state of things could probably be found many times over. Darkness and dampness were the enemies to health that too had to be encountered in the navy, and darkness and dampness were to be fought as vigorously on shore.

Thorough sanitation was not easily or cheaply done. A complete and effective sanitary service required a large corps of assistants and a liberal expenditure of funds. It was his belief that three fourths of the physicians of this city might be appropriately employed in sanitary work, of course properly remunerated, leaving scant occupation for the other fourth in treating unpreventable disease. He would, therefore, urge upon this society to make the subject of civic sanitation one of the prominent features of its recommendations during this present season, and if it could succeed in organizing a large corps of qualified sanitary officers with authority to enter every house and open cellars, closets, and attics, and clean them, removing filth of whatever kind, rotten planks, moldy straw, etc., having cellars drained and whitewashed, and every other possible sanitary precaution observed—there need be no fear of cholera, even should it prevail next door.

Dr. A. N. Bell said that with regard to the nature of cholera the medical profession appeared to be literally at sea; to know no more about the particular cholera germ than it did before Koch went to Egypt and India to find the comma bacillus, which, according to the report of the English Commission and the recent discussion at the Royal Medical and Chirurgical Society, had turned out to be a *common* bacillus with no peculiar significance. In its mode of development and artificial cultivation it did not differ from ordinary putrefaction bacteria, and was common to other intestinal diseases besides cholera. Meanwhile the votaries of preventive medicine in England were urging local sanitary measures with increasing vigor. In London especially, the grandest sewerage system in the world, in point of magnitude, constructed with far more regard to engineering skill than sanitary knowledge, had but just now been discovered to be an alarming source of danger, in the event of the arrival of vessels infected with cholera. The Thames in some parts of its course, for its whole width, was described as being black with putrid sewage, looking as if unmixed and unalloyed, and the stench was intolerable; insomuch that three out of five commissioners, and their clerk, suffered from severe diarrhœa after a day's inspection. And yet Sir Joseph Bazalgette, who was knighted for this great engineering feat of making the chief water-course of the greatest city in the world an open sewer, proposed to extend the system, so that all of the sewage from the world's great metropolis might flow into the same channel. But in this purpose Sir Joseph was said to stand quite alone. Sanitarians could now afford to differ with him, and the public mind was turned back to the warnings of the more deserving Edwin Chadwick, who foretold the dangers of any such system more than forty years ago. There was now said to be a consensus of opinion that the sewage of London must be either taken to sea, or promptly subjected to such treatment in the broad daylight as would transform it into fertilizing material without danger to the public health. Ere long, no doubt, one or the other of these processes would be adopted; for, notwithstanding England's backwardness in the promotion of a healthy commerce by an enlightened quarantine system, the fact should not be lost sight of that, in the matter of local sanitation, England led the world.

In this great sewerage system of London, doubtless the best of its kind, but in the progress of sanitary science found to be radically wrong, England's own sanitarians had taught her that the danger lay not in the seething, noisome odors, when sewage was exposed to the full influence of light and air, but in the products and relations of sewage in its dark recesses, while it was *in* the sewers, and their miniature representatives—cesspools and privy-vaults—of which England was happily, by improved systems of sewage disposal in numerous places of less magnitude than London, more exempt than any other country.

"The fact is certain," Dr. Angus Smith remarked in his address before the British Sanitary Institute, 1883, "that fevers" (and there could be no doubt that cholera stood in the same relation) "have not been traced to gases of putrefaction when there has been a large amount of water and exposure to the air. But they have been found when the water is not very great in amount, and the decomposition is made under cover, as in sewers. The question arises: Is this owing to the concentration, or to the difference in decomposition in darkness, or to the better supply of oxygen? The effect of sunlight in warm countries does not allow us to suppose that the daylight always produces in vapors an innocent state, although it has a great effect in that direction when there is little water. With us, at least, innocence in the atmosphere seems to be rather something connected with the abundance of air in proportion to the impurity. This air, again, may act in two ways. It may act by rapid oxidation of the substance in water, or by dilution of the gases when formed; and the destruction of putrid matter is really very rapid when plenty of air is allowed. . . . When, therefore, you see the Clyde seething with gases of putrefaction, and when you smell it to such an extent that a feeling of loathing is produced, you may remember this, that the work of destruction is going on with wonderful rapidity, and that the enemies of life are being slaughtered there millions upon millions, never to appear again in a similar form, though other generations of them may rise up. . . .

"When mitrogenous bodies decompose with an abundance of oxygen, the nitrogen becomes oxidized and nitric acid is formed. I had long suspected that the reverse also took place, and that, when there was an excess of putrefactive matter, oxygen was absorbed and even removed from the nitrate, while free nitrogen was given off. This process I was able to verify by carrying it into the laboratory. It was clear, then, and beyond all cavil, that rivers could purify themselves in time, and organic matter be thoroughly removed. It was clear that organic substances, that germs of disease, that microbes and the smallest organisms themselves, were all subjected to this universal and unsparing attack of putrefaction and oxidation. . . . It breaks up organic compounds and destroys organisms. . . .

"We are not, therefore, to suppose that the germs of disease can resist all these efforts of nature to destroy noxious things, nor are we to suppose that an invisible germ of disease can pass on from stage to stage unaffected by the putrefaction of sewage and the action of the air. . . . At least it seems to me that we require to learn if it be true that any of the germs of disease, or which germs of disease, will live in an abundance of good air. We know that abundant dilution will render them all ineffective." *

Ever busy in the application of such progressive knowledge as the foregoing to her own borders, England, nevertheless, held herself aloof from the only measures which could, with any degree of certainty, be considered effective for the prevention of cholera transportation by maritime commerce, namely, thorough inspection, purification, and exclusion at the port of departure where cholera was wont to prevail. Having rightly rejected quarantine as it was half a century ago, England had refused to recognize it practically in the complete transformation it had undergone from mere detention and the retention of conditions promotive of disease on board ship, into active destructive measures whenever and wherever such conditions were discoverable, and to be *searched for* at the ports of departure wherever cholera or other epidemic diseases were suspected; above all, at those perennial sources of cholera—Bombay and Calcutta—and all places in close relations therewith through English commerce. In this respect, England, in her extreme jealousy, although the foremost commercial nation in the world, was the most backward in her efforts for the prevention of the spread of cholera.

In France an equally animated discussion was going on with regard to the nature of cholera, as in England, and with an equally wide diversity of opinion.

M. Proust, the Inspector-General, had availed himself of the official reports sent from the departments to the Minister of Commerce to formulate certain propositions regarding the spread of cholera, as follows:

1. Cholera was imported into the cities and towns mentioned.

2. The severity of the epidemic was in direct proportion to the unsanitary conditions of the locality.

3. Water had had a very great influence on the spread of the disease.

4. The disappearance of the epidemic in the places attacked might be attributed in part to the hygienic measures adopted and to active disinfection.

According to the "Journal d'hygiène," M. Jules Guérin had pointed out two grave errors in these conclusions, and remarked that on these depended the whole question of the importation of cholera. "On the one hand, it is said that such a person or such an article has brought cholera from one place to another, and immediately the epidemic breaks out in the infected locality. But it is easily seen that on the first day of the epidemic many cases may occur at points widely distant. On the other hand, no notice is taken of the sixty thousand or eighty thousand persons who left Toulon, Marseilles, and other places to escape the plague, and yet how few of them were the means of spreading the disease!"

In Italy sanitarians recognized the fact that the sanitary regulations of the country were sadly defective. The Minister of the Interior had been questioned regarding existing laws, and their efficiency for the prevention of another outbreak of cholera. The Minister, Depretis, had replied that the laws in existence gave full power to the Government to guard the public health, and at the same time promised, at an early day, to present a bill providing for additional security. He recognized the justice of the complaints regarding certain quarantine hospitals, and assured the people that every effort would be made to find more suitable situations for them. Professor Guido Bacelli urged the adoption of measures by the Government to prevent the latent germs of the cholera from developing into a new epidemic during the coming summer. Here the inquiry ended, the Chamber seeming satisfied with the promises of the Ministry that something would be done to prevent the lamentable scenes witnessed at Genoa, Naples, and Spezia last year.

In Spain, at San Felipe de Jativa, in the Province of Valencia, according to a report under date of March 30th, an epidemic was prevailing, in which there had been within a few weeks about one hundred cases "resembling cholera," of which fifteen had proved fatal, and within twenty-four hours from the time of the attack. The prospect of another invasion of cholera greatly alarmed the people, and the disease was promptly proclaimed by the authorities to be *cholerine* only, and of local origin. Meanwhile, according to more recent reports, the same was prevailing at Alcira, in the same province, and there, too, it was said to be of local origin, due to drinking water from a canal tainted by paper-mills that used suspicious rags.

The practical conclusions deducible from the most recently published opinions of the foremost sanitarians in regard to the prevention of cholera and other epidemic diseases were: That while surface filth of all kinds was odious and more or less noisome, and should therefore be prevented, filth stowed away in dark privy-pits, cesspools and retaining sewers, was more dangerous; that the old sewerage systems of Europe and the prevailing systems in the United States, subject as they were to obstructions and insufficient flushing, and without thorough ventilation, were a menacing source of danger in the event of cholera, and a prolific source of other epidemic diseases at all times; and that, in default of an effective international quarantine system comprehending a thorough inspection and preventive service at the ports of departure, the utmost vigilance and promptest possible preventive measures were required at all ports of arrival.

Dr. Conkling thought it would be unfortunate if the admirable papers to which the society had listened, and the discussion which had followed, should increase the apprehension felt by many as to the prevalence of cholera in the city during the coming summer. Many families were making their arrangements to be absent from the city. The questions were: Was it safer to brave the dangers of cholera—which were but a possibility—or the dangers of malaria, which were very probable, if the location was within a radius of fifty miles from the city? Whether a city house in perfect order, and a dietary under one's control, were not safer than the crowded apartments of a country hotel or boarding-house, with such food as was there furnished, and such sanitary arrangements as were there in vogue? It would be well if the members would assist their patients in deciding the matter.

* Address delivered in September, 1883, to the Congress of the Sanitary Institute of Great Britain, held at Glasgow, by Angus Smith, F. R. S., etc.

A certain amount of apprehension seemed necessary for sanitary reform. The fact that cholera prevailed in some European ports in 1865, and its probable presence here the following summer, had induced discussion that resulted in the passage of the Metropolitan Health Law in March, 1866, the best health law ever enacted, and the basis of all sanitary law in the several States. Fortunately for the enforcement of the law, cholera did prevail, and it was possible to enforce many of its provisions, though there was much opposition. The average American regarded his house as his castle, and up to that time believed he could do about as he chose with his own home. It took some time for him to learn that there was a higher law than his will, and that, for the common good, health officers could compel him to clean his cellar, cesspools, and vaults, and keep them clean. Since that time there had been a great advance, and now, the householder acting in harmony with the officials, our city was in better condition to fight an epidemic than ever before.

There was time to allude to one necessity felt by all—the proper removal of garbage. Previous to 1866 ashes and garbage were mixed in the same barrel, and the compound was used to fill sunken lots. All attempts to have them kept separate failed until the police arrested the cartmen at the dumping-ground. Our sidewalks were now lined with tin pans, broken boxes, and tubs filled with garbage waiting for the cartmen, who arrived at such uncertain intervals that the material became not only a disgusting sight, but an actual source of ill-health. There was a better way. It should be burned in each kitchen. For many years there had been no garbage-pail in the speaker's house. With care the refuse could readily be consumed, and so a source of annoyance and sickness avoided and a large amount of money saved to the city.

Dr. Stub remarked that at Toulon, in the first stages of cholera, opium, bismuth, etc., were administered, but in the algid stage it was found that opiates in any shape or form were harmful. In place of morphine, small doses of the sulphate of atropine, administered subcutaneously, had a better effect. In Naples a solution of hot water and table-salt by injection, and hot baths, had been very much in vogue, and had produced decidedly beneficial effects. Calomel also had been used with good results. He could not agree with one of the gentlemen that the comma bacillus was a *common* bacillus. The English commission having in charge the investigation of the cause of cholera were sadly deficient in knowledge of the methods that Koch employed. Koch's commission had made a hundred or more post-mortem examinations, while he believed the English commission investigated only twelve cases. Unintentionally, they were ignorant of Koch's methods, and therefore came to a wrong conclusion. It seemed that of late some of Koch's opponents had come around to Koch's doctrine. The most eminent of these opponents was Dr. M. Emmerich, who declared that he had found another micrococcus which caused cholera. It had been proved that the bacillus of Koch did not live in a temperature below 80° or above 103°, 104°, or 105° F. Therefore, in the treatment of cholera, acidulated water above this temperature should be used as an enema in the beginning of the disease, perhaps with the addition of small quantities of the bichloride of mercury or carbolic acid. Professor Cantani, of Naples, and Professor Samuel recommended subcutaneous injections of a solution of table-salt in distilled water of a temperature of about 100° F.

Dr. Silver referred to the fact that one of the questions asked candidates for registration at the Directory for Nurses was, Whether they were willing to take care of cholera patients? Quite a number of them had answered the question in the affirmative.

Miscellany.

Medicated Soaps.—The following is an abstract of an interesting paper on "Soaps, especially Medicated, in Diseases of the Skin," by Dr. John V. Shoemaker, of Philadelphia: The writer first discussed at some length the use of soap in health and disease, after which medicated soaps in disease were carefully considered. It was pointed out that both potash and soda soaps could be combined with various chemical substances to form medicated soaps of either the soft or the hard variety. Soap so prepared was shown to be an easy and convenient vehicle for cutaneous applications.

The value of potash soap medicated with tar, naphthol, carbolic acid, salicylic acid, sulphur, balsam of Peru, mercury, and other substances was next cited. The writer finally added that soda soap, medicated, had even a more extensive use in the treatment of diseases of the skin than potash soap into which certain drugs had been introduced. Soda soap could be medicated with a variety of substances that could also be conveniently and easily brought in contact with the diseased surface. It was not only a useful and cleanly vehicle for applying medicine, but it also rid the skin of all abnormal products, and removed the epidermis in a mild way, exposing the sensitive skin. Soda soap, like potash soap, should always be employed on a diseased surface with precaution, especially in beginning its use, whether it was the ordinary or the medicated variety. Its effect should always be tried on a small spot, and, if acceptable, it could be used over the entire diseased surface. In some diseases a marked and beneficial effect would follow its application, and, by its repeated employment, it would readily be apparent how frequently it should be used. Sometimes medicated soap was well borne every day, or once or twice a week. Occasionally its use once in two or three weeks was sufficient, or only as occasion might require for carrying off the epidermis, for stimulating the skin, or for the removal of irritating secretions, crusts, scales, or extraneous matter. Again, it might happen in some cutaneous diseases that medicated or any form of soap was not well borne, or absolutely contra-indicated by the abnormal condition of the skin. Attention to the precautions already alluded to, together with a general clinical knowledge of what was suitable or unsuitable to use, from the change in the skin, should serve as a sufficient guide as to whether medicated soap should or should not be employed.

A variety of medicinal substances and combinations had been tested by him in soda soap for some years, both in private practice and in dispensary and hospital service, with the effect of producing the following medicated soaps, which have been found advantageous, were manufactured by W. T. Baker & Co., of Philadelphia, and were now largely used in the Philadelphia Hospital for Skin Diseases. Each soap referred to was divided into pieces or cakes that had an average weight of three ounces and a half, or 1,680 grains.

Alum Soap.—Sapo aluminis, 10 per cent., was most useful in hyperidrosis and seborrhœa oleosa. It checked or assisted in relieving the discharge, and often brought the diseased surface into a condition suitable for other remedies. Many cases of pustular eczema, particularly in the subacute stage, were benefited by it. It freed the surface of crusts and scales, and aided in lessening the formation of pus. It was very efficient in all indolent conditions of the integument, as in lupus, cancer, and scrofulous and syphilitic skin affections. It had both a stimulating and an astringent action on ulcers, and would be found particularly good for bed-sores and all weakened conditions of the skin from illness, or any irritation from friction, especially in the folds of the skin of stout persons, by giving strength and vigor to the skin.

Arnica Soap.—Sapo arnicæ, 10 per cent., was very good to use in sore nipples, and in many inflammatory affections around the mucous outlets of the body. It was likewise serviceable in cleansing boils, carbuncles, and many of the pustular skin affections. The irritable and sensitive condition of the skin that might exist during the course of these diseases was frequently relieved by its use. It was also an excellent application for abrasions, wounds, and bruises of the integument; soreness or pain, if present, was usually lessened or removed.

Boro-Glyceride Soap.—Sapo boro-glyceriti, 10 per cent., was pref-

erable to either borax or boric-acid soap. It possessed antiseptic and deodorant properties, and was particularly applicable for the destruction of minute organisms. It was valuable for cleansing wounds, ulcers, suppurating, sloughing, or gangrenous surfaces, lessening inflammation, and preventing the action of atmospheric germs. General and local pruritic conditions of the skin, especially pruritus of the genital organs and the anus, were usually benefited and often relieved by its use. It was valuable in acne and in seborrhœa, freeing the surface in the latter disease of crusts or scales, opening the orifices of the sebaceous follicles, and lessening the accumulation of the abundant secretion. The roughened, reddened, and irritable state of the skin that was at times present in the latter disease and in acne rosacea was often removed by the use of this soap, and it might give a clear and healthy complexion.

Camphor Soap.—Sapo camphoræ, 10 per cent., had primarily a stimulant, and at times an irritant action, which was succeeded by an anodyne effect. It was most frequently used for the relief of the pruritus of eczema, chilblains, and other irritable affections of the skin.

Carbolic-Acid Soap.—Sapo acidi carbolici, 5 per cent., had at first a stimulant action, followed usually by an anæsthetic effect. It had been largely employed for its antiseptic action in wounds, and all suppurating sores, and the accompanying itching was often allayed by it. It was excellent for chronic eczema, psoriasis, and many other cutaneous diseases, but, on account of its unpleasant and penetrating odor, many persons preferred naphthol and salicylic-acid soaps.

Chamomile Soap.—Sapo anthemidis, 10 per cent., was a mild stimulant and astringent, possessing an agreeable aromatic odor, and being very acceptable in many inflammatory affections. It was excellent in intertrigo or chafing, and in dermatitis, seborrhœa, hyperidrosis, and bromidrosis, while it was particularly valuable, both for its medicinal virtues and its aromatic odor, in all conditions of excessive secretion and ill-smelling sores. It was frequently rendered more effective by the addition of sulphur, according to the following combination:

Chamomile-and-Sulphur Soap.—Sapo anthemidis sulphurisque, 10 per cent., possessed the properties of both remedies in the combination. In seborrhœa sicca on any part of the body, but more particularly on the scalp or portions covered with hair, it had a most decided effect in carrying off the scales and crusts from the surface. Loss of hair, so frequent from dandruff, or seborrhœa sicca, could be relieved or checked by the use of this soap. The greasy, shining complexion, attended with numerous small elevations or pimples, a form of acne, common to young women from either gastric or menstrual disorders, often yielded to applications of it, and it assisted in restoring the skin to its healthy transparent state.

Eucalyptol Soap.—Sapo eucalyptoli, 5 per cent., had not only stimulating and astringent, but also pleasant balsamic qualities. It was, therefore, a useful disinfectant application to all foul-smelling wounds and ulcers. In fœtid perspiration it was very efficacious.

Naphthol Soap.—Sapo naphtholi, 5 per cent., was one of the most effective of all the medicated soaps. It was useful in very many cutaneous diseases, especially on account of being free from odor and having stimulating, astringent, and some anæsthetic effect upon the skin. Animal parasites on the skin or in the clothes were usually destroyed by its application. Lousiness, particularly of the pubic or axillary regions, could be easily, cleanly, and quickly destroyed by naphthol soap, superseding the filthy mercurial ointment. Scabies or itch was sometimes also eradicated by it, and it was a valuable adjuvant to other remedies. The bites or stings of many insects and animals could often be cured or relieved by its use. It often acted well in eczema, especially the subacute and chronic variety, adding much to lessen the infiltration and itching. Psoriasis, pityriasis, and ichthyosis were often benefited by it. It had decided antiseptic properties, and was, therefore, of great utility in all offensive discharges from the skin. Fœtid perspiration was not only controlled, but often cured by its use.

Salicylic-Acid Soap.—Sapo acidi salicylici, 4 per cent., was excellent for its antiseptic action, and was by far superior to carbolic-acid soap. Its freedom from the irritating quality and disagreeable odor of the latter soap made it preferable to it in every way. It was admirable for toilet purposes, and had proved serviceable in thickened conditions of the epidermis of the plantar, palmar, and extensor surfaces. It assisted in softening the epidermis, and in making the skin more natural and pliable. Sycosis and pustular eczema were generally benefited by its use, particularly when the hair became matted together and was accompanied with a fœtid odor. It was likewise serviceable in fœtid perspiration and all foul-smelling wounds or sores.

Sublimate Soap.—Sapo hydrargyri chloridi corrosivi, 1 per cent., was no doubt better known by the former term, as the latter had a bad signification in the minds of many for whom it might be necessary to prescribe it. It was, like carbolic-acid, naphthol, and salicylic-acid soaps, a valuable antiseptic. In truth, it might be preferred by many who now regarded the corrosive chloride of mercury as a better antiseptic than those already named, and it could be advantageously employed in the same class of affections. Sublimate soap might, however, be objected to for fear of producing salivation: but the risk with so small a quantity of mercury in the soap was extremely slight, and up to the present time he had never seen this effect. It was valuable in animal parasitic diseases, such as phtheiriasis, or lousiness, scabies, or itch, and for destroying insects of all varieties that might infest the body. Freckles, pigmentary deposits, especially chloasma, and yellowish-brown or blackish patches on the skin, were greatly relieved and sometimes removed by its employment. The red and roughened state of the skin that might follow the eruptive fevers, such as small-pox, might be improved by its use. It assisted in overcoming an unhealthy state of the skin, and in producing a clear and brilliant complexion. Sublimate soap was also one of the best agents in all kinds of itching, and might afford the greatest relief sometimes in both pruritus ani and pruritus pudendi. It was, likewise, markedly serviceable in the various syphilitic skin eruptions.

Tar Soap.—Sapo picis liquidæ, 10 per cent., had long been employed with great advantage in many forms of cutaneous disease. Eczema and psoriasis, more especially the chronic varieties, were frequently much improved by the use of tar soap. It assisted in keeping the skin active, and often lessened the infiltration and relieved the itching. It was useful also to remove the scales in pityriasis and ichthyosis. Tar soap or any of its compounds could be employed in many diseases of the skin that had been referred to in considering naphthol soap—the former being inferior to the latter on account of its disagreeable odor, and the irritant effects that sometimes followed the application of tar to the skin.

The principal medicinal combinations with potash and soda soap had now been fully considered, and it simply remained to briefly refer to the following additional medicated ammonia and soda soaps, which had rather a limited use:

Amber Soap.—Eau de luce. A liquid soap which had as its chief ingredients tincture of oil of amber and balsam of Gilead, with water of ammonia. Used in enlarged glands, moles, warts, etc.

Balsam Soap.—5 per cent. Used in indolent ulcers, sinuses, abscesses, etc.

Elder-Flower Soap.—Sapo sambuci florum, 10 per cent. Used in intertrigo, rosacea, sunburn, etc.

Ergot Soap.—Sapo ergotæ, 10 per cent. Used in eczema, acne rosacea, etc.

Glycerin Soap.—Sapo glycerini, 15 per cent. Used for roughness of the skin, chaps, pityriasis, etc.

Naphthol-Sulphur Soap.—Sapo naphtholi sulphurisque, 3 per cent. of naphthol and 10 per cent. of sulphur. Used in scabies (itch), phtheiriasis (lousiness), the presence of insects of all kinds on the skin, eczema, psoriasis, seborrhœa, hyperidrosis, bromidrosis, etc.

Sulphur Soap.—Sapo sulphuris, 10 per cent. Used in acne rosacea, etc.

Iodine Soap.—Sapo iodi, 3 per cent. Used in syphilitic and scrofulous skin affections, old granulations, etc.

Iodide-of Sulphur Soap.—Sapo sulphuris iodidi, 3 per cent. Used in acne indurata, chronic ulcers, freckles, yellowish-brown or blackish patches on the skin, etc.

Kino Soap.—Sapo kino, 10 per cent. Used in eczema, rosacea, ulcers, etc.

Lead Soap.—Sapo plumbi, 3 per cent. Used in boils, carbuncles, abrasions, bed-sores, etc.

Tannin Soap.—Sapo acidi tannici, 3 per cent. Used in seborrhœa oleosa, excessive sweating, ulcers, granulations, etc.

Tannin-Balsam Soap.—Sapo tanno-balsamicus, 2 per cent. of tannin and 5 per cent. of Peruvian balsam. Used in wounds, ulcers, chilblains, etc.

Thymol Soap.—Sapo thymoli, 3 per cent. Used in ulcers, wounds, abscesses, sinuses, pustular eczema, etc.

Turpentine Soap.—Sapo terebinthinæ compositus. This soap, known as Starkey's, was composed of equal parts of potassium carbonate, oil of turpentine, and Venice turpentine. Used in chilblains, syphilis, psoriasis, etc.

Wintergreen Soap.—Sapo gaultheriæ, 3 per cent. Used in eczema, psoriasis, lichen, acne, etc.

Witch-Hazel Soap.—Sapo hamamelidis, 10 per cent. Used in fœtid perspiration, eczema, loss of hair, etc.

Soap, especially the medicated, as had been shown, was very often valuable in the treatment of the various diseases of the skin, provided it was properly and judiciously used. It was powerful to do good, and equally so to effect harmful results. The greatest care and the utmost precautions, as had already been pointed out, should always be exercised in applying it to a diseased surface, and too much must not be expected for soap to accomplish. The manufacturer, the merchant, and too often the physician, maintained that this or that medicated soap would remove or cure certain skin diseases, whereas on trial they would frequently be found to utterly fail. Soap, therefore, as a remedy *per se*, seldom cured cutaneous affections, but as an adjuvant it was one of the most valuable agents that we possessed.

THERAPEUTICAL NOTES.

Electricity in the Treatment of Intestinal Obstruction.—Boudet ("Progrès méd.") reports seventy cases which were treated in this manner, with only seventeen failures. He prefers the constant current, which he applies in the following manner: A metal tube connected with the battery is inserted into a gum-elastic rectal tube which has a lateral opening near its end. The two tubes are passed into the gut as far as possible, and a quantity of salt water is then injected; this fluid forms a safe and efficient electrode, and prevents ulceration of the mucous membrane from direct contact of the pole. The other electrode is placed over the small of the back. A moderate current is employed, the *séance* lasting from five to twenty minutes. With the exception of simple atony, the writer does not express himself clearly concerning either the causes of obstruction or the *rationale* of his method of treatment. He does not regard acute enteritis or peritonitis as contra-indications to the use of electricity. Even in cases of actual stenosis from ulceration or malignant disease he has great faith in the power of the constant current.

Decoction of Lemon in the Treatment of Urethritis.—Rebatel ("Annales de syphiligr") commends this simple remedy, which was first suggested by Mannino. It is said to destroy at once the vitality of the gonococcus. Three fresh lemons are cut into small pieces and thrown into about ten ounces of water, which is reduced by boiling to three ounces. With this fluid three or four injections should be employed daily. After two days a fresh decoction should be made. The following combination may be used instead:

Salicylic acid	1 grain;
Citric acid	25 grains;
Water	8 ounces.

Two injections are to be made daily.

The Uncontrollable Vomiting of Pregnancy.—Dr. Grailly Hewitt has a paper on this subject in the last volume of the "Transactions of the Obstetrical Society of London." Attributing the cause of the phenomenon to "rigidity of the lower segment of the uterus," he infers that in the majority of cases the cure is spontaneous. Since, according to the author, the uterus is usually in a condition of anteflexion or anteversion, the indication will be to overcome this displacement by keeping the patient upon the back as much as possible. A cradle, or inflated rubber pessary may be useful in keeping the organ in its proper position. If replacement of the uterus does not relieve the symptoms, he next recommends that the cervix be dilated with the finger or by instrumental means. The failing, especially in cases of retroflexion with impaction, there is nothing left but to induce abortion.

Glycerin in Dryness of the Tongue.—According to Surgeon-Major Cotter ("Indian Med. Gaz."; "Med. Times and Gaz."), the excessive dryness of the tongue and fauces observed in acute febrile diseases may be relieved by painting the parts with glycerin. The sensation of thirst is relieved and the patient is frequently freed from a good deal of discomfort and annoyance. The writer suggests that the application may increase the secretion of saliva, and thus dissolve the sordes.

The Early Use of Atropine in Convergent Strabismus.—Boucheron ("Arch. d'ophth."; "Practitioner") maintains that, if both eyes of a child having convergent strabismus are kept under the constant influence of atropine, amblyopia in the affected eye is prevented.

An Antidote to Resorcin.—Andeer ("Wien. med. Presse;" "Practitioner") says that the best antidote in cases of poisoning from overdoses of this drug is old Bordeaux or Burgundy wine. He disapproves of both warm baths and emetics, as recommended by some writers.

Permanganate of Potassium in Skin Diseases.—Hüllmann ("Ctrlbl. f. d. ges. Therap."; "Arch. f. Kinderheilk.") recommends bathing in a solution of permanganate of potassium (two grains to a pint of water) in cases of eczema, intertrigo, prurigo, and the exanthemata. The patient is advised to remain in the bath until the violet color of the solution changes to a brown. This treatment is highly praised in the desquamative stage of measles and scarlet fever.

Chromium in the Treatment of Syphilis.—Güntz ("Memorabil.") speaks highly of this drug in cases of syphilis which resist treatment with mercury, and in which the constitution has been badly broken down by the disease. Not only is there a complete absence of general disturbance after the use of chromium, but, according to the writer, the cure is rapid and complete. The daily amount which he employs is half a grain of potassium bichromate, divided into four doses. Güntz denies that headache ever follows the use of the drug.

An Application for Syphilitic Eruptions.—Mauriac ("Union méd.") suggests the following:

Chloral hydrate	2 drachms;
Tincture of eucalyptus	5 "
Distilled water	2 pints.

To be applied to mucous patches and ulcerating syphilides.

Corrosive Sublimate a Safe Antiseptic.—Tänzer ("Cntrlbl. f. Gynäk.") has written a long paper on this subject, in which he maintains that the general alarm in regard to the toxic effects of the sublimate solution is somewhat premature. He insists that the fatal results reported from its use have all been due to the employment of too strong solutions.

A Mixture for Gastralgia.—Lasègue and Regnauld ("Union méd.") prescribe this mixture:

Orange-flower water	5 ounces;
Chloroform water	15 "
Distilled water	9 "

Dose, a dessertspoonful every fifteen minutes until the pain is relieved.

A Mixture for Cardiac Dyspnœa.—Sée (*Ibid.*) suggests this syrup:

Tincture of iodine	75 minims;
Syrup of horse-radish, } each	5 ounces.
Syrup of poppy, }	

Dose, a teaspoonful three times a day.

A Rubefacient Liniment.—Stuart (*Ibid.*) recommends the following liniment in lumbago:

Tincture of capsicum	1 ounce;
Olive-oil	6 ounces.

A Lotion for the Face.—Vigier ("Gaz. hebd. de méd. et de chir.") gives the following formula:

Boric acid	15 grains;
Honey water *	5 drops;
Rose-water	3 ounces.

To be applied morning and evening.

* Containing honey, citron, coriander, rose, and several other ingredients.

Lectures and Addresses.

THE ANNUAL ADDRESS

BEFORE THE

AMERICAN CLIMATOLOGICAL ASSOCIATION.*

BY ALFRED L. LOOMIS, M. D., LL. D., NEW YORK, PRESIDENT.

GENTLEMEN OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION: If I understand aright, this association was organized that representative medical men from different sections might come together and, from their different views and experiences, endeavor to determine the therapeutic value of the various localities which have been alleged to have the power of arresting or curing chronic diseases of the respiratory organs, and to discuss their ætiology, pathology, and treatment. If I had been present at its organization I should have advocated giving it a broader scope, and including in our studies diseases of the vascular system and the therapeutic value of our mineral springs. It is hardly necessary that I should recite to you all that has been and is being accomplished in these fields by our European brethren. One only needs to read the history of almost any chronic disease from the pen of recent continental writers to realize how large a part of their treatment is summed up in advice to spend longer or shorter periods in this or that health resort, or "take a course at some mineral spring." That recoveries from very many chronic ailments are reached by such sojourn no one will question. The hundreds from our midst who visit European sanitariums each year is a testimony that either they have something in climate and mineral waters which we have not, or that the medical mind of Europe has systematized and rendered efficient these powerful therapeutic agents. A careful study of this subject has convinced me that neither in climate nor in mineral waters are they superior to us, but in their more thorough system of employing these agents. The profession at large on the Continent are far more intelligent as regards differences in climate and the composition and effects of the different mineral springs in Europe than American physicians are of those of our own country. The profession in this country require education in these matters. It is only a few years since we have made any systematic attempts to gain definite knowledge in regard to our health resorts and mineral waters. It is the province of this association to stimulate the profession to greater zeal and a more harmonious working in this important field. Through properly organized committees it will determine the real merits of the various health resorts which at present, and may in the future, claim our patronage and support. It will endeavor to place those that are found worthy of its indorsement under the supervision of intelligent physicians, who, by the aid of local authorities and perhaps by legislative enactment, may render them more efficient for the cure of those diseases to which they are especially adapted. In the more important of such health stations the benevolently disposed will be urged to establish and endow sanitariums, where the poor, or those who are not able to fully meet the expenses of a sufficiently long stay to reach a cure of their maladies, can be aided and taken care of. By the carefully kept records of such sanitariums a more definite and positive opinion of the relative advantages of different health stations can be reached.

As an indication of what may be accomplished in the way of establishing such charitable sanitariums, I will give the history and a brief description of the "Adirondack Cottage Sanitarium" and the plans which have been adopted by its managers as they have been transmitted to me by Dr. E. L. Trudeau, who deserves the credit of being the pioneer in this noble work in this country.

The plan for the Adirondack cottages was first brought to the attention of several visitors to that region in the summer of 1883. The project at once met with such hearty responses that it very soon took a substantial form. Donations in money were freely offered, physicians promised their professional services, and gentlemen residing in the Adirondack region for health readily assumed the superintendence and management of the future institution. As a result, the unpretending establishment which now stands within a mile and a half of Saranac Lake village sprung into existence. It represents an attempt to put within the reach of patients of moderate means, suffering with pulmonary disease, the benefit to be derived from the Adirondack climate, a well regulated out-door life, and proper medical care. It is not intended as an asylum for hopeless cases, but as a means of restoring to health those in the early stages of pulmonary phthisis. The cottage plan has been adopted, each cottage to be tenanted by two or, at the most, four patients. The cottages are clustered around a commodious main building, where all the meals are served, while its upper floor is arranged for those invalids that require constant care. It is neither altogether a charitable institution nor a self-supporting hospital, but embodies some of the features of both—that is, the expenses are to be met by yearly subscriptions of benevolent persons, and in part by weekly payments made by the patients themselves. Five dollars a week has been fixed as the amount which for the present will be required of patients. This sum is to cover all expenses. Should the yearly subscriptions increase sufficiently, this will be reduced to the lowest sum that will enable the managers to meet the expenses of the institution. As no salaries are to be paid except for manual labor, patients will reap the full benefit of the yearly subscriptions. Invalids will be urged to exert themselves in flower-raising, for which every facility will be furnished in the future, as both an agreeable and a healthful pastime, and an additional source of income to the establishment. It is proposed that some well-equipped tents shall be used on the grounds, that the benefit of camping may be within the reach of those for whom such a mode of life is advisable. The site of the Sanitarium seems especially adapted to its requirements. It is on a small plateau about two

* Read at the second annual meeting, held in New York, May 27 and 28, 1885.

hundred feet above the valley of the Saranac River, from which one of the most extended mountain views of the region may be had. It is a sunny spot, facing the south-east, and backed by a high wooded hill, which shelters it completely from the prevailing winds, while its sandy soil and gentle slope insure dryness and perfect drainage. Allowance for the growth of the establishment has been made in the plans of the main building, so that the simple erection of more cottages, as they are needed, is all that is necessary to enlarge the scope of the undertaking. Its present capacity is limited to twenty patients. It is incorporated under the name of Adirondack Cottages, under the control and management of a Board of Governors and a House Committee. Dr. Alfred L. Loomis, of New York city, is examining and consulting physician, Dr. E. L. Trudeau, of Saranac village, attending physician, and Dr. C. F. Wicker, of Saranac village, assistant physician.

I have presented to you this report from Dr. Trudeau with the hope that it may stimulate other resident physicians at our different health stations to similar charitable work, and that some action may be taken by this association at its present meeting on this important subject. May we not hope that, in the near future, this association will become the forum for the discussion of those vital questions in the ætiology and therapeutics of diseases of the respiratory and vascular organs which are to-day engaging so largely our most brilliant workers in the field of medicine? Let it be a place where good and true men can meet on a common ground, with no medical politics, no ethics, no jealousies, with but one end in view—real advancement in our knowledge of disease. If this association is to live, let it have a scientific record.

The Influence of the Recent Views of the Ætiology and Morbid Anatomy of Pulmonary Phthisis on its Climatic Treatment.—As an introduction to the work which will engage us at our present meeting, permit me to say a few words on this subject.

There has, perhaps, never been a period when there was so great uncertainty in the minds of the profession in regard to the ætiology and morbid anatomy of phthisis as the present. For one class of observers pulmonary phthisis is an inflammation of the pulmonary substance, which may or may not be complicated by tubercle. Another class maintain that tubercle is the primary and essential lesion of all phthisis. Still more recently certain investigators maintain that there is a specific material which may or may not be accompanied by the histological elements of tubercle, but which always has a specific form of *bacillus* as the sole exciting cause of its development.

Whatever conclusions may finally be reached as to the exact nature and cause of phthisical processes, clinically we must always recognize two varieties of phthisis:

First, acute phthisis, the morbid changes of which are a complex of inflammation and the rapid development of tubercular tissue in the lung substance.

Second, chronic phthisis, the essential pathological changes of which are consolidation and induration of lung substance; tubercle may or may not be its primary lesion, but it is usually present in its advanced stages. During the past two years my own examinations of the lungs of those who have died with the clinical history of chronic phthisis have convinced me that, in advanced phthisical processes, tubercular tissue can always be found, but I am not prepared to state that the development of tubercle is the primary lesion in all or in the majority of cases.

In very many I am confident that a non-specific infiltration of the lung precedes tubercular invasion and furnishes suitable soil for the development of tubercle, as well as for the growth and multiplication of tubercle bacilli when they are present.

Koch's statements that the repeated entrance into healthy lungs of small numbers of the specific bacilli of tuberculosis will cause chronic phthisis, and that the simultaneous admission of numerous bacilli will produce acute phthisis, stand as yet unproved. As Beichart and Segel state, it remains to be shown how and when, in any individual case, the microbes effect their entrance into the system, or why their entrance takes place so readily in one case and not in others. Why do a large number of persons resist their entrance under seemingly the most favorable conditions for their introduction?

If phthisis has its origin in an infection, it seems evident, from a clinical as well as a pathological standpoint, that certain preparatory tissue-changes must take place in the lungs before the infection can be received, or, in other words, before bacillary invasion can become effective. Both experiments and observation seem to show that these bacilli, whether developed inside or outside the body, can not thrive unless certain conditions are present. We ought to welcome every new method of investigation, and do nothing to discourage the boldest flights of pathological speculation. But the crucial test for all such speculation must always be a clinical one. We must hold rigidly to facts drawn from direct observation during life, to our clinical facts, and never endeavor to interpret them so that they shall accord with either our speculations or our theories. By this standard there are three factors which may be regarded as preparatory to the phthisical infection, if such infection shall be found to exist:

First, a state of constitutional feebleness, either inherited or acquired, which diminishes the resisting power of the individual and renders him abnormally susceptible to diseased processes.

Second, a condition of the upper portion of the lungs, marked by feebleness and slowing of the circulation, which predisposes the individual to phthisical processes.

Third, the establishment of localized inflammatory processes in the bronchi, lung substance, or pleura.

I think no one will question that the treatment of phthisis which is to-day attended by best results is that which has for its object the invigoration, by every means possible, of the general health, and the avoidance of those conditions which predispose to or favor local pulmonary inflammations. If we appeal to clinical medicine and ask how these therapeutical indications are best reached, the unqualified reply is, by good hygiene, good food, a suitable climate, and those medicinal agents which promote and maintain that normal performance of the digestive and as-

similative processes which is essential to healthy nutrition. At the present day I think that the majority of careful and unprejudiced observers are united in the opinion that the most important of these agents is a *suitable climate*, which acts therapeutically in arresting early phthisical processes in two ways:

First, by its invigorating effects on the general system and its power of improving defective nutrition.

Second, by its local effects in preventing diseased processes in the lungs, and in arresting such processes after they are developed.

Before proceeding further, let us inquire what we are to understand by the term *climate*. Dr. Parkes defines it as the sum of the influences which are connected with the solar agencies, the soil, the air, and the water of a place. Dr. Billings, in his recent article in Pepper's "System of Medicine," understands by the term climate the sum of meteorological influences, the most important of which are temperature, humidity, and winds. Dr. Schreiber, in his address before the Austrian Meteorological Society, states that the term climate, which has hitherto been employed to denote a vague, indefinite specific, of which no reliable account could be given, appears now as something infinitely clever and very simple, being, in fact, nothing more than pure air uncontaminated by miasms, with no organic or inorganic substances, and one in which water precipitation or rain is not unduly deficient. He shows that it is neither warm air, nor cold air, nor dry air, nor moist air, that is wanted, but an abundance of pure air.

To assume that any particular climate exerts a specific influence upon pulmonary phthisis is absurd. That certain climates are better than others there can be no question, but in regard to the climatic constituent which makes the difference there is a great diversity of views.

Dr. Jaccoud, in his "Lectures on the Curability of Phthisis," states that information derived from writings on this subject can not take the place of knowledge furnished by direct observation. For the reason that two places possessing similar climates may have very different therapeutic values, and this solely on account of their topographical situation, the meteorological tables of a locality give no reliable information on this subject.

Again, he states that the impressions made upon the organism by different climates are to some extent independent of the certain and describable phenomena which constitute the climatology of a region. With similar mineral waters, barometrical, hygrometric, and anemological conditions, two places may still be most dissimilar in their effects, either upon the healthy person or upon the invalid. It is vain to seek in the table of atmospheric changes for the explanation of that special impression which the climate of a region makes upon the affected organism—an impression which, in fact, is indefinable, and of which the cause can not be ascertained; it must be felt to be understood; this fact constitutes one of the fundamental difficulties of the climate problem. As a consequence, we have one class of observers maintaining that high altitude acts therapeutically on diseased lungs by the lightness of the air, which relieves the lungs from undue pressure, and thus permits them to gradually return to their normal state. Others hold the view that the rarity of the air induces more rapid respiration, and in this way tends to restore the diseased lungs to their former healthy elasticity. Others again contend that solar radiation is the great curative agent. But *purity of atmosphere and consequent freedom from germs* seem to me to offer a more satisfactory solution of this much vexed problem. In the presence or absence of these organisms is to be found an explanation of the therapeutic differences in the air of different localities.

Sir John Lubbock, in his address to the British Medical Association, states that it is calculated that the smallest sphere of organic matter which can be distinctly defined by the most powerful microscope is about $\frac{1}{18000}$ of an inch in diameter, and that a particle of this size would contain many millions of molecules. These molecules may be germs of organic life. Such a thought opens a wide field for the origin of the microbes of disease, even when we shall have become familiar with the different species of every known infection.

Professor Tyndall's experiments have shown conclusively that the air, as we ascend, becomes freer from atmospheric germs, and that dust-laden air is necessary for the production of living organisms in vegetable infusions; that such vegetable fluids, after months of exposure to optically pure air, remain free from infusorial life.

That atmospheric germs are much more abundant in cities and large towns than in the open country has also been conclusively shown by Professor Tyndall's experiments, as well as that these germs are diffused through the air of different sparsely inhabited localities in varying degrees.

Dr. Andrews, in his Lumleian lectures, states that the micro-organism which excites phthisis, whatever it may be, at certain altitudes is no longer met with. It seems evident, however, that, if purity of atmosphere is the essential therapeutic agent of high altitude, all elevated regions do not furnish it. Experience has shown that when the inhabitants of elevated regions, who have long enjoyed an immunity from phthisis, have engaged in manufacturing pursuits, phthisis has become a prevalent disease, and there are localities of very high altitude where phthisis has always existed. It is a reasonable inference that those localities of high altitude which are now, and which may hereafter be, found favorable to the climatic treatment of phthisis must remain sparsely inhabited; and that, as soon as the hotels, boarding-houses, and sanitariums in such regions become numerous or overcrowded, such health resorts will lose their therapeutic power.

Another climatic condition which, I believe, is as essential as altitude to purity of the atmosphere in any locality is *porosity of soil*. In localities where the soil drains slowly and imperfectly there is a peculiar dampness which acts most powerfully in developing phthisis. Dr. Henry I. Bowditch, in his address on consumption before the Massachusetts Medical Society in 1862, states that soil moisture is one of the chief causes of phthisis, and that localities where there is a dry soil are comparatively free from the disease.

Dr. Buchanan, in his classical report to the Privy Council, makes the statement that *dampness* of soil is one of the most prolific causes of phthisis to the inhabitants living upon it.

Laennec, in his work on "Diseases of the Chest," states that for ten years he had charge of a nunnery outside of Paris, where the ascetic spirit which controlled the minds of its inmates was most severe, and led to no less serious than surprising results; not only was the attention of the nuns habitually fixed upon the most terrible truths of religion, but the discipline was such as to bring them as early as possible to a complete renunciation of their own wills. During the ten years in which he had the medical charge of this establishment, three times he witnessed the death of its entire membership from consumption. Laennec ascribes this astonishing mortality to the depressing effects of mental suffering, but it was afterward found that this nunnery was built in a clay cup, which caused such constant dampness in the buildings that they had to be abandoned. From these statements it seems evident that the atmospheric dampness which is so powerful in developing phthisis is not necessarily present in those localities where there is the greatest amount of rain-fall, nor is it necessarily present in localities which are in close proximity to large bodies of water, but it is a dampness which is due to a peculiar conformation of the soil; in all clay regions such dampness exists. The air of such localities is saturated with a moisture which is laden with germs of special vitality. The amount of rain-fall in any region tells little of its atmospheric moisture. In some localities where there is little or no rain-fall the air is constantly loaded with moisture almost to saturation, on account of the non-porosity of the soil. Frequent showers unquestionably purify the atmosphere in localities where the conformation of the soil favors rapid and free drainage.

The presence of extensive evergreen forests has been found to have a powerful purifying effect upon the surrounding air. It is questionable if winds purify the atmosphere of a locality; that they act prejudicially upon phthisical invalids is sustained by the experience of most observers. There are observations which show that ozone, or that electrical condition of the atmosphere in which it is present, acts as a powerful purifying agent in the atmosphere—an oxidizing disinfectant. While oxygen requires a considerable degree of heat before it will combine with other substances, ozone will do so at an ordinary temperature. The air of a locality may not necessarily be impure because no ozone is present, for it may already have been expended in oxidizing organic substances in the surrounding atmosphere; yet the presence of ozone in the atmosphere of a locality is presumptive evidence that the air is optically pure.

As has already been indicated, there are from our present standpoint two important objects to be attained in the treatment of phthisis: *First*, to prevent the entrance of microbes into the lungs through the respired air. *Second*, to maintain such a healthy condition of the pulmonary tissue as to prevent those abnormal changes in the lungs which may favor the development and activity of such organisms, if they have gained an entrance into the respiratory organs. The importance of maintaining a healthy condition of the lung-tissue is in danger of being overlooked in the earnestness with which attention is now being directed to the bacilli of tuberculosis. If we are to regard the presence of tubercle bacilli in the expectoration as essential to the diagnosis of a fully developed phthisical process in the lungs—and I am convinced, from my experience after very many examinations, that they are never absent—the important clinical question arises, Can the bacilli in diseased lungs be destroyed? Attempts in this direction have been made principally by means of antiseptic inhalations. This is becoming the fashionable method of treating all diseases of the respiratory organs, and respirators of various devices, charged with some antiseptic, are now being extensively used in the treatment of phthisis. I would not unfairly criticise such treatment, but I am convinced, from my own experience in this direction, that the clinical evidences of the effectiveness of such inhalations in destroying or diminishing the number of tubercle bacilli in phthisical processes are entirely wanting. Although this method of treatment has recently been greatly stimulated by Koch's discovery, we have as yet no reliable clinical data that it has any influence upon the tubercle bacilli. If antiseptic inhalations have apparently acted beneficially in any case, I am convinced that it has been due to their favorable influence upon the mucous membrane and secretions in the higher air-passages, and not to their action upon phthisical changes in the lung substance. It must be admitted, however, that the antiseptic treatment of disease is as yet in its infancy, and that our present methods are unquestionably imperfect. There is very great doubt if, by the methods of inhalation now in use, antiseptic materials ever reach the pulmonary tissue. Perhaps the ingeniously contrived pneumatic cabinet of Dr. Williams, of Brooklyn, may accomplish the desired result. Certainly the principle upon which his cabinet tends to inflate residual lung tissue is sound, and may be found, by its practical results, to accomplish what is desired in this direction. It is doubtful, however, if an antiseptic inhalation should be brought in contact with the diseased lung tissue, if it would destroy or render inoperative the bacilli of tuberculosis. The following report, in a recent number of the London "Lancet," bears directly upon this point: Dr. Morel Mackenzie reports a case of laryngeal and pulmonary tuberculosis, which originated in a simple chronic catarrh of the larynx, in which he asserts that, for a considerable time after frequent microscopical examination of the secretion from the inflamed laryngeal membrane, no bacilli could be found; but, after a time, the inflamed laryngeal membrane began to present the unmistakable appearance of tubercular laryngitis, and then the laryngeal secretion contained numerous tubercle bacilli. And he states that, while the laryngeal symptoms were relieved by the local use of iodoform and other antiseptics, such antiseptic applications did not diminish the number or destroy the vitality of the tubercle bacilli. From these observations it would seem, first, that the inflamed laryngeal membrane, after the non-specific laryngeal catarrh had reached a certain stage, furnished a fitting soil for the bacillary development, as a secondary and not a primary lesion. Second, that, if the direct topical application of

antiseptics to the seat of the development of bacilli will not destroy them or even diminish their number, we can expect little benefit in this direction from antiseptic inhalations on tubercular processes in the lungs. Dr. Pollock, of London, concludes his *résumé* of modern theories and treatment of phthisis in the following words: "No parasite theory of phthisis can lessen the importance of the use of cod-liver oil. Supposing we possessed a local remedy of sufficient power to insure the destruction of such bacilli as are met with in the secretions of phthisical subjects, their rapid reproduction would soon overtake our treatment. I fear in this direction we may have much experience, and many such experiences, and many disappointments. Finally, to sum up the brief review which we have been able to make of these new doctrines, it would appear that, while some facts—such as the presence of bacilli in the cases of phthisis, and their absence in the other affections of the lungs and air-passages—are fully proved, there are some assertions of those who hold that such appearances in the lungs and its secretions are the proximate and invariable cause of the disease which we must for the present hold *sub judice*. Among these doubtful theories are those which concern the production of the parasites. Whether they may be endogenous or introduced from without, whether they may not find their birth in certain blood changes which are the outcome of pyrexial action in the system, or whether they are the product of a like morbid condition in other animal bodies, and from them introduced into other organisms by contact or infection, must remain for the investigation of later pathology. We may safely relegate these interesting questions to ardent students, who are now everywhere carrying on new observations, and for ourselves, knowing well that all pathology is progressive, and that we see but a portion of truth at any time, be content to await the result. That there is some intimate connection between the development of the micro-organisms of disease and atmospheric impurities, every day's clinical observation seems conclusively to establish. Our modern surgery bears testimony to such a conviction in the minds of careful and experienced surgeons."

As yet the science of bacteriology has not determined the origin of any one of the many micro-organisms which have been so minutely described and carefully cultivated. All varieties of putrefactive bacteria may have an atmospheric origin. And it is at least reasonable to suppose that some of the so-called specific bacilli and micrococci may have a similar origin. If such an origin can be admitted, the importance of a pure atmosphere as a preventive measure, as well as a curative agent in phthisis, is apparent. I will give the clinical histories of two cases which bear directly upon this point:

Case I.—Early last summer a gentleman, twenty-six years of age, consulted me, having the well-marked physical signs of the first stage of phthisis at his left apex; an examination of his sputum showed it to contain numerous tubercle bacilli, his general condition being such that he was able to exercise for hours in the open air. I advised him to spend the summer in the Adirondack Mountains. He returned to me in November, having been five months in the woods in camp life. He had gained twelve pounds in weight, lost his cough almost entirely, and presented the appearances of perfect health. Repeated examinations of his morning sputa failed to detect in them a single bacillus; a physical examination of his chest showed that the consolidation at his left apex had disappeared. For five months he had breathed an optically pure air, and either that had acted as a germicide upon the bacilli in the diseased lung or the consequent improvement in his nutritive processes and the greater vigor of his general system had so changed the diseased processes in his lungs that the fitting soil for their development no longer existed.

Case II.—A young man, nineteen years of age, with no hereditary phthisical tendencies, in March, 1883, had a profuse hæmoptysis immediately following a long ride on horseback; he soon began to cough, and lost flesh and strength rapidly. On the 6th of the following May he came under my observation, when he presented a well-marked phthisical aspect, and had occasional night-sweats, with a temperature ranging from 102° to 103° in the afternoon. A physical examination of his chest revealed consolidation of the upper third of his left lung, with numerous small-sized moist râles and pleuritic crepitations. His sputum, which was abundant, contained large numbers of tubercle bacilli. I directed him to remain in bed, and placed him exclusively on a milk diet for three weeks, at the end of which time his fever and sweats had left him, and, at his earnest request, I allowed him to take a steamer for Europe. He reached Davos the last of June. Within two weeks after his arrival at Davos he had two profuse hæmorrhages. During most of the summer he was extremely weak and short of breath on the slightest exertion, with an exhausting cough, accompanied by a profuse expectoration. In September he began slowly to improve; his improvement was continuous and not attended by relapses, as is usual in such cases. During the latter part of winter, or in the early spring, his cough left him, except in the morning on rising; he had regained his usual weight, had a good appetite, felt perfectly well, and could take long walks without fatigue. He remained in Davos during the next summer. In September he was told by his medical attendant at Davos that he might return to New York. Soon after his arrival home I examined him. All evidence of consolidation at his left apex had disappeared, and the only remaining physical evidences of his former disease were thickening of the pleura and a few bronchial râles at the left apex on coughing. On examination of a number of specimens of sputa, obtained immediately after rising in the morning, no bacilli could be detected. In January he began to cough again, lost flesh and strength, his expectoration became profuse and again contained bacilli, the physical signs of infiltration again appeared at the site of his old trouble, and he immediately left for Los Angeles, where I understand he is quite well. This history seems to indicate that the presence of tubercle bacilli in the sputum is ultimately connected with, or markedly influenced by, breathing an impure and dust-laden atmosphere, while their disappearance was effected or intimately connected with breathing a pure atmosphere, for the physical signs, when the patient returned from Davos, evidenced that the phthisical processes in his lung, although not progressive, still existed, and bacilli should have been present in his sputa.

If, then, we accept as trustworthy the views and statements of recent observers in regard to the ætiology and morbid anatomy of phthisis, it seems evident that its prophylaxis and rational treatment are very likely to be in the future very nearly what they are now, although we may give new interpretations to many of the agents which we are now employing.

In conclusion, gentlemen, permit me to urge upon you to be careful how you send phthisical patients from home

while the disease is in active progress. During the period when there is active febrile disturbance most patients are best cared for at home. Always wait for a period of quiescence, which will certainly come in all cases of chronic phthisis during its first stage, before sending your patients far from home.

There is a tendency at the present day to send phthisical patients from home before sufficient time has elapsed to form any reliable opinion as to the probable course of the disease. I believe it is better—certainly it is safer—at first to keep our patients near us, where they can be more or less directly under observation. There are health stations near at hand, where most of the conditions exist which are known to exercise a favorable influence on phthisical processes, and it is far better to utilize these for a few months before sending patients to the more distant and, perhaps, more valuable ones. *Never send patients in the advanced stage of phthisis, if the disease is in active progress, far from home to seek health.* Let me also urge upon you the importance of keeping phthisical patients in the localities where they improve until they reach complete recovery. The practice which is followed by many medical advisers of sending their patients to one place in the summer, another in the winter, a third in the spring, and often a fourth in the autumn, I believe is most injurious; nor can I find any good reason to justify these successive changes.

An intelligent gentleman in the last stages of phthisis once said to me: "In attempting to follow the seasons I have traveled more than 2,000 miles each year, and the result, as you see, is a failure." These unhappy patients, urged by a hope born of despair and by the tyranny of a physician's order, wander from one health station to another. Scarcely do they begin to experience the beneficial effects of rest in a climate in which they are improving when the requirement of change, in correspondence with the season, drives them to another, and they are compelled again to begin the dangerous work of acclimatization. Thus they are always moving from one health station to another, stimulated by promises which can never be realized, and often die by the way-side, far from home and friends.

Original Communications.

INJURIES OF THE MAIN BLOOD VESSELS IN THE AXILLA CAUSED BY EFFORTS TO REDUCE DISLOCATIONS OF THE SHOULDER.*

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Dislocations of the shoulder, an injury, both relatively to the other dislocations and actually, common, is, at least when recent, deemed one of minor gravity, the cure of which can be effected readily and without risk to the patient. But, from time to time, cases are reported in which the gravest consequences have followed reduction or the attempt to reduce, and such accidents have happened and continue to happen in the practice of even the most experienced surgeons, aided by anæsthetics and employing methods of manipulation rather than those of force. The importance of the general recognition of this possibility, the interest attaching to certain questions of diagnosis and treatment, and the discovery of certain errors current in the statistics of the subject, have led me to bring before you a question which, within the last few years, has been the theme of several writers, and with which all are reasonably familiar.

Among these accidents, the most frequent and most important are those of injury to the main blood-vessels in the axilla.

Although the earliest recorded cases of this accident occurred at about the beginning of the eighteenth century, the subject did not receive the attention of systematic writers on surgery until after the publication, in 1827, of an article by Flaubert.* Malgaigne, in 1855, discussed the subject at length in his work on dislocations, mentioning sixteen cases of all kinds, certain and uncertain. Callender,† taking as a text his own fatal case, again collected and collated the known cases; and similar use was made of the material, and other cases added to the list by Le Fort,‡ Willard, * and Marchand.‖ In 1882 Körte △ reported three personal cases, and wrote a very full and valuable paper on the subject containing forty-four supposed (actually thirty-eight; see note below) cases of dislocation of the shoulder, in which the vessels had been seriously injured during the act of dislocation or of reduction; and in 1884 Cras ◊ reported a personal case of injury of the axillary artery, and added a few others to Körte's list. Strictly speaking, several of these cases should not be here considered, since in them the vessel was injured at the moment of dislocation and not during reduction, and in many others it remains uncertain whether the same objection might not be made to them. They are retained because they serve equally well with the others to further the study of most features of the subject. ‡

* Read before the New York Surgical Society, May 26, 1885.

* "Mém. sur plusieurs cas de luxations dans lesquels les efforts pour la réduction ont été suivis d'accidents graves," "Répertoire d'anat. et de phys.," 1827.

† "St. Bartholomew's Hosp. Reports," vol. ii, 1866, p. 96.

‡ "Dict. encyclopédique des sci. méd." Article *Axillaires.*

* "Phila. Med. Times," 1873, vol. iii, p. 721.

‖ "Des accidents qui peuvent compliquer la réduction des luxations traumatiques," "Thèse de concours," Paris, 1875.

△ "Arch. für klinische Chirurgie," vol. xxvii, p. 631.

◊ "Bull. de la société de chirurgie," 1884, p. 739.

‡ Reference to the original accounts, so far as I have been able to obtain them, shows several errors in the lists given by the above mentioned writers. Sir Astley Cooper's case must be excluded because it is the same as Gibson's first case, having been simply quoted by Cooper without acknowledgment.

Blackman's case must be excluded because it proved to be not a dislocation, but a fracture of the humerus. As it has been widely quoted and is, indeed, given in detail as a dislocation by Dr Hamilton ("Fract. and Dislocs."), an explanation of the manner in which the error arose may be of service. Blackman reported it as a dislocation in the "Western Lancet," August, 1856, p. 109, and an abstract of this report was given in the "Am. Journal of the Med. Sciences," 1856, vol. xxxii, p. 571, and is quoted by most writers. But on page 508 of the same

The trustworthy recorded cases of injury to the larger vessels of the axilla in dislocation or reduction of dislocation of the shoulder are forty-four in number. Of these, the axillary vein alone was ruptured in three (Froriep, * Price, † Hailey ‡), although I think the last one doubtful, and the artery and vein together in two (Platner,* Baum ‖). In most of the others the axillary artery or one of its branches was injured, but in some the source of the hæmorrhage remains uncertain. In thirty-two cases death or amputation of the arm furnished the opportunity to examine the region and determine the character of the lesion: this, in some cases, was a complete or partial rupture of all the coats of the artery, or of the inner and middle coats alone, with subsequent formation of a circumscribed aneurysm.△ In other cases the vitality of the wall appears to have been diminished or destroyed by direct pressure, and this to have been followed, after the lapse of a few days, by rupture (Warren ◊), or, still later, by the formation of an aneurysm. In Gibson's second case ‡ an aneurysm appears to have formed in consequence of the earlier attempts to reduce, and then itself to have been ruptured when Gibson effected reduction. Rupture appears always to have taken place quite high up, and usually at the point pressed upon by the head of the humerus. Callender found it necessary to divide the pectoralis minor to reach it. In the fatal cases of injury of the vein alone the vessel was torn completely, or almost completely, across. In Baum's case both artery and vein were partly torn by a broken piece of the new bony socket that had formed about the head of the humerus. The artery was tied above the origin of the long thoracic, and a second ligature was subsequently placed on it at the level of the lower border of the pectoralis major.

In five cases (Callender, Desprès,* and Körte's three) only a small (one sixth of an inch) oval opening was found on the anterior wall of the artery, and was thought to have been produced by the tearing off of a branch, the subscapular or circumflex.

In Gärtner's † case the opening in the artery is described as funnel-shaped, but the tumor was small, formed slowly, and presented the common signs of aneurysm, so that it seems probable that what he describes as the opening included also the neck of an aneurysmal sac. In other cases the subscapular (Lefeuvre ‡) or the circumflex artery (von Pitha #) was torn across at or near its origin. These last-named eight cases form a considerable proportion of the whole number, and are of great importance because they explain the persistence of the radial pulse noted in several of the histories.

Of twenty-nine cases in which the age of the patients is given, in twenty they were more than forty years old. The youngest was twenty (Gärtner), the oldest eighty-six (Sands ‖). In very few of the cases is it noted that the arteries were atheromatous, although the advanced age of many of the patients makes it probable that the elasticity of the vessels was diminished.

In more than half the cases the dislocation was recent—less than three weeks. In not more than one third of them is it reasonably certain that the lesion was caused during reduction; in three cases it was certainly caused by the dislocation; in the remainder the cause is obscure. To these latter belong those cases in which the reduction was promptly effected, and without the use of much force or of exaggerated positions of the arm.

In many of the others the attempt to make reduction was greatly prolonged or several times repeated, and the force used was very great or improperly applied. This last criticism is probably applicable to the earliest four cases (Verduc, Petit, Platner, Bell), about which nothing is known except that death was caused by hæmorrhage. In one of them (Bell △) the use of the ambi is mentioned, and it is probable that it or the method of the door or ladder was employed in all.

In some the injury was evidently caused by excessive traction (Gibson, traction by five or six assistants in one case, by pulleys for nearly two hours in the other; Loudet, eight assistants); in others by faulty manœuvres, such as extreme abduction or elevation of the arm, rotation, and circumduction; in others again apparently by direct compression of the vessel against the underlying bone, as by the booted heel in the axilla (Warren, Rivington ◊), or possibly by the thumbs (Panas ‡).

(August) number of the "Western Lancet" is a note by Blackman, which apparently had been overlooked by the maker of the abstract, giving the results of the autopsy and showing the error in the diagnosis. The fracture was at the surgical neck, and the end of the shaft had been displaced upward and lay in contact with the coracoid process; the head was still in the glenoid cavity, and had partly united with the shaft about an inch below its upper end.

In Segond's case not only does the artery appear to have been wounded by a piece of the dish the patient was carrying, but it is doubtful even if the limb was dislocated.

In Delpech's case it is recorded only that at the moment of reduction the patient grew pale, became unconscious, and died immediately, and there is nothing to show the cause of death.

In Fano's, the artery may have been simply compressed. O'Reilly's is the same as Adams's. The latter admitted the case into hospital, the former operated upon it.

A case which Callender quotes, a man treated by a "bone-setter," does not deserve to be grouped with those treated by professional surgeons, although the force employed—traction by twelve or eighteen assistants—was not much in excess of that recorded in some of the other cases, or of what I have myself seen employed. Not only the artery, but also the muscles were torn and the humerus was broken.

Green's case ("Lancet," vol. viii, 1825, pp. 189 and 283) is quoted as one of recovery after ligature of the subclavian, but the reports end on the eighteenth day with the ligature still in place, and after a free hæmorrhage on the thirteenth day.

* Malgaigne, "Luxations," p. 151.

† Callender, *loc. cit.*, p. 107.

‡ "British Medical Journal," 1863, ii, p. 634.

Malgaigne, *loc. cit.*, p. 151.

◊ "Deutsche Klinik," 1867, p. 431.

△ It is possible that this rupture may be followed by obliteration of the artery at the wounded part. Scarpa held this opinion (Hodgson, "Dis. of Arteries," p. 488)

◊ "Med. Chirurg. Trans.," vol. xxix, p. 26.

‡ "Surgery," vol. i, p. 334.

* "Bull. de la soc. de chirurgie," 1878, p. 116.

† "Schmidt's Jahrbuch," 1871, vol. cl, p. 204.

‡ Cras, *loc. cit.*, p. 730. # Körte, *loc. cit.*, p. 649.

‖ N. Y. "Medical Record," 1880, p. 45.

△ Callender, *loc. cit.*, p. 101.

◊ "British Medical Journal," 1872, i, p. 420.

‡ Marchand, *loc. cit.*, p. 52.

Leaving aside the earlier cases in which faulty methods no longer in use were employed, and those old dislocations in which the relations and connections had been permanently changed by fibrous or bony tissue of new formation, it becomes evident that in dislocation of the shoulder the accident is most to be apprehended when the elbow is raised in abduction to the height of the shoulder, or is carried, as in Callender's case, across the chest and face in a wide movement of circumduction; and for this reason, that in these movements the dislocated head of the bone is turned downward into the axilla, and the vessels which lie upon its inner side are pressed down before it and forcibly put upon the stretch, while those branches which run almost directly outward, the subscapular and circumflex, and are fixed to the tissues amid which they branch, are directly and forcibly elongated. Even when the head of the humerus is in its socket the axillary vessels are put upon the stretch when the arm is widely abducted, as can be readily verified during an operation for the removal of the axillary glands, or, still more simply, by observing the arrest of the radial pulse when the arm is raised and carried backward; and there are several cases on record in which this movement alone has resulted in the formation of an axillary aneurysm or in rupture of the axillary artery.* Although in dislocation inward the limb is shortened by being abducted, yet the artery is not thereby relaxed, but, on the contrary, it is still further stretched around the head of the bone. Jössel,† in a recent case in which death was caused by associated injuries, found the "nerves of the brachial plexus, especially the circumflex nerve and the subscapular artery, greatly stretched by the head of the humerus," and, according to Körte (*loc. cit.*, p. 640), he found in another case of recent dislocation the subscapular artery torn.

In his remarks on the case at the Sheffield Infirmary ‡ in which the artery was torn across during an unsuccessful attempt to reduce a dislocation of six weeks' standing, and an incision was made through which each end of the torn artery was tied, Mr. Jackson says: "One thing was noticed on cutting into the axilla: the extreme tension caused by the pressure of the head of the humerus on the vessels and nerves when the arm was raised above the shoulder." This patient died two days after the operation.

In some of the cases in which it is certain or probable that the injury to the vessel was inflicted at the moment of dislocation, it is noted that the latter was produced while the arm was widely abducted—that is, under circumstances in which the head of the humerus would be driven downward and inward.

If the dislocation is an old one, and especially if there has been much inflammatory reaction and the vessels have become firmly adherent to the bone or imbedded in unyielding cicatricial tissue, the liability to rupture is increased because of the loss of elasticity occasioned by the latter conditions and because of the limitation of the strain to a shorter segment of the vessel in the former. If, in addition, the distensibility of the vessel has been further reduced by atheroma, the danger is still greater; and this last predisposing cause may properly be deemed sufficient to lead to the rupture even when the traction is slight and the manœuvres confined are within a narrow range.

In Anger's § case, fracture of the head (?) of the humerus co-existed; in Mash's ‖ two pieces had been chipped off the head of the humerus, and were lying in the glenoid cavity. In several others fracture of the greater tuberosity of the humerus or of the rim of the glenoid cavity is noted; the former of these two complications is common in inward dislocation of the humerus, and could have had no direct influence in causing the injury of the vessels; the latter, also, was probably without influence, since the vessels are pushed away from the scapula, and the fragment remains attached to it.

The *symptoms* at the beginning present two widely different forms; in one, the less common, a tumor presenting many of the signs of an encysted aneurysm appears in the axilla a few days or weeks after the reduction, and increases in size rather rapidly; if not successfully treated, it soon involves the skin and ruptures externally. In the other form, the more common, a diffused fluctuating swelling, without bruit or pulsation, appears immediately, or within a few hours, in the axilla, raising the pectoral and deltoid muscles, or is, perhaps, most prominent posteriorly, and in most cases promptly reaches a large size, even that of the adult head (Lister ‡); the radial pulse sometimes persists. The only exception to rapid growth among the recorded fatal cases is Körte's third case (*loc. cit.*, p. 636), in which the extravasated blood disappeared slowly, leaving a firm, non-pulsating lump, as large as a walnut, in the course of the axillary artery, which a surgeon supposed to be a lymphatic gland, and undertook to extirpate nearly five months after the accident. It proved to be an aneurysm containing much stratified clot; the axillary artery was tied above and below, and the patient died.

In several cases the patients died promptly after the accident, sometimes after profound syncope, sometimes (Gibson's first case ¶) after a short period of apparent well-being, with symptoms of shock or acute anæmia. In two, which finally ended in recovery (Sands, Agnew ‖), the patients were at first greatly prostrated, and death by syncope threatened. In another (Mash's) emphysema developed in the arm, and the patient died forty hours after the reduction. In this case the inner and middle coats of the artery were torn across "just beyond the point of origin of the dorsal scapular branch." The radial pulse was at first perceptible, but had ceased the next morning.

In most of the others the swelling increased, and, in a longer or shorter time, ruptured spontaneously, or was threatening to rupture when operative interference (puncture, incision, or ligature of the subclavian) was resorted to. The

* Case of Professor von Pitha, and specimen in museum of St. George's Hospital. Callender, [illegible], pp. 105 and 107.

† "Deutsche Zeitschrift für Chir.," vol. xii., 1880, p. 177.

‡ British Med. Journal, Feb. 2, 1856, p. 107.

§ "Bull. de la soc. de chirurgie," 1878, p. 122.

‖ "British Medical Journal," 1872, i, p. 526. Reported by Carruthers, the house surgeon.

¶ "Edinb. Med. Jour.," 1873, p. 829.

* "Surgery," vol. i, p. 325.

† Willard, in "Phila. Med. Times," vol. iii, 1873, p. 721.

longest period was in Bellamy's * case, six months after reduction, and even in this case the first hæmorrhage occurred five weeks after reduction.

In the cases that recovered without operation (Agnew, Sands, Malgaigne,† Desault, ‡ Anger, Nélaton's second case ¶) the swelling subsided, and the ecchymosis was slowly absorbed. Agnew's patient was discharged in ten days, Anger's and Desault's in a fortnight, Malgaigne's was well on the twenty-second day, and Sands's, a woman eighty-six years old, made a slow recovery. In three of them (Nélaton's, Anger's, Sands's ‖) the diagnosis of rupture of the axillary artery was made. Desault's diagnosis was "emphysema of the cellular tissue"; he had reduced by violent and prolonged traction a dislocation of six weeks' standing in a man sixty years old. At the moment of reduction a tumor formed suddenly under the pectoral muscle, and soon filled the axilla; the patient fainted, and the pulse was barely perceptible on the affected side; the tumor was well defined, elastic, not fluctuating, the overlying skin was not at first discolored, and percussion gave a sort of sound (*espèce de bruit*). On these symptoms rupture of the artery was excluded, and the diagnosis of emphysema made. Malgaigne and Agnew made the diagnosis of rupture of the axillary vein.

I think there is reason to doubt the correctness of the diagnosis in the last three cases, certainly in Desault's and Malgaigne's, for it was avowedly based on the persistence of the radial pulse, and, although it is not so stated in the report of Dr. Agnew's case, it seems fair to assume that the same persistence of the pulse which is noted in the report was also the basis of his diagnosis. As has been already mentioned, rupture of the subscapular or circumflex artery has several times presented similar symptoms, and, as in Mash's case just quoted, the radial pulse may even persist after rupture of the inner and middle coats of the axillary artery itself. Pelletan △ had a case similar to Desault's, made the same diagnosis, and incised the tumor; the patient died of hæmorrhage, and the artery was found to have been ruptured.

In the two cases in which rupture of the vein alone was demonstrated post mortem (Froriep, Price), the patients died promptly, in an hour and a half and on the following day, respectively. In the third case, Hailey's, in which this lesion is said to have been proved by the autopsy, the account of the examination is very unsatisfactory, and leaves it, I think, quite uncertain what the actual injury was. The patient was a man fifty-nine years old; the dislocation was caused by a fall from a wagon and was very easily reduced. The symptoms were, first, pain in the wrist, then, after a few days, swelling of the shoulder and œdema of the arm; at the end of two months a tumor appeared between the acromion and coracoid (*sic*), and death by exhaustion a few days later. The tumor was blood-clot, more than two pounds being removed from the axilla.

In De Morgan's case * "it was impossible to detect the source of the hæmorrhage" at the autopsy, and it was attributed to the rupture of many small veins. This explanation also, I think, may well be questioned, for in this case too the radial pulse persisted, and at that time no cases had yet been reported in which similar symptoms had been shown to be caused by rupture or avulsion of a branch of the main artery. If, as seems probable from the account and in view of the ignorance of this fact, the examination was mainly directed to the condition of the veins, it is not unlikely that rupture of an arterial branch may have been overlooked, especially since the symptoms were not unlike those of some of the other cases in which this rupture was demonstrated (Desprès, Körte's second case). The symptoms and course of this case were, in brief, as follows:

The patient was a man fifty-four years old, the dislocation subcoracoid, the reduction immediate, under chloroform, with the heel in the axilla. During the first week "there was nothing to be noticed but the ordinary swelling attending such a dislocation. This swelling, instead of subsiding, increased, and this somewhat rapidly toward the end of the first week. There was also some purple discoloration about the inner and posterior parts of the shoulder. Still, there were no appearances which might not attend an ordinary bruise or laceration about the part. But, in the course of the following week, enormous swelling had come on, extending from the elbow up the arm and over the chest to the level of the outer third of the clavicle, and over the scapula." The swelling was soft and fluctuating; the skin in places dark purple and thin; the radial pulse was natural. Fever, with slight shivering and one distinct chill. "About the third or fourth week an incision was made in the arm and the hand passed up into the cavity, which contained an enormous amount of blood, chiefly coagulated, extending under the pectoral muscles, down the side of the chest, and behind over a great part of the scapula, and communicating with the shoulder joint. The subclavian and axillary arteries could be felt." The man died with symptoms of septicæmia.

In Körte's second case (*loc. cit.*, p. 635) the patient was fifty-two years old, the dislocation forward and inward. Several unsuccessful attempts to reduce were made during the sixth month, and the last was followed by the gradual appearance of a non-pulsating swelling under the pectoral muscle, œdema of the arm, and sharp neuralgic pain. Radial pulse. The patient became feverish, the tumor softer, the skin thin, and at the end of six weeks it ruptured spontaneously. The hæmorrhage was arrested with a tampon, and the patient died shortly afterward. The autopsy showed a large cavity occupying all the space under the pectoralis major, and filled with large blood-clots. On the outer and front side of the artery, 4 centimetres below the clavicle, was a transverse oval opening measuring 0·4 by 0·3 centimetre (one sixth by one eighth inch), through (&c.

* "Lancet," 1880, ii, p. 260.

† *Loc. cit.*, p. 150.

‡ "Œuvres chirurgicales," i, p. 380.

¶ Referred to by Anger and Le Fort, *loc. cit.*

‖ Dr. Sand's patient died in May, 1885. The injury proved to have been of the axillary artery, which was occluded at a point a quarter of an inch above the origin of the posterior circumflex. The specimen was presented at the meeting of the New York Surgical Society at which this paper was read, and a description of it will be found in the report of the proceedings.

△ "Clinique chirurgicale," vol. ii, p. 95. Quoted by Malgaigne.

* "British Med. Journal," 1874, i, p. 8.

cit., p. 650) to have been produced by the tearing off of an arterial branch.

In Desprès's case there was the same swelling, slowly increasing and becoming fluctuating, œdema of the arm, and persistence of the radial pulse. In addition, a bruit was audible after the tenth day, and the swelling subsequently pulsated at times. An operation for ligature of the subclavian was done on the forty-fifth day, and was followed by arrest of the pulsation, but, after the patient died, on the fifty-fourth day, it was found that the ligature had been placed upon a nerve immediately overlying the artery. The common trunk of the circumflex arteries was found to have been torn off at its origin.

On the other hand, in Körte's first case, in which the lesion proved, post mortem, to be a similar opening upon the side of the axillary artery, and of almost exactly the same size, pulsation in the brachial and radial arteries was barely perceptible two months after the accident, when the patient first came under observation with an enormous pulsating swelling of the shoulder filling the axilla and extending up to the clavicle.

These histories show, and many of the others might be quoted in confirmation, that, although the diagnosis, so far as the general nature of the accident, rupture of a blood-vessel, is concerned, does not long remain obscure; the identity of the injured vessel can not always be determined. If the tumor pulsates, the diagnosis of rupture of an artery may be made; and if, in addition, the radial pulse is present, it is extremely probable that the injured vessel is not the main artery, but that one of its branches, probably the subscapular or circumflex, has been ruptured or torn off at its origin. Beyond this it does not seem at present possible to go with much certainty, although the great preponderance of arterial lesions in the known cases—26 out of 28, or, adding Hailey's and De Morgan's, out of 30, or, again, adding Platner's and Braun's, in which both artery and vein were torn, out of 32—makes it highly probable in any given case that an artery and not the axillary vein has been torn.

Of the remaining 12 cases, 6 recovered without operation (Desault, Malgaigne, Nélaton's second case,* Anger, Agnew, Sands) and have been already discussed. Nélaton, Anger, and Sands made the diagnosis of rupture of an artery. In the other 6—Warren, O'Reilly,† Green, Volkmann,‡ Létiévant,§ Cras—the subclavian was tied; in 5 of them with success; in 1, Green's, the result is not known.

In the last 6, and in 3 of the first 6, it seems reasonably certain that an artery was injured, for pulsation of the swelling is noted in every account that is given in detail, and such was the opinion of the surgeons who treated them. The record, then, may be made as follows: Of 44 cases, an artery (the axillary or a large branch) was ruptured in 35, the artery and vein in 2, the vein alone in 2, in 2 dissection failed to reveal the source of the hæmorrhage, and in 3, in which the patients recovered without operation, the symptoms do not justify a positive diagnosis.

The *terminations* were as follows: 12 recoveries, 31 deaths, and in 1 (Green's) the result is unknown; 20 received no operative treatment; of these, 6 recovered and 14 died.* In 14 the subclavian was tied, with 5 recoveries, 8 deaths, and 1 unknown result. In 6 an incision was made in the axilla, and the artery tied above and below the point of rupture; all died. In 4 the limb was disarticulated; 1 recovery, 3 deaths. The treatment in the cases that recovered without operation was simply compression of the swelling and immobilization of the arm, with the application of ice in Malgaigne's, and compression of the subclavian artery in Agnew's.

In drawing inferences from these results, it must be borne in mind that in many of the cases in which operations were undertaken non-operative treatment had previously been employed, and had resulted in a condition that made an operation necessary. Thus, using only those cases in which the record is sufficiently detailed, of the 14 cases of ligature of the subclavian, in 7 the operation was done after the lapse of several weeks or even months, in 1 on the third day, in 1 on the tenth day, and in 5 the length of the interval is not known. Of the 4 disarticulations, in 1 the operation was at a late date, in 1 five days after the accident, and in 2 unknown. Of the 6 treated by incision and double ligature of the axillary artery, the operation was done promptly in 2, and after a long interval in 4. Consequently the results of non-operative treatment may be tabulated as follows: Of 32 patients, 6 recovered, 14 died, and 12 (with 10 deaths) subsequently underwent operation, either because death by hæmorrhage threatened, or because of the existence of a growing aneurysm.† A fair inference is that conservative treatment may properly be tried at first, but should not be prolonged if the symptoms do not promptly yield; and, secondly, that, in case of resort to operation, ligature of the subclavian artery or disarticulation at the shoulder is to be preferred to incision of the sac and double ligature of the artery.

Experience with arteries wounded under other conditions has shown that they will sometimes quite readily heal, or the opening made into them will close, under pressure accurately made at the point of injury, and it would therefore be proper to attempt to treat this injury by direct, limited pressure. Whether or not it would be possible to recognize the wounded point and make efficient pressure directly upon it can not be said, since the attempt does not appear to have been made. In default of such limited pressure, general compression of the swelling in the axilla seems to be the only other resource short of operation. The common treatment of ruptured artery, incision and double ligature of the vessel, was immediately resorted to in only two of these cases, Lister's, and the one at the Sheffield Infirmary.‡ Both were promptly fatal.

* After rupture of the tumor without hæmorrhage, and suppuration of the sac, and evacuation by pus. See Körte, *loc. cit.*, p. 655.

† "Cyclopædia of Anat. and Phys.," vol. iv, part 1, p. 616, art. "Surgery, Injury."

‡ Körte, *loc. cit.*, p. 655. § Cras, *loc. cit.*, p. 748.

* Possibly Körte's second case should be included among the recoveries.

† Körte's second case is an exception; an error in diagnosis led to an operation after the aneurysm had apparently undergone spontaneous cure.

‡ "British Med. Jour.," February 3, 1883, p. 207.

An important question arises from these facts in connection with the treatment of dislocation of the shoulder: How far does the possibility of the occurrence of this accident affect the choice of a method of reduction? and also concerning the propriety of attempting reduction in cases that are not recent.

In the reduction of recent dislocations, these accidents show that abduction of the arm especially should be avoided, as also circumduction, violent traction, and rough pressure in the axilla. Kocher's method by manipulation appears well adapted to avoid the danger. It is also to be remembered that the injury to the vessel may be caused by the dislocation itself, and its symptoms may be masked by the swelling commonly present during the first few days.

In old dislocations the probability of the occurrence of the accident is increased by the more forcible measures usually necessary to break up the adhesions that bind the bones in their new relations; and, while it may be proper in many cases to make the attempt to restore the limb to usefulness, this possibility creates another reason for abstention when the patient is old, the duration of the dislocation long, and the adhesions firm. Even a dislocated arm may be very useful, and the fatality of this accident, more than 70 per cent. of deaths, may well cause the surgeon to hesitate to incur the risk merely for the sake of ameliorating a condition which does not endanger life and is quite compatible with activity and usefulness.

List of Cases.

A. *Fatal without Operation.*

1. Verdue (Malgaigne, "Des luxations," p. 149); artery wounded; no treatment; death by hæmorrhage.

2. Petit (Malgaigne, "Des luxations," p. 149); artery wounded; no treatment; death by hæmorrhage.

3. Pelletan (Malgaigne, "Des luxations," p. 149); artery wounded; puncture; death by hæmorrhage.

4. Platner (Malgaigne, "Des luxations," p. 149; artery and vein; death by hæmorrhage.

5. Leudet (Malgaigne, "Des luxations," p. 149); artery; 57 years. Dislocation 11 days.

6. Froriep (Malgaigne, "Des luxations," p. 149); vein; 26 years. Dislocation 3 weeks.

7. Gibson, I, "Surgery," i, p. 325; 50 years. Disloc. 2 months. Death in a few hours.

8. Price, quoted by Callender; vein. Death on following day.

9. Körte, I, "Arch. für klin. Chir.," vol. xxvii, p. 631; artery; 25 years. Disloc. recent. Puncture.

10. Körte, III, *Ibid.;* artery; 52 years. Disloc. 5½ months. Rupture.

11. Mash (Carruthers), "Brit. Med. Jour.," 1872, i, p. 526; artery; 38 years. Disloc. recent.

12. Hailey, *Ibid.*, 1863, p. 634; 59 years. Disloc. recent.

13. De Morgan, *Ibid.*, 1872, i, p. 54; 54 years. Disloc. recent. Incision.

B. *Ligature of the Subclavian.*

14. Green, "Lancet," 1825, vol. viii, pp. 189 and 283; 33 years. Disloc. recent. Result unknown.

15. Warren, "Med.-Chir. Trans.," vol. xxix, p. 25; 30 years. Disloc. recent. Recovery.

16. Gibson, II, *loc. cit.*, p. 334; 35 years. Disloc. 9 weeks. Death.

17. O'Reilly (Adams), "Cyclop. of Anat. and Phys.," vol. iv, p. 616; 50 years. Disloc. recent. Recovery.

18. Nélaton, I, "Path. chir.," ii, p. 368. Disloc. old. Death.

19. Rigaud, "Dict. encyclop.," art. *Épaule;* artery; 31 years; death.

20. Von Pitha (Körte), *loc. cit.;* artery; death.

21. Volkmann, *loc. cit.* Recovery.

22. Panas (Marchand, p. 52); artery. Dislocation recent; death.

23. Desprès, "Bull. de la soc. de chirurgie," 1878, p. 116; artery; 40 years. Recent; death.

24. Gärtner, "Schmidt's Jahrb.," 1871, vol. cli, p. 304; artery; 20 years. Recent; death.

25. Létiévant, "Bull. de la soc. de chir., 1884, p. 748. Recent; recovery.

26. Lefeuvre, *Ibid.*, p. 750; artery; 52 years. Recent; death.

27. Cras, *Ibid.*, p. 739; 45 years. Recent; recovery.

C. *Double Ligature—all fatal.*

28. Callender, "St. Barthol. Hosp. Rep.," vol. ii, p. 96; artery; 61 years. Disloc. old.

29. Wutzer, "Arch. für klin. Chir.," vol. x, p. 308.

30. Körte, II, *loc. cit.;* artery; 29 years. Disloc. recent.

31. Lister, "Edinb. Med. Jour.," 1873, p. 829; artery; 58 years. Disloc. 8 weeks.

32. Rivington, "Brit. Med. Jour.," 1872, i, p. 420; artery; 71 years. Disloc. recent.

33. Sheffield Inf., *Ibid.*, 1883, i, p. 207; artery; 62 years. Disloc. 6 weeks.

34. Baum, "Deutsche Zeitschrift," 1880, vol. xiii, p. 177; artery and vein. Lig. of axillary (possibly double).

D. *Disarticulation at Shoulder.*

35. Jüngken, "Arch. für klin. Chir.," vol. x, p. 313; artery. Unsuccessful attempt to apply double ligature; recovery.

36. Bell (Malgaigne and Callender). Death.

37. Ledentu, "Bull. de la soc. de chir.," 1877, p. 187; artery. Disloc. recent; death.

38. Bellamy, "Lancet," 1880, ii, p. 260; artery; 55 years. Disloc. 7 weeks; death.

E. *Recovery without Operation.*

39. Desault, "Œuvres chirurgicales," vol. i, p. 380; 60 years. Disloc. 1½ month.

40. Malgaigne, *loc. cit.;* 44 years. Disloc. 2 months.

41. Auger, "Bull. de la soc. de chir.," 1878, p. 122; 54 years.

42. Nélaton, II, *Ibid.*

43. Agnew, "Phila. Med. Times," 1873, p. 721; 60 years. Disloc. 6 weeks.

44. Sands, N. Y. "Med. Record," 1880, p. 45; 84 years. Disloc. 7 weeks. Autopsy in the proceedings of the New York Surgical Society, May 26, 1885, in this number of the Journal.

THE INFLUENCE OF HIGH ALTITUDES UPON PULMONARY CONSUMPTION.*

By IRVING M. SNOW, M. D.,
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The treatment of pulmonary consumption has, at all times, been unsatisfactory to the physician, by reason of the certain and often rapid progress of the disease to a fatal termination. The disease is, indeed, often palliated by

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medical skill, but relief is usually only temporary, and life is rarely prolonged more than three years. During an experience of thirty-eight years, Dr. Austin Flint states that he has seen but seventy-five cases in which an arrest of the disease took place, and in most of these the improvement was for a short time. Every physician is called upon to examine and advise the victims of consumption. It is a disease in which the doctor is early and frequently consulted, yet one seventh of all deaths are yearly attributed to this cause in the United States, and in Maine 50 per cent. of all deaths between twenty and forty years are from consumption.

From the failure of the materia medica to cope with this disease, attention has been drawn to the modifying influence of climate upon chronic pulmonary disorders. The conditions of soil and atmosphere favorable to the development of phthisis pulmonalis are well known. Damp, ill-drained land, cold, humid air, sudden changes of temperature, lack of sunlight, anti-hygienic surroundings—all contribute to depress the general health and to occasion the fearful prevalence of consumption in low-lying districts and in large cities. It is, therefore, evident that, in the search for a climate for the prevention or cure of consumption, dryness of air and soil and the invigorating influences of sunlight must be substituted for the deleterious conditions of ground and atmosphere mentioned above. That climate is a potent agent in the prevention of phthisis pulmonalis is demonstrated by the fact that a region of comparative immunity from the disease is found in high altitudes. Consumption is excessively rare among the native population of New Mexico; is stated by Dr. Archibald Smith to be an exotic in the Peruvian Andes at an elevation of 6,500 feet. Küchenmeister and Lombard have estimated the altitude of approximate immunity in Switzerland at 4,000 feet, and at the equator at 9,000 feet. Dr. Herman Weber, an unquestioned authority on medical climatology, has also testified to the rarity of phthisis upon elevated table-lands. We may also see the influence of altitude in our own country: that, while the mortality in New York city is 20 per cent., at an elevation of 2,000 feet above the sea only 10 per cent. of all deaths are attributed to pulmonary consumption.

In America, Dr. Denison, of Denver, has placed the altitude of comparative immunity from phthisis at 6,000 feet, and quotes the vital statistics of Denver, which, in four years and a half, show but fourteen deaths from consumption originating in the State, two of which were acknowledged by the attending physicians to have originated elsewhere. The analysis of the conditions of climate found in this area of so-called immunity in Colorado becomes an interesting study.

As the traveler passes from eastern to western Kansas toward the Rocky Mountains the landscape gradually changes. In place of luxuriant vegetation, vast cornfields, and numerous streams, the prairie becomes parched and arid, the water-courses waste to dryness, and the whole prospect shows the absence of rain. This difference can be appreciated when we learn that the annual precipitation of rain and melted snow at Denver, 5,300 feet above the sea, is 14·77 inches as compared with New York, where it is 42·70 inches a year. This dryness is favored by the loose, sandy nature of the soil, which absorbs and radiates heat and moisture far more rapidly than impermeable rock or clay. Constant humidity of earth and air predisposes most strongly to the development of phthisis and other pulmonary disorders, while dryness of soil and atmosphere gives to the inhabitant of high plateaux comparative exemption from disorders of the respiratory tract. Laennec mentions a locality where the dampness of the soil was of such a character that two thirds of the resident population died of phthisis. Variations of temperature are less acutely felt in dry than in moist climates, where cold is bitterer and heat more oppressive. The sun is obscured and hampered along seas and rivers by a veil of cloud or mist, but when we reach the plains of Colorado the atmosphere is of a silver clearness, and those who have felt the exhilaration and comfort afforded by the sunlight of Colorado will appreciate the increased power of the atmosphere in transmitting radiant heat. There is found to be an average difference of 43° between sun and shade in Colorado as compared with Washington, where the difference is 23°. A general rule is given by Dr. Denison that "there is a difference of 1° between sun and shade for each rise of 235 feet." This in part explains the enormous diurnal variation of temperature complained of by Dr. Alfred L. Loomis. The physiological effect of light is to stimulate respiration, as is demonstrated by the observations of Bidder and Schmidt, who, finding that animals at rest exhaled more carbon dioxide by day than by night, equalized the elimination of carbon dioxide by depriving the animals of light. To the consumptive, whose hope of life depends upon the amount of sunlight and outdoor exercise he can obtain, the value of a climate like that of Colorado may be appreciated when we contrast its 320 sunny days annually with Boston, where one third of the year is cloudy.

In proportion to the elevation above the sea the atmosphere becomes cooler, the temperature being 1° lower for every 200 feet of elevation above the sea. This difference is not arbitrary, being subject to modification by soil and prevailing winds. The rapid absorption and radiation of heat give rise to great extremes of temperature. As compared with the sea-level, the fluctuations of temperature in Colorado are indeed large, the variation in Colorado Springs in July being 30° daily and 63° monthly, as contrasted with San Diego, where the difference is 13° daily and 31° monthly, the climate of the Californian resort being tempered by the moist, warm winds of the Pacific.

Physiologically, heat is opposed to stimulation of the nervous centers, as is shown in the greater energy of northern than southern races. Its influence upon respiration is also depressing. The observations of Dr. Parkes show the number of respirations to be about thirteen to the minute in the tropics, and sixteen and a half in England. The value of a cool climate in arresting incipient phthisis is well known. Dr. F. I. Knight, of Boston, has expressed the general sentiment of the medical profession by asserting that "the cold, dry air of high elevations is beneficial in cases of incipient disease of the lung." That the symptoms of consumption are often palliated by moist, semi-

tropical climates is true, yet the digestive organs lack the stimulus of cold, the patient is exposed to the dangers of malarial poisoning, and the heat of summer forces the invalid to leave his winter sanitarium and seek a cooler and less debilitating climate.

With the rise above the sea-level the air becomes rarefied, and the atmospheric pressure is considerably diminished. At the height of 5,300 feet the atmospheric pressure is twelve and a half instead of fifteen pounds to the square inch, and the proportion of oxygen is diminished 16 per cent. This extreme attenuation of the air produces important changes in the economy. The mechanical effect of the rarefied air is to increase the frequency and depth of respiration, and to accelerate the pulse. A greater amount of air must be inhaled to satisfy the demand for oxygen. Hence the lungs have a tendency to be completely filled, the elastic tissue of the vesicles is stretched, and the thorax is expanded to its fullest capacity. At moderate elevations the system quickly adapts itself to the lessened atmospheric pressure, but, when great heights are rapidly attained, as with aëronauts, copious hæmorrhages from the lungs ensue, and even at the altitude of Denver hæmoptysis frequently occurs in consumptives in the stage of excavation. Dr. Denison says: "The lessened tension of the air and the increased frequency of respiration force the blood to pass more quickly through the lungs, and the rapid and perfect renewal of capillary circulation is opposed to the stasis of early and chronic inflammation. This improved capillary circulation, together with the more perfect expansion of the thorax, loosens and promotes the expectoration of mucus and inflammatory *débris*." Tissue changes take place more rapidly near the sea than at considerable elevations. The usual experience of new-comers to Colorado is that they lose flesh, and that the sensible perspiration is considerably diminished. With the expansion of the thorax and the increased depth of inspiration a development of auxiliary muscles of respiration takes place, and children born in Colorado have a wider girth of chest than children born in the Eastern and Middle States. As the natural stimulus of an organ is the element upon which it acts, a lung filled and obstructed with pneumonic, caseous, or tubercular matter is mechanically aided to throw off the adventitious substances which obstruct the air-passages. The symptoms of hectic fever abate, and the consumptive, relieved from his night-sweats, chill, and harassing cough, is placed in a favorable condition for recovery. Finally, the rarity of the air produces complete and constant ventilation, which invalids secure by active or passive outdoor exercise. The purity of the air in Colorado is preserved by elevation above the sea, a thin population, and the constant influence of the sun.

The elements of atmospheric electricity and ozonized air I will not here discuss. Authorities state that the electric tension of the air is increased with elevation, as is also the amount of ozone.

The advantages of Colorado for pulmonary consumption have been too recently appreciated to enable me to present extended statistics as to its benefits. Relief is more certain to the consumptive who seeks the aid of its climate in the preliminary stages of the disease before there is much loss of tissue. Of 202 patients, having been ill an average of two years before reaching Colorado, at the end of a year and nine months 47 per cent. were much improved, 22 per cent. were slightly improved, in 11 per cent. there was favorable resistance to the disease, and in 20 per cent. there were extension and advance. Among those of this number in whom the disease had reached the stage of excavation, at the end of two years, 35 per cent. had died, 40 per cent. were resident in the State, and the remainder had been lost sight of. Even this is a favorable showing for the last stage of a fatal disease. Often patients who reach Colorado with tubercular lungs in the stage of softening are obliged to seek a lower altitude, the morbid process being hastened in Colorado. Cases of uncured or chronic pneumonia and fibroid phthisis are frequently aggravated by the altitude and dry air, and cases in which tubercular infiltration is actively progressing, and those in which much lung tissue is involved, are not favorably influenced by Colorado. A contra-indication to high altitude exists in consumptives of advanced years with rigid chest-walls, and in patients with valvular disease of the heart.

A disputed point now comes up regarding the influence of elevation in hæmorrhagic cases. Patients in whom large cavities exist, with denuded blood-vessels near the pulmonary excavation, are apt to have profuse hæmorrhages from the stretching of lung tissue induced by the rarefied air. Dr. Reed, of Colorado Springs, has analyzed 70 cases in his own practice. Of 34 patients in the stage of deposit, 15 had bled before reaching Colorado, and in only one did hæmorrhage recur. Of 34 in whom softening had taken place, 17 had hæmorrhages before and 7 after living in the State. The *rationale* of the cure in hæmorrhagic cases is ascribed to the cause of hæmoptysis, the breaking down of tissue, being arrested. Nervous disorders, chorea, neuralgia, nervous headache, and also cardiac diseases, are often aggravated by the altitude. Yet I know a lady with lungs infiltrated with tubercle, with mitral insufficiency of the heart, and a martyr to facial neuralgia, a resident in the State about three years, who passes eight hours a day in the saddle, and is fond of mowing and irrigating her own lawn, who is an enthusiastic and jealous partisan of Colorado and its climate. That good results in phthisis are accomplished by a prolonged residence on the plains of eastern Colorado there can be no reasonable doubt, and cases of complete cure are not uncommon. Here is found a region sheltered on the west by the Rocky Mountains, which rise precipitously from the plain, the prevailing winds being from the south and east, possessed of a cool, dry atmosphere and a sandy soil, the heat being tempered in summer by daily showers. It would seem that all these conditions are favorable to the consumptive. The nearly invariable warmth of the morning allows the invalid to take daily rides or drives in the bright sunlight of a Colorado sky. Here is also found the stimulus, occupation. Invalids who have reached that stage of improvement which an active mind shows by a desire for occupation are able to find profitable employment in the diversified industries of the State. The vast cattle ranches furnish work for those

who are able to live in the saddle. Gardening is a favorite pursuit. An Oxonian, whose lungs became tubercular during a sedentary student life, found profitable employment in selling strawberries from his own garden to the citizens of Colorado Springs.

Dr. Loomis objects to the Colorado climate on account of the enormous diurnal range of temperature. A perfectly equable climate was found in the Mammoth Cave, yet nearly all of the consumptives who engaged in that disastrous experiment perished in its sunless depths. If the lesser thermometric range of London and New York is more favorable to consumptives than the large diurnal variation of Colorado, why does phthisis pulmonalis decimate the population of London and New York while its development is rare in Colorado? Cold is most acutely felt in damp climates, and, moreover, the daily range of temperature in Colorado raises the heat to a point where the invalid can spend some hours in the middle of the day in driving or riding. During the winter of 1883, which I spent in Colorado Springs, in February the thermometer often sank at night to from 12° to 20° below zero, yet at noon the day was sunny and warm enough for hundreds of consumptives to drive up and down the streets of that pleasant little town; and it is further to be noted that this intense cold was not so disastrous to invalids as the damp, chilly winters common in the Eastern and Middle States. In conclusion, it may be said that the best results of the Colorado climate to consumptives are secured by a prolonged residence in the State, with the important auxiliaries of proper diet, clothing, and personal regimen, including discretion in taking active exercise.

THE LESSON TAUGHT BY THE EPIDEMIC AT PLYMOUTH CONCERNING TYPHOID FEVER.*

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That typhoid fever is a specific disease has, in recent years, begun to be generally recognized. Its entire history from inception to termination is that of a disease process separate and distinct from all others. The appreciation of its ætiology is passing through the same phases of doubt and uncertainty which have characterized many other infectious diseases now regarded as specific.

In these days it is almost universally acknowledged that Asiatic cholera, although a disease usually limiting its devastations to localities in which filth and decomposition abound, has its sole cause in one infective agent. But doubt and uncertainty concerning the specific nature of that disease have not been very long removed.

Many respectable authorities still adhere to the opinion that common decomposing or fermenting organic matter is capable of originating typhoid fever *de novo*, yet the weight of authority appears to be drifting toward the belief that this specific disease also is universally caused by one infecting agent, which must enter the human organism before the disease can be produced in man. Most positive facts in support of the latter theory are rapidly accumulating. Reliable observations are numerous, which, in the particular instances related, afford incontestable proof that common fæcal matter had not, in itself, been sufficient to cause the disease. Instances are multiplied where people have for a long time ingested such material with drinking water with impunity—so far as typhoid fever is concerned—until the dejecta from a single patient suffering with this disease have contaminated the water, and caused a sudden outbreak of typhoid fever.

The epidemic of typhoid fever now prevailing at Plymouth, although, perhaps, the most extensive on record (some twelve hundred have been sick and one hundred and thirty have died out of a population of eight thousand), has had its exact miniature in other places, but it is not necessary for our present purpose to go into details. It may be well, however, to set forth a summary statement of the circumstances of Plymouth at the time, and before the origin, of the epidemic.

It has been established beyond reasonable dispute that the hygienic and sanitary surroundings of this town are now, and have been for years, most miserable. Furthermore, it is a fact that water of the Susquehanna River then charged to an unusual degree with the sewage of Wilkesbarre, a city of thirty thousand inhabitants, had been supplied to the people of Plymouth for a week ending fifteen days before the commencement of the epidemic. Yet, notwithstanding these grossly unsanitary conditions, a fair consideration of all the facts bearing upon the cause and origin of this epidemic can, in our opinion, logically lead to no other conclusion than that they alone are not entitled to be regarded as having done more than aided, as secondary factors, some other influence, namely—*the main active cause of the epidemic.*

The scope of this paper will not permit us to dwell upon or enumerate *in extenso* all the facts which support this conclusion. That has been already done in our official report to the Mayor of Philadelphia, and to the relief committee of that city. It is sufficient to mention here the following salient points:

The epidemic is that of genuine typhoid fever, as shown not only by the clinical condition and history of patients examined, but also by a number of autopsies which we were the first to make.

There was no unusual prevalence of typhoid fever in Plymouth, or in the towns around it (including Wilkesbarre), previous to the appearance of the epidemic, and there is not now.

The epidemic began suddenly about the 10th of April of this year and spread with great rapidity, fifty cases occurring daily until five or six hundred of the inhabitants were prostrated.

In the first two or three weeks of the epidemic, those who exclusively used well-water and those who exclusively used river-water escaped the infection. Of children living in houses supplied with well-water, only those who attended

* Read before the State Medical Society of Pennsylvania, May 28, 1885.

the public schools and drank the hydrant-water of the Plymouth Water Company took the disease, while those kept at home went unharmed. It was also noted that those who habitually used beverages other than water were safe from the attack.

On Welsh Hill, a suburb of the town having a population of four or five hundred, mainly supplied by well-water, not one person has been sick of the fever, except a few who frequented the town and drank of the hydrant-water there.

In the village of Broadway, another suburb of Plymouth, containing forty families averaging five members each, there are only two wells, of which the water is considered by the inhabitants to be so unwholesome that it is rarely used for drinking or culinary purposes. The chief water supply there is that of the Susquehanna River, through the pumps and water-mains of the Delaware and Hudson Coal Company, the suction-pipe of which extends out upon the bed of the river eighty feet from the shore, and into the main channel at a point *a half-mile nearer the sewers of Wilkesbarre* than is the pumping station of the water company of Plymouth. In this village not a single case of fever has been found.

In an adjoining village, called Ridge Row, where twenty families live in ten houses, the people are supplied with the same kind of water as are those of Broadway. The one or two cases of fever in this village are with people who had frequented the town of Plymouth and had there drank water from the hydrants. Not a single case exists among those who had exclusively used the Susquehanna or river water.

The facts thus briefly related, in our opinion, conclusively prove that the river or Susquehanna water, although it was unusually befouled with sewage and other contaminating principles, had nothing whatever to do with the origin and spread of this epidemic, but that, on the contrary, the mountain-water—their usual supply—conveyed to the homes of the people the sole cause of the disease. The circumstances of the case are such that the food supply, including milk, could not possibly have caused this general epidemic.

Now let us turn to the facts concerning the contamination of that mountain stream. They also have been already related in detail in the report above mentioned. It may be well, however, to state here that it has been shown that the three lower reservoirs on the mountain stream, which nine months of the year supplies Plymouth with water, were on the 20th of March nearly empty; that in a dwelling on the sloping bank of the stream, a little distance above the third reservoir and within seventy feet of the bed of the brook, there was a case of typhoid fever, running its course through January, February, and March; that during most of this period the ground was frozen and covered with snow; that during the illness of this patient the evacuations passed in the night were habitually carried out and thrown upon the snow toward the stream, *no attempt at disinfection having been made*; that about the 25th of March a thaw began, and was followed by slight rains; that on the 26th of March the superintendent of the Plymouth Water Company inspected the reservoirs, and, finding the two upper ones full, that same evening caused the water of the third reservoir to be let down directly to the lowest reservoir; that on the evening of this day pumping from the Susquehanna River ceased, and the town was again entirely supplied from the mountain stream; that thus nearly three months' accumulation of infectious typhoid-fever dejecta was suddenly washed with the melting snow into the brook, and rapidly reached the lower reservoir, and was thence distributed through the pipes and hydrants of the Plymouth Water Company; that fifteen days after this date the epidemic began; that no other source of unusual pollution of the mountain-water was discovered.

In view of all these facts we can arrive at no other conclusion than that the three months' accumulation of infectious dejecta from the one fever patient sick in that mountain house constituted the sole infectious element of pollution in the mountain-water, and was the sole active cause of the epidemic.

The supreme lesson which this unexampled epidemic of typhoid fever should teach to medical men and health officers throughout the world is, in our opinion, threefold:

First. For the production of the specific infectious disease known as typhoid fever, whether individuals or communities are considered, there are required the presence and action of one specific cause, which, elaborated in the intestinal canal of one or more patients suffering with that disease, must be transmitted in an active state to those susceptible. This specific active cause being absent, typhoid fever can not and does not occur.

Second. Epidemics of typhoid fever are a reproach to the communities which they afflict. They are absolutely preventable and controllable, and, from the standpoint of modern experience, neglect to employ proper means to those ends should be regarded as inexcusable.

Third. It is the bounden duty of the physician in attendance upon any case of typhoid fever, wherever it may be located, to cause each and every evacuation from the bowels to be *immediately* and *effectually disinfected*, and it is of paramount importance also that the danger of infection of the healthy should be further guarded against by the adoption of efficient means for the destruction of any infectious agent which may exist in the water or in the food.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

"The Invalid's Tea-Tray. By Susan Anna Brown, author of "Forty Puddings," etc. Boston: James R. Osgood & Co., 1885. Pp. 67.

Tracts on Massage. No. 1. The Art of Massage. Translated from the German of Reibmayr, with Notes, by Benjamin Lee, A. M., M. D., Ph. D., etc. Philadelphia, 1885. Pp. 41.

Dott. Pietro Panzeri.—Le risorse curative della moderna ortopedia. Prelezione al corso libero di ortopedia tenuto presso la R. Università di Pavia nell' anno scolastico 1884-'85. Milano: Pietro Agnelli, 1884. Pp. 19.

THE
NEW YORK MEDICAL JOURNAL,
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THE TREATMENT OF RUPTURE OF THE BLADDER.

The influence of modern teaching in regard to peritoneal surgery is no more strikingly shown than in the treatment of this formidable injury. The recognized course in rupture of the bladder was formerly to establish free drainage by performing cystotomy, a rational procedure, yet one which was frequently attended with imperfect results. It is true that writers on surgery suggested laparotomy as an extreme measure, but never with much enthusiasm. With the growth of abdominal surgery there have been ample opportunities of studying intra-peritoneal wounds of the bladder of accidental origin. Non-union is the exception in such wounds, provided the edges have been carefully coaptated, and peritonitis from this cause alone is rarer still. Observations of these facts and the knowledge of the tolerance of the peritonæum have so emboldened modern surgeons that now the teaching is not merely to establish drainage and allow the wound to close by granulation, but to open the abdomen at once and sew up the rent in the organ. Güterbock, in a recent article in the "Archiv für klin. Chirurgie," after referring to the unfavorable results which frequently followed the old method of treatment, boldly says that "it is incumbent upon every surgeon to resort to laparotomy without delay when the diagnosis of vesical rupture is at all certain." He advises sewing the edges of the rent to those of the abdominal wound, the subsequent treatment being the same as that pursued after supra-pubic lithotomy. The author makes no distinction between large and small, extra-peritoneal and intra-peritoneal wounds, all being treated in the same manner. This is certainly a mistake, since, as was before remarked, small accidental openings into the bladder, occurring during the course of a laparotomy, are frequently closed with fine sutures, no provision being made for drainage except by catheterism, and the result is perfectly satisfactory. There is room for the exercise of considerable judgment as to when the tear should be sutured *in situ*, and when an external communication should be established. There are cogent reasons why recent wounds of moderate size with clean-cut edges should be treated intra-peritoneally, especially if they are located, as is so often the case, high on the posterior wall.

Bold as the procedure so warmly advocated by the German surgeon may appear, in the light of our present experience it is not only justifiable but is often a duty.

NEWS ITEMS, ETC.

The Importation of Infected Rags is now to be left wholly to the discretion of local customs and sanitary officers, the Secretary of the Treasury having revoked all past orders relating to the matter, and issued the following circular: "Whereas it has been conclusively shown to the department that, under existing laws, no general regulation can be legally framed whereby the disinfection of old rags can be accomplished in foreign ports to the satisfaction of the several health authorities, therefore it is ordered: 1. That all circulars of this department concerning the disinfection of imported old rags are hereby revoked, and that old rags hereafter imported from foreign countries shall be admitted to entry at the Custom-House only upon the production of permits from the health officers at the ports of importation duly authorizing the landing of the same. 2. Vessels carrying old rags arriving at any United States quarantine will be detained by the quarantine officers, and held subject to the order of the proper health authorities at the port of destination."

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 9, 1885:

DISEASES.	Week ending June 2.		Week ending June 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	5	1	3	0
Typhoid fever	12	4	20	2
Scarlet fever	60	12	76	15
Cerebro-spinal meningitis	5	3	3	4
Measles	88	17	106	11
Diphtheria	78	27	63	22
Small-pox	1	0	0	0

Small-pox.—During the past week the continued spread of the disease in Montreal has been announced, and two or more European steamships have reached this port with cases on board, but thus far we have no information that the infection has been conveyed from them.

Cholera.—Outbreaks continue to be reported from several Spanish provinces, and stringent sanitary precautions are enforced. Dr. Ferran's prophylactic inoculations have been ordered to be stopped. The International Sanitary Conference in session at Rome is said to have decided to extend the Mediterranean quarantine regulations to the Caspian Sea, and to require the rigorous disinfection of overland passengers from the East, also a change of train by passengers passing from an infected into a non-infected district.

The Massachusetts Medical Society.—Besides the annual dinner, the social aspect of the recent meeting of the society included a reception by the president, Dr. Charles D. Homans, at which there was a large attendance, and which, we learn, was very enjoyable.

Charity Hospital.—Dr. W. M. Chamberlain having resigned his position as visiting physician to the hospital, his associates of the medical board voted to request the commissioners to transfer him to the consulting staff, and he has accordingly been appointed a consulting physician.

The New York College of Medicine and Surgery.—The Governor has vetoed the bill incorporating the institution so styled. We trust that this rebuke to unnecessary special legislation will not pass unheeded. At all events, the legalization of an objectionable concern is prevented for the present.

Consular Examinations of Vessels.—We learn from the "Medical Times and Gazette" that a proposition from the American delegate to the International Sanitary Conference now sitting in Rome, authorizing consuls to verify the sanitary condition of vessels leaving for the countries represented by them, was rejected by a vote of nine to two, nine of the delegates not voting.

The Sixth International Pharmaceutical Congress, according to the same journal, will be held at Brussels from

August 31st to September 6th, and will consider, among other matters, a plan for a universal pharmacopœia.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending June 6, 1885.*

WYMAN, WALTER, Surgeon. To inspect unserviceable property at Baltimore, Md. June 6, 1885.

CARTER, H. R., Passed Assistant Surgeon. To inspect unserviceable property at San Francisco, Cal. June 6, 1885.

BATTLE, K. P., Assistant Surgeon. To inspect unserviceable property at New Orleans, La. June 6, 1885.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 29, 1885, to June 6, 1885:*

HORTON, S. M., Major and Surgeon. Ordered for duty as Post Surgeon, Fort Riley, Kansas. S. O. 78, Department of the Missouri, June 1, 1885.

CLEARY, P. J. A., Major and Surgeon. Ordered for duty as Post Surgeon, Fort Lyon, Colorado. S. O. 78, Department of the Missouri, June 1, 1885.

BROWN, J. M., Major and Surgeon. Assigned to duty as Post Surgeon at Fort Omaha, Neb. S. O. 49, Department of the Platte, May 29, 1885.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Relieved from duty at Fort Omaha, Neb., and assigned to duty as Post Surgeon at Fort D. A. Russell, Wyoming. S. O. 49, Department of the Platte, May 29, 1885.

AINSWORTH, F. C., Captain and Assistant Surgeon (Department of Texas). Ordered for temporary duty in Department of the Missouri. S. O. 58, Department of Texas, May 25, 1885.

PORTER, JOSEPH Y., Captain and Assistant Surgeon. Granted leave of absence for six months on account of disability. S. O. 126, A. G. O., June 3, 1885.

DAVIS, WILLIAM B., Captain and Assistant Surgeon. Granted leave of absence for one month, from May 25, 1885. S. O. 122, A. G. O., May 28, 1885.

ROBERTSON, R. L., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 123, A. G. O., May 29, 1885.

Society Meetings for the Coming Week:

MONDAY, *June 15th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians, New York; Chicago Medical Society; Hartford, Conn., City Medical Association.

TUESDAY, *June 16th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, *June 17th:* Northwestern Medical and Surgical Society of New York (private); Philadelphia County Medical Society (clinico-pathological); New Jersey Academy of Medicine (Newark).

THURSDAY, *June 18th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *June 19th:* Roman Medical Society, New York (private); Chicago Gynæcological Society.

SATURDAY, *June 20th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

Professor Panum, of Copenhagen.—Few deaths could, at the present day, cause as genuine and wide-spread regret as that lately announced of the honored president of the last International Medical Congress, Professor C. L. Panum, of Copenhagen, the main events of whose life have already been simply recorded by our daily press.

Dr. Panum was born at Rönne, in Bornholm, an island of the Baltic, lying off the extreme southerly coast of Sweden, where his father was a well-educated practicing physician. After having received an excellent preliminary education, young Panum was graduated from the Universities of Copenhagen and Kiel. He early developed an unusual talent for physiological research, and, his abilities in this direction finally becoming recognized, he was appointed Professor of Physiology in the Medical Department of the University of Kiel. This position he held until the annexation of Schleswig-Holstein by Bismarck to Germany, when, loyal to Denmark, and unwilling to live under German rule, he returned to Copenhagen to accept the chair of physiology in that city. Here he labored for many years, winning, by his extraordinary ability and industry, a foremost position among the scientific investigators and writers of Europe, and adding greatly to the reputation of the university by the brilliancy of his own renown.

As to the permanent records of his work, Professor Panum was one of the ablest and most successful advocates of vivisection of the present day. His writings upon this subject are replete with strong, temperate, and philosophical arguments in favor of a proper employment of this most valuable scientific resource. His publications contain also the results of a large amount of original and careful scientific investigation. Among the more important of them may be mentioned his researches in the matter of transfusion of blood, the causes of embolism, and various phenomena connected with the digestive functions. His last contribution was the masterly address, made before the general meeting at the last International Medical Congress, entitled, "Researches concerning Food Rations for Men in Health and Disease, particularly in the Hospitals, the Infirmaries, and the Prisons of different Countries." A subject of more vital and practical importance could hardly have been selected, and, it is safe to say, no writer could have treated it with greater authority, learning, and skill. Personally, Dr. Panum was known in Europe throughout a remarkably wide circle; and this, in some measure, from his frequent visits to the principal capitals. These, in many instances, were made for purposes of general study and enlightenment, the expenses of travel being sustained by the university, so that the face and the personality of the doctor were familiar to the frequenters of the chief schools of medicine, and always heartily welcomed among them. This practice on the part of the University of Copenhagen of sending abroad one of its leading professors, at regular intervals, to investigate and bring home the latest scientific information to be gained from outside sources, is as creditable to the liberality, the progressiveness, and the far-sighted good judgment of the Danes as it is characteristic of them, and commends itself as well worthy of imitation. The crowning achievement of Professor Panum's life was the grand success which he attained as the efficient head of the Eighth International Medical Congress. It was no light and easy task for Copenhagen to undertake to vie with London and other great European centers in the organization, management, and general entertainment of so huge and unwieldy a body as there assembled; still less could it have been supposed that a man known mainly as an investigator and an expounder of pure scientific doctrine could rise to the necessities of a position which seemed to require at once deep learning, great executive ability, the skill of a diplomat to avoid complications, and, withal, the thorough *savoir-faire* of an accomplished man of the world. To say that these qualities were centered in Professor Panum is but another way of describing him as the man of trained thought

and systematic method, whose absolute simplicity and truthfulness of character, combined with a dignity born of the highest type of self-respect, and irradiated with that charming geniality of manner which all who had the good fortune to meet him will so well remember, were sufficient to win the entire confidence and the enthusiastic co-operation of his associates, and the unqualified regard of his guests, and thus, by straightforward and legitimate means, to secure the highest measure of success. His loss, severe indeed to his countrymen, will be felt wherever his sterling qualities, all too rare, have become known. D. B. D.

Proceedings of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Fourth Anniversary Meeting, held at Boston, Tuesday and Wednesday, June 9 and 10, 1885.

The President, Dr. Charles D. Homans, of Boston, in the Chair.

Tuesday's Proceedings.

The Pathogenesis of Certain Affections of the Skin.—Dr. George N. Tilden, of Boston, read a paper with this title.

The reader alluded to the fact that the introduction of various drugs into the stomach sometimes caused the appearance of a cutaneous eruption. The well-known action of the iodine and bromine preparations was referred to, and the statement was made that recent microscopic investigation had shown that these lesions might originate in dilatation and cellular infiltration of the capillary network around the sebaceous glands. Other forms of cutaneous lesions might be caused by many different drugs: 1. Simple and evanescent erythematous patches, unattended by constitutional disturbances and not followed by desquamation, had been observed after the use of quinine, copaiba, iodide and bromide of potassium, cubebs, and benzoate of sodium. 2. Papulæ, erythematous lesions, attended with exudation into the cutaneous tissues and resembling in some cases measles, in others the various forms of erythema multiforme, had been produced by the same drug. 3. A different form of erythematous dermatitis, not infrequently accompanied by constitutional derangement, followed by desquamation, simulating the rash of scarlet fever, had occurred after the administration of salicylic acid, quinine, opium, morphine, and iodide of potassium. 4. An urticarial eruption followed the use of the same drug, also that of chloral hydrate and arsenic. 5. Purpuric eruptions were caused by the same class of drugs. Much less common than the foregoing were: 1. Bullous eruptions after the use of iodide of potassium and rarely after that of bromide of potassium and copaiba. 2. Vesicular eruptions resembling eczema. 3. Scaly eruptions resembling psoriasis after the use of [illegible].

The drugs most prone to produce a cutaneous eruption were quinine, salicylic acid, copaiba, preparations of iodine and bromine, and antipyrine, the latter drug producing disturbance of the skin in ten per cent. of the cases in which it was used. The [illegible] after the use of irritating drugs were thought to be due to deposit on the skin. Other varieties of medicinal eruptions were due to what looked like disturbances of the vasomotor system, and belonged to the angio-neurotic lesions of the skin, which consisted of various degrees of dilatation of its capillaries, attended with more or less exudation of serum and wandering cells. When hæmorrhage took place in this class there must be some change in the capillary walls, as the red corpuscles had no amœboid movement. The entrance of vaccine and so-called septic material into the circulation also produced morphological changes in the skin, as shown by various eruptions which often appeared after vaccination, diphtheria, puerperal fever, and the so-called "scarlet fever" after surgical operations. The eruptions which have been spoken of were not, properly speaking, diseases of the skin, but were symptomatic of the presence of some foreign substance in the circulation. In a crude way they might be arranged in three groups: Angio-neurotic, reactive inflammatory and suppurative, and those of a hæmorrhagic variety.

Consanguineous Marriages, their Effect upon Offspring, was the title of a paper read by Dr. Charles F. Withington, of Boston. The speaker referred to the great discrepancies apparent in the observations made by different persons upon this subject, and even the intrinsic contradictions in the figures of individual observers. The traditional belief on this subject implied a specific evil effect of such marriages due to the mere fact of non-renewal of the blood. Attempts at settling this question by the statistical method were hindered by the difficulty of obtaining cases that were not to some extent selected, on account of the tendency to remember "striking" or disastrous cases; also by the difficulty, in many instances, in distinguishing between the effects of consanguinity and those of morbid inheritance. The speaker then presented the results of his own observations in 108 cases of consanguineous marriage, arranged in tabular form. The whole number of children born was 413 from 103 couples. Excluding from the category of "healthy" all who were defective in any degree, even those having strabismus, all who were below the average in intelligence or bodily vigor, all who had phthisis or any other inherited constitutional taint, even though it did not appear till late in life, and all who died in infancy except when the death was known to be from some acute disease, there remained 312 "healthy" individuals, about 75½ per cent. of the whole number. Among the more important diseases and defects were 12 cases of deaf-mutism (all occurring in a town on the island of Martha's Vineyard), 7 of insanity, 13 of idiocy, and 15 of consumption. Only 57 of the unions were known to have lasted the full period of conjugal fertility (25 years or over), and these produced 282 children, an average of 5 for each couple. In 17 of the marriages one or both of the contracting parties were themselves descended from a consanguineous union; 15 were fertile, producing 68 children, of which 48 were "healthy." The table also gave information regarding the married life of 104 couples composed of persons consanguineously descended; 41 of them, which were known to have endured through the complete childbearing period, produced 201 children. In this generation there were 8 deaf-mutes, also all from Martha's Vineyard. The view was then announced that the evil results which occurred from consanguineous marriages were due to the operation of the ordinary laws of morbid inheritance dependent on the principle that like produced like, and that consanguinity *ipso facto* had no influence either for good or for evil. The arguments against this view were briefly taken up, and it was urged that, when simple heredity was known to play so important a part, it was unreasonable to conjure up some other influence which at most could account for but a small share of the cases of obscure maladies like deaf-mutism and hemeralopia.

Labor complicated with Fibroids was the title of the next paper, by Dr. James R. Chadwick, of Boston. After reporting at length the histories of ten cases of labor with this complication that had come under his observation, he summarized the results as follows: Miscarriage, 1; recovery of the mother, 7; death of the mother, 2; living children, 7; still-born children, 2. The prognosis for the mother in the set of cases reported was much better than was indicated by the accepted statistics. Regarding the position of the child at the time of labor, in the

cases reported, seven were presentations of the head, and two transverse presentations. In the two cases of transverse presentations the tumor partially filled the pelvis, so that a transverse position of the child must almost of necessity have occurred. This should be borne in mind in the management of such cases. With regard to the special complications of labor due to the presence of the tumor, the cases illustrated the frequency of inertia of the uterus and the liability to septic poisoning. This latter danger was hardly mentioned by many authors. The degree of danger to which the woman was exposed undoubtedly depended greatly upon the precise location of the tumors. In six cases where the tumors appeared to be subperitoneal the patients passed through labor and childbed without complication, except for slight septic infection in one case. In three cases the tumors were submucous; two of the patients died, and the third recovered after septic infection in childbed. The location of the tumor in the lower segment of the uterus, so as to interfere with the expulsion of the child, was the most serious element of danger. Should this condition exist and a vigorous attempt, under ether, to elevate the tumor from the pelvis early in pregnancy fail, the induction of abortion, or at least of premature labor, would be the safest course to pursue. The cases demonstrated that the tumors increased enormously in size with the progress of the pregnancy, but in six of the eight patients who survived no traces of the tumor could be found post partum at observations recorded after an interval varying from two weeks to twelve months. In the case of miscarriage, which occurred at the end of three months and a half, one tumor was entirely absorbed and the other was unaltered in size. As aids to diagnosis the following points should have great weight: 1. An area of flat percussion beyond the limits of the tumor or tumors. 2. Unduly rapid growth of a fibroid. 3. Bluish discolorations of the vagina. As to treatment, intra-uterine disinfectant douches should be administered throughout the puerperal period in all cases, even before the supervention of symptoms. As to prognosis, fibroids were, as a rule, absorbed during involution of the uterus, or soon after.

The Climatic Treatment of Phthisis was the subject of the first paper read at the afternoon session, by Dr. HAROLD WILLIAMS, of Boston. After mentioning that he had collected a list of one hundred and seventy-eight different islands, districts, and towns which, possessing all the extremes of therapeutic climate, were alike recommended for the treatment of phthisis, the author proceeded to divide these health resorts into four arbitrary divisions: The ocean itself; seaboard and island stations; inland stations; and mountain stations. The ocean (sea-voyages) and the mountain stations presented the two extremes of therapeutic climate. The meteorological differences of these extremes were, that the sea-air, as compared with the other divisions, possessed the maximum of oxygen, the maximum of barometric pressure, the maximum of aqueous vapor, the maximum of ozone, small quantities of iodine and bromine, the minimum of organic impurities, more regular variations of barometric pressure, the minimum of diurnal variation of temperature. Mountain air, on the contrary, showed the minimum of oxygen, the minimum of barometric pressure, the minimum of aqueous vapor, an excess of ozone, a diminished amount of organic impurity, greater and more irregular variations of barometric pressure, the maximum diurnal variation of temperature, the highest degree of coldness, and the greatest diathermancy. These characteristics constituted the attributes of the extremes. Island and seaboard stations and inland stations resembled one or the other of these extremes according to their altitude, since it was mainly upon altitude that these differences depended. The physiological effects upon man of each of these meteorological differences were then considered in detail, the writer summing up with the conclusion that up to the present time there was no physiological evidence that any of these meteorological differences were of the least value in the treatment of phthisis, unless it was that the sea-air, as experienced in ocean voyages, was better than all others in that it was warmer and purer, and presented slighter variations of temperature and humidity. But the writer pointed out that sea-air was available for but very few.

The clinical evidence had not yet proved one station or class of stations to be more efficacious than another. The doctrine of immunity from phthisis was then alluded to, with the view of showing the contradiction of statements upon this subject, and the absurdity of basing an argument upon the favorable climate of a locality because of the rarity of phthisis in that locality. The writer then briefly alluded to the sentimental aspect of the question, and then proceeded to sum up the conclusions warranted in the present state of our knowledge. Patients sent away generally did better than those who remained at home, this being a matter of opinion rather than of statistical proof. He thought that the beneficial effect of this change of climate was due rather to the *change* than to the *climate;* that it was not to the meteorological *differences* in climate, but to factors which all health stations might possess in common, that all were indebted for their reputations. These factors he believed to be the change itself, the greater purity of the air, the increased facilities for open-air exercise, and the improvement in the hygienic surroundings of the patient, consequent upon the greater attention paid to the habits of living. The health resorts of the group mentioned, though similar in character, were by no means to be considered as individually equal, the superiority which one possessed over another lying in the greater hygienic advantages which it afforded. An ideal health station for this disease should be newly and sparsely settled; should possess a pure water supply and adequate drainage; should be of a dry, porous soil; should be favorably situated with respect to neighboring heights, marshes, and prevailing winds; it should be equable in temperature, and should possess the highest number possible of pleasant, sunshiny days. It should not be warm enough to be enervating, nor so cold as to interfere with a proper ventilation of the houses, or with out-door exercise. It should afford plenty of out-door amusement, it should not be crowded with consumptives, and it should be sufficiently unfashionable to admit of hygienic dress. Above all, it should afford suitable accommodations for the patient. The house should be carefully selected, the chamber of the patient should be large and sunny, and the food should be abundant, palatable, and varied. A health resort that offered these advantages in the highest degree would be found by experience to be the most suitable for a phthisical patient, let the barometric pressure, the aqueous vapor, and the "diathermancy" be what they might.

How a Lesion of the Brain results in that Disturbance of Consciousness known as Sensory Aphasia was the title of a paper by Dr. MORTON PRINCE, of Boston. In Broca's time, he said, all aphasia was thought to be the same, but it was now known that there were different forms, depending upon lesion of different centers. For the normal faculty of speech the co-operation of at least three different functions was necessary: 1. It was necessary to be able to hear the sounds of words (internally as well as externally); 2. There must be a center for the intellect proper when the words were combined with ideas; 3. We must be able to co-ordinate the motor impulses to the muscles of the apparatus of speech. These different faculties were distinct, and had separate anatomical centers. Motor aphasia was due to an injury to the motor center in the third left frontal convolution; sensory aphasia to a lesion of the first and se-

ond left temporal convolutions. These conditions could be represented diagrammatically. Examples of motor and sensory aphasia were then given. Sensory aphasia was then further considered. The question of the paper was then presented: What was meant by a center for words, and how did an injury to this center result in a loss of the faculty of hearing words? As ordinarily described, it was said that the word-sounds were the function of the cells, or that molecular vibrations in the cells were accompanied by the word-sound. But this was both incorrect and insufficient. To understand the matter it was necessary to know the nature of a molecule and that of molecular vibration. This was explained by diagrams. A molecule was something we pictured to ourselves as having color, shape, size, hardness, etc. But these qualities did not reside in the molecule, but were sensations in the mind of the observer, and were made artificially to exist outside of us and to constitute the molecules; they were only our sensations, and the effect of the something called a molecule acting on our senses. But, after these had been abstracted from the molecule, what remained behind? This something was unknown to us and was the *reality* of the molecule. In the same way, vibration of molecules was only a form of our sensations, and, like the qualities of color and hardness, did not exist outside of our minds. What, then, did exist outside of us? This was called the reality of the vibrations. Was this also unknown? No. The reality of the vibrations of the molecules in the cells in the temporal convolutions was the word-sounds. When these cells were injured their realities could not exist, and hence word-deafness resulted. This principle was then extended to the connection between the mind and the brain in general. A recognition of it elucidated much that was obscure in mental pathology, and explained the influence of the mind over physiological and pathological processes.

Some of the Mental Aspects of Nervous Diseases.—Dr. Henry R. Stedman, of Boston, read a paper on this subject, referring to the foothold gained by physical disease (as distinguished from mental) in the classification of mental disorders through its increased prominence in their causation. Progress in this direction had resulted in taking insanity from the isolated position it had long held as a comparatively independent disorder, and had invested it with a far greater and more general clinical and pathological interest. Then taking up nervous affections as physical disorders more nearly allied to insanity, the author first mentioned the mental symptoms short of insanity which were likely to complicate the more prominent structural disorders of the brain and cord, and afterward the association of the latter with actual insanity. He was of the opinion that the mental symptoms of organic lesions of both brain and cord in the vast majority of cases took the form of dementia or greater or less enfeeblement of the mind as a natural consequence of degenerative brain-change. Examples of true mental aberration with delusions—a perversion rather than a loss of mental activity—were given, but this state was not often found to accompany these structural affections, and could not be accounted for in the same way as the first mentioned and more usual mental condition. In this connection the mental aspects of cerebral apoplexy, cerebral syphilis, locomotor ataxia, and disseminated spinal sclerosis were reviewed. The mental side of so-called functional nervous disorders was next examined under its various conditions, epilepsy, hysteria, hypochondriasis, chorea, and delirium tremens being considered separately. These had a special but knew, no discovered anatomical lesion, and in them loss of mental power was the exception, while at times activity of the mind with a varying degree of perversion of ideas and loss of self-control were the chief mental manifestations on either side of the boundary between commonplace sanity and madness. The principal exception to this rule—viz., the dementia of epilepsy—was really due, the reader thought, to structural alteration, and he grounded his belief on accepted histological changes due to the excessive functional disturbance of repeated convulsions. General paralysis of the insane was next considered as a nervous disorder and its fundamental distinction from ordinary insanity proper pointed out. In the course of this paper he advocated special attention to the mental change following many cases of cerebral apoplexy. He deprecated the tendency to unhesitatingly ascribe to cerebral syphilis cases of insanity occurring in syphilitic subjects, and suggested caution in deciding between locomotor ataxia and general paralysis. He advised keeping in mind the probability of having to do with incipient general paralysis in cases in which convulsions, apparently epileptic, occurred for the first time in adult life. Hysterical symptoms as the forerunners of insanity were less common, the reader thought, than was generally supposed. He knew of many instances in which proper precautions had been neglected for want of careful discrimination between actual hysteria and the altered disposition preceding an outbreak of insanity. The mental complications of chorea in severe cases had caused several patients in his experience to be considered as simply insane, and to be committed to an asylum unnecessarily. The gradual development of acute alcoholic insanity from delirium tremens, its favorable prognosis, and the possibility of home treatment in patients with ample means were alluded to, and the liability of mistaking this disorder for ordinary non-toxic insanity or for general paralysis was touched upon. The reader closed his article with a plea for a closer examination of the mental state in nervous disorders, and disclaimed any bias which should give that feature undue prominence, but said that serious mental complications were few compared to the myriads of cases of nervous disease. Nevertheless, many awkward mistakes and perhaps grave accidents might, he thought, be avoided by early and careful attention to the associated mental phenomena.

Officers for the Ensuing Year were elected as follows: President, Charles D. Homans, of Boston; vice-president, Dr. Munsell, of Harwich; treasurer, Dr. Frank W. Draper, of Boston; corresponding secretary, Dr. Charles W. Swan, of Boston; recording secretary, Dr. Francis W. Goss, of Roxbury; librarian, Dr. Edwin H. Brigham, of Boston; orator, Dr. R. M. Hodges, of Boston; anniversary chairman, Dr. Harvey, of Westbury. The various committees chosen were the same as last year.

(To be concluded.)

ILLINOIS STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held at Springfield, Tuesday, Wednesday, and Thursday, May 19, 20, and 21, 1885.

Dr. D. S. Booth, of Sparta, in the Chair.

Tuesday's Proceedings.

The Address of Welcome.—After a prayer, by the Rev. W. F. Mushgrove, D. D., the Governor of the State, the Hon. Richard J. Oglesby, gave the address of welcome, in which he cordially congratulated the society upon the auspices under which the meeting opened, and paid a glowing tribute to the profession of medicine. Dr. E. P. Cook, of Medota, replied in behalf of the society.

The President's Address was then delivered. Young physicians, he said, should begin practice where the older ones left off. They should study without season (*i. e.*, without a limited prescribed length of time) at the bedside, and should be well advanced beforehand in the preliminary branches at least. At the top of the ladder there was abundance of room, while at the bottom there was none. Medical societies were doing a

great good intellectually, socially, and morally. He then referred to what was done at the ninth annual meeting of the American Academy of Medicine, recently held in Baltimore, whereat a committee of two was appointed to look into the expediency of establishing State boards of medical examiners. He suggested that a committee be appointed from this society also to memorialize the Legislature to appoint a State medical examining board. Of what value or use was an unknown diploma? By this was intended a diploma from an unknown college. It was an unknown quantity, and the doctor possessing it had not received a thorough medical training, and could not therefore be expected to attain a high degree of prominence any more than an unlearned lawyer would be expected to become a judge. Yet, on the other hand, there was a certain class of physicians, with but little book knowledge, who succeeded well, because they had good judgment and tact. Specialties and specialists were next alluded to. There were those who treated special organs, although knowing but little of the remainder of the human system. This, of course, should not be the case. Inherited aptitude was a valuable adjuvant to a physician. The chief end and object of all our studies was the application of medicines in the treatment of disease. Regarding the female, she who had entered our profession, for one he welcomed her. He then alluded to the practices of preventing conception and inducing abortion, which he characterized as sins. Oftentimes sexual relations were very low. Clergymen had been known to commit flagrant sins, and afterward become parties to a still greater crime, that of participating, indirectly perhaps, in the murder of an unborn babe. But, to revert to the subject of the married woman, how many attained the age of forty that were not in impaired health? Why was it that the gynæcologist was so frequently consulted, or more often than any other class of specialists? It was too often because his patient had got rid of an ovum or fœtus. In other words, it was because a wife who had sinned oftenest suffered most. Reference was then made to the harm done to young girls by forcing their education. Sanitation was referred to at some length, with the adjuration, "Be ye therefore clean in mind and body."

In conclusion, he thanked the members for the honor they had conferred upon him in electing him president. His final remark was that success and happiness had marked our era, and he trusted that, when our career had ended here below, peace, success, and happiness would be ours in the world beyond.

The Report on Gynæcology was the first order at the afternoon session, and Dr. DAVID PRINCE, of Jacksonville, the chairman of the committee, read an exhaustive paper that contained a general *résumé* of the advancements made during the past year. It had reference largely to the various new instruments that had been introduced, a number of which were exhibited.

The Report on Obstetrics was next read by Dr. C. W. EARLE, of Chicago, chairman of the committee. At the beginning he recited the practical part only of his own personal experience. He next alluded to the ring of Bandl, and sketched the anatomical characters of the cervix. After this he recited in detail the effects of *Cimicifuga racemosa* during pregnancy and parturition. Among its properties was a positive sedative effect on the parturient woman. Hydrochlorate of cocaine was alluded to, and it was suggested that it might be used to dilate the os uteri in parturition. Electricity was a valuable agent in certain cases of uterine inertia. The faradaic current was the best form. The use of antiseptic solutions as intra uterine injections was dwelt upon. One of bichloride of mercury, seven grains and a half to the pint of water, was of sufficient strength; the same also applied to carbolic acid. Albumin in the urine in parturition, when convulsions set in, was referred to. The prophylactic measures were to give iron, attend to the skin and other emunctories, prohibit the wearing of tight clothing, etc., although puerperal eclampsia might occur without albuminuria. General dietetic measures should be carefully carried out, and hot baths also were of great value, and would not induce premature labor. *Apocynum cannabinum* was a valuable drug to be used in this condition.

Regarding the occipito-posterior position, it gave more trouble than all the other head presentations combined. In the third or fourth position the head would rotate and assume the second position. These labors were difficult on account of the waste of uterine power. We were generally obliged to resort to the use of the forceps to complete the delivery; or, while the woman was anæsthetized, the hand could be introduced into the uterus and the head turned.

In regard to the forceps in breech presentations, his first case had occurred during the early part of last year, and he had had since that time five additional cases, and the application of the forceps to the breech had been satisfactory.

As a usual thing, he would advise against artificial rupture of the membranes, and against urging the patient to bear down. If necessary, morphine or chloral might be given for severe pain and to relax the tissues.

In cases of laceration of the perinæum the dangers were great from septic germs, and the time for practicing the old method of repair had passed. We must repair the injury at once. A single suture would often be sufficient, but, whether one or four sutures were used, some antiseptic solution should be used for several days.

No two practitioners treated retention of the membranes and placenta exactly alike, nor were the cases quite alike. The causes that produced simple retention of the placenta were inertia, hour-glass contraction, extreme rigidity of the os uteri, etc.

Credé's method was referred to, also the giving of ergot, the use of the tampon, curette, placental forceps, and uterine dilators, and, lastly, washing out of the uterus. More than seventy years ago Denman had written a fair article on extra-uterine pregnancy. The treatment at the present time was especially by the use of the electric current at the early stage, when the diagnosis had been made out.

Dr. PRINCE, of Jacksonville, recommended cold water for controlling the hæmorrhage in cases of retention of the secundines. No ill consequences would follow its use. The water should be allowed to fall upon the abdomen from a pitcher in a small stream. It brought on rapid and complete contraction of the uterus and was convenient at all times.

Dr. C. TRUESDALE, of Rock Island, referred to the immediate operation for laceration of the perinæum. Any time within twenty-four hours was sufficiently early. The stitching should be thoroughly done, as otherwise the flow of the lochia over the parts would defeat the object. One stitch, if well applied, would suffice, whereas if loosely applied it would only expose the patient to greater dangers.

Dr. E. WENGER, of Gillman, thought that, so long as the membranes were not ruptured and there was hæmorrhage, we should proceed to rupture them and otherwise facilitate the expulsion of the contents of the uterus by giving ergot, etc.

Dr. F. E. WAXHAM, of Chicago, had treated hundreds of cases of abortion, and had never yet used a curette, and he had used the placental forceps only once. He used irrigations of hot carbolized water, and gave ergot internally. By this method he had seen the temperature reduced from 105° F. to the normal point.

Dr. G. C. KRUEGER, of Springfield, recited a case of puerperal septicæmia in which, he thought, had the patient been treated

by any other method, she would surely have died. For twenty-four days the temperature was 103·5°. Quinine and opium were of no benefit. The next day after he had been called to visit the patient her temperature was 105° F., and her pulse 130. The uterus was curetted, and iron and collodion were applied. An ice-water coil was laid over the abdomen.

The Report of the Committee on Materia Medica and Therapeutics was then read by Dr. T. M. McIlvaine, of Peoria, who took for his subject "Therapeutics Natural or Medicinal, and Therapeutics Non-medicinal." The paper was in many respects almost a counterpart of that read by Dr. Austin Flint some time ago, although Dr. McIlvaine assured his hearers that his paper was written prior to his having read Dr. Flint's essay. The non-medicinal plan of treatment was always to be followed when possible. But few new remedies ever went beyond a dozen years of trial before they were discarded, and we returned to those that had long been known. In the non-medicinal treatment of the sick it was sometimes well to pay attention to their perverted appetites, often due to the disease. The writer knew of one patient with typhoid fever who drank nine gallons and a half of beer in seven days, and recovered. A case of pelvic cellulitis was also cited in which the patient had not retained anything in her stomach for days, when she was permitted to eat sauerkraut. At the first attempt she ate two tablespoonfuls (and it was fermented too). This amount was relished and retained, and in a little while she called for more. It was given her again and in larger quantities, and continued for several days, and this patient also recovered. The essay was closed with an allusion to the good effect of mental influence on the sick. The "faith cures" of newspaper articles were alluded to, and the writer thought them deserving of study.

Dr. E. P. Cook, of Mendota, thought there were three classes of medication: Positive medication, rational therapeutics, and *moonshine*, which was what our homœopathic friends practiced.

Dr. N. S. Davis, Sr., of Chicago, found one fault with the report, namely, the statement that medicines were given to *cure* all diseases. Did we not do ourselves an injustice in making such misrepresentations? In the lessening of disease, we were not much ahead of the medicine of two decades ago. Was it because we had had too much faith in medicine, or because we had not made a close adjustment of medicine to disease? We should keep the balance up in disease, and, where there was disintegration going on in one part or organ, we should counteract this by propping up the system elsewhere. The fashion nowadays was to run after microbes. It was all very well to kill them, but let us not kill the patient in trying to catch the microbe. He had rather a patient would recover even if the microbes escaped. All extravagances were to be avoided. If the heart's action was too frequent, we should repress it; if the temperature was too high, we should lessen it; if the pulse flagged, we should prop it up, as well as the nervous system. We should hardly would not do as had been illustrated by the [illegible] in the paper too would be little the idea of inspiring confidence in a patient. Patients differed widely in their own estimation of the danger they were in. A disposition to [illegible] could be checked.

Dr. T. J. Watkins, of Bloomington, thought that a common [illegible] was to be deprecated by a prescription he [illegible] had been in the habit of giving a dram of brandy to put, [illegible] of medicine into one mixture. On [illegible] Was the dose? We should be able to determine [illegible] remedy would be. But how can we tell what the [illegible] or fifteen different articles in one prescription [illegible] For the general circulation would [illegible] of the stimulant spoken. Ipecac was good for a baby three days old, or for a man thirty years of age. It produced emesis in either instance. Bleeding, too, was an old remedy that we were in danger of forgetting.

Dr. F. E. Waxham thought we should observe the rule not to prescribe a remedy unless we had a reason for it.

Dr. Cook, of Beecher, stated that we had more faith in remedies now than we had five years ago. As a general thing, he prescribed but one remedy at a time instead of combining a number in one prescription.

The report was further discussed by Dr. Wetmore, of Waterloo.

The Report on Ophthalmology was read by Dr. W. T. Montgomery, of Chicago. Jequirity and hydrochlorate of cocaine were alluded to. The author gave his experience in the use of the former remedy on about two hundred and fifty different eyes. He used a fresh infusion of the bean, of the strength of from about one fourth of one per cent. up to five per cent. It was immaterial which was used if it was done properly, at intervals of twenty-four hours, to set up an inflammation in a membranous exudate. The acme was usually reached at the end of the second day. About ten per cent. of his patients had been cured after the first application; about twenty-five per cent. after the second; about thirty per cent. after from three to fifteen applications; about twenty per cent. were improved; and about fifteen per cent. were not benefited. Where the infusion was applied twice they recovered in from one to three weeks. There was no sloughing of the cornea. In three cases of this number dacryo-cystitis had occurred. The remedy, if used especially in hard granulations with pannus, was almost a specific. He therefore regarded it as one of the most important of remedies. Regarding the use of hydrochlorate of cocaine, and its local anæsthetic properties, he recited his own personal experiences with it, which had been extensive.

Von Graefe's operation of evisceration of the bulb in place of enucleation was next discussed, and the following advantages were set forth: 1. That there was no wounding of the cellular tissue of the orbit. 2. That the stump was superior. Both he and Dr. Holmes, of Chicago, had performed this operation for years, the latter gentleman having first performed it in 1876. In panophthalmitis it was preferable to enucleation.

Two cases of chancre of the eyelid were then reported, one of which occurred to a lady who had got some red pepper in her eye, and whose servant girl inoculated the lady in removing the pepper with her tongue.

Dr. S. J. Jones, of Chicago, thought there was much risk in using jequirity to get rid of an opacity. If other remedial measures were properly used there was no risk. We were using jequirity empirically, and we should not subject patients to such severe risks. He urged caution in using it. Regarding hydrochlorate of cocaine, fortunately it was a safe remedy, but now it is disappointing us. Why? Because it had been used indiscriminately for so many different things that it would not retain or get the credit for what it had already done. It was very valuable to produce superficial anæsthesia, but usually it only diminished the suffering instead of wholly obliterating acute pain. When it was injected hypodermically, depression followed. Whether this was due to the use of the remedy, or was a result of the anticipation of an operation, he would not attempt to state.

The subject was further discussed by Dr. Mendenhall, of Georgetown, Dr. J. D. Skeele of Chicago, Dr. C. Truesdale, of Rock Island, and Dr. Guthrie.

Wednesday's Proceedings.

The President, Dr. D. S. Booth, in the Chair.

Remarks by Invited Guests.—Dr. Middlekamp, Dr. Prewitt, and Dr. Dickinson, of St. Louis, having been invited the

evening before to take part in the proceedings, they each made remarks indicative of the interest felt in the society by the profession in Missouri, and, in particular, of the satisfaction it would give them to have the Illinois medical-practice act faithfully carried out, and the State's excellent board of health thoroughly sustained by the profession.

Dr. N. S. Davis, of Chicago, responded. Members of the profession in the various States should feel cordial toward those in all the other States. Members of a State society should be members of a local organization also. They should be supporters of a local society before becoming members of the State society. There were great advantages in this. Experience had demonstrated that every one who was a member of both and moved in the direction of each was more favorably looked upon, whereas, if he ignored the local organization at home, there must be a cause for it. The regulations of the State and National associations in prohibiting men from joining who were not identified with a local society had worked favorably. We needed more conference, union, and fraternity. We were often stigmatized for not having a fixed rule or statute law like the lawyers. The science of medicine was the science of all sciences. So long as human knowledge existed and grew, science would advance. We should advance mutually and feed each other. This, then, was the basis of the neighborhood organization. It was there that we should frequently meet, and it should be the only channel by which we were enabled to reach the State and National associations. He hoped that we should work together to attain this object. By doing so we should become more powerful, and by and by the entire profession would be embraced in city, county, State, and National organizations.

Dr. Prewitt agreed with the previous speaker. A man should be a member of a local society first. The American Medical Association and the State societies should continue to require it of every member.

On behalf of the Illinois State Board of Health, Dr. John H. Rauch, the efficient secretary, stated that, in regard to the legislation that was now pending, he desired the hearty co-operation of the profession while the Legislature was in session; he referred to a bill that had now reached its third reading. He spoke eloquently upon all the points involved in the bill. He thought it the duty of every physician to make his statistical returns faithfully, and not ask for legislation to pay him fifteen or twenty-five cents for every case thus reported. He urged the members to think of the importance of having this bill passed. He also urged that something more should be done relative to the Medical-practice act, as some of the certificates that had been issued to physicians had cost the State fifteen dollars—yes, twenty dollars. The fee of one dollar, therefore, was not enough for a certificate when a man, as was often the case, got it as a cloak, so to speak, and then immediately removed from the State. And the same might be said of "Certificates of Examination." In a few instances, not to exceed three altogether, the board had charged, or rather had accepted, five dollars for each case. It had cost the State, however, five hundred dollars to get this fifteen dollars in return. Another point that Dr. Rauch alluded to was that of students' practicing under a preceptor. The law stated that they might prescribe while studying under a preceptor, but could not practice! The subject of a hundred dollar license fee permitting itinerants to practice was also thoroughly dealt with. In a few instances the fee had been accepted, and eight hundred dollars altogether had been accepted during the board's existence. However, there were scarcely any itinerants in the State.

Dr. Rauch then presented the plan of a State sanitary survey and house-to-house inspection. In referring to this last topic, he read an extract from an editorial in the London "Lancet" alluding to and commending the project. He closed by referring to the bill that was before the Legislature regarding that class of specialists who advertised, and whom the board felt it incumbent on them to prosecute. Personally, he would rather encounter cholera than prosecute a man for irregular and unprofessional practice or methods—quackery—and the board had most trouble with those who were regular graduates, for the regular graduate said he was so-and-so, was duly authorized to practice medicine, had a diploma from a well-known college, etc.

An Anatomy Bill.—Dr. A. B. Strong, of Chicago, presented a matter that needed further legislation, namely, that of the anatomy bill, which was also pending in the Legislature. He thought the bill needed amending, so that it should be made mandatory for boards of county commissioners, or those having charge of dead paupers, to supply medical colleges with sufficient dissecting material when such demand was made. He had received during the past year five thousand letters from three thousand physicians throughout the State, and out of that number but two medical men had opposed it. Then he spoke of having a statute framed, so that, when medical men were sued for malpractice, the patient should be made to deposit funds sufficient, in case the physician gained the suit, to remunerate him for loss of time and all expenses. He also alluded to the able services that had already been performed by the Illinois State Board of Health, and added that it met with the hearty approbation of every intelligent physician. The additional legislation that had been alluded to would be for the best interest of the State of Illinois.

Dr. D. A. Sheffield, of Apple River, a member of the Legislature from the Twelfth District, spoke in behalf of a bill that he had introduced in February, which had reached the third reading in both the House and the Senate, and had finally been reported back with the clause giving the act immediate effect stricken out.

Dr. J. L. White, of Bloomington, spoke at length on the subject of State legislation. He thought that if the bills had reached a third reading in the House and Senate they would be passed, and that there was only a little hesitancy in regard to action by the members before doing so. He furthermore thought it was our duty to request each member to vote for these bills.

Dr. W. M. Hanna, of Lisbon, also a member of the House, stated that he would do his best to get the last bill passed.

Dr. Samuel Mileham, of Camp Point, a member of the Senate, thought there would be no difficulty in passing the anatomy bill. He pledged himself to do his utmost in this direction.

Dr. W. H. Weir, of Colchester, a member of the House, was heartily in favor of the bill, and thought there was not much opposition to it.

Legislation concerning the Insane.—Dr. E. P. Cook, of Mendota, spoke of the legislation that was needed in regard to the commitment and care of the insane, he being a member of the standing committee on that subject. He referred to the Campbell bill, which had reached the third reading in the Senate, and, as it had given us all so much pleasure to hear the expressions of unanimity of thought from the various members that had spoken in behalf of the anatomy bill, he trusted they would be in favor of the bill to which he alluded.

Dr. Walter Hay, of Chicago, stated that three years ago, when the society met at Quincy, he was appointed on the Committee on Legislation for the Insane. The chairman, Dr. E. M. Griffith, reported two years ago, and last year the progress the

committee had made. But at the recent meeting of the State Board of Charities, held in Chicago last fall, he confessed that a committee was appointed from that body, and it had prepared a superior bill for measures of reform in this direction, which had been introduced by Mr. Campbell of the Senate. It was called the Campbell bill, and we should unite in our efforts in its support.

Dr. J. M. Fowler, a member from the Fifty-first District, spoke of the legislation that had been done in the House, upheld the secretary of the State Board of Health to the fullest extent, and would do the best he could in the direction of helping to pass the Campbell bill.

The Report of the Committee on Necrology was then read by Dr. M. F. Bassett, of Quincy, who reported that one death had occurred since the last annual meeting. The late Dr. Abner Hard, of Aurora, had died in the line of duty March 20, 1885, from the effects of blood-poisoning.

Recurrent Laryngitis was the subject of a paper read by Dr. E. F. Ingals, of Chicago. He stated that the affection was usually associated with chronic pharyngitis of the follicular variety, and in a large majority of cases with obstruction of the nares, which latter stood in a causative relation to both the laryngeal and the pharyngeal disease. The greater frequency of the disease among men than among women was attributed to greater exposure to the weather and the use of tobacco or alcoholic stimulants. Most patients had no well-defined idea of the cause of the trouble, but nearly all would be found to have suffered from what they termed "catarrh" for two or three years before the larynx had become involved. In a limited number, however, the laryngeal affection was not associated with inflammation of other parts, and seemed to be due to an hereditary or acquired predisposition to inflammations of the mucous membranes. Though recognizing the causes usually described as operating to produce recurrent inflammations in the larynx, he believed that in the great majority of cases obstructions of the nares were directly responsible, and, among the various conditions interfering with free nasal respiration, deflection and thickening of the septum, swelling and hypertrophy of the turbinated bodies, or all three together, constituted the cause in nearly all cases. The obstruction caused rarefaction of the air in the naso-pharynx; this led to congestion, which ended in inflammation of the part, and that was aided by the pernicious effects of buccal respiration. One of the principal symptoms that almost invariably was associated with a case was inability to breathe through the nose, and usually this symptom had been present for years. The diagnosis was certain, and the tendency was for the patient to grow worse. It resulted in persistent chronic inflammation. The singing voice was likely to be lost. Atrophy of the nasal tissues and chambers would be apt to follow. This occasionally preceded consumption, yet it was not a result of it, but was a direct cause of chronic laryngitis. But a very small number of lives were shortened by it. The treatment of cases due to the cause first mentioned was by local applications of [illegible] and astringents and the use of constitutional remedies. For those due to obstruction, surgical interference was deemed necessary in most cases, although the employment of hydrochlorate of cocaine frequently might greatly relieve the swelling and give temporary relief and perhaps answer a sufficient purpose in mild cases. His conclusions were: 1. The affection was usually dependent upon nasal obstruction. 2. The obstruction in the majority of cases was due to deflection and thickening of the septum or hypertrophic catarrh. 3. To effect a permanent cure local remedies were usually [illegible] and the obstructing tissues must be removed. 4. Operative procedures for removal of these obstructions might be made painless by the use of hydrochlorate of cocaine. 5. This method of treatment, properly carried out, might be relied on to cure the catarrh and the laryngitis of which it was the cause. 6. Great improvement in the general health often immediately followed the removal of the nasal obstructions. 7. In acute colds or exacerbations of hypertrophic catarrh, immediate relief might be obtained by insufflations, as often as needed, of small quantities of cocaine.

(To be continued.)

NEW YORK SURGICAL SOCIETY.

Meeting of May 26, 1885.

The Vice-President, Dr. Charles McBurney, in the Chair.

Primary Excision of the Wrist Joint.—The Vice-President presented a patient who had received an unusual injury three months before, his hand having been caught between the couplings of an engine and a car, and all the bones of the carpus, except the scaphoid and the pisiform, crushed. The metacarpal bones, and also the radius and ulna, entirely escaped injury. A large wound was produced along the inner side of the hand, lifting up about six inches of the skin, but the tendons were not torn. The comminution was so great as to require removal of all the bones of the carpus except the scaphoid and the pisiform. The operation was performed under bichloride irrigation, and a firm, permanent antiseptic dressing applied with iodoform gauze and plaster of Paris, which was kept in place eighteen days, after which the dressing was changed occasionally. There was no rise of temperature at any time during the progress of the case. The man now had some power of motion at the wrist in every direction, even some lateral motion, and the motion of the fingers was steadily increasing. The result was very much more satisfactory than Dr. McBurney had expected. He did not know of a case where the bones of the wrist had been so entirely crushed without injury to adjacent bones.

Persistent Priapism.—Dr. L. A. Stimson presented a man, forty-eight years of age, who had come under his care about a week before, having a good family history, but a doubtful history of syphilis, and who had been married twenty-five years. The first thing the patient noticed was that, recently after having sexual intercourse, his erection was slow to subside, and nearly three months ago, without previous trouble, except rheumatic pains simulating sciatica, he noticed upon the glans penis two slightly raised, deep-colored spots, one on either side, and this was immediately followed by priapism which had continued until the present time. The penis had remained as it was now, without change in size or color. It was first treated by elastic pressure, which resulted in slight superficial sloughing of the glans. The organ measured six inches in circumference, six inches in length upon the dorsal surface, and ten inches and a half from the bulb to the glans. The bulb shared in the erection, as did also the crura, although the right crus was somewhat less involved than the left. There was a slight dorsal incurvation, also a slight concavity toward the right. The only noticeable feature in the general appearance of the patient was a peculiar livid color of the lips, and there was exaggeration of his reflexes, most marked upon the right side. There were no symptoms of locomotor ataxia. The blood had been examined and showed no excess of the white blood corpuscles, although there was a distinct enlargement of the spleen and liver, and also some consolidation at the apex of the right lung and some pleuritic friction sounds upon the left side of the chest. There was but slight sexual appetite. The patient's principal suffering was from an aching pain in the perineum. The stream of urine was small, but there was no pain on micturition.

Dr. T. M. Markoe referred to a case of priapism occurring in a patient in whom there were symptoms of leucocythæmia. The peculiarity of the case, however, was in the fact that the erections seemed to be confined to the corpora cavernosa. The glans penis was almost entirely flaccid, as well as the entire corpus spongiosum.

Dr. A. C. Post had had under his care a man somewhat older than Dr. Stimson's patient, who had priapism equal to this, which had continued for about three months. Otherwise he was apparently a healthy man.

The Vice-President thought that the suddenness with which the condition developed would seem to dispose of the idea of pressure on blood-vessels as the cause, unless it was from extravasation of blood, and it would also seem to forbid the supposition of leucocythæmia as a cause. The history of the case would lead one to think of some neurosis, perhaps some disturbance of the sympathetic system.

Dr. Stimson regarded the case as of central origin.

Injuries of the Blood-vessels in the Reduction of Dislocations of the Shoulder.—Dr. Stimson then read a paper with this title. [See page 658.] In connection with his paper, he presented a specimen removed post mortem from the patient whose case Dr. Sands had reported to the society in December, 1879, a woman eighty-six years old with a dislocation of the shoulder of seven weeks' standing. Ether was given. Slight movements were made to break up adhesions, and then gentle traction upward and outward was employed. Immediately a swelling appeared in the axilla, the radial pulse ceased on the affected side, and the patient was extremely prostrated, death by syncope appearing to be imminent. The condition was relieved by hypodermics of brandy, and the arm bandaged to the side. For several days the patient remained in a critical condition, attacks of syncope occurring every night, but she gradually recovered. She died in May, 1885, five years and a half after the accident. The specimen consisted of the upper part of the humerus, the adjoining portions of the scapula and clavicle, the artery, and some of the nerves. The head of the humerus had torn through the subscapularis muscle and lay below and to the inner side of the coracoid process. It was slightly rotated outward; the greater tuberosity had been torn off and occupied the glenoid cavity, but had united with the humerus again. The subscapularis lay between the humerus and the head of the scapula, and was firmly united to both. The artery and median nerve lay at the inner border of the anterior aspect of the head of the humerus, and were adherent to it. The artery was most firmly fixed at the lower part of the head, and there presented a marked narrowing and a change in direction of about 30°, the angle being open externally. The posterior circumflex artery, very much larger than usual, was given off a quarter of an inch below this narrow point. When the specimen was fresh, liquid injected into the upper end of the artery had flowed freely from its lower end; but, on cutting it open longitudinally on each side of the constriction, it had been impossible to detect a channel through the latter, and it was probable that the liquid had made its way through collateral branches, returning to the main artery through the dilated circumflex. The subscapular artery could not be found. The artery for an inch and a half above the occluded point was occupied by a decolorized clot adherent to its posterior wall and terminating above just below the origin of the acromio-thoracic. The artery was not atheromatous. The injury appeared to have been either a rupture of part of the wall of the artery, or possibly an avulsion of the subscapular branch; and the arrest of the hæmorrhage had probably been aided by the pressure of the head of the humerus upon the vessels and by the syncope.

Dr. Post said these cases formed an extremely small proportion of the cases of old dislocation which had been reduced, and he would like to ask whether the danger of rupturing an artery was sufficient to deter one from undertaking to reduce such dislocations. He had had a number of cases of this character, and had succeeded in several instances in reducing the dislocation at the end of five or six months without doing injury, although he had not resorted to a very great amount of force or violent movement. It had seemed to him to be legitimate to resort to surgical manipulations for the purpose of reducing the dislocation, and he would like to know if he had been wrong in that view.

The Vice-President thought that when dislocation occurred in a moderately young individual, when the parts had not been manipulated very much, and when the history showed that the first injury had not been followed by very much swelling or inflammatory action, an attempt at reduction might be proper, even a considerable time after the occurrence of the injury. But where other conditions were present, and the case occurred in an old person, the results were not very satisfactory, even when the dislocation was reduced, and it might be questionable whether the effort should be made; at least such cases called for caution. So far as statistics went, Dr. Stimson's collection had not purported to include a number of other accidents, such as fracture of the humerus, which occurred rather frequently.

Dr. Stimson said he had not directed attention to other accidents, although he had known of three cases of fracture of the humerus occurring in one surgical service within six months as a result of efforts to reduce old dislocations.

Dr. R. J. Hall asked if it would not be a more scientific procedure to cut down and liberate the head of the bone.

Dr. Stimson remarked that this had been done with success.

Epithelioma of the Rectum.—Dr. Post presented a specimen of epithelioma of the rectum which he had removed that afternoon at St. Luke's Hospital from a man fifty-three years of age, of good general health and constitution, who had been subject to hæmorrhages from the rectum during the preceding two years, with more or less pain, but the disease had not advanced so far as to cause symptoms of obstruction. When Dr. Post first saw the patient he found that there was a morbid growth within the rectum not connected with the sphincter, being at least 3 or 4 ctm. from it. He was able to pass his finger above the diseased part, and, on drawing upon it, the mass seemed to move freely upon the surrounding parts. He determined to excise the tumor and make an effort to save the sphincter, which he succeeded in doing. He began by making an incision through the posterior part of the anus down to the coccyx, laying open the posterior part of the rectum, and then making an incision, each side at a distance of 2 or 3 ctm. from the anus. The lateral incisions were extended backward and curved inward so as to meet the median posterior incision. These lateral incisions throughout their whole extent were outside the rectum and did not involve its coats. As he approached the wall of the rectum he made the dissection with a blunt instrument and with the fingers, using the knife and scissors as little as possible. He succeeded in reaching as high as the upper extremity of the tumor, and then divided it into two lateral portions, opening it before and behind and cutting through the walls of the rectum above and below it. It was somewhat difficult at certain points to make these incisions, but he succeeded finally after a protracted dissection. There was only a moderate amount of hæmorrhage, and no oozing of blood at the close of the operation. He applied to the surface a solution of chloride of zinc, forty grains to the ounce, irrigated the wound with mercuric bichloride solution, 1 to 1,000, drew the parts down and connected the mucous membrane above the excised part to the parts below, and made a continuous canal on all sides. He then

dusted the parts with iodoform, introduced a tent of iodoform gauze into the rectum, applied iodoform gauze over the surface with absorbent cotton, and applied a T-bandage. The case was an unusually favorable one for operation because of the facts that the sphincter was not involved, and the disease was almost entirely confined to the mucous membrane and the parts immediately adjacent to it.

Dr. George A. Peters said that the case seemed to him to be a very favorable one for operation from the fact that Dr. Post had been able to get good coaptation throughout the entire circumference of the bowel.

New Inventions, etc.

ARTIFICIAL EPISTAXIS.

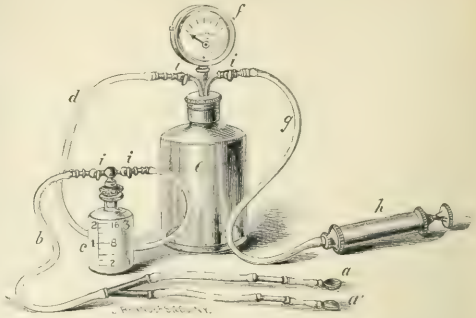
By J. Leonard Corning, M. D.

It has long been the practice among certain practitioners to resort to local bloodletting about the head and posterior aspect of the neck, with the object of exerting a derivative effect upon the intra-cranial blood. Medical literature abounds in histories which are supposed to illustrate the efficacy of such procedures. Where the amount of blood withdrawn has been large, an undoubted intra-cranial depletion has been produced, chiefly referable to the abstraction from the quantity of the blood as a whole, and not to the local effects of the operation. When, however, the amount of blood withdrawn from the circulation is small, it is questionable whether the local effect upon the circulation of the brain is at all appreciable. This lack of effectiveness is in great measure due to the fact that, in abstracting from the head and neck, the circulation in the external carotid is chiefly affected.

In contra-distinction to the unsatisfactory results obtainable from local bloodletting, as above described, are the excellent therapeutic effects which sometimes result from an ordinary "nose-bleed." Literature contains many instances of headaches spontaneously relieved, epileptic attacks aborted, and the complexus of symptoms resulting from cerebral congestion exorcised by a spontaneous hæmorrhage from the nasal cavity. To what is this benignant influence of an ordinary epistaxis attributable? The answer, I believe, is not far to seek, the whole question being readily understood when we remember that the anterior ethmoidal artery is a branch of the ophthalmic, which latter artery in turn derives its blood from the internal carotid. When, therefore, epistaxis takes place, the terminal branches of the ethmoidal artery, which are distributed about the anterior portion of the septum and nasal cavity, are liable to rupture; or, if the immediate branches of the artery itself are not injured, then are some of its anastomotic communications sure to be broken. In either case the result is the same—an ultimate abstraction of blood from the cerebral circulation, by way of the ethmoidal, the ophthalmic, and the internal carotid.

Guided by the theoretical and practical considerations referred to, I have inferred that it would be a matter of some practical value if an apparatus could be devised by means of which it would be possible to abstract blood from the mucous membrane on each side of the septum corresponding to the distribution of the anterior ethmoidal artery. The apparatus I have devised consists of three principal parts. It consists in the first place of the bottle (*a*), which is connected with the vacuum jar (*b*), in such a way that it is possible to create a vacuum in the former (*a*). The gauge (*c*) registers the degree of approach to a vacuum. An India-rubber tube connects the jar with the small bottle (*d*), which is provided with a cork. A tube (*e*) connects the cork of the bottle (*d*) with the two small cupping bowls (*g g*), the latter are supported by means of rubber connection into each nostril respectively. At these points of contact, in fact at various other points, it is possible to shut off communication by means of the stop-cocks (*i i i i*).

The mode of operation is simple enough. The cupping bowls having been introduced, a small scalpel is inserted in turn beneath the edge of each, by means of which the mucous membrane of the septum is slightly scarified. The cupping bowls are then connected with the



vacuum jar and with the bottle by opening the appropriate stop-cocks. These valves (*i, i, i, i*) require no explanation, as their function is self-evident from the situation which they occupy. Short segments of glass tubing, inserted in the India-rubber pipes below the cupping bowls, enable the operator to observe whether the blood is flowing properly, or whether further scarification is necessary. As the blood flows into the graduated bottle already described, it is possible to determine with accuracy the amount removed.

The advantages of such an apparatus over ordinary leeches are great; it is only necessary to refer to the danger arising from the possible migration of the latter into the upper, inaccessible recesses of the nasal cavity to make this point clear.

An instrument of this kind might, perchance, find a further application in gynæcology and other branches of surgery, for the purpose of abstracting blood from the vagina, the rectum, and other cavities. As for myself, I have never had occasion to employ the device otherwise than in the exigencies arising in neurological practice.

Finally, it may be well to note that the previous application of cocaine to the membrane of the septum, by means of the spray or tampon, renders the little operation of scarification practically painless. In the case of a gentleman from whom I recently abstracted an ounce and a half of blood with the mechanical leech above described, I was able to prevent the slightest unpleasant sensation by the use of a four-per-cent. solution of the hydrochlorate of cocaine.

26 West Forty-seventh Street, *May 15, 1885.*

Miscellany.

The Constitutional Treatment of Caries and Necrosis.—This is the title of an interesting paper lately published in pamphlet form by Dr. Hal C. Wyman, of Detroit, professor of physiology and histology in the Michigan College of Medicine. "The surgical aspects of these distinct maladies," says Dr. Wyman, "have been the subject of discussion by surgical writers from the earliest times. Good surgical treatment implies constitutional treatment as well as operative methods. My purpose in submitting this paper is not so much to show any particular method of operative interference as to indicate the great value of judiciously selected constitutional treatment in repairing these particular diseases.

"A glance at the minute anatomy of bone and a consideration of the conditions under which the repair of damage takes place show that bone, like the other tissues of the body, requires good food and pure air as essential factors in the production of good blood, for its normal sustenance. The relation of the digestive process to the maintenance of vigorous and nutritious bodily fluids is apparent to those most experienced in the management of disease. Any derangement or impair-

ment of the digestive process, or ferments, produces a consequent impairment of blood supply delivered to the bones. The days and nights of pain incident to the usual course of caries or necrosis disorganizes the digestive functions. The shock and fear, and chloroform narcosis incident to the operative procedures, frequently necessitated by these diseases, also undermine the digestive functions.

"Children are the most frequent sufferers by these diseases. The impaired digestive functions in children yield more readily to properly selected treatment than is the case with adults. The conversion of starch into sugar by the digestive ferments is more frequently impaired in children suffering from caries and necrosis than is the conversion of albuminoids into assimilable substances. The use of artificial diastase is, therefore, indicated on the best of physiological grounds. Hip-joint disease, caries of the spine, chronic inflammation of the knee, and caries of the long bones are for some reason constantly accompanied by malassimilation and indigestion of the starches. When such cases proceed to a good, sound recovery it is through a thorough restoration of this particular digestive power, or a compensatory increase of the digestive power for hydro-carbons. In no case of hip-joint disease, were the operative methods ever so carefully or skillfully performed, has there been a repair of lesions until the digestive ferments have handled the starches perfectly. The same fact applies to the other varieties of bone diseases above mentioned.

"My experience in the treatment of hip-joint and spinal cases, necrosis and caries of the various bones, embraces large numbers of cases, probably because my professional brethren have lacked the patience and perseverance and rigid attention to the digestive power essential to the cure of these long-time maladies. The Trommer extract of malt has been of great service in enabling me to bring numbers of these cases to a happy termination, and in a space of time of shorter duration than is accomplished by the use of cod-liver oil or hypophosphites."

The author cites the following cases:

1. W. S., aged eight years, of Lenawee County, Mich., had double hip-joint disease, with sinuses in the right gluteal fold, over the right trochanter, and near the base of the left Scarpa's triangle, on the inner aspect of the left thigh. He could drink milk, but ate no bread nor potatoes. He was ordered a teaspoonful of Trommer's extract of malt every three hours, and was put on a diet of corn-meal, bread, potatoes, milk, and eggs. The sinuses were laid open, drainage was effected by maintaining free openings with oakum tents, and plaster of Paris was applied to the thighs and pelvis to limit the mobility of the hip joints. The sinuses closed at the end of five months, and there was ankylosis of the left hip, with limited motion of the right one. The child came under treatment in May, 1877, and has had no return of the disease to date.

2. Miss F., aged sixteen, consulted the author on account of a constant dull, uneasy feeling in the epigastric region, accompanied by emaciation, pallor, and poor appetite. Her movements were awkward; she had pain in riding, and could walk easier than she could sit. Examination of the spine revealed a small fluctuating tumor about two inches to the left of the spinous processes, between the eighth and ninth ribs. Caries of the dorsal vertebræ was diagnosticated. She was put upon the use of extract of malt—a tablespoonful every four hours. The abscess was opened, a double drainage-tube was inserted to the depth of four inches, and the abscess cavity was washed out daily with a one-per-cent. solution of carbolic acid. There was a profuse discharge of pus for two weeks. A plaster-of-Paris jacket was applied. The discharge of pus was succeeded by that of a thin, serous fluid; the pain disappeared from the epigastrium, and she progressed favorably for two months. She then passed into the hands of another practitioner, the plaster of Paris was removed, the drainage-tube was withdrawn, the sinus closed, and so-called blood medicines were administered. The pain returned in a fortnight, the sinus reopened, and angular curvature developed suddenly. She then came into Dr Wyman's hands again, with a marked angular curvature, the abdomen distended (the lower part being compressed and the upper portion narrowed), severe epigastric pains, and a white and pasty tongue. She was sleepless and feverish. He applied the plaster of Paris again, enlarged the sinus and introduced a drainage-tube; washed out the cavities as before; and administered Trommer's extract of malt, in tablespoonful doses every four hours, for a year and a half. The drainage-tube came away spontaneously, and the sinus healed. The plaster was applied four times. At the date of the report there had been no return. She had married, and was the mother of one child.

3. J. R., aged thirteen years, of Monroe County, Mich., a large, raw-boned boy, had been sick four months. The left thigh was flexed upon the abdomen; the toes were inverted; there was fluctuation in the obliterated left gluteal fold, with pain in the knee, sleeplessness, and loss of appetite. The temperature was 101°. The abscess was opened and a drainage-tube inserted. Plaster of Paris was applied to the leg, thigh, and pelvis; the leg and thigh were extended under chloroform, and one inch was added to the thickness of the right sole. He used a crutch. He took extract of malt in tablespoonful doses every four hours, and, six months after coming under treatment, the sinus had closed and the injury had been repaired by ankylosis.

4. W. R., aged fourteen, of Fulton County, Ohio, of German parentage, had been a robust farmer's lad until he was attacked, two months before the author saw him, with phlegmonous erysipelas of the right leg and the left thigh and knee. A sinus had opened on the outer aspect of the right leg and behind the external malleolus. A probe, passed along the whole length of the right fibula, gave the rough feeling indicative of necrosis; the left thigh and knee joint were swollen; there was fluctuation in the left ham, and he had hectic. The left leg was laid open by an incision along the course of the fibula, and the whole of that bone was removed from the malleolus upward. The abscess in the left ham was opened by free incision, and treated by drainage by means of a tent. The left knee, leg, and thigh were incased in plaster to immobilize the knee. He took Trommer's extract of malt, a tablespoonful every three hours. The wound in the right leg healed promptly; the fever disappeared; the abscess in the left thigh healed; and the knee joint healed by ankylosis in two months after the treatment was begun.

5. A German boy, aged nine years, from Lenawee County, Mich., of good general health, was lost in the woods over-night, while searching for cattle. There was a fall of snow the same night; the boy's boots were ragged and his feet suffered terribly from frost. He came under treatment three weeks after the exposure, having been sick ever since. He had fever and chills; a sinus had opened about the left heel; the foot and ankle were swollen and œdematous, and a probe showed the os calcis carious and necrosed. An incision was made across the heel, below the insertion of the tendo Achillis; the os calcis was removed with a forceps, and the wound was washed daily with a weak carbolic-acid solution. He took a teaspoonful of extract of malt every three hours. He was cured in four months, but the foot was not of much use.

"These cases occurred so long ago," says Dr. Wyman, "that plenty of time has elapsed for a return of the disease if the cures had not been perfect. They are sufficient to show the value of the treatment employed. Other cases have occurred since and the patients have recovered. Many other patients are still under treatment and will recover. I attribute the good results in the cases mentioned fully as much to the artificial digestion of starchy foods craved by these patients as to the operative methods employed, and believe that in many instances the cases would have progressed to the same happy ending had the rigid attention to the diet only been employed, but more time would have been necessary."

The American Neurological Association will hold its eleventh annual meeting in New York, at the hall of the Academy of Medicine, on Wednesday, Thursday, and Friday, the 17th, 18th, and 19th inst. The programme includes the following papers: "The Relation between the Symptoms and the Lesions of Posterior Spinal Sclerosis," by Dr. E. C. Spitzka, of New York. "A Case of Acute Ascending Paralysis (Landry's Disease)," by Dr. J. T. Eskridge, of Philadelphia; "A Case of Chronic Myelitis—Recovery," by Dr. A. D. Rockwell, of New York; "On the Use of Osmic Acid in Peripheral Neuralgias," by Dr. G. W. Jacoby, of New York. "Clinical Observations on Spinal Lesions," by Dr. Spitzka. "Paronymy versus Heteronymy as Neurological Principles," by Dr. B. G. Wilder, of Ithaca, N. Y. (the President's Address); "The Brain of a Delusional Monomaniac who killed several persons,"

by Dr. C. K. Mills, of Philadelphia; "On a seldom-described Artery (A. Termatica), with Suggestions as to the Names of the Principal Encephalic Arteries," by Dr. Wilder; "Exhibition of Preparations illustrating (a) the Form and Extent of the Adult Aula; (b) the Non-extension of the Rima to the Tip of the Medicornu; (c) the Enlargement, yet Complete Circumscription, of the Porta in an Alinjected Hydrencephal; (d) the Fimbrial Revert and its Relation to the Prosoplex; (e) the Continuity of the Diacœlian Endyma from the Mesal Surface of the Thalamus over the Habena to the Diatele; (f) the Insula in a Dog, a Monkey, a Chimpanzee, and a Porpoise," by Dr. Wilder; "Demonstration of a Brain Monstrosity," by Dr. Spitzka; "On Two little-known Cerebral Fissures, with Suggestions as to Fissural and Gyral Names," by Dr. Wilder; "Two Cases of Friedreich's Disease," by Dr. Wharton Senkler, of Philadelphia; "The Anatomy and Physiology of the Tracts comprised under the name Lemniscus or Fillet" and "The Anatomy of the Trineural Fasciculus," by Dr. Spitzka; "Preliminary Report of the Committee on Encephalic Nomenclature," by Dr. Wilder; and "A Contribution to the Pathology of the Cerebellum," by Dr. E. C. Seguin, of New York.

The New York County Medical Association.—A stated meeting of this association will be held at the Carnegie Laboratory, Nos. 338 and 340 East Twenty-sixth Street, on Monday evening, the 15th inst., at 8 o'clock. The order of business is as follows: 8 P. M., "A Few Practical Remarks on Rupture of the Perinæum," by Frank H. Hamilton, M. D., LL. D.; 8.30, a paper on "Persistent Flatness over the Liver as a Proof that Acute Diffuse Peritonitis is not associated with Intestinal or Gastric Perforation," by Austin Flint, M. D., LL. D.; 8.45, "Intussusception of the Intestines, with the Report of a Case," by Charles S. Wood, M. D.; 9.10, a paper on "A Method of Direct Local Treatment for Diseases in the Region of the Ileo-cæcal Valve, and also for the Safe Removal of Impactions of the Intestines," by Charles A. Leale, M. D.; 9.20, Presentation of Specimens; Discussion of the Papers in their order.

The Health of Michigan.—By a summary kindly furnished by Dr. Henry B. Baker, the secretary of the State board of health, we learn that during the month of May diphtheria was reported from Alamo, Allegan, Armada, Avon, Bancroft, Brighton, Calumet, Cold Spring, Columbiaville, Concord, Detroit, Flint, Grand Rapids, Howard City, Kalamazoo, Lakeview, Lansing, Linden, Manton, Mead's Mills, Monroe, Paw Paw, Port Hope, Port Huron, Sand Lake, South Haven township, Wayne, White Oak township, Winfield township, and Wyandotte; scarlet fever from Albion, Brown City, Burr Oak, Detroit, Dover, Grand Rapids, Houghton, Ithaca, Kalamazoo, Kalamazoo township, Lansing, Linden, Lowell, Marcellus, Marshall, Mancelona, Milford, Monroe, Northville, Paw Paw, Petersburg, Pierson township, Shepardsville, South Haven, Tekonsha, and Wyandotte; measles from Au Sable, Benton Harbor, Cass City, Detroit, Flint, Grand Haven, Grand Rapids, Harbor Springs, Hastings, Lansing, Lisbon, McBride, Morenci, Niles, Northville, Pentwater, Pierson, Paw Paw, Port Huron, Wyandotte, and Ypsilanti; and small-pox from Alba, Battle Creek, and South Haven.

The New York Post Graduate Medical School and Hospital.—We learn that Dr. Edward L. Partridge has resigned from the faculty.

The Influence of the Salines in the Blood upon the Cardiac Contractions. Dr. Sidney Ringer contributes a paper on this subject to a recent number of the "British Medical Journal." His experiments were made with the [illegible] heart, different fluids being allowed to flow through the ventricles. A solution of pure water speedily threw the cardiac muscle into a state of rigor mortis. A solution of common salt (0.5 per cent.) caused the heart to contract very feebly and irregularly, but lime salts did not thus paralyze. A combination of chloride, sodium, and potassium chlorides in proportions [illegible] from the heart as removed from the body, but a solution of these salts in a neutral reaction, so that, according to Ringer, is unable to render the blood perfect in all respects [illegible] to it. The normal contraction of the ventricle may be given by the presence of a neutral mixture [illegible] sodium chlorides on the one hand and potassium [illegible] on the other, the relative proportions [illegible] The [illegible] the proper contraction of the heart depend. The important practical deduction from the foregoing is, that in employing intra-venous injections the value of this combination of salts should be borne in mind.

Removal of the Thyroid Gland.—Wagner ("Ctrlbl. f. Chir.") has carried on a series of experiments with the object of determining the relation of the thyroid gland to the general nervous system. All the animals in which the entire gland was removed died, while two in which only half of it was excised recovered. Death was invariably preceded by epileptoid convulsions or tetanus. From the resemblance of these symptoms to those of uræmia, the writer thinks that possibly the thyroid may excrete or absorb some toxic element, which is retained in the blood after the removal of the gland.

THERAPEUTICAL NOTES.

Subcutaneous Injections of Cyanide of Mercury in Syphilis.—Prochorow ("Wratsch"; "Ctrlbl. f. Chir.") reports eighty cases of syphilis treated with subcutaneous injections of a one-per-cent. solution of the cyanide. The average number of injections required before the disappearance of active symptoms was twenty. Not more than twenty-five or thirty drops were injected at a time. Only two abscesses resulted from nearly twenty-seven hundred insertions.

Phenic Acid in Typhoid Fever.—Robin ("Arch. gén. de méd."; "Ctrlbl. f. klin. Med.") is decidedly opposed to the use of this drug in typhoid fever, since it increases the waste of sulphur and potassium, and thus causes a condition of "*inanition minérale*." According to the author, thymol, resorcin, benzol, and naphthalin are equally deleterious in typhoid fever.

Antiseptic Inhalations in Pulmonary Tuberculosis. — Miquel ("Bull. gén. de thérap.") recommends the use of a spray containing the following ingredients:

Corrosive sublimate	16 grains;
Sydenham's laudanum	5 drachms;
Distilled water	2 quarts.

Le Fort (*Ibid.*) prefers this combination:

Camphor	8 ounces;
Tincture of iodine, Pitch, each	30 drachms;
Hoffmann's anodyne	1 ounce.

This should be placed in a wide-mouthed bottle, and the vapor inhaled at short intervals.

A Solution for Use in Pulmonary Gangrene.—Bucquoy (*Ibid.*) suggests the following:

Tincture of eucalyptus	30 minims;
Syrup of poppy	10 drachms;
Water	3 ounces.

The dose is not stated.

Sulphate of Quinine and Potassium Iodide incompatible.—Rabuteau ("Union pharm."; "Gazz. degli Ospit.") states that the simultaneous administration of these two drugs is fraught with unpleasant consequences, anorexia and general nervousness being often occasioned. He thinks that a chemical reaction takes place in the stomach, through the medium of the gastric juice, free iodine being the result. He states that if this occurs during menstruation the consequence may be fatal.

Sodium Ethylate in Lupus.—Startin ("Med. Press"; "Practitioner") has recently called attention to the value of this substance as a local application in lupus. Dr. B. W. Richardson had already used it with success in the treatment of nasal polypi.

A Resolvent Ointment for Chronic Inflammations of the Uterus.—Martineau ("Union med.") employs the following rather complicated formula:

Potassium iodide	75 grains;
Extract of belladonna, Tincture of benzoin, each	30 "
Sodium hyposulphite	8 "
Oil of sweet almond	2 drachms;
Benzoinated lard	6 "

To be applied to the cervix on tampon.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON.

BY AMBROSE L. RANNEY, M. D., NEW YORK.

LECTURE I.

(*Continued from page 629.*)

ELECTRICAL UNITS.—Before the construction of an electric battery and the modifications in such an apparatus necessary to produce special effects are considered, it is important that you familiarize yourselves with the various units of measurement employed in electricity, and their symbols. These are as follows:

THING MEASURED.	SYMBOL.	NAME EMPLOYED FOR UNIT.
Quantity.	Q.	*Coulomb.*
Current or Intensity.	C. or I.	*Ampère* or *Weber.*
Electro-motive Force.	E. M. F. or E.	*Volt.* (contraction of Volta).
Resistance.	R.	*Ohm.*
Capacity.	K.	*Farad.* (contraction of Faraday).
Work or Energy.	W.	*Joule.*
Power.	P.	*Watt.*

A COULOMB is the quantity that passes in one second of time against one ohm of resistance under an electro-motive force of one volt. We use this term as we do "pints" or "quarts" in speaking of fluids.

AN AMPÈRE is the current produced by one volt against one ohm of resistance. In medical practice, the milliampère is generally accepted as the unit of current-strength. An ampère will decompose ·00142 of a grain of water.

A VOLT is the electro-motive force necessary to produce a current of one ampère against an ohm of resistance. It practically equals the electro-motive force of one Daniell's cell. We speak of a battery as of so many volts just as we designate an engine as of so many horse-power.

AN OHM is the resistance necessary to allow of one ampère of current under an electro-motive force of one volt. It is equivalent to a piece of telegraph-wire one hundred metres in length and of a certain definite sectional area, or a column of mercury one square millimetre in diameter and 1·05 metre in height.

A FARAD is the capacity of a condenser which would contain a charge of one coulumb under an electro-motive force of one volt.

A JOULE is the amount of electric energy absorbed when a coulumb falls one volt. It is equivalent to about $\frac{1}{4}$ of the heat required to raise one gramme of water at 0. C one degree, or ·7373 foot-pounds.

A WATT is the power developed by one ampère falling one volt. It is equivalent to $\frac{1}{746}$ of a horse-power.

The prefixes "*meg*" and "*micro*" denote million and millionth. For example, a megohm is one million ohms; and a microhm is a millionth of one ohm.

The names selected for the various units of measurement are taken from those of prominent electro-scientists (Ohm, Volta, Faraday, Ampère, and others).

OHM'S LAW.—We are now prepared to consider the law of electric currents discovered by Ohm, by which the intensity of a current that will result from any combination of cells may be mathematically computed, and many other electrical problems solved. It may be thus stated:

$$\text{INTENSITY OF CURRENT} = \frac{\text{ELECTRO-MOTIVE FORCE}}{\text{RESISTANCE}\ (Internal + External)};$$

or, if expressed in symbols, $C \text{ or } I = \frac{E}{Ir + Er}$.

Now, in constructing a battery, the *object to be attained* must be first considered. A battery designed to produce heat (the *cautery battery*), for example, is not built upon the same plan as one designed for ordinary medical purposes.

Again, different cells (such as those devised by Daniell, Grove, Leclanché, Grenet, Bunsen, Smee, Hill, and others) possess special *advantages and disadvantages which have to be considered carefully* before a decision is made respecting the one which should be employed.

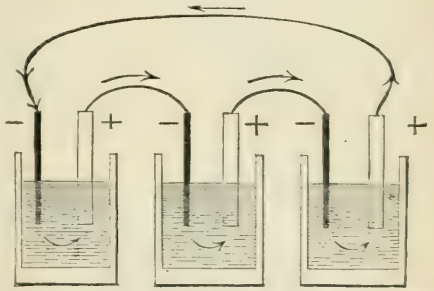


FIG. 5. A COMPOUND CHAIN (after Erb). Three sets of elements are here connected "behind one another," or "in series." The direction of the current is shown by the arrows. The circuit of closure is effected by a wire, as in Fig. 4, *b*.

Finally, the *number of cells*, the *arrangement of the elements*, and the *size of the elements* are problems to be determined with special reference to the purpose for which the battery is designed. These points will be touched upon hereafter.

It is important that a few facts be stated in the beginning respecting the more common methods of connecting and grouping galvanic cells. Subsequently, the different forms of cells employed by well-known manufacturers of electrical apparatus may be tersely described with advantage. Finally, the various attachments to an electric battery designed for medical purposes should be mentioned, and the uses of each briefly outlined.

Let us suppose, for the purpose of illustration, that we have decided to use a certain number of cells (one of the numerous forms subsequently mentioned) in preparing a battery for medical use. How shall we connect them so as to best accomplish our purpose?

If we join the carbon and zinc elements together (using that form of cell for example), and continue to do so throughout the entire series of cells (Fig. 7), we have formed what

is known as a "*compound circuit*," or an arrangement "in series." If we join all the negative or carbon elements together, and then the positive or zinc elements in a similar way, we have what is known as a "*simple circuit*" (Fig. 8). Finally, we may *divide the cells into groups;* then join those of each group in simple circuit; and afterward unite these groups as if they were single cells.

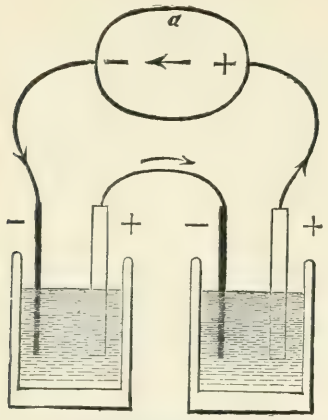


Fig. 6.—A Schematic Representation of the Introduction of a Human Body (a) into the Circuit of Closure of a Galvanic Chain (after Erb). − + = the anode; = the cathode.

Now, what will the effect of each of these methods of combination have on the intensity of the current? Ohm's law comes into play in deciding such a problem.

We must first ascertain the internal resistance of the form of cell which we have selected for our battery.* We must know also the external resistance which we shall have to overcome in our proposed use of it. Finally, we must ascertain the electro-motive force of the elements of each cell.

Suppose, for example, that E = 1, Ir = 20, Er = 10. The current of each cell would then be expressed as follows: $C = \frac{1}{20+10} = \frac{1}{30} = .033+$. Now, if twenty cells of this kind be joined in "simple circuit," the elements have each been practically increased twenty times, and the internal resistance has therefore been decreased twenty times. The external resistance remains the same. We therefore have $C = \frac{1}{\frac{20}{20}+10} = \frac{1}{11} = .0909+$.

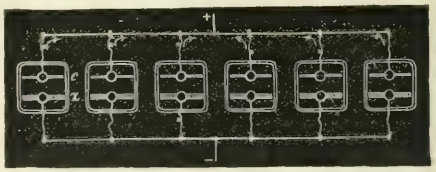


Fig. 7. Six Cells connected for Quantity, i.e., "in surface," or in "simple circuit." (After De Watteville.) *z*, zinc elements; *c*, carbon or platinum elements. This arrangement does not affect the "electro-motive force" of the battery.

If these cells be now arranged in "compound circuit," the electro-motive force and the internal resistance will be increased twenty times. We should thus have the following formula: $C = \frac{1\times 20}{20\times 20+10} = \frac{2}{41} = .048+$.

Finally, if the cells were arranged in four groups of five each in simple circuit, we should have practically four cells with elements five times as large; hence the internal resistance would be only one fifth that of a single cell and the electro-motive force four times as great. We should then have the following formula: $C = \frac{1\times 4}{\frac{20}{5}+10} = \frac{4}{14} = \frac{2}{7} = .285+$.



Fig. 8. Six Cells Connected for Intensity. (After De Watteville.) *z*, zinc elements; *c*, carbon or platinum elements. This arrangement is known as "in series" or "compound circuit." It increases the "electro-motive force" of the battery.

Remember that the *electro-motive force means the difference in potential of the cell-elements. It is therefore unchanged by their size.* A cup of water elevated one hundred feet will produce as much pressure through a pipe connected with it (provided that the cup be kept constantly filled) as would a lake ten miles in circumference, at the same elevation and similarly connected with the pipe. So it is with electro-motive force. The size of the elements will alter the *quantity* of electricity generated; but the electro-motive force of a cell or battery will remain undisturbed by increasing or diminishing the size of the elements. I frequently hear this remark made: "The cells are too small for medical purposes, are they not?" To this question I would reply that intensity of current and moderate quantity are to be aimed at in constructing a medical battery.

The few illustrations which have been given show that the current strength has been modified in each instance by the changes made in the arrangement of the cell elements.

If, however, we took a higher external resistance (as would be required in a medical battery—say about 2,500

* To compute the internal resistance of a cell or battery requires apparatus not generally owned by medical practitioners, *i. e.*, a coil resistance which may be confidently regarded as accurate, and a carefully calibrated galvanometer by a standard maker. The rule given by De Watteville, and copied from him, apparently, by Amidon, would be simple if it were true. I have tested it again and again, and have personally demonstrated its incorrectness. I have also had a professional acquaintance test it. He arrived at the same result. Factory [illegible] The rule of De Watteville to which I refer, is as follows: First note the needle-deflection of the cell or battery to be tested under a given resistance. Then introduce sufficient additional resistance to reduce the recorded needle-deflection exactly one half. The added resistance will equal the internal resistance of the cell or battery tested. The internal resistance of any cell can be computed with accuracy; but [illegible] of the standard work [illegible] Many [illegible] the requisite information [illegible] resistance of the cell used by them, and that resistance, multiplied by the number of cells employed, will equal the [illegible] cells being coupled "in series," as shown in Fig. 7.

ohms), we should find that the simple circuit arrangement made but little difference in the power of the current, while the compound circuit materially increased the current-strength. It is important to remember, therefore, that the *external resistance is an important factor in modifying the strength of the current*, and that all combinations of cells are not equally efficient.

The most useful battery for medical purposes is one which is planned with a view of making the internal and external resistances as nearly equal as possible.

When we wish to construct a battery for *ordinary galvanic treatment*, it is best to overcome the high resistances encountered by using a *large number of small cells, with a high electro-motive force, coupled in compound circuit*—i. e., "in series." The aggregate internal resistances of the cells never will exceed the external resistance furnished by the living tissues.

In devising a battery for *electrolysis*, the arrangement should be such as will secure simple intensity. The resistance to be overcome by the current in passing through small portions of the body seldom exceeds 100 to 500 ohms. A *small number of cells of medium size* (16 to 24 of Grenet's cells), coupled in compound circuit, will give us the desired ends and accomplish the best results.

A *cautery battery* requires *very large plates, placed closely together*. In the "Piffard battery" the zinc plates are perforated, and the elements are so arranged as to be mechanically shaken in the fluid while the battery is in action. I regard this as the best instrument of its kind. Its action is continuous, and the heat generated may be maintained at any desired temperature by one familiar with its management.

The Various Forms of Cells.—Human ingenuity has been strained to its utmost for a century to devise an absolutely perfect galvanic cell. Space will only allow here of a brief statement of the varieties of cells now in common use. The construction of each and the peculiar advantages and disadvantages of each will be also tersely mentioned.

SPECIAL FORMS OF THE GALVANIC CELL.

All forms of galvanic cells may be classed under one of three groups, as follows: (1) one-fluid cells, with no depolarizer; (2) one-fluid cells, with a solid or liquid depolarizer; (3) two-fluid cells.

Each of these three varieties has many modifications, which are commonly named after the inventor. A few of each only need be mentioned.

I. One-fluid Cells, with no Depolarizer.—The elements of this group are all immersed in a fluid to which nothing has been added to prevent polarization (i. e., the formation of bubbles of hydrogen on the negative and of oxygen on the positive element of the cell during its period of activity).

Smee's Cell (1840).—Perhaps the best of this group is that devised by Smee. It consists of two zinc plates with one of platinized silver, suspended between the zincs, immersed in diluted sulphuric acid. The electro-motive force is about ·47 volt.

Walker's Cell (1859).—Platinized carbon in place of platinized silver is cheaper than Smee's cell. E. M. F. = ·66 volt.



Fig. 9.—Smee's Cell. This is a favorite with some manufacturers for a portable faradaic machine. In the author's opinion, it is far less satisfactory than Fuller's cell if the battery is a permanent one, or a Grenet cell if the battery is designed for transportation. It is active at first, but weakens rapidly from polarization.

II. One-fluid Cells, with Solid Depolarizers.—The best of this group is the cell devised by Leclanché.

Leclanché's Cell (1868).—The carbon element is packed in a porous cup, with the needle form of the black oxide of manganese surrounding it. This cup is then placed in a glass vessel, containing a rod of zinc and a solution of sal ammoniac. The cup is carefully sealed to prevent evaporation and escape of its contents. E. M. F. = 1·48 volt, when the battery is not polarized.

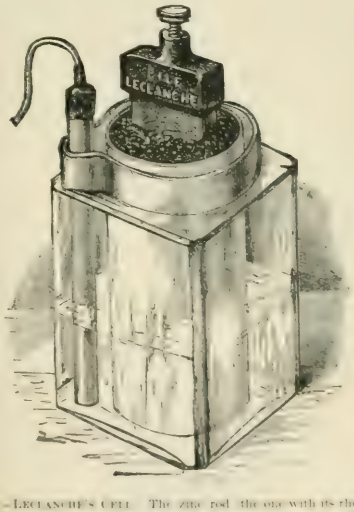


Fig. 10.—Leclanché's Cell. The zinc rod, the one with its rheophoreal cuched, is shown as immersed in a solution of ammonic chloride. The carbon element is seen to project slightly above the porous cup in which, when the cell is properly prepared for action, it is packed with peroxide of manganese and afterward covered with pitch.

Marié-Davy Cell.—Amalgamated zinc, acidulated water, carbon, and a paste of sulphate of mercury. E. M. F. = 1·52 volt.

Agglomerate Leclanché Cell.—The carbon is surrounded by plates of a special composition, which are bound around it by India-rubber bands. The internal resistance can be intensified by adding plates as desired. E. M. F. =

1·48 volt. The internal resistance with one plate = 1·8 ohm; with two = 1·4 ohm; with three = ·9 ohm.

III. One-fluid Cells, with Liquid Depolarizers.—Of this group the Grenet cell is the most used for medical purposes.

Grenet's Cell.—The elements are two plates of carbon and one zinc plate (amalgamated). The zinc element can be lowered into the fluid or raised at will. It lies between the carbons. The depolarizer is bichromate of potassium. The active constituent of the fluid is dilute sulphuric acid. These two ingredients form what is known as the "red-acid fluid." These cells are of different sizes.

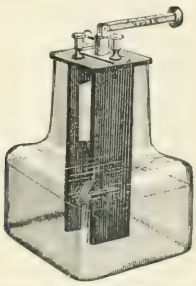


Fig. 11.—Grenet's Cell. The flasks come of all patterns, according to the taste of the various makers. In the form here depicted the zinc is lowered into the fluid by a jointed handle. This is the cell most used in all portable electrical apparatus. It is cheap, efficient, and easily repaired. Removing the elements and replacing them overcomes "polarization" in case the current grows weak from that cause. Some makers place the zinc in a drip-cup when the cell is not in use.

Trouvé's Cell (1875).—Similar to Grenet's, but of large size. E. M. F. = 2 volts. The internal resistance varies from ·0016, when first set in action, to ·07 after the "spurt." The plates are raised and lowered by a windlass. The extent of immersion can thus be graduated. This form of element is known as a "plunge-battery."

Fuller's Cell.—A porous cup containing zinc, mercury, and water is placed in a large glass jar containing red-acid fluid, in which a large carbon plate is immersed. The mer-

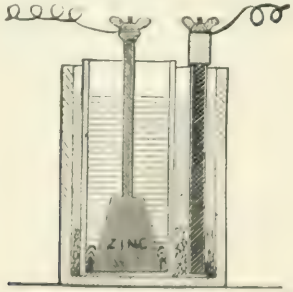


Fig. 12.—Fuller Cell. This [illegible] cell is a modification of the [illegible] It is not well adapted [illegible]

cury keeps the zinc amalgamated. The elements are not removed when the cell is not in action. This form of cell is perhaps the best one yet devised to run the Faradaic part of a medical battery.

IV. Two-fluid Cells.—In this group, the Daniell, Grove, and Bunsen cells are the most used. The two latter are not well adapted for medical purposes. The fumes which arise from some of them are unpleasant. Dynamos are now generally substituted for them in the mechanical arts.

Daniell's Cell (1836).—The so-called "sulphate of copper" cells (of various types) are modifications of that devised by Daniell. The elements are zinc and copper, separated in the original form by a porcelain or baked-clay diaphragm. The zinc is immersed in dilute sulphuric acid, and the copper in a saturated solution of sulphate of copper. E. M. F. = 1·079 volt. The solution for the zinc element may be pure water, salt and water, or a solution of sulphate of zinc.

Siemens and Halske's Cell.—This is a favorite cell for medical batteries in Europe. It is a modification of the

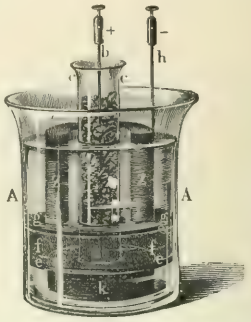


Fig. 13.—Siemens and Halske's Cell. This cell is very efficient, but it is expensive to repair when the battery becomes exhausted. It is highly recommended by some European authorities for use in a cabinet or permanent office battery. In this country the Leclanché cell is more favorably regarded.

Daniell's cell and is expensive. A copper rosette is placed in a saturated solution of sulphate of copper at the bottom of the jar; this is covered with a porous diaphragm packed



Fig. 14.—Bell's Gravity Cell. This cell is employed very extensively in telegraphy and is recommended by some authors for permanent medical batteries. When the jars are well paraffined at the top the cells do not "salt" badly. They require but little care when properly set up. Personally, I prefer a modification of this cell in which the zinc is placed within a suspended porous cup to the one shown in the cut. It requires less care, and is not affected by agitation. It also has a higher internal resistance.

with *paper maché*, on which the zinc rests surrounded by water. Water is added to the battery from time to time,

and also crystals of the sulphate of copper. This form of cell is very constant; but it is *extremely difficult to repair* when out of order. As a permanent battery, such cells may last a long time with proper care; but they often do not, as the cells may become impaired from a multitude of causes (poor construction, improper use, etc.).

Hill's Gravity Cell.—This is another modification of the Daniell cell. It is used in medicine by many neurologists. A copper plate rests on the bottom of the glass jar, covered with a saturated solution of sulphate of copper. The zinc element is a disk perforated by a large central opening, through which crystals of sulphate of copper may be dropped when the battery is inactive. A solution of sulphate of zinc floats, without an intervening diaphragm, on top of the copper solution, and immerses the zinc disk. This battery must not be agitated, as the two solutions would then become mixed. E. M. F. = 1·068.

Grove's Cell (1839).—This consists of amalgamated zinc immersed in dilute sulphuric acid within a porous pot. Outside of this pot platinum is immersed in nitric acid placed in a glass jar. E. M. F. = 1·96 volt. The platinum

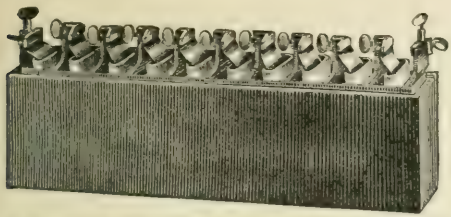


FIG. 15.—GROVE'S CELL. This cell shown here in the form of a battery is not used in medical practice, chiefly on account of the fumes which arise from it. If used in the mechanical arts, it is a very expensive cell to employ. Dynamo-machines have now taken the place of Grove batteries to a very great extent.

is bent into an S-shape to increase its surface. Many modifications of this cell have been made for use in mechanical arts. The fumes arising from it are very objectionable.

Bunsen's Cell (1840).—This is a modification of the Grove cell. The platinum is replaced by artificial carbon in



FIG. 16.—BUNSEN'S CELL. Parts are represented as broken away to show its arrangement: the cylinder of zinc (z), a porous cup (c), and the carbon within it. This cell is not employed in medical batteries, for reasons similar to those given in connection with Fig. 15.

the form of a hollow cylinder, and a cylinder of zinc is bathed in dilute sulphuric acid. E. M. F. = 1·9 volt.

(To be continued.)

Original Communications.

TUBERCULOSIS OF THE GENITO-URINARY TRACT.*

BY H. G. LYTTLE, M.D.,

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THE discovery first made by Lichtheim of the tubercle bacilli in the urine of the cadaver, and by Rosenstein in the urine of the living subject, has given us increased facilities for diagnosis, and added a new interest to this subject of tuberculosis of the genito-urinary organs. It is usually a part of general tuberculosis, about one patient in eighteen suffering from uro-genital tuberculosis; but primary phthisis of certain portions of this tract is, however, not infrequent, and without the lungs or other organs being affected.

The testicle, the kidneys, and the prostate, with the seminal vesicles, are centers of infection in the order named. From observations thus far recorded, the ureters are never primarily affected, but only by an extension of the process from the kidneys or bladder. The kidneys are more frequently affected in children than in adults. The bladder is very rarely the seat of primary phthisis, the disease extending nearly always from the kidneys, rarely from the prostate. The urethra is scarcely ever primarily affected, the infection extending from the bladder or prostate. The testicle is frequently the starting-point of the disease, from whence it extends to the prostate, the vas deferens not generally becoming affected, and, when it does, only at its commencement or termination.

The different organs are attacked in an irregular way, often one side only being affected—most frequently the right side. When the kidney is the starting-point the disease does not usually extend beyond the bladder or prostate. If the testicle is the primary seat of the disease, it does not usually extend beyond the prostate and bladder. When the prostate is primarily affected, the disease may extend in both directions, but frequently the kidneys and testicle are affected simultaneously with the prostate. The seminal vesicles may be affected independently of the prostate.

The history of reported cases would show that inflammation and injury act as predisposing and exciting causes. Terrillon† reports a case of primary tuberculosis of the epididymis, in a healthy young man of thirty-two, following closely an acute attack of epididymitis. The seminal duct, vesicula, and prostate of the same side became affected. Epididymitis as a complication of urethral disease is common, and there is generally a varying amount of exudation left behind, which may be a reason why tuberculosis attacks the epididymis oftener than the body of the testis. Thus, the globus minor is more affected in epididymitis, and tubercular disease attacks the globus major oftener than the globus minor; but I think it would be well to follow up those

* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 11, 1885.

† Terrillon, "Gaz. des hôp.," 1884, p. 122.

cases of epididymitis more closely and see if they do not sometimes end in tubercular disease.

Dr. D. P. Allen,* of Cleveland, Ohio, reports a case of primary phthisis of the right vesicula seminalis caused by encysted stone. Removal of the stone was followed by general miliary tuberculosis of both lungs. At the autopsy the right vesicula seminalis was found in a cheesy, tubercular condition. Verneuil † advances the hypothesis that "the primary tuberculosis of the genito-urinary organs, in cases where there is no scrofulosis co-existing or pre-existing, may, perhaps, originate in direct infection by means of coitus, the tuberculous micro-organisms migrating through the external sexual organs, proceeding to some point of the apparatus at which they find the most favorable condition for their stay and development."

Cases of gonorrhœal cystitis have been reported in which, in addition to the gonococci, tubercle bacilli were found in the urethral discharge; whether the tubercular disease was primary or had remained latent and been excited by the gonorrhœa was undecided. Tubercular disease of the urinary and sexual organs sometimes occurs as a result of scrofulosis and simple suppurative processes of the uro-genital apparatus, the spinal column, etc. In these cases the disease is not primary, but attention is called to it to show the necessity for thorough treatment in cases of chronic gonorrhœa and its complications when there is latent phthisis.

Pathological Changes.—There is a wide difference of opinion among pathologists on this subject. Rindfleisch ‡ states that in the testicle the cheesy nodules are due to some change in the interior of the intertubular lymphatic spaces of the gland, the tubuli seminiferi remaining passive. Virchow # states that the process always commences by a formation of small miliary tubercles in the loose connective tissue between the tubuli seminiferi, which becomes confluent and undergoes caseous degeneration, and never originates in the epithelium or in the interior of the tubules. It is also maintained that the miliary noduli spring from the adventitious coat of the blood-vessels. Probably in certain cases all three are correct. Curling ‖ thinks that in the majority of cases the disease results from abnormal conditions of the contents of the tubules.

The changes in the kidneys consist in the formation of yellow, cheesy infiltration, preceded by small, gray tubercles within the renal capsule, the cortex, the medullary substance, the pelvis, and the ureter. When these infiltrations break down, cavities are formed in the parenchyma which resemble abscesses, having a tendency to perforate into the pelvis. The tissue which has remained free from tubercles often presents nephritic changes. In the pelvis and ureters may be found ulcerations like those found in the intestines. The kidney is not much enlarged unless pyonephrosis exists due to obstruction of the ureter by the thickening of its wall or wedging in of cheesy masses. The surface of the kidney is vari-colored and has protuberances corresponding with the tubercular infiltrations. In some cases in the late stages there may be only the capsule filled with cheesy matter and remains of the calices.

In the bladder we find distributed tubercles or tuberculous ulcers, a favorite location being the trigonum and the ring surrounding the orifice. The ulcers sometimes lead to undermining and detachment of the mucous membrane. In some instances the whole inner surface of the bladder presents itself in a condition of ulceration.

Perforating ulcers are rare. The mucous membrane not involved is in a catarrhal condition, the urine often being ammoniacal.

Tubercular disease of the prostate probably commences in the glandular structure and not in the fibrous stroma. It occurs in the lateral lobes most frequently, in the form of minute yellowish deposits like millet-seeds. A mass forms which sooner or later breaks down and discharges into the urethra, leaving a cavity behind surrounded by a limiting membrane which secretes pus.

The diagnosis of primary tuberculosis of the genital organs has always been considered extremely difficult, but within the past year or two tubercle bacilli have been found in the urine of persons suffering from tuberculosis, also in the secretion coming from a fistula leading to the epididymis of a testicle which, upon removal, was found to be tubercular.

Isolated tuberculosis of the testis occurs much more frequently on the right side,* and is generally seen as a subacute inflammation, which goes on slowly to suppuration. There is very little pain until the cheesy mass softens, when the inflammation extends to the surrounding tissues, uniting them to the skin, which becomes inflamed, and the resulting abscess discharges itself, leaving a fistula. The differential diagnosis is to be made from cancerous or sarcomatous disease, from syphilitic disease, and from chronic epididymitis. That the diagnosis is not always easy is shown by the report of two cases by Walsham, of London, of removal of supposed other malignant disease of the testis which, upon examination, proved to be tubercular.

Tubercular disease commences in the epididymis and gives rise to an uneven, irregular tumor, which becomes attached to the scrotum, and the cord is early affected. Sarcoma and cancer nearly always commence in the body of the testis, produce a smooth, ovoid tumor, and are more painful as the disease goes on, and it is only at a later period that the cord becomes affected and the tumor adheres to the scrotum. If suppuration has occurred, an examination should be made for bacilli. In all cases an examination of the cord, prostate, and vesicula seminalis, as well as the lungs, should be made. In syphilitic disease of the testis the body of the testicle is affected, but there is no pain except that caused by its weight. It enlarges slowly, and does not usually go on to suppuration. There is generally some effusion into the tunica vaginalis. The process commences on the inner surface of the tunica albuginea, and not in the central portion of the testis, as when the body of the testicle is at-

* Med. Record," May 4, 1884, p. 505.

† Gaz. Hebd. de med. et de chir.," 1883, Nos. 14 and 15.

‡ See Ziemssen, Cyclopædia, translation, vol. ii, p. 189.

"Pathologie des Tumeurs," traduit de l'allemand, t. iii, p. 132.

‖ Diseases of the Testis," p. 300.

* Paul Furbringer, "Die Krankheiten der Harn und Geschlechtsorgane," Braunschweig, 1884.

tacked by the tubercular process. In subacute and chronic epididymitis there is pain, occurring early in the disease, with evidences of inflammation, and treatment gives decided results.

When the testicle is primarily affected, the disease extends to the other genito-urinary organs, and the patient dies with symptoms of phthisis, and perhaps without disease of the lungs or other organs. It is, however, said that the disease does not extend in this way, but that the process is a descending one from the kidneys, and that when the testicle becomes affected it is too late to do any good by surgical measures. This latter is in opposition to views held by most surgical authorities. The symptoms of primary phthisis of the prostate, bladder, and kidneys are the same as those of inflammation from other causes. When the kidney is primarily involved, the commencing symptoms are insignificant and indistinguishable. If there is no destruction of tissue, there is no change in the urine. If only one kidney is affected and its ureter obstructed, the urine might be normal. This might give rise to pain over the affected kidney, and possibly to colic. The diagnosis must be problematical unless we find the bacillus in the urine. This has been done by Lichtheim and Friedländer in the cadaver, and by Rosenstein,* Irsai,† Leube, Babes, Cornil, and others in the living subject. The urine in patients suffering from tuberculosis of these organs contains pus and albumin, and sometimes blood. The microscope also shows detritus as a product of destruction of tissue; also casts and epithelium. More characteristic is the appearance of cheesy crumbs, composed of detritus and elastic fibers, in the urinary sediment. Rosenstein noticed white flakes swimming in the urine, which was turbid when voided and deposited sediment. A dry preparation of the sediment, colored according to Ehrlich's method, showed numerous bacilli, most numerous in the flakes. Damsch ("Arch. f. klin. Med.," Bd. xxxi, S. 78) made inoculations on the eyes of rabbits with the purulent sediment of urine of persons suffering with symptoms of tuberculosis of the urinary organs. Thirteen inoculations were made with urine from seven patients. In all, local and general tuberculosis followed. The inoculations were made into the anterior chamber and vitreous body, and in two cases there was simultaneous septic infection, the bulb being destroyed by panophthalmitis. The urine of these patients was sometimes voided in a clear condition, when it gave negative results, so that there will probably be cases of tuberculosis of these organs in which the bacilli will not be found in the urine, the same as there have been cases of tuberculosis of the lungs in which the bacilli have not been found in the sputum; and, as there are no characteristic symptoms of this form of disease, a positive diagnosis will be impossible. Finding the bacillus in the urine does not tell us the exact location of the disease. We should also be guided by the other symptoms in making a diagnosis, and remember that the kidneys, pelvis, and ureter are more frequently affected than the bladder.

In some cases when the prostate is affected there is a breaking down with a discharge of pus into the urethra, which should be examined for the bacillus.

Englisch ("Oester. med. Jahrbuch," 1883) describes a tubercular peri-urethritis externa and interna, according as the process is in front of or behind the deep fascia. If it is in front, it is due to inflammation and suppuration of Cowper's glands; if behind, due to tubercular disease of the prostate and seminal ducts. In the latter, suppuration occurs and pus finds its way down the sides and front of the rectum, causing fistula in ano. I have had one case of inflammation and suppuration of Cowper's glands occurring as a complication of urethritis, and in a strumous young man. The abscess was opened, and later on there was a hard, inflamed swelling close to the anus on the same side, ending, however, in resolution. The fistula left from the abscess healed after a long time, and there has been no subsequent trouble in that region or elsewhere.

The treatment of tuberculosis of the uro-genital organs, except when the testicle is affected, must be conducted on general principles. When a diagnosis has been made of tuberculosis of the testicle, the organ ought to be removed, for, if left to itself, the disease will extend to the other organs. The removal of the cheesy masses with the curette after an incision has been made is advocated, but must prove inadequate, as Simon ("Deutsch. Zeitschrift f. Chirurg.," Bd. xviii, p. 157) has found, upon examination of eight tubercular testicles removed by castration from six patients, and four removed post mortem, tubercular disease of the tunica vaginalis in eight cases, and in one case its obliteration. In the three remaining cases the disease was in its earliest stages. If the curette is to be relied upon, the tunica vaginalis will have to receive its share of attention, which is hardly practicable.

UNUSUAL FORMS OF PHTHISIS.*

By JAMES K. CROOK, M. D.,

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During the past year I had an opportunity of following to their termination in death nine cases of pulmonary phthisis. Two of them exhibited such peculiar features that I have thought they were worthy of record.

Case I.—A Swede, thirty years of age, entered Dr. Burt's clinic at the Post-Graduate School in May last. She dated her trouble from the spring of 1883, when a slight hacking cough set in that lasted through the summer and winter. In April of 1884 the expectoration, which was of a yellowish color and abundant, became streaked with blood; hæmoptysis had already occurred several times. Night-sweats were frequent, and there had been progressive emaciation with scanty menstrual flow. The voice was husky, the skin was hot, and her face showed a hectic flush. Family history phthisical.

Physical examination by Dr. Burt before the class revealed flattening of the subclavicular spaces on both sides, but the percussion note was normal; respiratory murmur a little rude, and expiratory note somewhat high pitched and prolonged; otherwise nothing abnormal was found in the lungs. The heart's

* Rosenstein, "Vorkommen der Tuberkelbacillen im Harn," "Centralbl. f. d. med. Wissensch.," 1883.

† Irsai, A., "Zur Diagnostik der Tuberculose des Harnapparates," "Wiener med. Presse," 1884.

* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 24, 1885.

action was frequent, but there were no murmurs or other indications of cardiac abnormity. The patient was placed under anti-phthisical treatment. She repeated her visits almost every week for about two months, and was carefully examined at each visit. No noteworthy changes were manifested in the physical signs. The percussion note over both lungs became a little less clear, perhaps, but there was hardly an approach to dullness at any point. After she had attended the clinic three or four weeks, occasional small mucous and subcrepitant râles could be heard at different points on both sides, but they were extremely infrequent and at times could not be elicited. The breathing was losing a little of its vesicular character, but did not become bronchial. No appreciable changes were ever detected in the vocal resonance or fremitus. During this time the patient had all the common rational symptoms of advanced pulmonary consumption. The cough continued unchecked, and she had frequent slight hæmorrhages, with almost continuous fever, the temperature frequently rising to 102° or 103° F. The urine was twice examined and found to be non-albuminous. Gradually emaciation became extreme and marked dyspnœa was established, the patient becoming so weak and exhausted by the middle of July that she was no longer able to visit the school. I then attended her at home. Frequent examinations were made of her chest, but no physical signs were developed except those above mentioned. On the morning of July 28th she had an attack of pulmonary œdema, of which she died the next day at 1 P. M.

Judging from her history, the dry cough (at the beginning), emaciation, high temperature, and the concomitant symptoms, this was as typical a case of phthisis pulmonalis as one could wish to see. When we review the physical signs, however, it is seen that they were of little value in forming the diagnosis. Though an autopsy was not made, nor were the sputa examined microscopically, it seems fair to presume that this was a case of chronic tubercular phthisis, in which the phthisical nodules were disseminated throughout the lung tissue at such remote intervals as to give rise to no physical signs by which they could be located or their presence even determined with certainty. If cavities were formed, they were so minute as to be unappreciable. I have met with a few similar cases in which the patients seemed to be in a state of decline, and in which the symptoms pointed to the lungs as the seat of the pathological processes, but in which the physical signs were almost or quite negative. The foregoing case is the only one of this kind where I have seen the termination.

Case II.—A young girl was brought to me by her father in July of 1884. For several years she had suffered from loss of appetite, a sensation of weight in the epigastrium after eating, and frequent attacks of diarrhœa. During the past winter she had developed what the latter called a severe attack of bronchitis, for which she had been treated with nostrums. She did not improve, but grew pale and thin, and failed rapidly with the beginning of warm weather, when she began to complain of severe pain in the region of the chest on the right side. She had had several attacks of hæmoptysis, and was rarely free from fever. The patient, as examined by me, was found to be pale and cachectic in appearance and was suffering with dyspnœa, the respirations being 42, pulse 146, temperature 103° F. Her bowels were extremely loose. On physical examination, I found evidences of partial consolidation at the upper part of the right lung. Vocal resonance and fremitus were increased to some extent, and there was considerable flattening of the supra- and infra-clavicular spaces on the right side. The percussion note was dull over the upper half of the lung, though it had not entirely lost its pulmonary character. Small crackling râles were heard on auscultation. The left lung was normal. There were no physical signs of excavation at any part of the chest. The patient was put under treatment, but sank rapidly and died a few days later in a Pennsylvania country town.

The history of this case would seem to justify the conclusion that it was a case of acute caseous phthisis or *phthisis florida*. The chief point of interest in connection with it is the fact that death occurred before the formation of cavities. If they were developed, it must have been in the brief interval elapsing between my examination, when there was not the slightest evidence of their existence, and the death of the patient, which does not seem probable. The severe diarrhœa would seem to indicate a tuberculous invasion of the intestinal tract. These two cases, and especially the first one, pursued a somewhat peculiar course, and the usual division of the stages of phthisis would not apply to them. Such cases are perhaps not uncommon, and their number is not sufficient to invalidate the commonly adopted classification of the stages, viz.—*consolidation*, *softening* (which can usually be made out by a careful examination of the sputa), and *excavation*.

In the light of our present knowledge of the pathology of phthisis pulmonalis, it strikes me that this classification is an eminently fit and proper one.

INTRA-PULMONARY INJECTIONS,

WITH AN ACCOUNT OF TWO CASES.*

By WENDELL C. PHILLIPS, M. D.,

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We must give great credit to Professor William Pepper, of the University of Pennsylvania, for his exhaustive studies in intra-pulmonary injections, and also for his critical analyses of the results that have thus far been obtained. His two articles may be found in the October number of the "American Journal of the Medical Sciences" for 1874, and in the "Transactions of the American Medical Association" for 1880.

The earliest accounts of these operations carry us back to Hippocrates, Galen, and Rhazes, but it may be questioned whether these cases were not those of empyema, as they spoke of redness of the skin at the points of puncture, and bulging of the intercostal spaces. Operations upon cavities probably date from the time of Bagleori, who, in 1696, was called upon to open the thoracic cavity to remove a foreign body from the lung. His patient recovered, and he reasoned that incision of the lung was applicable in other cases, saying that "now practitioners ought to use the same diligence in curing a phthisical ulcer in the lungs." It is not known whether he put his theory to a practical test. But Barry, of London, in 1727, did perform the operation, and stated that it was not attended with much danger.

* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 21, 1885.

In the early part of the present century similar operations were performed by Richter, Ramadge, and Herff, either by incision or puncture, and Herbst (1845) also performed the operation, but he reasoned from the standpoint that, if the pus were to be drained from a cavity, the surrounding healthy lung tissue would expand and force the walls of the cavity into apposition.

In the same year Hastings and Stork (London "Medical Gazette," 1845) operated successfully, but after this the operation seems to have fallen into disrepute, and by many noted writers has not even been mentioned.

In 1873 Dr. Wilhelm Koch (Langenbeck's "Arch. f. klin. Chir.," Bd. 15, Heft 3, 1873) demonstrated that injections of dilute solutions of iodine could safely be made into the lungs of dogs, and suggested their efficiency in the treatment of phthisical cavities. Accordingly, Mosler ("Berlin klin. Wochenschrift," October, 1873) punctured moderate-sized cavities in two cases, and allowed a small cannula to remain, through which he injected various fluids; and in a third case he made a long incision along the upper border of the third rib almost to the lung, enlarged the opening with a suitable pair of forceps, and introduced a drainage-tube.

He injected at different times solutions of permanganate of potassium, iodine, and carbolic acid, with invariably good results.

One of the patients died some time afterward from albuminuria and extension of the tubercular infiltration, and at the autopsy the cavity showed signs of having been modified by the treatment.

Pepper modified the plan of making external open communications; and, by means of a syringe similar in its action to an ordinary hypodermic, proposed to modify the relations of the walls of the cavities and the surrounding tissues without changing the relations of the diseased tissue with the external air.

He treated a large number of cases in this manner, and, though many were only slightly improved, there were no bad results obtained.

Dr. Beverley Robinson, of this city ("Medical Record," January 10, 1885), goes a step farther and proposes to inject "consolidated lung-tissue," hoping to bring about resorption before softening of the diseased tissues takes place. He has also very carefully experimented upon the cadaver to find the different localities of the thorax through which it is safe to plunge the needle.

I have given a very hasty review of the history of this plan of treatment, and, although it is so natural for us to be skeptical in regard to any plan of treatment proposed for this disease, yet it seems to me to deserve a fair trial at our hands, and we may at least be able to find a class of cases which will be benefited by the plan.

I have only treated two cases, whose histories I give, together with some observations arising from my experience with them.

Case I.—A case of advanced phthisis, first seen two days before death.

Mr. D., aged fifty, varnish-maker, family history non phthisical. Had hæmorrhage of lungs seven years ago, but retained fair health until four years ago, when he began to cough and expectorate freely. About one year ago he was obliged to give up all labor on account of the severe cough, shortness of breath, and general weakness. In that time his weight had been reduced from one hundred and eighty to one hundred and twenty-five pounds.

Three months ago he had a large hæmorrhage from the lungs, followed by several smaller ones at short intervals. Physical signs: Great emaciation, respiratory movements restricted on the right side, right supra- and intra-clavicular spaces depressed; vocal fremitus increased on the left side, showing more recent consolidation on that side.

On percussion, a large cavity was discovered in the right apex, quite superficial, which was verified by auscultation.

Respiration 34, pulse 108, temperature 97° F., the temperature being taken in the morning.

The radial pulse was extremely weak, the finger-nails were blue, and the extremities cold. All the symptoms seemed to indicate that he could not live many hours. The patient had not been able to lie down for several days, and I found him sitting in bed with his head hanging forward, so that his chin nearly touched his knees. The muscles of his neck had become extremely rigid, and any attempt to straighten his head to a line with his body caused him great pain. I have been thus accurate in describing his condition in order to show the effect of the injection I gave him.

I introduced a hypodermic-needle about one inch and a half in the third intercostal space, in a line with the nipple, and injected ten minims of dilute Lugol's solution.

The pain was very slight, and no effect was noticed for about ten minutes, when he mentioned of his own accord that he breathed easier. He did not cough, and, after a few minutes, he was able to bring his head to a line with his body without giving him any pain in the muscles of his neck. He was able to lie down and breathe with comparative ease, and up to the time he died, two days afterward, he was not obliged to sit up in the bed.

I believe the suffering during the last two days of his life was very much modified by the injection, although I confess frankly I am not able to offer any suggestion as to how the injection brought about the result. I feel sure that it did so, because the amelioration of the symptoms was so sudden and followed so soon after its administration.

Even though it did not prolong his life, yet his remaining hours were made more easy to be endured.

Case II.—Mrs. L., aged fifty, widow, and by occupation a dressmaker. Born in Ireland. Came to this country twenty years ago. Has had eight children and five miscarriages. Her health first began to break down six years ago, at the menopause, though at that time her symptoms related mostly to gastric disturbances. One year ago she began coughing, and complained of shortness of breath. She lost flesh rapidly. Six months ago, while visiting in Ireland, she had a hæmorrhage from the lungs.

After this the cough became more severe, often causing her to vomit.

Physical examination revealed a large cavity in the apex of the right lung, which was quite superficial. No laryngeal complication.

At the time of the examination, January 15th, the pulse was 88, temperature 98.5° F., morning, respiration 24.

I ordered tonic doses of ferri et quin. cit., gave her directions as to proper nourishment, and determined to try the effect of intra-pulmonary injections in her case. The first one

was administered on the morning of January 22d, an ordinary hypodermic syringe, with a needle one inch and a half long, being used. The puncture was made in the third intercostal space, in a line with the nipple, the needle being passed to a depth of one inch and a half.

The solution used was Lugol's, diluted with five times its quantity of water. She complained but little, and said it felt like a pain shooting through the lung.

January 24th.—The patient has breathed easier and expectorated less since the injection, and says she has felt no unpleasant symptoms. Gave her another injection.

25th.—Cough much improved. She sleeps a little, and says she feels stronger.

Gave the injection to-day in the second intercostal space, and before the fluid was all thrown into the cavity she was seized with a violent fit of coughing, at the same time remarking that she tasted the iodine in her mouth. The attack lasted about five minutes.

27th.—She says that about an hour after the previous injection she ejected a mouthful of pinkish-colored sputum.

She breathes easier, and her respirations are only 21—a falling off of three since the first examination.

Repeated the injection without causing any coughing. On this occasion I saw her in the afternoon, and found she had a temperature of 100° F.

Her cough was now so much modified that she no longer vomited.

29th.—Owing to quite a scare caused by the previous injection, I decided not to repeat the operation for four days.

February 3d.—She says she can go up-stairs much easier, and perform her duties with less fatigue than formerly.

This patient has consented to come before the society this evening, and I will now proceed to inject a few minims of the diluted Lugol's solution into the cavity. You can see the patient has the general appearance of a phthisical subject. I will have her sit in a chair, and take my position at her back. The point selected is in the third intercostal space, in a line with the nipple, bearing in mind to puncture the lower border of the intercostal space on account of the artery.

I might safely puncture outside the nipple line; but, if I were to go very far inside, the needle might enter the pericardium or one of the great vessels of the neck. Robinson has demonstrated that posterior apicial injections are very difficult on account of the narrowness of the intercostal spaces and the depth of the tissues. The injections can safely be made high up in the axillary region in the first, second, and third interspaces, the arm being held at right angles to the body.

I now direct the patient to take a full breath (as it is easier to keep the lung in repose at the end of inspiration than during any other period of the respiratory act), and introduce the needle to a depth of one inch and a half. You can see it has not caused her very severe pain and no cough, though in some instances quite a severe pain has followed the injection. I see no reason why a needle could not be constructed at inches and fractions thereof, which would enable us to be more accurate.

In suggesting [illegible] I would like to make at the same time [illegible] that one should not come to conclusions from an experience [illegible]

I would not [illegible] oftener than has been recommended by Pepper and Robinson?

2. Is not the severe paroxysm of coughing caused by the injection being thrown directly into a bronchus?

In regard to the first, you will notice that my patient received five injections in eight days, and the result has been not in the least disastrous. Now, if we propose to use carbolic acid, or any of the disinfectants, for their disinfecting properties, it would seem to be necessary that injections be made often.

In regard to proposition second, I noticed that each time when my patient had one of the paroxysms of coughing she at the same time mentioned that she observed the acrid iodine taste in the mouth. At one time, even while the injection was being thrown in, she said she tasted it, and immediately began coughing; *vice versa*, at the times when she did not cough she complained of no taste in the mouth.

The cough comes so suddenly that it can hardly be explained, except by the irritating effect of the fluid upon the membrane of some part of the bronchial tract.

220 East Thirty-fifth Street.

A CASE OF CHRONIC MYELITIS; RECOVERY.*

By A. D. ROCKWELL, M. D.,
NEW YORK.

The complete recovery of any case of chronic, supervening on acute, myelitis, in which all the most desperate features of that disease have been illustrated, is so rare an occurrence that, when such a result is claimed, the case should be subjected to the closest scrutiny. With this object in view I offer the following for your consideration and critical judgment:

Miss B., aged sixteen, was referred to me by the family physician, Dr. J. O. Farrington, of this city, September 22, 1884.

Three months previously she went on a Sunday-school excursion to the sea-shore, and all through the day experienced more or less physical depression, and, instead of actively engaging in exercise, she sat much of the time on rocks, near the water, which may have been damp from the tide. Upon returning from the picnic she felt cold and was so bent over that she could walk only with difficulty. During the night and for several days she suffered acutely, and within a week the lower limbs became completely paralyzed as well as the sphincters of both rectum and bladder. There existed not only inability to prevent evacuation of either the bladder or rectum, but there was an absolute unconsciousness of need in that direction. She suffered, consequently, from an aggravated form of constipation, and from incontinence of fæces after the aperient that was regularly called for.

Incontinence of urine was a constant symptom, supplemented by a severe attack of cystitis and accompanied by acute pain.

After six weeks of suffering a bed sore made its appearance in the region of the last lumbar vertebra. It resisted all treatment, and rapidly enlarged until it was about two inches in diameter. In the early days of her illness the patient was extremely nervous and sleepless. A subcutaneous injection of morphine induced but two hours' sleep. The second night its

* Read before the American Neurological Association, June 17, 1885.

administration was followed but by a single hour's repose, and finally it was discontinued altogether, as it failed to induce sleep and only greatly aggravated the nervousness. After two weeks of this persistent insomnia, she began once more to sleep naturally. For two months she lived almost entirely on milk and champagne. When I saw the patient she was emaciated to the last degree.

Electro-muscular irritability to both currents was entirely abolished, the sphincters were paralyzed, the legs were contracted beyond the power of forcible extension, and the bed-sore was large, with a tendency to increase. The limbs were sensitive to the touch, with the paradoxical symptom of diminished sensibility when tested with the æsthesiometer.

A marked perversion of sensibility was evidenced by the exceedingly disagreeable numb feeling excited by the induced current.

After seeing the case with Dr. Farrington, I agreed with him that the prognosis was most unpromising, and it was only at the urgent solicitation of the father that any further active treatment was attempted.

The faradaic current had been used for several weeks previously, but, as was to be expected, without any effect whatever.

I immediately began galvanizing the legs and the lower portion of the spine, using a current strength of about thirty volts, and repeating the applications every other day. Three weeks of persistent effort failed to elicit any response in the way of muscular contractions, and the only evidence that the treatment might possibly be doing good service was the condition of the bed-sore. It began to assume a less dull and sluggish character and seemed to be sensibly contracting its periphery. At the end of the fourth week very faint muscular contractions were observed, and within another week they had so increased in vigor as to render it possible to interpret their character.

They were markedly the reactions of degeneration. Those who have given much attention to these phenomena know how difficult it is sometimes to eliminate all sources of errors, and to determine the exact order in which these irregular contractions occur.

In this case, however, it was not so difficult as I have sometimes found it to satisfy myself on this point. The A. C. C., or the anodal closure contraction, was decidedly more vigorous than the C. C. C. (cathodal closure contraction). Another abnormal and significant symptom from the electrical standpoint was that rapid interruptions of the galvanic current failed to call forth any response whatever. From this time onward the patient steadily improved.

The electrical reactions became quite normal, and within a month the bed-sore had entirely healed. The patient regained power over the bladder more rapidly than over the bowels; but within two months she had complete control over both fæces and urine. She was treated some four months, and at the end of that time was discharged as cured, with the exception of slight weakness in the flexor muscles of the right leg. This weakness still remains, indicating a possible irreparable damage to certain nerve cells.

There can be but little doubt that this case was in the beginning one of acute inflammation of the cord. What the exact pathological condition was in its secondary and chronic stage may be a question involving a greater difference of opinion.

The tendency probably was either to degenerative softening or atrophy of the ganglion cells, and, to my mind, it was the second rather than the first pathological change that prevailed in this case; and that the whole transverse area of the cord was involved was evidenced by the complete abolition of both afferent and efferent nerve function. The practical value of this case, so far as relates to the pathological side, is in its distinct negation rather than in any affirmation. It is self-evident that, however much structural change had taken place in the way of atrophy of nerve-cells, or induration or overgrowth of connective tissue, the nutrition of these nerve-cells had not been sufficiently impaired to be beyond the influence of the reparative process.

In its therapeutic aspect the lesson taught can not be too strongly emphasized.

Four physicians, including myself, who had become interested in the case, regarded the condition as entirely hopeless.

The father, in the face of a completely discouraging prognosis, insisted that unceasing effort should be made, and subsequently his triumphant but somewhat reproachful thought was, "What would have become of my child if I had been guided by the professional opinion so confidently expressed?" *Apropos* of this case, which I am now permitted to present to you in person, some of you may remember one of infantile paralysis that I brought before this association a few years ago. It was a case seemingly as hopeless as the one before you, and occurred in the practice of the gentleman to whom I am indebted for this last. The same discouraging prognosis was given, for the case was a chronic one, with extreme atrophy of the extremities and absolute loss of muscular contractility to both currents. With heroic persistency the mother clung for months to the faintest shadow of a hope. As in this case of myelitis, it was only after many weeks of constant effort that slight reactions became evident, followed by an increasing improvement that finally ended in approximate recovery.

Book Notices.

Operative Surgery in the Calcutta Medical College Hospital: Statistics, Cases, and Comments. By KENNETH MCLEOD, A. M., M. D., F. R. C. S. E., Fellow of the University of Calcutta, etc. London: J. & A. Churchill. 1885. Pp. x-351.

INDIA is a country little known to Americans, either in regard to its climate or in regard to its people. The same statement applies with greater force to the diseases and their medical and surgical treatment. The author of this volume has been for the past five years surgeon to the Calcutta Medical College Hospital, and, in the book under review, he has tabulated in an orderly manner all cases of surgical operation which have come under his care during his term of service. He has also compared short notes of the cases from the detailed histories of the same kept in the wards.

The volume is divided into twenty chapters. The first two are introductory, and give an account of the conditions affecting the success of surgical treatment in the hospital, and the constitutional peculiarities of the patients who present themselves at the institution. Calcutta is badly situated from a sanitary point of view. It is only eighteen feet above the sea level, the climate is one eminently favorable to the development of ma-

laria, and that portion of the city from which those requiring medical or surgical assistance come is badly drained, overcrowded, and very unfavorable to health and life. The hospital itself is badly located, and this, together with the climate and physique of the Bengalee, gives a much higher rate of mortality after surgical operations than that in similar American and European institutions.

The third chapter is statistical, and from it we learn that during Dr. McLeod's term of service eight hundred operations were performed, with a mortality of one hundred and eighteen, being 14·7 per cent.

All the operations are classified and treated of in the following chapter, namely—operations on the eye, operations on arteries, operations on joints, amputations, malignant tumors, elephantiasis, non-malignant tumors, removal of foreign bodies, removal of calculi, operations for hernia, incisions, abscesses, reparative operations, and nerve-stretching. Then follow a chapter on death-rates and causes and one upon hospitalism and antiseptics. An appendix gives the history of a case of reducible direct right inguinal hernia, in which ligature of the neck and removal of the body of the sac were performed, with an account of a dissection of the parts seven months and a half after the operation; and an account of a case of anæsthetic leprosy treated by nerve-stretching; also the history of a case of nerve-splitting. In each chapter every case belonging to that special class is given; the history of the patient, the nature of the operation, the length of his stay in the hospital, and the result are recorded. It concludes with a statement of the author's views on the special classes of cases, their general management, the details of operation, the causes of mortality, etc. So much for the plan of the work.

Diseases of arteries are rarely met with in India among the natives, although syphilis, strains, and injuries, which are considered the most prominent causes of aneurysmal disease, are very common. Strumous disease of the joints is uncommon, while catarrhal inflammation of the synovial membrane is frequent, being due to exposure, fatigue, injury, and malaria. Elephantiasis is very common; the author has operated in one hundred and forty cases, and his comments on this affection are valuable and will repay reading. We would specially call attention to his method of operating.

To the radical cure of hernia considerable space is devoted. He has operated in eighteen cases of strangulated hernia with a mortality of 50 per cent. This seems a very high rate, but the natives are careless as to the care of rupture, and do not apply for relief until strangulation has lasted for some time. There is also a great disposition of the parts to undergo gangrene in natives of Calcutta. Scrotal hernias are frequently associated with a diseased condition of the scrotum and testes, rendering the parts very prone to undergo suppurative inflammation after operation. Tetanus is exceedingly apt to supervene after operations connected with the scrotum and testes. In fourteen cases hernia was complicated with elephantiasis. In thirty-three operations for radical cure of irreducible hernia 12·1 per cent. died, and the author expresses the opinion that this operation will never become a safe and deathless one in India on account of the predisposition to the development of gangrene, tetanus, etc., after operations upon these parts.

We had marked other portions of the volume for notice, but space forbids. We cordially recommend this book as of exceeding interest and as a model of surgical statistics, and trust it will be read by those who are interested in operative surgery.

The Wasting Diseases of Infants and Children. By Eustace Smith, M. D. Lond. Fourth Edition. New York: William Wood & Co., 1885. Pp. xx–278. [Wood's Library of Standard Medical Authors.]

A Practical Treatise on Disease in Children. By Eustace Smith, M. D. Lond. New York: William Wood & Co., 1885. Pp. 844. [Price, $4.]

The first one of these books has long been known as embodying some of the best clinical descriptions of the diseases discussed. In reprinting it for the use of the profession in this country the Messrs. Wood & Co. have done a real service. The book is so well known that an extended notice of it is not necessary. We are not surprised that the author has abandoned the use of lime salts in the treatment of rickets. We are, however, disappointed in finding no mention made of the treatment by phosphorus.

Turning from this to the author's new text-book, we are obliged to confess, after a careful perusal, that it leaves much to be desired. Although written in a graceful, fluent style, and exceedingly readable, still, many of the articles are loosely written, as if they had been composed to order. Notwithstanding the confessed design to make a practical treatise, and the statement in the preface that treatment has been made specially prominent, we find in many cases that the author has touched but lightly on the points upon which we most want his opinion, or altogether omitted them.

His title, "Disease in Children," has led him to include every disease capable of being influenced by early life." Thus, much matter has been introduced not usually included in text-books on children's diseases which does not, we think, add materially to the value of the book, since, in consequence, the discussion of the common diseases of children has been necessarily curtailed.

For example, ten pages have been devoted to chronic Bright's disease, while broncho-pneumonia has been disposed of in nine; ten pages are given to cerebral tumor, and only six to chronic hydrocephalus.

We are pleased to see the high esteem in which the author holds alcohol in infantile therapeutics, a thing we think often not sufficiently appreciated.

The use of arsenic to prevent scarlatinal infection we think will be new to many in this country. It is highly spoken of. Of one hundred persons exposed to the disease, only two contracted it while under the influence of the drug, and in them it was mild.

The treatment of cerebro-spinal meningitis is disposed of in fifteen lines as being almost hopeless. The bromides and ergot, so extensively used here, are not even alluded to.

The old English view of the identity of membranous croup and diphtheria is indorsed, although it is admitted that traumatism may produce a false-membranous inflammation of the larynx. The author states that he can not recall an instance (except of traumatic origin) in which membranous laryngitis was unaccompanied by false membrane elsewhere. Primary diphtheritic laryngitis is stated to be very rare. Nearly all the usual remedies which have been employed for this disease are mentioned, but it is hard to say which ones the author prefers. When the larynx is invaded, the early and prompt performance of tracheotomy is urged.

We are somewhat surprised at the statement that the most common and most serious complication of whooping-cough is collapse of the lung, and should have been glad of more pathological details upon this point.

The treatment of empyema recommended will commend itself, we think, to the judgment of most men in this country, *i. e.*, early aspiration, which may be repeated two or three times; but, if the fluid accumulates again soon or becomes fœtid,

prompt incision, free drainage, thorough antisepsis, and washing out the pleural cavity may be performed only when signs of decomposition are present.

We are not prepared to indorse the statement made with reference to myelitis of the anterior horns, that "complete recovery, or at any rate vast improvement, is the rule, not the exception"; or this: that, "even when the recovery from the paralysis is complete [?], the child is still liable to some arrest of development in the affected limb."

To be of service as an antipyretic in pneumonia, quinine, we are told, must be given in full doses. Children bear it well. To an infant of twelve months one grain may be given three times a day. We think the author would be alarmed at the doses employed in this country.

We have contented ourselves with pointing out some of the defects of the book. Its excellences are many, but we think it can hardly supersede in this country such a book, for example, as that of Meigs and Pepper in meeting the wants of the American practitioner.

Micro-Chemistry of Poisons, including their Physiological, Pathological, and Legal Relations; with an Appendix on the Detection and Microscopic Discrimination of Blood. Adapted to the Use of the Medical Jurist, Physician, and General Chemist. By THEODORE G. WORMLEY, M. D., Ph. D., LL. D., Professor of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania. With Ninety-Six Illustrations upon Steel. Second Edition. Philadelphia: J. B. Lippincott & Co., 1885. Pp. 741. [Price, $7.50.]

THE second edition of this admirable work will be received with great pleasure by those whose toxicological studies have already been aided by its perusal. The present volume contains an entirely new chapter upon blood, another on gelsemium, and additional sections on ptomaines and on arsenic. Two new plates will be observed, one of which belongs to the final chapter. The revision has been most thorough and conscientious.

We commend especially the important section on the examination of blood, which is concise yet exhaustive. The subject of the discrimination between human blood and that of animals is treated of clearly and judiciously.

We have always felt that the title of the book was not sufficiently comprehensive, and this the author acknowledges in his opening sentence, yet he does not think fit to modify it.

Although a work of this magnitude can be properly appreciated only by a special class of students, the general reader will find it a useful book for reference, since the style is so clear and concise, so free from pedantry, that the volume really furnishes interesting reading on every page, a rare quality in a treatise on chemistry.

Dr. Wormley is to be congratulated equally on the improved text of his book and on the possession of such skillful aid in the preparation of the beautiful plates, which add so much to its value.

Diseases of the Spinal Cord. By BYROM BRAMWELL, M. D., F. R. C. P. (Edin.), Lecturer on the Principles and Practice of Medicine and on Medical Diagnosis in the Extra-academical School of Medicine, Edinburgh, etc. With One Hundred and Three Illustrations. Second Edition. Edinburgh: Young J. Pentland, 1884. Pp. xvi 359.

We have little to add to the many words of commendation which were bestowed upon the first edition of this excellent work. The beautiful lithographs are the main feature of the book; they have been improved upon in the present edition, and some new figures have been added. The plates representing osmic-acid preparations of the spinal cord are especially fine. The text has been put into a more compact form, and more attention is devoted to functional diseases. We note with approval the presence of a chapter on concussion of the cord, containing some useful hints regarding the examination of so-called "railway cases." Pseudo-hypertrophic paralysis is now discussed in the appendix, for the reason, as the author remarks in a foot-note, that this disease may be unattended by visible lesions of the cord. According to this criterion, functional derangements ought also to have been omitted from the body of the work. An improvement has been made in the pathological part of the subject by introducing a short section on pathology under each disease.

In its present form, the book is a most attractive one, and, while it will not be safe for the beginner to rely too much upon the scientific accuracy of the text, the beauty and fidelity of the drawings are enough to entitle the volume to the praise which it has already received. Remembering that the author's intention, as stated in the preface to the first edition, is "to teach by the eye as well as by the ear," the reader must acknowledge that Dr. Bramwell has been signally successful in carrying out this purpose.

BOOKS AND PAMPHLETS RECEIVED.

Clinical Studies on Diseases of the Eye, including those of the Conjunctiva, Cornea, Sclerotic, Iris, and Ciliary Body. By Dr. Ferdinand Ritter von Arlt, Professor of Ophthalmology in Vienna. Translated by Lyman Ware, M. D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 325. [Price, $2.50.]

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbstudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg i. Pr. Siebente, neu bearbeitete Auflage, mit etwa zweihundertundfünfzig in den Text eingedruckten Holzschnitten. Fünfte Lieferung. Hamburg u. Leipzig: Leopold Voss, 1885. Pp. 641 to 683, inclusive; 1 to 112, inclusive.

La Mortalidad de Madrid. Coleccion de Articulos publicados sobre dicho Tema. Por el Doctor D. Gaspar Gordillo Lozano, Ex-alumno Interno por Oposicion de la Facultad de Medicina de Madrid. Madrid: F. Maroto é Hijos, 1885. Pp. 176. [Price, 2 pesetas.]

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Vol. II. General Diseases (continued) and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co., 1885. Pp. 10–19 to 1312, inclusive.

Transactions of the American Gynæcological Society. Vol. 9, for the Year 1884. New York: D. Appleton & Co., 1885. Pp. 408. [Price, $5.]

The Medical Annual and Practitioner's Index: a Yearly Record of Useful Information on Subjects relating to the Medical Profession. 1885. London: Henry Kimpton. Pp. 163–371.

Endemic Goître or Thyreocele. Being the Thesis for the Degree of Doctor of Medicine of the University of Durham for which the Gold Medal of the Year 1884 was awarded, together with subsequently added Foot-notes and Appendix. By William Robinson, M. D. and M. S. London: J. & A. Churchill, 1885. Pp. vi 66.

Douze cas d'operation de trachelorrhaphie; considerations à propos de cette operation. Par le docteur Vulliet, Chirurgien-adjoint à la Maternité et professeur à la Faculté de medecine de Geneve. [Reprinted from the "Archives de tocologie."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JUNE 20, 1885.

NEXT WEEK'S COMMITTEE MEETING IN CHICAGO.

On Wednesday of next week there is to be a meeting in Chicago of the American Medical Association's committee on the International Medical Congress "as constituted by resolutions passed at New Orleans"—consisting, that is to say, of the original committee, together with the thirty-eight gentlemen who were added to it by the action taken at New Orleans. We learn that assurances have been received that there will be quite a full attendance, but we have no information in regard to the intention of any of the members of the original committee to be present. We presume, however, that the editor of the "Journal of the American Medical Association" will attend the meeting.

We feel that the occasion will be one of great moment to the profession, and we can only look forward to it with anxiety. The avowed object of the action taken at New Orleans was the practical nullification of the original committee's preliminary organization of the Congress. In consideration of the plenary powers that had been given to the original committee, it has been seriously questioned whether, in accordance with parliamentary usage, it was competent for the Association to undertake to undo its work. This question might be passed over as of little practical consequence if there had been anything plainly reprehensible in the course pursued by the original committee, but there is no contention that such was the case. The reproof sought to be cast upon the original committee was manifestly based upon a feeling of discontent, and that feeling was largely if not wholly of a personal nature. It is true that two matters of principle were put forward in justification of the unusual course proposed, but there has been nothing to show that they really lay at the bottom of the movement. In regard to one of them, indeed—the impropriety of putting the names of new-code men on the list of officers—the insincerity of the objection was at once proved, as we remarked at the time, by the prompt and overwhelming rejection of a proposal that would have righted that wrong.

The other matter of principle put forward was the allegation that the original proposal for the Congress had been too largely [illegible] a meeting [illegible] of the country, especially from the cities of Boston, New York, and Philadelphia, whereas the organization ought to be representative of the whole country in a geographical sense. Nothing took place at the meeting, and [illegible] to convince us that any such feeling [illegible] by the great body of the profession. To be sure, the alleged existence was harped upon at New Orleans, but almost every speaker who urged it showed plainly that he felt himself to have been misled. Certain persons have since endeavored to foment the feeling, but there has been nothing that could be justly construed as bearing witness to any general discontent among the profession. Even if we accept the acts of the American Medical Association in general as truly expressive of the sentiments of the profession—and certainly they are not—we should not lose sight of the fact that the meeting at New Orleans did not adequately represent the Association. From the very nature of things this was necessarily the case; a meeting held in a remote corner of the country must draw its attendance almost wholly from that immediate section, leaving the country at large practically unrepresented. As regards this question, then, we attach no importance whatever to the wild talk that was indulged in at New Orleans. On the contrary, we have a profound confidence in the common-sense of the great body of our profession in the South and in the West. As a body, they are the bone and sinew of our ranks, and among them there are many men whose achievements and whose worth it is a pleasure to us to recognize, and whom we should be glad to see honored in every possible way, including their appointment to prominent positions in the organization of the International Medical Congress. We can readily understand, however, that the original committee felt constrained to make up a list of names that should be as well known as possible to our European brethren. Naturally, the men working in the older section of the country, small as it may be in territorial extent, are better known in Europe than their colleagues, equally able and equally deserving, who live at great distances from the main channels of communication with Europe. That such considerations should have been felt by the original committee to be pertinent and even pressing, we have no doubt is perfectly appreciated and loyally accepted by the great mass of our brethren.

But, even if our impressions should be shown to be erroneous, was it necessary—was it wise—to lay before the world the spectacle of a house divided against itself undertaking to entertain the medical profession of the world? So cautious and conservative an exponent of medical opinion as the "Journal of the American Medical Association" has itself spoken editorially of the action taken at New Orleans as "of questionable propriety," and it has also urged upon the members of the old committee, as an important reason why they should take steps to call a meeting of the enlarged committee, that such a course would be the easiest way of silencing the captious. Since Dr. Davis has committed himself to these positions, and since his leadership in the affairs of the association is unquestioned, we look to see him throw the weight of his great influence in favor of moderation at the Chicago meeting.

If the Washington meeting of the Congress is to be anything more than a sham, everything repugnant to the feelings of our European visitors must be carefully prevented, and they will certainly be too disgusted to come among us if they find that local quarrels and sectional jealousies are to govern the organization in any degree. As foreshadowing the view they are likely to take of such a state of things, we would call attention to the following editorial article, that appeared in the "Lancet" for May 30th:

"At its meeting in 1884, the American Medical Association appointed a committee of seven gentlemen to present an invitation to the International Medical Congress at Copenhagen to hold its next meeting in Washington in 1887. As our readers are aware, this invitation was accepted; and the committee, desiring to advance all the arrangements for the meeting, and believing itself to be empowered to do so, proceeded to nominate the chief officers and to conduct the preliminary negotiations. Unfortunately, it seems that in so doing they have excited certain local jealousies; and at the late meeting of the association in New Orleans their action was discussed and condemned, and a resolution was passed electing a committee, consisting of the seven gentlemen previously appointed and thirty-eight others, 'one from each State and territory,' who should 'proceed at once to review, alter, and amend the action of the present committee as it may deem best.' From the reports of the discussion we gather that some members of the association consider that the appointments in the Congress should be filled up on a geographical basis, each State being considered as a distinct entity to be represented. We trust, however, that the new committee will take a wider and more enlightened view than that, and will make the appointments solely in reference to the merits of the various nominees and the degree to which they possess the confidence of the profession in the United States, as a whole, and in Europe. We may be permitted to assure our American brethren that visitors from Europe will in a large measure judge of the position and character of the profession in the States by the scientific eminence of those whom they choose as their prominent representatives. We trust that all difficulties such as we have hinted at will be wisely and amicably surmounted, and that the meeeing of the Congress in Washington will be as signal in its success as a scientific gathering, and in its display of true cosmopolitan brotherliness, as any previous one."

Kindly as the terms are in which our contemporary puts its views, there is to be read between the lines the plain intimation that Europe will have nothing to do with such a display of discord and place-hunting as it is within the power of the enlarged committee to create. We therefore call upon the Chicago meeting to consider the gravity of the situation—to pause before it makes itself the tool of a handful of malcontents. By pursuing a moderate and conciliatory course the gentlemen who are to assemble in Chicago next Wednesday may earn for themselves the gratitude of the whole profession; by consenting to be led by agitators and soreheads they will insure their own lasting execration. Our trust is firm that they will choose the wiser course.

MINOR PARAGRAPHS.

THE DISINFECTION OF IMPORTED RAGS.

This subject is again before the public, some of the newspapers having hinted rather broadly that a scheme for enriching the owners of a patented process for disinfection is being aided and abetted by Government officials. As we have already announced, the Secretary of the Treasury has revoked all past orders relating to the matter, leaving the disinfection of rags to the discretion of local sanitary officers. The Surgeon-General of the Marine Hospital Service asks, however—very properly—that the prohibition be continued in force at ports where there are no such officers of a satisfactory character. How the Secretary is likely to treat this request, we are not informed. Meantime the rag-men are industriously putting in their negative evidence to the effect that no one ever knew of an instance of the spread of disease through the medium of rags, and urging that, until such a positive instance can be proved, it ought to be taken for granted that rags are incapable of acting as fomites; which reminds us of the answer once made by a Tombs "shyster" to his complaining client, who had been convicted of murder. "Just you let 'em hang you once," said he, "and if I don't make 'em hum!"

DR. PENNY ON PROTECTIVE INFECTION.

We would call attention to the two letters which we publish in this issue, bearing upon the subject of Dr. Eccles's paper on "Immunity in Disease," which recently appeared in our columns. We must express our gratification at the number of communications we have received regarding the matter, a fact which serves to authorize the high estimate which, as our readers may remember, we set upon the article at the time of its appearance. Of the two letters referred to, the one sent us by Dr. Penny, of Galveston, sketches what seems to us a remarkably ingenious theory. So far as we know, it is entirely original, and it marks its author as a thinker of a high order, although he modestly puts it forward only as a "working hypothesis." We trust that some reader who may be fertile in devices may hit upon a way of putting it to the test of experiment.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 16, 1885:

DISEASES.	Week ending June 9.		Week ending June 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	3	0
Typhoid fever	20	2	14	6
Scarlet fever	76	15	63	13
Cerebro-spinal meningitis	3	1	1	1
Measles	106	11	95	9
Diphtheria	63	22	57	27

The Small-pox Corral on Ward's Island, improvised for the purpose of keeping the passengers from the infected steamships under observation, has given rise to no little contention among the various boards that make up our hydra headed city government, but thus far we have no information of the conveyance of the disease either to the inmates of the public institutions in the neighborhood or to the people of the city.

The Appropriation for the New York State Board of Health, for the purpose of enabling the board to prosecute the unusual amount of work which it is thought will be thrown upon it during the year, has, we regret to say, failed to meet with the Governor's sanction. As it amounted to only $15,000, its fate seems to furnish a melancholy example of the penny-wise and pound-foolish policy that so often prevails in sanitary matters.

The Cholera in Spain.—During the past week the outbreak has made further progress, and the character of the disease as announced to have been positively established by the finding of Koch's bacillus in the dejecta of the sufferers, as a consequence of which, says the "Medical Times and Gazette," the Spanish Government has withdrawn its prohibition of Dr. Ferran's protective inoculations, and has again resorted to the use of sanitary cordons.

Cremation in Austria.—It is reported that the Austrian Government has refused to sanction the organization of private cremation societies.

The Death of Dr. Lucius M. Palmer, of Brooklyn, took place on Wednesday last. The deceased was in his sixty-fifth year, and was graduated from the Medical Department of the University of the City of New York. He had practiced for nearly forty years in the locality in which he died.

The Death of Dr. Noel Gueneau de Mussy, of Paris, is announced in the London journals as having taken place on the 2d inst. The deceased was an accomplished physician, well known in French medical literature, and the "British Medical Journal" says that he was the author of much of its recent Paris correspondence.

The Paris Faculty.—The "Progrès médical" states that M. Proust and M. Landouzy have been appointed to the chair of hygiene, succeeding M. Bouchardat.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 7, 1885, to June 13, 1885:*

Feyer, B. E., Major and Surgeon. Ordinary leave of absence extended six months, from July 1, 1885, on surgeon's certificate of disability. S. O. 129, A. G. O., June 6, 1885.

Cleary, P. J. A., Major and Surgeon. The order directing him to change station from Fort Union, N. M., to Fort Lyon, Col., is revoked. S. O. 81, Department of the Missouri, June 8, 1885.

Richard, Charles, Captain and Assistant Surgeon. Granted leave of absence for three days. S. O. 128, A. G. O., June 5, 1885.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Sisseton, D. T., and ordered for duty at Fort A. Lincoln, D. T. S. O. 61, Department of Dakota, June 5, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending June 13, 1885.*

Wyman, Walter, Surgeon. To proceed to New York, N. Y., and assume charge of the service, relieving surgeon Sawtelle. June 8, 1885.

Banks, C. E., Passed Assistant Surgeon. Granted leave of absence for thirty days. June 12, 1885.

Society Meetings for the Coming Week:

Monday, *June 22d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement.

Tuesday, *June 23d:* Buffalo Obstetrical Society (private); Medical Societies of the Counties of Essex (Elizabethtown) and Lewis, N. Y.

Wednesday, *June 24th:* New York Pathological Society; Auburn, N. Y., City Medical Association; Philadelphia County Medical Society (conversational); Berkshire District, Mass., Medical Society (Pittsfield); Kentucky State Medical Society (first day—Crab Orchard).

Thursday, *June 25th:* New York Academy of Medicine (section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Pathological Society of Philadelphia; Kentucky State Medical Society (second day).

Friday, *June 26th:* New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society; Kentucky State Medical Society (third day).

Saturday, *June 27th:* New York Medical and Surgical Society.

Letters to the Editor.

A THEORY OF THE LIMITATION OF CERTAIN DISEASES TO SINGLE ATTACKS.

Galveston, Texas, *June 7, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of May 23d appears an article, by R. G. Eccles, M. D., Ph. D., of so much merit that I feel constrained to briefly review a few of the arguments in favor of the theory of Dr. D. E. Salmon, and to add to the theories advanced that of Dr. Carmona y Valle, who is now engaged in vaccinating as a protective measure against yellow fever at Vera Cruz.

While the truism remains that all of the theories advanced can not be true, it yet remains to be demonstrated that any one of them is wholly correct. The drift of modern scientific thought lies in the direction of accepting one of these, as the writer suggests, as a working hypothesis. The difficulty of making a selection increases with the study of the literature of the subject—for instance, the theory advanced by Pasteur certainly has had the greatest number of advocates. This theory we find fails when tested by the laws of physiology, for the morphological changes that take place in the body all tend to restore it to the condition precedent to the attack. Nor would the presence of some substance in the body detrimental to the life of the microbe account for subsequent immunity after an attack of anthrax, variola, or yellow fever, for the morphological changes would eventually restore the body to its original condition. Yet it is probable that Pasteur's theory contains the germ of truth. New observations from a different standpoint were needed, and the researches of Dr. Carmona y Valle may furnish these.

Dr. Salmon's theory, that, under the intoxication produced by the presence of the microbia, free oxygen accumulates in the tissues, is controverted by the fact that free oxygen does not exist in the tissues; even in the red corpuscle the oxygen is combined. The atmosphere of the ultimate tissues is carbonic acid and not oxygen. To say that intoxication of the cells of the tissues allows carbonic acid to accumulate would be more in accordance with the laws of parenchymatous respiration as known, and would correspond with the accepted fact that the anaërobic bacteria are more frequently pathogenic than the aërobic, and, further, that the presence of free oxygen has a tendency to destroy their pathogenic virulence.

The theory of Dr. Carmona y Valle may be said to supplement that of Pasteur. He says that, having to examine the urine of a number of persons who had suffered from yellow fever a number of years prior to that time, he found the peculiar microscopic body that he had named *Peronospora lutea* in all these specimens of urine; in one of these persons (then under treatment for some ocular trouble) it had been ten years since the attack of yellow fever. This, he says, demonstrates the fact that the microbia may exist in the body for an indefinite length of time after an attack of yellow fever and without producing morbific phenomena, and, further, that the immunity from subsequent attacks is due to their presence in the body. ("La Escuela de Medicina," Feb., 1882.)

We might, then, accept as a working hypothesis that the first colonies of bacteria, finding a vast quantity of nutritive material, and, under the stimulus of a regular temperature, reproduce with exceeding rapidity, and, after contaminating the fluids of the body with their secretions, perish. The death of these countless myriads of bacteria is in all probability the cause of the febrile paroxysm. We might go a step further and accept as the second part of this hypothesis the inference that this

febrile paroxysm destroys the power of sexual reproduction in those that survive. These, while they would prevent their multiplication so rapidly as to produce subsequent attacks of the disease, would by their presence so alter the chemical condition of the body as to prevent a new invasion from taking place. We find in the aphis that in the spring and fall, when the weather is cool, reproduction is carried on by the sexual method, but in the heat of summer the male sex disappears and reproduction is carried on by what has been called parthenogenesis. Now, in all the micro-organisms whose natural history we are acquainted with, reproduction is carried on by fission and gemmation, with a return at intervals to the sexual type.

It would not be unreasonable, then, to infer that in the febrile paroxysm these micro-organisms lose their power of sexual reproduction, and with it their power of rapid multiplication. Sufficient numbers might still remain to protect the individual, but not to make the individual a focus of infection to others.

This theory is only advanced as a working hypothesis, and is only intended to apply to that class of diseases whose phenomena are usually constant, that have a definite stage of incubation, that culminate in a febrile paroxysm, and of which one attack is usually protective against subsequent attacks.

William Penny, M. D.

SIMULTANEOUS SMALL-POX AND VACCINIA.

Alton, Ill., *June 12, 1885.*

To the Editor of the New York Medical Journal:

Sir: In the learned paper of Dr. Eccles on "Immunity in Disease," he says: "The doctrine of relative immunity which is now well established . . . is of most practical importance . . . and should deter us from vaccinating a person merely because he has been exposed to, or shows symptoms pointing suspiciously toward, small-pox. *Already a dose of virus may have been imbibed, and for the physician to add another, then, is criminal. People must protect themselves in advance of exposure. When they have been exposed, it is too late.*" (The *italics are* mine.) I can give you an instance in which both poisons developed synchronously, not as a solution for a compromise, but as a practical proof that cow-pox controls the small-pox. The case will contradict the finely spun argument of the doctor and show that we are not criminal.

In the spring of 1845 I was called to a family eight miles below Alton, in the American Bottom. The family consisted of the two parents and seven children who were living in two houses of one room each and about twenty yards apart. The oldest son, twenty-three years of age, was taken sick after returning from St. Louis, where he had been to sell a load of corn. I found him broken out with small-pox. The next day I vaccinated the entire family and separated them. I put the young man and a sister about twenty years of age as a nurse in one of the buildings. In the parents and a son of eighteen years the vaccination did not take; nor after repeating in five days. The parents remained well, but the boy of eighteen took confluent small-pox and died in the suppurating stage. Two of the others had varioloid.

In the case of the girl who nursed her brother the vaccination took well. Four days after inoculation I examined the girl's arms, as I was very anxious she should escape the small-pox: she was the only help in the distressed family. The virus was introduced into the deltoid muscle of each arm (always my favorite place) with two insertions into each. Each muscle was much inflamed, and under each insertion was a small round knot. On the fifth day she was in bed with a high fever, and the knots showed the forming of pustules, with a surrounding red areola of two inches in diameter. The next day the whole body was covered with pustules and knots; but on the arms the pustules had not, nor did they afterward pass the boundary of the areola of vaccination. The vaccination pustules of each arm were developed to the same degree as those on the body, and all proved afterward to be varioloid pustules. The next five days the varioloid and the vaccination pocks dried gradually up.

Here the cowpox-developed germ, not poison, to speak scientifically, converted, modified, or changed the small-pox. This ocular demonstration made me a strong advocate of vaccination, with or without small-pox. A similar development must take place often, but unobserved, as rarely a physician comes into such close contact with his patient. At that time this was a rare disease, only known here by name, throwing the people into a panic. I had to supply the bedding, linen, clothing, food, and wood. What I did not myself bring to the house, one neighbor, and only one, supplied, as given to him by others. He laid the dead boy in his coffin, and buried him alone.

Fred. Humbert, M. D., F. C. S.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of May 25, 1885.

The President, Dr. Daniel Lewis, in the Chair.

The Final Report of the Comitia on the Question of Resignation of Membership in the society was read, by which it appeared that ability to resign was sanctioned by the decisions of the State society, and the manner in which it was to be accomplished was provided for in the County society. It appeared, however, that persons continuing to practice in the county after so resigning were liable to the same penalties as those who had never joined the society.

A Collective Investigation regarding Fibrous Pneumonia by the Committee on Hygiene.—Dr. G. A. Seibert read the report. He first referred to the results of his own labors, and those of others in this field, commencing in 1879, and then took up the work of the committee. Over eight hundred cards had been sent out to physicians of New York and Brooklyn, to which eighty-seven answers had been received. Only forty-six practitioners and four hospitals had taken active part in the investigations. These returns showed the exact date of the occurrence of the attack of pneumonia, with the statement whether or not catarrh of the respiratory tract existed at the time the pneumonia began. Seven hundred and sixty-eight cases of primary fibrinous pneumonia had been reported—the largest number of cases ever observed anywhere in one year and in one city for scientific purposes. The distribution of the affection during the different months of the year had been as follows: January, 71; February, 148; March, 103; April, 73; May, 55; June, 37; July, 26; August, 25; September, 53; October, 62; November, 65; December, 78. It would be noticed that winter and spring showed the greater and autumn and summer by far the smaller number of cases. These statements were supported by the statistics of the German and Austrian armies for as many as ten years, and also in European hospitals. Dr. Seibert then exhibited charts which showed the temperature and moisture range for the several months of the year, also for the several days of the month, together with indications of the rapidity and direction of the wind, and the number of cases of fibrinous pneumonia which occurred on each day. A glance at the charts

was sufficient to show that here as well as in Europe pneumonia occurred most frequently in the winter and spring, the fewest cases occurring in the summer. The same was true of bronchial catarrh also. The charts showed that the line indicating the degree of humidity ran high, while that indicating the temperature ran low, the two lines approximating each other, and that often the wind had a great velocity on days when the greatest numbers of cases of pneumonia developed.

Summing up the results of their investigations, the author said they had found, first, that the origination of fibrinous pneumonia was greatly favored by certain meteorological conditions, thus explaining the difference in its frequency during the twelve months of the year; second, that low and falling temperature, high and rising humidity, and high winds were each alone capable of exercising this influence: third, that, if all of these weather constituents existed together, we noticed more cases of pneumonia than when one of them was found alone; fourth, that, if the three constituents were found together, pneumonia would be very frequent and very fatal: fifth, that its frequency continued so long as these conditions prevailed; sixth, that the same meteorological influence was found in the origination of catarrh; seventh, that catarrh predisposed to fibrinous pneumonia.

He did not maintain, however, that fibrinous pneumonia was brought on by weather influences alone.

Dr. A. Jacobi said it had struck him that no remarks were necessary where charts were so eloquent. Dr. Seibert had shown that collective investigation was of the greatest value, at least in the ætiology of disease. He trusted the members of the society would pay particular attention to the form of chart employed, because they would probably be called upon to give the results of their observations for use at the next meeting of the International Medical Congress. It appeared that the author had acted on the good old scientific and empirical plan of medical investigation, for it was to be remembered that medicine was an empirical science—science based upon the close observation of facts. Pathological anatomy and the microscope were not able to supplant empirical knowledge derived after the manner of the ancients, by observation of disease. At the present time the attempt was being made to find the causes of all important diseases in the existence of particular bacilli, but the truth was to be arrived at only when pathological anatomy, microscopy, the presence of germs, etc., were supported by clinical observation. Some physicians, in their zealous support of the germ theory of disease, had maintained that pneumonia, being due to the presence of a particular coccus, could not be excited by what was called taking cold; yet persons struck by a draft took a cold, pneumonia developed, and they insisted that the draft was the cause of the disease. Here the people had observed facts, and those physicians who held on a theoretical basis that taking cold could not produce pneumonia would be compelled to accommodate their theory to facts, for facts were greater than theory. If we took into consideration the effect upon the fourteen square feet of skin covering the human body of the cooling of the atmosphere mentioned by the author as being present when the greatest number of cases of pneumonia developed, we need not be surprised. The possible effect of a change of temperature upon the human body especially upon the internal organs had been well illustrated in a case under his observation that of a man who had temporary hemoglobinuria on every exposure to inclement weather. The term "taking cold" was a good one, being expressive, and would probably continue to be used.

Dr. A. G. Gibbes had noticed by the charts that the state of the atmosphere had been observed three times a day. He thought once a day would have been sufficient, and would have involved less work. The author had said that he believed a combination of the weather constituents alone was not sufficient to cause fibrinous pneumonia. If he meant thereby that there might be other causes he could agree with him, but if he meant that exposure to cold would never cause fibrinous pneumonia, but only catarrh, he begged to differ with him. He thought it entirely premature to say that the pneumonia coccus must always be present before pneumonia could be developed. He moved a vote of thanks to Dr. Seibert for his work. Carried.

Dr. L. Putzell said that the months during which most cases of fibrinous pneumonia occurred were also the months during which certain other infectious diseases were most prevalent. During the state of weather mentioned, people were likely to be shut up in their houses under conditions most favorable for developing an infectious disease. He thought the testimony of many physicians, based upon clinical observation, was to the effect that fibrinous pneumonia was an infectious disease. The crisis was such as was not present in inflammation due to taking cold. There was no doubt as to the effect of cold upon the mucous membranes, but catarrh did not run the clinical course of pneumonia. Statistics should always be taken with a good deal of allowance.

Dr. Seibert, in closing the discussion, said he had purposely abstained from theorizing on the facts presented. His belief was, however, that the sole influence of the weather in pneumonia was that of causing hyperæmia, which prepared the ground for the pneumonic poison. In erysipelas, for instance, there always existed a previous lesion of the skin.

A Memoir of the late Dr. Louis Elsberg was read by Dr. C. Heitzmann. The speaker regarded Dr. Elsberg as a learned, kind man, who had done something substantial toward advancing medical science, and called him the father of laryngology in America. He spoke of Dr. Elsberg's biological views, etc.

MASSACHUSETTS MEDICAL SOCIETY.

(*Concluded from page 672.*)

Wednesday's Proceedings.

After reports of various committees had been presented, the reading of papers was resumed.

The Sanitary Aspect of Cremation.—Dr. John O. Marble, of Worcester, read a paper on "Cremation in its Sanitary Aspects." Quoting Mr. Eassie, of the Cremation Society of England, that what to do with the dead transcended every other sanitary problem in its importance, he proposed to demonstrate the peril of earth-burial to the living, and the hygienic advantages of cremation. He briefly reviewed classical and historical allusions to the two customs, but said he could establish precedence for neither. In ancient Greece and Rome both methods had been in use, as they were in parts of Asia and in Japan to-day. Cremation had fallen into disuse in the fourth century, probably from causes which now had no weight in the consideration of its advantages. The present battle between the torch and the spade began in 1873, with the exhibition at Vienna of samples of the cremating process by Professor Brunetti. Its literature had multiplied in every English-speaking country. The disposal of the dead concerned only the living, and its importance was steadily increasing. The question was, earth-burial, with its apparent perils, defended by a sentiment, or cremation and safety defended by science. In earth burial every particle of matter surrounding the body was saturated with germs of disease and death, and in cases of yellow fever, cholera, or small pox these germs were stored up to sprout again at the first disturbance of the grave. Such a decay was of varying rapidity, but was always abhorrent and a menace to the living. He quoted Darwin on the upheaval of mold by earth worms,

and Pasteur to the effect that this mold contained the specific germs which propagated disease, and that they retained their vitality for long periods. To bury the dead was, therefore, but to store up for posterity a horrible crop of pestilence and death. Filthy diseases were propagated by germs, and, if Koch succeeded in proving the comma bacillus to be the *fons et origo* of cholera, there would be hope of bringing that dreaded dis ease to a period. He quoted Dr. Freire, of Rio de Janeiro, to the effect that cemeteries were nurseries of yellow fever. In diseases of this type the only safety was in recourse to the one certain and practicable germicide, fire. The dangers of inhumation had been discussed before the advent of Christianity, and there was no good reason to claim for it the title of "Christian burial." Numerous cases were cited of infection and death from the reopening of tombs and graves, in both ancient and modern records. Frequent cases of infection from cemeteries through the contamination of drinking-water were also cited. Sir Lyon Playfair contended that the Roman fever was less the product of the Pontine marshes than of the soil of the city, saturated with the remains of dead millions. It was a delusion to suppose that the contact of earth with a dead body rendered it innoxious; numerous authorities were quoted in support of this point, closing with the Earl of Beaconsfield's statement, "The graveyard is an institution prejudicial to the public health. . . . The time has arrived when all cemeteries should be closed and a better method of burial instituted." The general consensus of opinion among sanitarians was adverse to earth-burial, and this opinion was proof that the practice was dangerous. Shakespeare seemed to have been an inspired prophet when he wrote:

"The witching hour when graveyards yawn, and hell itself breathes out contagion on the world."

The danger of earth-burial was almost universally admitted. To abolish intra-mural interment only removed the danger temporarily, and bestowed it upon posterity. Even those who denied this went on to suggest various futile expedients to avert the dangers they averred did not exist.

The author then discussed the contamination of water by earth-burial, quoting authorities, from Hippocrates to Stewart, showing that polluted drinking-water was a most frequent cause of enteric fever and other zymotic diseases. Water had its victims as well as alcohol; there was peril alike in drains and in drams. Impure milk was a recognized cause of typhoid fever, and pure water was as important as clean food in healthful dairies. Enteric fever in some cases was believed to have originated from the milk of cattle that drank near old graveyards. It had been demonstrated that a sandy soil was no barrier to the pollution of wells from this source, and it was probable that dry gravel was no barrier to the entrance of the organisms generated about cess-pools, graveyards, etc., into drinking-water. Until recently even laboratory filters had not been quite effectual in excluding disease microbes. In France, the opening of wells within one hundred yards of a place of burial was forbidden; in some German states the limit is three hundred yards; and a hygienic council in Brussels, in 1852, had put the limit of safety at four hundred yards. This country had no such laws. The "Centennial diarrhœa" of Philadelphia in 1876 was probably largely due to the fact that cemeteries with eighty thousand graves drained into the water-supply of the city.

In demonstrating the perils of earth-burial the cause of cremation was proved, for no other proposed method was so practicable, in this country at least. The exposure of bodies to wild beasts in India, the recourse to the monsters of the Ganges or the sea, embalming, mummifying, or desiccating, the injection of the soluble salts of mercury or other chemical reagents deadly to protoplasmic poisons, the covering of the uncoffined body in the grave with quicklime, and the primitive form of cremation on a pyre in the open air, were all too objectionable to be seriously considered beside the modern method of cremation, where the body was decorously and totally disposed of in an hour or two, with only a few pounds of harmless residuum, and without exhalation or odor. Fire would absolutely destroy every form of disease germ, while no amount of freezing would do it. All other disinfectants were feeble and ineffectual compared with fire. Scientific apparatus had been devised which made cremation safe, speedy, and inoffensive. The recent agitation was resulting in the more general recognition of its merits, and its advocacy was receiving new impetus in all civilized countries. It was the greatest of sanitary reforms, and it would prevail in the near future. The only objection to it not founded on sentiment was that its practice might destroy evidence of certain crimes, but cases of disease and death due to earth-burial were far more numerous than those of crimes that cremation could conceal, and thus the practice might be justified by the plea of the greatest good to the greatest number. The weightier argument for cremation was the sanitary one, but its bar to the resurrectionist, its avoidance of the much-feared burial alive, and the reduction of necessary expense, might be cited in its defense. In closing, Dr. Marble quoted Mr. Beugless: "Instead, then, of thrusting our loved ones who have departed this life into the gloomy grave, there to fester in loathsome putrefaction, and thence to come forth in ghastly forms of dreaded disease, let us reverently, decorously, and expeditiously translate them by means of the all-purifying fire into the elements of all new and beauteous life. So shall our fair land become, indeed, as it should be, the land of the living, and not the valley of the shadow of death."

The Influence of Ovariotomy on Surgery.—Dr. John Homans, of Boston, began in a paper on this subject with a general review of the old distinction between physician and surgeon, and the advances that had been made in special courses of instruction. Among the branches of practical surgery none had made greater strides, nor been more fascinating in its performance, than abdominal surgery. Twenty-five or thirty years ago the interior of the abdominal cavity, except to an occasional ovariotomist or to the performer of Cæsarean section, had been a *terra incognita*, and not only unknown but feared and dreaded. The occurrence of stabs in the abdomen, letting out the intestines, and followed by recovery, had taught surgeons nothing in regard to the harmlessness of simple incision of the peritonæum. More severe injuries, caused by stakes and pitchforks penetrating the abdomen, had only served to cause the instruments of these wounds to be preserved in museums, and the patients to be exhibited as surgical curiosities. No one had seen and acted on the evident truth that a simple incised wound of the abdominal wall was almost innocuous. This dread of the peritonæum had been caused by the results of delayed kelotomy, or by seeing peritonitis and death follow a wound of the peritonæum made in a vaginal surgical operation. After mentioning the experience of Dr. Gilman Kimball, of Lowell, Dr. Burnham, of Lowell, Dr. Atlee, of Pennsylvania, and Dr. Peaslee, of New York, the author gave an account of Sir Spencer Wells's work, and also that of Mr. Charles Clay.

The first operation which followed the removal of ovarian tumors was the removal of fibroid tumors of the uterus. This operation was only to be done in exceptional instances, and its success would probably never equal that of ovariotomy. When it was found that wounds of the intestines made during an ovariotomy often united when carefully sewn together, the natural inference was drawn that intestinal wounds of the lower canal also be healed, and this inference had been acted on, and resec-

tion and suture of the intestine for the cure of fæcal fistula was successfully done. Within the last eighteen months two cases of artificial anus had been cured by this operation by Dr. Charles B. Porter, at the Massachusetts General Hospital.

Who did not remember some dreadful sufferer with an intestinal fistula following a strangulated hernia, without control over his offensive fæcal emanations, solid, liquid, or gaseous? To-day ovariotomy had rendered possible an operation by which this sufferer could be made completely well again.

Laparotomy was done for operations likely to be successful often or seldom. By means of it the spleen had been removed, cancers of the stomach and intestines had been cut out, gallstones had been removed from the gall-bladder, and many more operations of a like nature had been done. The pain and discomfort from floating kidneys had been relieved by sewing the kidney to the abdominal parietes and fixing it in place.

Removal of the ovaries for hysteria, for insanity (Battey's operation), and for the cure of painful menstruation had also been done. The sphere of the last operation should be closely and carefully limited, but in certain cases it was a proper proceeding. Removal of the uterine appendages to bring about atrophy of uterine growths was very legitimate and promised well. Simple laparotomy, properly done, in a healthy subject, had no mortality, or perhaps a very small percentage, and was practically innocuous. All of these advances in abdominal surgery, all of these triumphs and discoveries in an unknown region of the body, had been brought about by ovariotomy. A list of all the operations born of ovariotomy would be long and tedious. A few of them were: Enucleation of the entire uterus, *per vaginam*, for cancer of the body of the organ; removal of the spleen for cystic disease; removal of the gall-bladder, cholecystotomy, hepatotomy for abscess and for hydatids; nephrectomy for calculous pyelitis, for cancer, or for tubercle; nephrotomy for abscess or for purposes of exploration; and radical operations for the cure of hernia by sewing together the pillars of the ring and the sides of the sac. Laparotomy had also been successfully done for pelvic abscess, splenic abscess, acute and chronic peritonitis, hydatids of the peritonæum, and extra-uterine gestation, and lately Professor Loreta, of Bologna, had operated successfully upon an aneurysm of the superior mesenteric artery by this method.

The author's laparotomies numbered two hundred and seven, including two hundred for the removal of cystic ovaries, several of the removal of the ovaries and tubes for the cure of threatened or actual insanity, a very remarkable case of removal of a fibroid tumor of the abdominal wall and the peritonæum, and other laparotomies for various purposes.

The history of a case was given where an ovarian cyst was supposed to exist. An exploratory incision (under spray) was made, and it was found that no cyst was present, but that it was a case of tubercular peritonitis. The wound healed kindly and the patient had gained in flesh and color, and was now contemplating matrimony. The author concluded with the statement that all successful operations within the abdominal cavity owed their inception and execution to the knowledge gained by the ovariotomist and furnished by him to the profession.

The Diagnosis and Treatment of Occipito-posterior Positions was the title of a paper by Dr. William L. Richardson, of Boston. The points made in the paper were the necessity of early making out the position as well as the presentation in every case, the great advantage to be gained from the practice of external palpation of the abdomen in cases of posterior positions of the occiput, the importance of an early recognition of any lack of flexion which would be liable to prevent the subsequent forward occipital rotation, the danger, if the forceps was applied to an extended head, of rotation, of still further increasing the extension; and the ease with which traction, applied on the occiput by means of the forceps reversed, not only corrected the lack of flexion, but also facilitated the forward rotation of the occiput and the speedy and successful termination of the labor. The paper was based on the study of nearly a thousand cases, in which the head had entered the pelvis in the right oblique diameter in ninety-eight per cent.; and the reader dwelt especially on the ease with which the position could be made out by external palpation, even at a very early stage of the labor. The diagnosis of a posterior position of the occiput having thus been detected, it was the physician's duty to watch the case carefully so as to rectify any lack of proper flexion early, for, if the head was perfectly flexed, the occiput would, when it reached the resistance offered by the lower pelvic strait, inevitably rotate forward. The early detection of a lack of flexion enabled the practitioner to produce the flexion and so allow the head to rotate into a forward occipital presentation.

The Annual Discourse was given by Dr. Franklin K. Paddock, of Pittsfield. His subject was the "The Treatment of Wounds." In opening, he referred to the fact, often overlooked, of the natural tendency of wounds to heal; and then he passed to a consideration of the antiseptic treatment of wounds.

At one o'clock the annual dinner was served in the Skating Rink, about nine hundred members being present. After-dinner speeches were made by Dr. Robert Amory, the anniversary chairman; Dr. Homans, Dr. Walcott, Dr. Roosa, of New York, Dr. H. W. Williams, Mayor O'Brien, the Hon. George Marden, the Hon. Charles Gwinnell, and others, and a letter of regret was read from Governor Robinson.

ILLINOIS STATE MEDICAL SOCIETY.

(*Continued from page 676*).

Tracheotomy.—Dr. J. P. Mathews briefly reported a case of tracheotomy in an adult, for recurrent laryngitis, and showed the patient.

The subject was discussed by Dr. Prewitt, Dr. Ingals, Dr. Waxham, and the author of the paper.

Too Frequent Infant Feeding and a Protest against the Use of One Cow's Milk was the title of a paper read by Dr. A. E. Hoadley, of Chicago, who said that, although the intervals of feeding babies should be as long as possible, to give them time to digest the previous meal, they were usually fed every time they cried. Regarding the use of milk from one cow, he cited two typical cases in which a change was made and each time the baby recovered.

The paper was discussed by Dr. H. T. Byford, Dr. Middlekamp, Dr. Mileham, and Dr. Waxham.

Traumatic Tetanus.—Dr. C. Truesdale, of Rock Island, of the special committee on this subject, reported two cases.

A case was also reported by Dr. Craig.

Dr. Truesdale stated that prompt and efficient treatment was necessary in these cases, and that the remedies should be pushed until their effects were thoroughly manifested. This must be done for at least five or six days before recovery was to be hoped for.

The Report of the Special Committee on Insanity was then read by Dr. R. J. Patterson, of Batavia. In presenting his paper, he stated that only one half of the hundred thousand people who are insane were treated in asylums for the insane. He believed insanity was increasing, and that it might be prevented to some extent by instructing people as to the evils of marrying with those of close consanguinity. Not sufficient attention had been devoted to the home treatment of patients with such mental diseases as were amenable to treatment. In cases where the insane were noisy they might be sent to an

asylum. In the early restorative treatment of the insane there were to be noted three points of primary importance: 1. Rest and sleep, little physical exercise being taken. 2. Careful and nutritious feeding. 3. Tonics. Home treatment often failed because patients and physicians did not understand what was needful. It might have to be continued for from three to six or eight months before the patient recovered. An average of three hours of natural sleep in twenty-four was worth more than eight hours of chloral sleep. Opium had fallen into disuse except in melancholia. It might be given in small doses two or three times a day, but the habit of giving opium should be avoided. It was a temporary expedient, but not so valuable as other hypnotic remedies. Hyoscyamine was less safe, and was disliked by patients for its after-effects, such as aphonia, dizziness, dryness of the throat, etc. A sixteenth of a grain of Merck's hyoscyamine might, however, be given at night with beneficial results. Egg-nog, in mild puerperal mania, was beneficial, but hot milk was equally good sometimes. Conium was valuable in motor and maniacal excitement. Paraldehyde was as safe as chloral, and safer in diseases of the heart, but his experience with it had not been large. It was of no value as a pain-subduer. Given in doses of from 30 to 40 minims, it was usually followed by restful sleep. Its taste was worse than that of chloral. It had no advantage over chloral except that there was less danger of its producing vaso-motor paralysis. Chloral hydrate was the best single remedy for insomnia, but it was not to be given during the day, while bromide of potassium in thirty-grain doses should be given every six hours during the day, to precede the chloral; but hypnotics were temporary expedients only. Improved general nutrition should be followed by mental improvement. Quinine, iron, and maltine were the most reliable tonics; strychnine might be added where the vaso-motor forces were low. Maltine was useful also as a vehicle for other remedies. Skillful feeding was of primary importance.

Alcohol as a Therapeutic Agent.—The report of the special committee on this subject was read by Dr. M. F. Bassett, of Quincy.

It was discussed by Dr. Davis, Dr. Cook, and Dr. T. H. Worrall, of Bloomington.

How the Vitality of a Seed is preserved was the title of a paper by Dr. H. Judd, of Galesburg, of the Special Committee on Physiology. The "dormant-vitality theorists," he said, constantly pointed to the seed as furnishing evidence of a "mysterious power" inclosed within its tiny shell, which might there remain an indefinite length of time, and which man could not explain. Of course, there were phenomena occurring without number beyond the present understanding of scientific observers, but, because we did not at once comprehend them, should they be pronounced any more mysterious than the chemical changes in the laboratory, or the movements of a mechanism dependent on chemical changes, which up to a certain point we did explain? It became necessary at the outset that something definite be determined upon as to the meaning of vitality. This had been rather a bad word for science. Dictionaries of scientific terms gravely attempted to define it by saying that it was a force controlling the manifestations and properties of organized bodies, and distinguishing them from inorganic matter, some of them following with, "We know nothing of this principle, except as a force in connection with organization." Now, we would be pleased to learn what we did know of the force electricity beyond what we were able to observe in its generation by chemical and physical means, along with its action on matter generally. What did we know of heat, light, and gravity except through their manifestations on matter generally? But the vital principle, said the dictionary man, was the crucial test that separated the organic from the inorganic world. Here, then, he would have us believe that vitality was located; it resided in the organic world alone; it expended its power there; there were to be observed its phenomena. All that was inorganic must be excluded—a great step toward simplifying our investigation, a sort of diagnosis by exclusion. Nine hundred and ninety-nine thousandths of the earth's matter, being inorganic, belonged to the impossibles of this case, and need not be considered. Leaving them, we might begin our investigation of the other hundred thousandth at the top, with the perfection of organized beings, man. A grain of wheat was both fruit and seed, and might be arranged as follows:

- Fruit coats or Pericarp.
  - Outer fruit coat. — Exocarp.
  - Middle fruit coat. — Epidermis, or Mesocarp.
  - Inner fruit coat. — Endocarp.
- Peripheral circulation. — Vascular membrane, with frequent inosculation of vessels.
- Seed coats.
  - External seed coat (Testa).
  - Inner seed coat (Endopleura).
- Contents of seed coats.
  - A layer of cells filled with gluten and nitrogenous matter—perisperm.
  - Large cells filled with starch—endosperm.
- Central circulation. — Vessels at center of grain more numerous at groove, and running from between starch-cells to germ (spiral vessels).
- Germ.
  - Germ membrane.
  - Germ
    - Oil cells.
    - Nitrogenous matter, etc.

Was it not a clear and logical deduction from the analogies and facts offered that the dormant state of a seed was like the hibernating state of an animal, in which, while it was not so active as when started into growth, it did not rest completely, but went on consuming its store of food; and, if not planted before this store was consumed, must not the germ die?

(To be concluded.)

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of February 21, 1885.

Dr. M. J. Roberts, Chairman.

Adjourned Discussion on Phthisis. — Dr. Stephen S. Burt thought that the question of heredity in phthisis was still an open one. While he believed that it was most apt to occur in the offspring of broken-down individuals, he recognized the value of statistics that traced the disease through a paternal or maternal ancestry; but he still held that, if a parent were syphilitic or otherwise broken down in health, the issue would be fully as apt to exhibit phthisical features as if there were plainly marked phthisis in the family history.

He could not speak from a pathological standpoint as well as from a clinical, but it was his conviction, contrary to some of the teachings of the present day, that many cases of phthisis developed from an unresolved pneumonia, as to his mind physical signs indicated it. Whether or not tubercles were present prior to the softening of the lung tissue he could not say, because, as already indicated, there were usually no distinctive signs of disseminated tubercles. In a number of these instances tubercles had been found after death. In one he had seen generalized tuberculosis, but the chief deposits were in the peritoneum and brain, and he might also say that he knew of no case of unresolved pneumonia, with the formation of cavities, in which tubercle had not been found after death.

Finding of the bacillus in suspected or doubtful sputa he held to be a point of great diagnostic value in the pre-cavernous stage of phthisis; after cavities were formed, the auscultatory signs were usually sufficient.

Dr. A. H. Smith said that regarding the question of heredity we must admit that something was handed down from the parent to the child which predisposed to this disease. This something was not always dependent upon the condition of the parent at the birth of the child. We might remember families of children where at the birth of the eldest the parents were seemingly healthy, but where, when the youngest were born, one or the other of the parents had developed tuberculous disease, and where all of these children, without exception, at the ages of eighteen or twenty succumbed to phthisis. Also we could remember people who had lived to the age of from twenty to thirty in perfect health, but in whom even the laity detected a predisposition, and they were said to be marked and finally did succumb. The speaker thought that something more than an impaired constitution was transmitted in these cases.

He agreed with Dr. Satterthwaite in his main classification, but would include among the varieties of phthisis which were not tuberculous also that variety which occurred in the terminal stages of diabetes. He considered this variety due to the irritation of the abnormal blood acting through a long time and setting up numerous foci of pneumonia. This view was upheld by the fact that in these cases tubercles were not commonly found in other parts; also by the fact that in most of them an hereditary tendency was not present.

In regard to ætiology, it appeared to him that the original cause of tuberculosis was most probably a little body which, floating in the blood, occasioned minute capillary emboli, and which lodged in the lung most commonly because of the delicate structure of the capillary blood-vessels in that organ. He did not refer to the capillaries of the functional supply of the lung, but to those of its nutritive supply—the capillaries which terminated the bronchial arteries and veins. These emboli might be aggregations of leucocytes or other material. That the condition was primarily one of embolism seemed probable from the fact that it occurred also from septic infection where we knew that emboli were its cause.

In treatment we should take into consideration the fact that phthisis most commonly attacked the apices of the lung first or the part of the thorax where its movements were the most restrained. A French writer had many years ago recommended the playing of a wind instrument by those who had hereditary tendencies toward consumption, in order to expand the upper part of the chest and to equalize its pressure. The writer cited a case in which, to one among six brothers, five of whom had succumbed to tuberculous disease, he had recommended this practice. This patient was at the time of writing alive, at an age nearly twice that of the five others at the time of death.

In some cases of rapid phthisis, life had been prolonged by the administration of oxygen. The temperature had fallen, the respiration had become less frequent, and the physical signs had improved. He spoke of had seen also two cases of abrupt and rapid improvement from rectal alimentation. Four to five years had elapsed since the patients had been supposed to be in a dying condition. They had continued to hold their own, and were, in fact, much better than when they were subjected to the treatment. Though it was continued only for a short time, it appeared to [illegible] a turning point in their disease. We should in these cases in every way try to improve the general health and [illegible].

The teaching of most modern pathology would lead us to [illegible] which would sterilize the lungs. The present problem appeared to be how to kill the bacillus without at the same time killing our patient as well. It was an interesting question as to how far the fluids of the body might be charged with the chloride of mercury without morbid symptoms. As bearing on this point, he would state that it had been found that one part in thirty thousand would sterilize any fluids prepared for the propagation of bacteria, and it had been questioned whether we could not approach this strength in the human body. By means of small, frequently repeated doses, one third to one half a grain had been taken in the twenty-four hours for considerable periods without ptyalism and without gastric or intestinal disorders.

Since the last meeting the speaker had had a chance to make a further trial of intra-pulmonary injections, and thus far they appeared to have had a favorable effect. The patient was a colored man in the Presbyterian Hospital, who had been under observation for eight weeks. His weight had been taken every week, and his temperature, with the condition of his sputa, had been observed during a considerable time previous to the commencement of the injections. Five minims of Lugol's solution, diluted with five times its quantity of water, were used. Five minims of this dilution, increased gradually to eight and nine minims, were injected every three hours. The patient tasted the iodine the moment he coughed after the injection. The treatment had been continued two weeks, and his weight had increased three pounds and a quarter. Excepting the injections, his treatment had been the same as previously. The patient's sputa had also become less purulent and more watery, and they were expectorated with greater ease.

Dr. Satterthwaite asked whether the injections were made into a cavity.

Dr. Smith replied that the needle was plunged to the depth of about an inch, but whether it entered a cavity he could not say.

Dr. J. M. W. Kitchen, alluding to intra-pulmonary injections, said that in tuberculous disease irritants must do harm, and, in fact, too many irritating agencies were already present. He would like a comparison of the results following the inhalation of medicated sprays with the results of intra-pulmonary injections. The former should always be used in phthisis, for they were competent to hold the bronchial element of phthisis under control. Such inhalations might be merely cleansing, or sedative, or astringent, according to indications. He preferred some mild astringent, to which he added a few drops of ipecacuanha and a few drops of Hoffman's anodyne. The speaker thought that the profession did not give enough attention to the prevention of this disease. There was great public need of a thoroughly equipped educational institution where weakly children could be properly developed. Good schools would not take a delicate child. The family physician should also be on the alert and warn people with phthisical tendencies against the danger of denutrition. Sometimes the timely administration of a simple tonic would save such persons from the disease.

But we should go a step farther back and remember that the radical preventive treatment lay in the direction of reproduction. It was a topic for society at large and for the Government, for no individual had a right morally, and should have no legal right, to encumber the community with unhealthy progeny.

To refer back to the palliative treatment of phthisis, he had found cocaine of great value in laryngitis. He knew of patients who would rather starve than attempt to swallow, so great was the pain. This was relieved by a brush application of the cocaine solution.

Dr. [illegible] said that if benefit was to be obtained from a change of climate, an early diagnosis was all important. While practicing in Colorado he had seen the importance of both ob-

serving and realizing the vital necessity for the early recognition of this disease. Many lives were brought to an unhappy end because the patients were sent away too late in the disease. A well-known clinicist in this city frequently made mistakes in this respect, and his patients anticipated benefit where none should have been expected. He had in mind also the greater success which was attained by another well-known clinicist in a neighboring city, who sent his patients early to Colorado.

In this climate he had noted a peculiarity in the hereditary tendencies among the offspring of consumptives. It was chiefly in the direction of tuberculous meningitis, which carried off many infants.

Perhaps the good results from the Colorado climate were due to its antiseptic character. Bullet-wounds might be treated there without suppuration. This peculiarity of the climate might explain why the natives had such immunity from phthisis.

Dr. G. H. Fox stated that he had seen little to warrant him in regarding any affection of the skin as tuberculous, though, from a study of our recent dermatological literature, it might be gathered that certain conditions of the skin were in some way related to pulmonary phthisis. He recalled one case where, in an ulcer of the lip, a deposit had been found that resembled the deposits of tubercular phthisis, and similarly an ulcer of the ear exhibited the same characteristics. Friedländer had held that lupus was tuberculosis of the skin, but this opinion was not generally sustained until the bacillus of tuberculosis was found in lupus. Previously the diagnosis had been based by Friedländer on the presence of giant-cells in the morbid tissue, but, when it was found that the gummatous tumors of syphilis contained similar bodies, they ceased to be regarded as pathognomonic of tubercle. The facts that lupus was common in scrofulous subjects, and that scrofula and tubercle were so closely allied, were favorable to the tuberculous theory of lupus. Still, as Koch's theory had not been confirmed by many observers, and the lupus nodules had often been found to exhibit no bacilli, the whole subject must still be left *sub judice*.

Dr. G. R. Elliot, in speaking of the view that pulmonary tuberculosis was the sequel to pneumonia, said he did not think that the ingrafting of acute miliary tuberculosis upon a pneumonic exudation which had failed to be absorbed was any proof of the tubercular nature of the pneumonia. There were, however, in these cases certain peculiar clinical phenomena. In his experience, the pneumonic symptoms would apparently subside, and then, of a sudden, a sharp rise of temperature would take place, with an increased frequency of the pulse and respiration. If death occurred at that time, miliary tubercles would be found in the lungs; they would give evidence of recent deposition, and the pneumonia about them would show signs of recent date. Referring to the negative results which some observers had obtained after the injection of the material from miliary nodules, he advanced the opinion that such miliary bodies might not be truly tubercular.

Dr. Beer, in reply, stated that he had not found the diagnosis of tuberculosis after pneumonia so easy as the previous speaker had represented it to be. He had seen a number of instances in which there was no sudden rise of temperature, or increase of dyspnœa, or of the pulse, and the termination was a surprise to all. Such a case had occurred in Bellevue Hospital, and had been reported by Dr. H. F. Walker.

Dr. William H. Porter, speaking in regard to the advisability of exercising the chest by means of inhalers and the thoracic gymnastics recommended by Dr. H. G. Davis, said that, from a pathological standpoint, and taking into consideration the fact that in tuberculous tissue there was always a tendency to liquefaction and the formation of cavities, it was in accordance with physiological laws to restrict the motions of the chest on the one hand, and on the other hand to stimulate the circulation to increased activity.

Dr. T. E. Satterthwaite said that Nature met these wants usually by pinning down the diseased apices by thickening of the pleura and a fibrinous infiltration around the cavities, and in this way she sometimes effected a cure. Good results, therefore, often followed where the diseased tissue was bound down by adhesive plaster. Certainly as long as the disease was plainly progressive the mildest form of exercise was in order. Undue exercise, especially in the line of overdistension of the diseased tissue, invited hæmorrhage.

Dr. Kitchen stated that he knew of a corset that had been devised for the purpose referred to by the previous speaker, but, as it limited the lower part of the chest, it was harmful. The lower part of the lungs should have the fullest freedom if phthisis was to be treated successfully. The corset should be discarded entirely.

The Chairman proposed a new treatment for tuberculous inflammations of joints. It was maintained that most chronic inflammations of joints were tubercular, attacking the epiphyses particularly. If such pathological conclusions were to be depended upon, the proposed method would have a very noteworthy diagnostic importance. The instrument had been previously described.

Dr. Van Schaick presented a specimen of tuberculosis of the testicle which he had removed, post mortem, one year ago at the French Hospital. The patient had complained of hardening with a diminution in the size of the testicle; he said that he appeared to be losing it. There was but very little pain. By the rectum, the vesiculæ seminales were found to be a good deal enlarged and thickened. The lungs were examined, and it was thought that there was tuberculous disease of the apex. Tubercle of the testicle was also then diagnosticated. Three months after, the patient re-entered the hospital with general tuberculosis, of which he died at the end of two months. At the autopsy the cord only was not examined, and every other organ was found to be tubercular. Tubercles were in the bladder, and extending up the ureters into the pelves of the kidneys. The one testicle was, as seen, entirely softened and broken down, while the other consisted of a white fibrous mass. The diagnosis was made upon the hardening and contraction of the testicle, the absence of any previous disease and of pain, with the enlargement of the vesiculæ seminales, and the general tuberculosis of the individual.

Tuberculosis of the Genito-urinary Tract.—Dr. H. G. Lyttle read a paper on this subject. See page 685.

Dr. W. O. Moore said that tuberculosis affected the eye: 1. As a primary pathological lesion. 2. As tuberculous degeneration after inoculation with caseous matter. 3. As tuberculosis in the choroid secondary to acute miliary tuberculosis.

As a Primary Pathological Lesion.—He had seen three such cases, one a child ten years old, in whom tuberculous ulceration occurred near the margin of the right upper lid, which went on to destruction of part of the lid, but finally healed, leaving a deep cicatrix. The ulceration was sluggish, and yielded to treatment slowly. The mother was poor and in bad health, though there was no trace of phthisis. The child took cod-liver oil, and the ulcer was washed daily with mercuric bichloride, 1 to 800. Koch's bacillus was found in the material discharged. This form was rare, but that of the ocular conjunctiva was more rare.

He had also seen two cases of tubercular degeneration of the iris and ciliary body. In each case destruction of the globe ensued, and the patient died with tubercular meningitis. The iris was the most common seat for tuberculous deposits. Haab had reported eleven cases: conjunctiva of the lid, six; iris, four; ocular conjunctiva and choroid, one. Infiltration of the choroid

with tubercles not miliary was very rare, though Gowers and Hirschberg had each reported one. Abadie had reported a case of tuberculous infiltration of the lachrymal glands where, on removal of the glands, the bacillus of Koch was found. The patient made a good recovery. Such a case he (the speaker) had under observation where the condition probably existed, though the diagnosis was still in dispute.

Tuberculous Degeneration after Inoculation with Caseous Material.—Hirschberg had enucleated an eye, and, finding in it caseous degeneration, introduced the matter into the anterior chamber of rabbits' eyes, and in from twenty-two to thirty-nine days an eruption of tubercle in the irides was produced. Samelsohn, of Cologne, in 1878 first demonstrated the fact. Others had injected the blood of tuberculous patients with the same results.

Tubercle in the Choroid Secondary to Acute Miliary Tuberculosis.—Litten had found, in fifty-two cases of acute miliary tuberculosis, tubercles in the choroid in thirty-nine, of the size of $\frac{1}{1800}$ to $\frac{1}{400}$ of an inch in diameter. They were mostly found in the posterior part of the fundus, appearing as yellowish white spots, isolated or occasionally confluent, and on the choroid, as shown by the retinal vessels passing over them. Vision was scarcely ever impaired by their presence. They were first seen in the living subject by von Graefe, although Manz had frequently seen them at post-mortems previously. They had been seen as early as four months before death. He had seen only one case of tubercle of the choroid in the living subject, and that through the kindness of Dr. G. R. Cutter. The patient presented the yellowish nodules in the choroidal tissue.

Recently he had examined three cases of tuberculosis, one chronic and two acute miliary. In none did choroidal tubercle exist, although a post-mortem in each instance showed general tuberculosis. In a case of acute miliary tuberculosis the choroid of one eye presented during life peculiar changes which were thought to be tuberculous, but, on post-mortem examination made by Dr. George L. Peabody (through whose kindness the patient was seen), what appeared during life to be choroidal tubercle proved, after close scrutiny, to be patches of anæmia of the choroid, although miliary tubercles were found in most of the organs. Tubercle in the choroid was very rarely observed during life, but, when seen, its presence justified the diagnosis of general tuberculosis more positively than any other symptom.

Unusual Forms of Phthisis.—A paper on this subject was read by Dr. J. K. Crook. [See page 687.]

Intra-Pulmonary Injections, with an Account of Two Cases.—Dr. W. C. Phillips gave an account of two cases in which he had used intra-pulmonary injections. [See page 688.]

Dr. Satterthwaite closed the discussion by enumerating certain axioms that to his mind could be drawn from the subject of phthisis, as it stood before us to-day:

1. Tuberculosis was a disease most frequently associated with a phthisical ancestry; in such families the individual selected for the attack was one deficient in physical vigor; but phthisis might be acquired, and those were especially liable who had a defective conformation.

2. Even with a predisposition to phthisis, proper precautions might often be successfully taken; or, even if the disease had once established itself, we had abundant proof that it might in some cases be arrested and subdued.

3. In the great majority of cases the evidence at hand appeared to prove that tubercle and phthisis were one and the same; this view had the support of most excellent authority in all parts of the world.

4. Tubercle was an inflammatory deposit of a fibroid nature; the exciting causes were in most modes of an irritating character that entered the tissues through various media. Tubercular products were usually disintegrate, as in catarrhal phthisis, but sometimes they were capable of organization, as in fibrous phthisis.

5. Sometimes cavities might be produced by non-tubercular agencies; for example, in gangrene of the lungs, of which he had seen two examples during the past year. Consequent to the pneumonia following measles, there were cavities without tubercles. Syphilis also was competent to produce cavities where the gummy deposits softened and were expectorated. It was very rare for an ordinary lobar or lobular pneumonia to terminate in phthisis. He would except, perhaps, the pneumonias of the colored race, which might possibly be examples of such conversion. Other conditions might give rise to cavities.

The discovery of the bacillus, apart from its causal relation to phthisis, appeared to be of value from a diagnostic point of view, and especially in the precavernous stage of phthisis.

7. Intra-pulmonary injections, if they had not yet proved themselves of curative value in phthisis, certainly did little harm, and in some cases ameliorated the symptoms. These remarks applied to cavities and not to consolidated tissues.

8. Those who believed that phthisis was contagious had not yet produced sufficient evidence to show that contagion played as important a rôle as heredity.

Dermoid Cyst of the Ovary.—Dr. Burt then presented a dermoid cyst which he had secured post mortem. The history was as follows: Mrs. G., aged thirty, had been married eight years; never had been pregnant, had never menstruated regularly, and had suffered a good deal with dysmenorrhœa. Her physician saw her first in June of 1875, when he found a tumor in the right side of the abdominal cavity low down, and extending diagonally in the median line. In July there was a purulent discharge, and some hair came away with it, which, when unrolled, measured eighteen inches in length. This discharge of pus continued, though in diminished quantity, for nearly a year, and contained from time to time bits of hair. The tumor decreased in size, and the patient improved so that she was able to go about. She was, however, taken suddenly with pain in the abdomen, weak and feeble pulse, vomiting, and diarrhœa. Pus, shreds of membrane, and black fœtid material, together with another lock of hair, were passed from the abdomen through the upper part of the posterior wall of the vagina, and the patient finally died of peritonitis. Upon opening the abdominal cavity, a large cyst of the right ovary was found containing teeth, bone, hair, and pus. The cyst communicated with the peritoneal cavity and thence with the vagina. There were old localized adhesions and thickening of the peritonæum, besides an extensive and considerable exudation of fibrin, pus, and serum from recent inflammation of the peritonæum. The specimen presented was a part of the cyst, together with a well-formed tooth and its alveolar process, and a lock of hair attached to a portion of the wall of the tumor.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of December 16, 1884.

The President, Dr. William M. Polk, in the Chair.

Hysterectomy for Uterine Fibroids.—Dr. W. T. Lusk presented a large fibroid tumor, together with a number of smaller ones, which had been removed, with the uterus, from a patient who gave the following history: She was thirty-eight years of age, and entered the hospital in March last, suffering from ascites and some form of abdominal tumor. The ascites was so great that it was impossible to determine the exact nature of the tumor. The patient was greatly reduced in flesh and in general health, and was passing only from one to five ounces of urine daily. It seemed hardly possible that she could live more than

a few weeks. Dr. Lusk removed a portion of the ascitic fluid, after which he was able to make out what he supposed to be a large fibroid of the uterus, although he was in some doubt whether the case might not be one of abdominal pregnancy. After the patient had been under observation for some time he became convinced that it was one of multiple fibroids of the uterus, there being one large tumor and a number of smaller ones attached by pedicles. Mr. Tait, who had been asked to examine the patient, had summarily rejected the idea of uterine fibroma, and, when asked what he thought the condition was, had characteristically replied, "Cut the patient open and find out." Several other gentlemen, however, who saw the patient a day or two later, coincided in Dr. Lusk's diagnosis. Dr. Lusk was surprised, on returning from the country after the summer, to learn that the patient was still alive, and had even improved somewhat in condition. The house physician had been giving her acetate of potassium and digitalis, and so long as these medicines were continued the urine was secreted in normal quantity, but as soon as they were withdrawn it decreased in amount and her condition grew worse. Her desire to go home was acceded to soon after Dr. Lusk's return to the city, but she had scarcely been absent twenty-four hours when the dropsy largely increased in amount, and she returned and was again given acetate of potassium and digitalis, with the effect of increasing the urinary secretion. The urine contained albumin. It was evident that the patient could not live much longer without interference, and yet the kidney complication and ascites made recovery after an operation extremely doubtful. It was decided, however, to make an abdominal section, Dr. Lusk's idea being that if only a single fibroid was removed it would tend to make the patient relatively comfortable. The operation was performed about seven weeks ago. When the peritonæum was opened, about a gallon of ascitic fluid escaped. It was the operator's intention to remove the fibroids one after another, but they proved to be very numerous, and, accordingly, he turned out the entire mass, threw a powerful, large-sized rubber cord around its pedicle and cut it away.

The only point to which he wished to call special attention regarding the operation was the fact that, after the method of most operators in such cases, he introduced the needle, intended to fasten the pedicle to the abdominal walls, through the stump below the ligature. This he now regarded as a mistake, and, on account of the distress which it caused the patient, he withdrew the needle on the third day and passed it through the stump above the ligature, which afforded relief. The day following the removal of the needle some febrile disturbance developed, which was found, on lifting the stump with a tenaculum, to be due to a collection of about a teaspoonful of pus in the upper portion of the wound. The next day the temperature rose again, and it was then found that there was some pus in the lower portion of the wound, beneath the ligature. As soon as this fœtid pus was washed away the temperature fell, and convalescence was thenceforward uninterrupted. There was no further kidney trouble after the operation; the urine was secreted in normal quantity, and no longer contained albumin. This fact was worthy of note, because it was stated in works on obstetrics that inefficient action of the kidneys in puerperal eclampsia was not due to pressure of the gravid uterus, otherwise a like trouble would arise from pressure of ovarian and fibroid tumors. Here was a case in which pressure was made by a tumor, and removal of this caused albumin to disappear from the urine immediately, and the fluid to become secreted in normal quantity. In reply to a question, Dr. Lusk said the entire uterus was removed with the tumor, which weighed seven pounds and a half, the stump separated on the twelfth day. He had had the valuable assistance of the president during the operation.

The PRESIDENT asked Dr. Lusk, who had spoken of tympanites (which was present in this case) as being the rule, if this was true of all cases of extirpation of the uterus, whether the stump was treated extra-peritoneally or not.

Dr. LUSK said he meant to refer only to those cases in which, the stump being short, the pressure of the needle was very near the descending colon.

Dr. J. B. HUNTER remarked, with regard to the effect upon the kidney of removal of the tumor, that recently, in two cases operated upon by two different surgeons in this city, the urine, which had been apparently normal, became completely suppressed about the seventh day after the operation, and the patients died. The cases had progressed favorably until suppression of the urine had taken place. Dr. Hunter also remarked that he had employed the rubber cord, shown by Dr. Lusk, with satisfaction.

The PRESIDENT had reported a case last spring in which he hesitated to operate for the removal of a fibroid tumor because the urine contained albumin, but, instead of suppression of urine after the operation, as had been feared, the albumin disappeared and the secretion became normal, showing clearly that albuminuria had been due to pressure of the tumor upon the kidneys or upon the ureters.

Fibroid Degeneration of Both Ovaries.—The PRESIDENT presented two ovaries removed post mortem, which were the seat of fibroid degeneration. The patient was a nursing woman who, when she entered the hospital, was complaining of general malaise, and wished to wean her child, which she was allowed to do. Examination revealed two abdominal tumors, supposed to be fibroids of the uterus attached by pedicles. Within a week after her admission she complained of weakness in the legs, and a day or two afterward it was noticed that there was some anæsthesia of the limbs, and also that the gait was faltering. At the end of about the fourth day after the beginning of the anæsthesia the patient was unable to walk satisfactorily, and went to bed. The history of the case from this time on was simply that of a rapidly ascending paralysis, and the diagnosis rested between that affection and an acute softening of the cord. At the autopsy Dr. Welch was able, after searching for some time, to find softening of the central gray matter of the cord, most plainly marked at the lumbar enlargement, and disappearing in the dorsal region. The white matter was not involved in the least. The patient had died seven or eight days after the initiatory symptoms of paralysis, which first manifested itself in the feet, and ended in paralysis of the respiratory muscles, producing asphyxia. A positive diagnosis between softening of the cord and acute ascending paralysis was not made until after death, and this was often the case in the history of the two diseases, as clinically they frequently resembled each other very closely. The post-mortem examination also revealed fibroid degeneration of both ovaries, apparently of an interstitial character, both organs having attained a very considerable size. This condition he thought was quite rare. There was no ascites.

The PRESIDENT also presented another fibroid tumor of the ovary, which, when it was removed, was of about the size of the gravid uterus at the fifth month. The patient was twenty-five years of age, and, it was evident, had been carrying the tumor for some time, but its growth had been slow, and her attention had not been called to it until ten days before she entered the hospital, when peritonitis developed. It was necessary, in order to remove the tumor, to extend the abdominal incision from near the pubes to half way between the umbilicus and the ensiform cartilage. There was marked evidence of the last stage of peritonitis. Ascitic fluid was evacuated and the tumor removed, as was also the ovary on the opposite side, which was of the size of an orange and the seat of cystic degen-

eration. The patient left the hospital perfectly well at the end of six or eight weeks.

Dr. T. A. Emmet inquired whether fibroid tumors occurred in other portions of the body than in the ovaries where there was no muscular tissue.

The President said he thought that Schröder maintained that there were a few muscular fibers in the ovaries, but that Virchow thought it a question, in case a fibroid contained muscular fibers, whether it did not spring from the uterus.

Dr. G. T. Harrison thought it a question whether some tumors removed from the pelvis, supposed to be ovarian, were not originally tumors of the uterus. Some years ago he had reported a case of the kind to the society, which interested Dr. Peaslee, who said he had seen several such cases. In his own case the post-mortem examination would have led one to suppose that the pelvic tumor was a fibroid of the ovary, but, from the previous history of the patient, it was evident that the growth had originally belonged to the uterus, had become separated from that organ, set up pelvic inflammation, and then become adherent to the ovary.

The President remarked that Schröder had also pointed out the difficulty which sometimes existed in deciding whether a fibroma had originally developed from the uterus or from the ovary, but it was evident in the cases of the specimens which he had presented that the tumors had originally belonged to the ovaries.

Salpingo-oophorectomy.—The President, in connection with the cases just related, also reported the result of six cases of Tait's operation done in Bellevue Hospital since March last. Two of the patients were operated upon by Mr. Lawson Tait, who was on a visit to the United States at the time. Two cases were selected by Dr. Polk, instead of one, in order to test in a greater degree whether the success obtained by English surgeons was due to the climate, to the national traits of the patients, to the operator, or to other causes. The operations were performed in the amphitheatre of Bellevue Hospital, before about a thousand students, and the patients were not seen by Mr. Tait after the wounds were closed nor until fifteen minutes before their entrance into the operating-room. Both of the patients recovered without the slightest symptom which could be traced to the operation. In one there was some elevation of the temperature, which, however, had existed previously, and was due to chronic peritonitis. He was impressed with the simplicity of Mr. Tait's method of operating, one marked peculiarity of which was the fact that no hand besides his own was allowed to enter the peritoneal cavity. In each of the cases referred to both ovaries and tubes were removed, and at no time was Dr. Polk's assistance required, except to draw on one end of the ligature thrown around the attachment of the ovary. Mr. Tait made a small incision, for the purpose of obviating as far as possible the after-occurrence of hernia. The ease with which he operated seemed to be due to a considerable extent to a peculiar knot that he made which enabled him to complete the operation without the necessity of the assistant touching the ovary. He simply drew on one end of the ligature, which was then cut and thrown away. The operations were performed in from nineteen to twenty minutes; very few instruments were employed, and they lay by the patient at the operator's side. Mr. Tait, when at home, always selected and prepared his own sponges, thus diminishing the possibility of infection. The secret of his success seemed to be due to the ease with which he operated, to the simplicity of the operation, and to the fact that nothing was allowed to enter the peritoneal cavity except his own fingers, or the instruments and sponges, the cleaning of which he personally superintended. If this was not so, there seemed to be no reason why all results should not have followed in the two cases mentioned, for the operations were performed under conditions which were universally condemned as unsuitable.

Dr. Hunter remarked that, while the surroundings under which the operations were performed were not appropriate for Tait's operation, they would be still less suitable for an ovariotomy, in which the peritoneal cavity was exposed.

Dr. Lusk remarked that Mr. Tait operated five times in this country during his visit, each time in the presence of large classes, and all the patients recovered.

The President had removed both ovaries and tubes a few days before, in the presence of about three hundred students, and the patient had had no bad symptoms since. The operation took twenty-two minutes.

Dr. Lusk said there was one peculiarity about Mr. Tait's operations which had not been mentioned by the president, namely, when adhesions existed, instead of enlarging the abdominal wound, he simply introduced his finger and broke them up, his large experience enabling him to do so apparently with perfect safety.

The President said, in reply to a question, that Dr. Tait thought hæmorrhage was more likely to continue from small vessels if the peritoneal cavity was closed than if it was left open and drained with a tube.

Dr. Lusk added that it was his custom also to insert four or five sponges into the abdominal opening in cases of hæmorrhage, leaving them for a few minutes, then to insert the drainage-tube and close the wound. He did not ligate small vessels.

Tubal Gestation treated by Electricity.—Dr. Lusk narrated the following case: Before he went to the country last summer a patient came to him, complaining of eczema of the anus and perinæum. At the end of August she visited him in Newport, saying that the itching which formerly troubled her had disappeared, but that she had recently had a very violent attack of pelvic pain, which had confined her to bed two or three days. There was a condition of the cervix which, together with some enlargement of the uterus, led him to believe she was pregnant. There had been some bloody discharge. In September she visited him again, when he discovered a tumor in the region of the ovary, a little larger than a pigeon's egg, which led him to suspect tubal pregnancy. Not wishing to alarm the patient, he told her to return again in the course of two weeks. At the end of two weeks he was informed that she had had a violent attack of pain, with partial collapse, but had rallied. About the 1st of November she visited him again, at which time the tumor in the right side of the pelvis was nearly as large as his two fists, pushing well down upon the vagina. The uterus was enlarged, and constantly discharged a sero-sanguinolent fluid. There was now no further question in his mind that the case was one of extra-uterine pregnancy, but he took the patient to Dr. Thomas, who said there could not be the slightest doubt about the diagnosis. The same evening Dr. Lusk began treatment by electricity, using the faradaic current, of about ten minutes' duration, repeating the applications night and morning for about a week. At the end of three days, however, the tumor had become perceptibly flaccid, and he had no doubt about the arrest of the growth, although he continued the applications until the end of the week. By this time the tumor had decreased to the size of a hen's egg, its walls appeared to be thick and wrinkled, the uterine discharge had ceased, and the patient had gained strength. Dr. Lusk thought the faradaic current as efficient as the galvanic, and less likely to produce shock; but his impression concerning the great amount of shock produced by the galvanic current in the cases treated in this city was corrected by Dr. Harrison and Dr. Emmet. In his own case Dr. Lusk applied one pole of the faradaic battery over the abdomen while the other was inserted

first for five minutes in the vagina, and then for an equal length of time in the rectum.

HENRY J. GARRIGUES, M. D.,
B. F. DAWSON, M. D.,
FRANK P. FOSTER, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The Michigan State Medical Society.—The twentieth annual meeting opened at the Opera House at Port Huron, Wednesday, June 10th, at ten o'clock. Dr. DONALD MCLEAN, of Detroit, the president, called the meeting to order, and the Rev. HASTINGS BLISS, of Port Huron, offered a brief prayer. The president then introduced General W. H. HARTSUFF, who made a brief address of welcome. Several prominent medical gentlemen from abroad were invited to seats on the platform, after which the Executive Committee made their annual report, which was approved. Dr. Campbell, of Ovid, read a paper on "Migraine," which was discussed by Dr. Smart, of Hudson. Dr. Woodward, of Tecumseh, next read a paper entitled "The Treatment of Fractures," which was warmly discussed by Dr. De Camp, of Grand Rapids, and others. The president then read the following telegram: "The Maine State Medical Society sends congratulations and fraternal good wishes to your society." A similar dispatch was ordered returned. Dr. MCCALL, of Lapeer, then read a paper on "Plaster of Paris in the Treatment of Fractures." Dr. Walker, of Detroit, then read a carefully prepared and able paper on "External Perineal Urethrotomy." The discussion was opened by Dr. KIMBALL, of Jackson.

The afternoon session was called to order at 2 P. M. Dr. MCGRAW, of Detroit, opened the session by reading a paper on "The Origin of Cancers and Tumors." Dr. MCGRAW also presented two patients from one of whom he had removed the thyroid gland, and from the other the entire left clavicle. Dr. LUNDY then read a paper on "Iritis and its Relation to Certain General Diseases." The paper was discussed by Dr. BRODIE, of Detroit, and Dr. BENNETT, of Jackson. At four o'clock the treatment of fractures was again taken up and discussed by several prominent gentlemen, among whom was Dr. Hingston, of Montreal. The secretary then reported that letters and telegrams of regret had been received from Dr. Tye, of Chatham; Dr. Edwards, of London; Dr. Reeves, of Toronto; Dr. Russell, of Toronto; Dr. Geike, of Toronto; Dr. Dupuises, of Kingston; Dr. Benur, of London; Dr. Woodruff, of London; Dr. Howard, of Montreal; Dr. Phelan, of Kingston; Dr. Covington, of Toronto; Dr. Burgess, of London; Dr. Rauch, of Springfield, Mass.; Dr. Goodell, of Philadelphia; and Dr. Jackson, of Chicago. Dr. Johnson, of Grand Rapids, chairman of the Special Committee on Reorganization, reported a number of important changes which were recommended for adoption. They were ordered printed and laid on the table for one year.

Dr. CARSTENS then read a paper on "Sterility," which was fully discussed by Dr. PALMER, of Ann Arbor, and Dr. OCTERLONEY, of Louisville, Ky.

The evening session convened at 8.30 o'clock. The president introduced Dr. Morse, of the Ohio State Medical Society, and then called vice-president Cook, of Muskegan, to the chair. The PRESIDENT then read his address, which was an able effort and well received. Dr. PALMER, of Ann Arbor, read his paper entitled "The Physiological and Therapeutical Efforts of Alcohol." This paper was specially interesting to many out-siders and drew a large audience. It was discussed by Dr. WHEELAN, of Hillsdale, who followed with a paper entitled "The Possibility of a Concurrent Medical Opinion upon the Physiological Effect of Alcohol." The programme was very full, and those who wished to read papers were asked to make them as brief as possible that all might be heard. The St. Clair Mineral Spring Co., through Dr. Blanchard, tendered a steamboat excursion to St. Clair, and the hospitality of the Oakland House to all who desired a ride upon the river. The following gentlemen were recommended for membership: Dr. Merritt, of Fort Gratiot, Dr. Wilson, of Port Huron; Dr. Chittock, of Detroit; Dr. Smith, of Detroit; Dr. Ingles, of Detroit; Dr. Taylor, of Loomis; Dr. Blanchard, of St. Clair; Dr. McLaughlin, of Cass City; Dr. Northrup, of Port Huron; Dr. Stockwell, of Port Huron; Dr. Clancey, of Port Huron; Dr. Taylor, of Mt. Clemens; Dr. Tibbitt, of Linden; Dr. Chamberlin, of Almont; Dr. Thompson, of Flint; Dr. McIntee, of Melvin; Dr. Moors, of Richmond; and Dr. Flora H. Ruch, of Ypsilanti. An interesting feature of the meeting was the presence of Dr. Stockwell, of Port Huron, who was the first president of this society. He was warmly congratulated.

Thursday morning the papers on alcohol, by Dr. Palmer and Dr. Kinne, of Ypsilanti, were discussed and referred. Dr. SMART, of Hudson, of the Committee on Medicinal Legislation, reported on the bill now before the Legislature providing for a Board of Medical Examiners to regulate the practice of medicine and surgery, and the subject was referred to a committee of five. Dr. Smart suggested that the committee on State sanitation prepare a bill to be presented to the Legislature to compel every secret preparation to be accompanied by the formula. The convention seemed to think that this was a free country and that the public should be protected by using these preparations with their eyes open.

Dr. STOWELL, of Ann Arbor, read a paper on "The Microscope in Medicine." Dr. PRESCOTT, of Ann Arbor, read a sketch of a plan to compel the publication of constituents of proprietary medicines on the labels.

Dr. DECAMP read a paper "On Gems in Medical Practice." This paper was very interesting and was liberally illustrated with valuable specimens.

Dr. SHURLY, of Detroit, discussed the subject.

The election resulted in the choice of the following officers for the coming year: President, Dr. E. P. Christian, of Wyandotte; vice-presidents, Dr. Patterson, of Charlotte; Dr. Carstens, of Detroit; Dr. Griswold, of Grand Rapids; Dr. Alvord, of Battle Creek. Dr. Ranney was re-elected secretary, and Dr. Smart treasurer.

A vote of thanks was tendered the Executive Committee and the people of Port Huron for their kindly entertainment of the society.

Dr. KINNE read a paper on "Post-partum Hæmorrhage," and a free discussion was given it. A paper on "Students' Eyes" was read by Dr. HEMINGWAY, of Kalamazoo. Dr. STOCKWELL read a paper "On Functional Paralysis due to Malarial Poison," and it was discussed by Dr. VAUGHN.

The newly elected president was introduced, and thanked the society for the honor conferred upon him. Dr. GEORGE, of Ann Arbor, read a paper on "Abscess of the Cerebellum and its Complications." Dr. SULLIVAN read a paper on "Atresia of the Vagina, with Loss of the Urethra and the Base of the Bladder."

At 4.30 the society and invited guests took the steamer Conger for a trip on Lake Huron, and returned to the Oakland House, where Dr. Blanchard entertained the company. After supper the toast of "Our Guests" was responded to by Dr. MORSE, and Dr. LONG, of Louisville, and Dr. HINGSTON, of Montreal. Dr. WARD, of Langsburg, read a paper entitled "The Professional Dude." The toast of "Our New Members" was responded to by Dr. FROTHINGHAM and Dr. WHITE, and that of "Our Presidents" by Dr. MCLEAN and Dr. STOCKWELL.

The Rhode Island Medical Society held its seventy-fourth annual meeting in Providence on Thursday, the 11th inst. The president, Dr. Oliver C. Wiggin, being absent, the first vice-president, Dr. H. G. Miller, presided. The report of the Trustees of the Fiske Prize Fund, presented by their secretary, Dr. C. W. Parsons, showed that the following prizes had been awarded: $200 to Dr. C. V. Chapin, of Providence, for an essay entitled "The Present State of the Germ Theory of Disease"; and a like sum to Dr. H. A. Hare, of Philadelphia, for an essay on "The Physiological and Pathological Effects of the Use of Tobacco." The Trustees reported also that they had chosen the following subjects for the essays for 1886: "The Methods and Practical Results of Treatment of Malarial Diseases now prevalent in New England" and "New and Altered Forms of Disease due to the Advance of Civilization in the past Half-century." It appeared from the report of the Library Committee, presented by Dr. F. Newell, that 2,002 books had been added during the year, making the total number 4,593. The following-

named new members were elected: Dr. Vernon O. Taylor, of Providence; Dr. Gilbert L. Church, of Warren; Dr. James B. Erskine, of Johnston; and Dr. Sophronia A. Tomlinson, of Providence. Officers for the ensuing year were elected as follows: President, Dr. Oliver C. Wiggin; first vice-president, Dr. Horace G. Miller; second vice-president, Dr. John W. Sawyer; secretary, Dr. George D. Hersey; corresponding secretary, Dr. Edward M. Harris; treasurer, Dr. Charles H. Leonard; censors, Dr. Ariel Ballou, Dr. J. H. Eldridge, Dr. J. W. C. Ely, Dr. G. P. Baker, Dr. S. S. Keene, Dr. Benjamin Greene, Dr. Job Kenyon, and Dr. Eugene Kingman.

Clinical Instruction in Midwifery.—We would call our reader's attention to Dr. Partridge's announcement, in our advertising columns, and say to those of them who may contemplate taking a practical course of instruction in obstetrics that the opportunity afforded by Dr. Partridge will in every way be found of great advantage.

Gastrotomy for the Extraction of a Foreign Body.—Dr. J. W. Eddy, of Oswego, N. Y., writes as follows: "On —— —— I was called to see Lulu H., age twenty-two months. The mother said that the child, while standing on a chair in front of a dressing case, fell over backward, and, on picking her up, she found her choking, and, looking into her throat, saw something black, which resembled a hairpin, disappearing downward. I ordered a constipating diet and advised waiting for results. After a few days I was called again, and the mother said that the child was very restless and cried a great deal, and that there were lumps in the left axilla. I found the lymphatic glands enlarged, and noticed two red spots over the stomach, a little to the left of the median line. The symptoms were so alarming that I decided to operate; and, calling in Dr. Clark, after consultation we concluded that the foreign substance must be removed in order to save life. I determined to cut down to the stomach through one of the red spots, hoping to find that the foreign body had penetrated the stomach at that point. Anæsthetics were administered and I made an incision two inches in length. I inserted a probe and passed it over the stomach, but found nothing. Then taking a long porcelain-tipped probe and passing it under the cardiac portion of the stomach, I detected a hard substance. Reaching in with a pair of long, slender forceps, I seized the body and tried to bring it to the surface, but found that it was entangled in the ribs. After working for some time and pushing the object backward into the stomach, and then pulling upward through the incision, I drew forth several inches of a hat-pin. Coming to the head, I made an incision in the stomach, letting that through, and thus, having removed a hat-pin five and one eighth inches long and having a large glass head, I simply let the stomach back into the abdomen, making no stitches, but trusting to the stomach's contractile powers to close the incision. For two days the milk and water which was given the child passed in small quantities through the wound, after which the gastric fistula closed, and in ten days the edges of the external wound had united and the child was well."

The Health of the State of New York.—According to the returns to the State board of health for the month of April, the proportion of deaths in each thousand was 152·55 from zymotic diseases, 132·71 from consumption, and 205·71 from acute respiratory diseases.

The American Laryngological Association will hold its seventh annual meeting in Detroit on Wednesday, Thursday, and Friday, the 24th, 25th and 26th inst. An address of welcome will be given by Dr. David Inglis, of Detroit, and the following papers are expected to be read: "On the Use of Galvanism in Pharyngeal Affections," by Dr. E. L. Shurly, of Detroit; "The Respiratory Function of the Human Larynx," by Dr. F. H. Hooper, of Boston; "On some of the Motor Derangements of the Larynx with Cases," by Dr. H. A. Johnson, of Chicago; "On certain Vasomotor Disturbances of the Nasal Membrane," by Dr. W. C. Glasgow, of St. Louis; "Reflections on the Etiology of the Simple Inflammatory Affections of the Upper Air Passages," by Dr. John N. Mackenzie, of Baltimore; "Erysipelas of the Pharynx and Larynx," by Dr. D. Bryson Delavan, of New York; "Submucous Laryngeal Hæmorrhage complicated by a Cyst," by Dr. Frank L. Ives, of New York; "The Cold-air Cautery in Laryngological Practice, with the Exhibition of a New Cautery Snare," by Dr. Harrison Allen, of Philadelphia; "The Principles involved in the Construction of Spray-Tubes," by Dr. A. H. Smith, of New York; "Leucoplakia Buccalis," by Dr. E. Fletcher Ingals, of Chicago; "A Case of Melano-sarcoma of the Nose, cured by Galvano-cauterization," by Dr. R. P. Lincoln, of New York; "Angioma of the Nose," by Dr. J. O. Roe, of Rochester; "Deformity of the Nose as a Factor in Nasal Catarrh," by Dr. J. W. Robertson, of Detroit; "Inflammatory Adhesions of the Soft Palate to the Wall of the Pharynx," by Dr. C. C. Rice, of New York; "Alimentation in Laryngeal Phthisis," by Dr. Beverley Robinson, of New York; "An Additional Note on the Therapeutic Action of Cocaine," by Dr. F. H. Bosworth, of New York; "Personal Experience with some Recent Additions to the Materia Medica of Laryngology," by Dr. S. Solis-Cohen, of Philadelphia; "A Case of Membranous Nasal Catarrh," by Dr. G. W. Major, of Montreal; "On the Influence of Diathesis on Mucous Membrane," by Dr. W. F. Duncan, of New York; and "On the Efficacy of Mild Measures in the Treatment of so-called Nasal and Naso-pharyngeal Catarrh," by Dr. J. Solis-Cohen, of Philadelphia.

THERAPEUTICAL NOTES.

Oxalic Ether.—Richardson ("Asclepiad") recommends this compound for hypodermic injection. It is obtained by digesting absolute alcohol and ether at a moderate temperature, and is a colorless liquid of an agreeable odor. Unlike sulphuric ether, it does not cause pain when injected under the skin, and the resulting inflammation is slight. It is suggested as a useful application to morbid growths, either externally or by deep injections.

Iodoform in the Treatment of Gout.—Testa ("Gazz. Med. di Torino"; "Dtsch. Med.-Ztg.") has published the results of a series of careful observations, both experimental and clinical. He finds that this drug increases the amount of uric acid excreted, and accelerates the processes of oxidation. The amount of oxalates is diminished, even when food is taken which is rich in oxalic acid. In cases of gout the writer employs daily doses varying from one to four grains, which, he maintains, may be continued for months without general disturbance. Under the use of iodoform the attacks become less frequent, and their duration and intensity are lessened. Stress is laid on the fact that the presence of renal disease is a contra-indication to the employment of the drug, the danger being that it will not be eliminated, but will be retained in the system and give rise to toxic symptoms.

Mercury in the Treatment of Gout.—Illingworth ("Brit. Med. Jour.") has used the following mixture with favorable results:

Solution of bichloride of mercury (Br. Ph.).	6 drachms;
Iodide of potassium.....	30 grains;
Infusion of quassia.....	6 ounces.

Dose, half an ounce every two or three hours. Morphine or chloral may be added if the pain is severe. [The British solution of bichloride of mercury consists of ten grains, each, of the biebloride and sal ammoniac dissolved in an imperial pint of distilled water.]

Turpentine in the Treatment of Dysentery.—Genkin ("Wratsch"; "Dtsch. Med.-Ztg.") commends the use of oil of turpentine, in doses of ten drops to a teaspoonful of castor-oil, and states that he has produced better results with it than by using opium. In only seven out of fifty-nine cases was there any disturbance of the urinary organs.

Tincture of Iodine in the Treatment of Intermittent Fever.—Schabliovsky ("Russkaja Medicina"; "Dtsch. Med.-Ztg.") has treated twenty-six cases of intermittent fever with tincture of iodine, ten drops being given three times a day. A cure resulted in every instance, without unpleasant consequences.

Salt Baths in the Treatment of Fever.—Rabinowitsch ("Wratsch."; "Dtsch. Med.-Ztg.") reports the results of treatment in the cases of sixteen patients, who received in all one hundred and forty-one baths. He says that not only did the addition of salt to the water cause a greater reduction of the temperature, but the pulse and respiration were improved, and the patients felt much stronger than was the case after the use of fresh water.

An Ointment for Sore Nipples.—Groussin ("Échaireur pharm."; "Lyon méd.") recommends for application to sore nipples in nursing women an ointment composed of equal parts of white sugar, oxide of zinc, gum arabic, and glycerin.

Lectures and Addresses.

THE ANNUAL ADDRESS

BEFORE THE

AMERICAN LARYNGOLOGICAL ASSOCIATION.

BY E. L. SHURLY, A.M., M.D., DETROIT,
PRESIDENT.

GENTLEMEN: Another year has rolled around and brought us together for the dual purpose of comparing our professional experience and exchanging expressions of good-fellowship. I have only to allude to the past six years' history of this organization in order to call to mind the many useful ends accomplished, and to point with pride to the fact that, as one of the stars in the galaxy of the science of medicine, laryngology has not been wanting in luster. It has been thought by some that, in tilling so closely one corner of this vast field of medical science, the crop garnered might seem inadequate to the labor expended, and hence the idea has been urged upon many of us that the scope and object of our work ought to be enlarged so as to include, for instance, otology, etc. This at first might seem to be the case, and indeed may prove to be the case in the future, since our indefatigable workers have attained such signal results. But while Nature yet keeps hidden so many facts regarding her mysterious processes even in this department, laryngology, there can be no fear that the ground will be so over-cultivated that we shall have for our pains nothing but sickly aphorisms or tall sterile theories.

I think the great success of this organization consists in the unity of action and aim which has imbued every individual member for the advancement of this particular branch of our art. Indeed, nothing so thoroughly enlarges the mind and suggests to us the error of our ways as the sharp but friendly conflict with one another in an assemblage of this sort; but, while we may therefore justly feel proud of our organization with all its defects as heretofore maintained, perhaps it will not be out of place for us for a moment to look at ourselves as some others see us. It is well known to many of you that quite a number of the profession look upon specialists' organizations as aristocratic combinations. Of course the larger body of the educated profession, who have kept up with the times and who have seen the advance of medical science during the last twenty years through the instrumentality of so-called specialists, and who are therefore well acquainted with the work accomplished by such special organizations, take no share in any such conclusions. But there are those who do thus honestly censure us under the belief that no more can be accomplished in this wise than by the same amount of organized work in connection with the general professional body. It must be understood that I omit from consideration the criticisms of all those professional brethren who are comparatively ignorant, who are incased in the porcupine-shell of petty jealousy, or who are victims of that disgusting mental deformity, self-conceit; for the aggregate life-work of such comprises only a muddy patch on the posterior extremity of the professional body. But, in answer to those criticisms emanating from honest and respected members of our profession, I think I may say for all that such organizations may in one sense be regarded as aristocracies when based wholly, as in this case, upon a desire for intellectual improvement and mental achievements; for justly mental culture should be the test and essence of aristocracy in every sphere or walk of life. The object, then, of this organization being the achievement in a particular direction of mental superiority, and the acquisition of knowledge, we can plead guilty to the charge, I suppose, without a blush. The charge of mercenary aims can be discharged without argument, as the standard and character of our membership at once furnish a full refutation.

It has been urged with some feeling by many that this organization ought not to exist, but that its members ought to turn their attention and energies toward the building up of the section of ophthalmology, otology, and laryngology of the American Medical Association. Those of us who have from year to year attended the American Medical Association will at once see the impossibility of rendering as good service for the advancement of this particular branch in the American Medical Association as by maintaining a separate organization composed of persons who are especially studying and practicing in this department. However, so far as our own personal advancement is concerned, we probably might reap greater benefits from papers read before a general medical body. To dispel an illusion, let me say that in no way can this organization be considered as at all in opposition to the American Medical Association, to which organization we are all allied, but it is a well-known fact that the highest order of thought will be generated upon a subject by the best-adapted stimulus; and when we get together in this organization of identical interests, the drift of thought and the character of the papers and discussions must necessarily be of a much closer and accurate nature than in an assemblage of only partially interested critics. It would therefore seem to me that this criticism, so frequently urged, is ill taken and comes mainly from a misunderstanding by those practitioners of the objects and standard which we essay to establish. I believe the standard of our organization can not be *too high* or the selections of members too carefully made, for it matters not if there are but twenty-five or thirty workers in the hive if these are men of ability, industry, and observation, bent upon bringing out all the facts connected with the subjects comprised in this department of science. It is indeed generally granted that no one is exactly competent for the study and practice of any specialty who has not been a thoroughgoing practitioner, because the various anatomical structures of the human body are both physiologically and pathologically so intimately connected that it is nonsense for a man to suppose that he can treat any [illegible] way in practice without being fully acquainted with all the general workings of the human economy. Therefore, our members must be general practitioners.

My sense of propriety, gentlemen, will not allow me to

omit calling your attention to the association's jewel—our secretary. I can truly indorse the remarks of my predecessor on the subject, and add with pleasure that the even and successful working of this organization is particularly due to his efficiency.

While we have very much for congratulation in the harmonious working of our organization, it is my painful duty to call your attention, before closing, to one or two of our adversities. Since we last met, death has broken our phalanx by taking away two of our members. One of those deaths, that of Dr. Louis Elsberg, one of the founders of the American Laryngological Association and the patriarch of laryngological science in America, constitutes a loss which may, without exaggeration, be said to be irreparable. Many of you perhaps knew Dr. Elsberg better than I did, but, from my own knowledge of him, I feel that I can hardly be too extravagant in any eulogium which I might be able to offer. He was well known as one of the erudite members of the American medical profession. Although of genial, yet enthusiastic, temperament, he was sharp and incisive in debate, with a mind so critical as to be able to detect the slightest inconsistency or defect in the statements or work of a colleague, and a mind powerful and courageous enough to broaden such defects into chapters of instruction. With a disposition so bland that he could hurl the arrows of censure at any one of us without exciting the slightest tinge of resentment or animosity, he was indeed a great man. These qualities made him, I may say, our most valuable member, while his fund of knowledge constituted one of our most valuable storehouses; and that he should be stricken down in the very zenith of his career, and at the very time when his usefulness was so potent in our organization, is indeed a calamity. I trust that his example may awaken in us the development of such mental attributes that we may each, before "shuffling off this mortal coil," accomplish also something more than a mere sustenance of the body—the animal paradise.

The other gentleman, Dr. Chamberlain, was one of our newer members. I regret to say that my personal acquaintance with him was very short, but he promised to be a very active co-worker, while his spotless professional and social character was such as to make us feel that his demise is a very great loss to us. He had been for some years especially active in laryngology, and, although not a prolific writer, and for that reason not so generally known as some others, his sound judgment, philosophy, and earnest work had earned for him the very highest esteem of all professional brethren who knew him. In conclusion, gentlemen, allow me to reiterate my deep sense of thankfulness for the honor which you conferred on me a year ago by electing me your presiding officer, and also to state that this mark of your esteem will be gratefully remembered not only by myself, but also by the profession of the State to which I have the honor to belong. And let me indulge the hope that at no distant day we may again have the privilege of welcoming you to our great West. In accordance with the usual custom, I will now proceed to read a short paper on the "Use of Galvanism in Chronic Diseases of the Pharynx."

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

By AMBROSE L. RANNEY, M. D., New York.

Lecture I.

(*Continued from page 629.*)

ATTACHMENTS TO A COMPLETE BATTERY.

Although it is not necessary for a general medical practitioner to have all of the attachments to a battery such as are employed by neurological specialists, still it is important that they be mentioned here, and their uses interpreted to the reader. The most important attachments to a cabinet, or fixed battery, for office use only are a galvanometer, a rheostat, a thermo-electric differential calorimeter, a polarity changer, or "commutator," and a variety of rheophores and electrodes. Portable batteries do not require the first three of the attachments mentioned, but they should possess the others.

The Galvanometer.—When a galvanic current circulates in a coil of wire about a magnetic needle, it causes deviations of that needle, which are modified by both the strength and direction of the current deflected into the coil. This fact has led to the construction of an instrument, called "the galvanometer," for the purpose of measuring the *strength* and *direction* of a current deflected into a coil beneath such a needle. When this instrument (properly made and calibrated) is connected with a battery, the strength of any number of cells in milliampères can be determined.* It is vitally important that the dial of a galvanometer should *not be divided into degrees of equal distances.* Such a galvanometer is absolutely worthless. The graduation of the dial should be *by tangents*, as shown on Fig. 18.

The deflection of the needle grows less and less for every milliampère of current; hence a dial, to be accurate, should be carefully graduated so as to correspond with the needle-deflections for different current-strengths. The first divisions on either side of the zero point on such a dial will be coarse, but they should gradually grow finer and finer till the maximum point is reached. *Such a dial will not be graduated around its entire circumference*, as the maximum point will be reached before the 90° of the circle on either side are required. My own galvanometer is graded into *equal degrees* on one half of the dial, and on the other half it is graduated to show milliampères.

Within the past few years the efforts of Erb, Eulenburg, and Bernhard in Germany, Gaiffe in France, and De Watteville in England, have awakened the profession to the necessity of accurately measuring the current-strength employed upon a patient by means of a reliable galvanometer. To their views I lend my most hearty support. As well can I conceive of a boiler without a steam-gauge and of a drug store without a scale as a galvanic battery without a galvanometer, provided its possessor aims at scientific precision in his treatment of patients by galvanism. Much

* Every galvanometer should measure at least one quarter of a milliampère to be considered worthy of indorsement.

of the neurological literature we now possess is materially lessened in value by the fact that the observations recorded

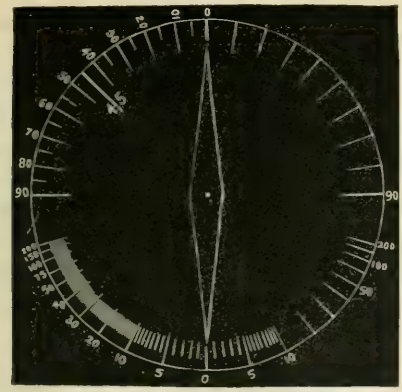


FIG. 17.—A GALVANOMETER DIAL (after De Watteville). The lower half of the circle is graduated to milliampères; the upper half to degrees of equal distance. One serious criticism can be made of this dial, viz.: that it does not indicate fractions of the first milliampère of current. To my mind, a galvanometer-needle deflection for the first milliampère of current should be sufficient to show at least a quarter or an eighth of a milliampère. This fault is common to all vertical milliampère-meters with which I am acquainted; even Hirschmann's instrument does not entirely overcome it. I am at work at present upon a new form of milliampère-meter, which I hope will remedy this serious objection and at the same time allow the needle deflections to be read easily when the eye is on the same level as the needle. I do not believe that it is necessary to graduate any galvanometer above 40 milliampères; no patient will endure a current of over 20 milliampères through a high resistance, and very few will bear one of 12 milliampères.

lack scientific precision. If we expect to arrive at positive conclusions regarding methods of employing electricity for therapeutic or diagnostic purposes, we must have a more accurate and scientific basis for recording the strength of the current employed than the simple statement of an observer "that a certain number of cells were used" in each particular instance. Cells vary in their capacity and electromotive force; they change in both respects from day to day, from use and polarization; the external resistance afforded by different individuals is not uniform, although the poles may be similarly placed and all precautions taken against poor conduction; and many other sources of error may creep into observations practically made by "guesswork" only. The scientific world has now quite generally accepted the "milliampère" as the recognized standard of a unit of current-strength. A milliampère-meter is therefore the instrument which each of you should own, and all of your observations should be recorded from the deflections of its needle. We shall probably be able soon to state with some positiveness the number of milliampères which are required to excite each of the more important nerves of the human body in health, and the exact limits between which contractions of certain muscles may thus be excited. Erlenburg and Weiss have already made a step in this direction.

One reason why I prefer the vertical form of galvanometer to the horizontal is the fact that terrestrial magnetism does not exert an appreciable influence upon it; hence observations made with such an instrument would be alike in all parts of the globe. The vertical galvanometer is more expensive, provided it is accurately graduated, than the

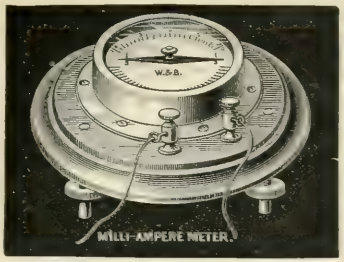


FIG. 18.—A HORIZONTAL MILLIAMPÈRE-METER (after the Thistleton pattern). The screw-feet allow of adjustment so as to insure a perfect leveling of the instrument. It is then revolved so that the needle (which will point north) rests at the zero point of the dial. Reversal of the current diverts the needle to the opposite side. One of the rheophores shown goes to a binding-post of the battery, and the other to one of the electrodes employed upon the patient. This instrument is very delicate, but the eye has to look down upon the dial in order to observe the deflection of the needle. If the instrument is placed lower than the eye, this objection is not serious. With it it is easy to detect small fractions of a milliampère of current, and it is much less expensive than a good vertical galvanometer and more accurate than most of those offered to the profession.

horizontal—a fact which, perhaps, would lead me to advise you to purchase the less expensive instrument. At my request, Messrs. Waite & Bartlett have lately graduated some horizontal milliampère-meters with great accuracy by a Thistleton's instrument. I can recommend them as reliable and comparatively inexpensive. Before you purchase this important attachment to a battery, test it, if possible, by one whose accuracy can be relied upon. I would far rather have none than a poor one. At present I am

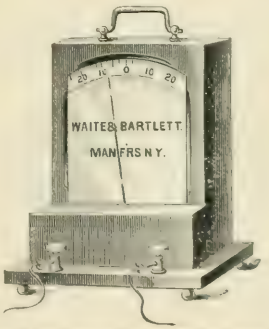


FIG. 19.—A VERTICAL MILLIAMPÈRE METER after an original design by Dr. Rudisch. This instrument I have tested of late upon my own battery. In many respects it is an excellent one; it will not, however, record fractions of a milliampère unless the dial is magnified by a glass. This objection holds good, although to a less degree, of the more elaborate instrument devised by Hirschmann, which is provided with "shunts." An absolutely perfect galvanometer has yet to be devised. Terrestrial magnetism can easily be overcome, but there are some mechanical difficulties that are more serious. A vertical needle (if very long) is affected by gravity when it is deflected by a strong current toward the extreme limits of the scale. A horizontal needle obviates this difficulty, but is more or less affected by terrestrial magnetism.

employing a vertical milliampère-meter, made after a design of Dr. Rudisch.* Thus far it gives me excellent satisfaction.

* This is shown in a cut of my own cabinet battery, on a succeeding page, and in Fig. 20.

Hirschmann's vertical galvanometer with astatic needles, called the "absolute galvanometer," has been highly recommended of late. I have not yet tested it.

The Rheostat.—This is an appliance to regulate the external resistance of a battery under varying circumstances. Several devices are made for this purpose, but the fluid rheostat (containing water, solutions of salt, solutions of zinc sulphate, etc.) is all that is required for purely medical uses. It is cheap, easily managed, and sufficiently accurate for the purpose. It is liable to polarize* when used too long, and does not act so well with strong currents as with weak ones. It consists of a glass tube filled with water or some prepared solution (preferably a forty per cent. solution of sulphate of zinc), through which a brass rod or an amalgamated zinc electrode is made to slide up and down, thus separating its lower end from a button at the bottom of the tube. When the current is sent through this rod, it is forced to pass through the depth of fluid that lies below it in order to reach the button at the bottom of the tube. By moving this rod, the amount of fluid which is thus interposed in the circuit of the battery can be graduated to any desired point. In this way a greater or less resistance can be made at will. A fluid rheostat is absolutely useless for measuring the strength of a current, but is an excellent appliance for modifying it.

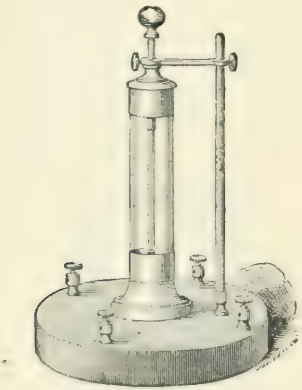


Fig. 20.—A Fluid Rheostat. The instrument is used to throw additional external resistance into circuit. Coil rheostats are more reliable, because the fluid is decomposed and causes polarization of the metal points when strong currents are used. Some of the graphite rheostats are preferable to those containing fluid, and are cheaply made.

The Thermo-electric Differential Calorimeter.—This apparatus is used in medicine to measure differences in temperature in homologous parts of the body, or of any two selected points. It is much more delicate than any form of surface thermometer, and is often very valuable as an aid in making a scientific diagnosis. Like many of the instruments of precision, it requires experience to use it and it is somewhat sensitive. The study of surface thermometry has not assured the importance which, in the opinion of the author, it is destined yet to take. Waite & Bartlett, of New York, have constructed for me one of the most perfect instruments of this kind that I have ever seen.

The study of cerebral thermometry has already led to the discovery that the left hemisphere is normally hotter than the right (Hammond); that willed muscular action raises the temperature of the scalp over the motor centers called into action (Amidon, Gray, and others); that mental activity, emotional excitement, and merely arousing the attention cause a rise in temperature (Lombard); and that tumors of the brain or its envelopes are indicated by a localized rise in temperature over the site of the neoplasm. I have lately made some novel and interesting experiments in this field which I propose shortly to publish. In detecting inflammatory conditions of the abdominal viscera, this instrument has lately been employed with satisfactory results.

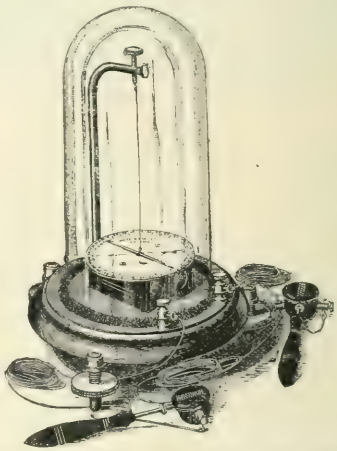


Fig. 21.—Thermo-electric Differential Calorimeter.—Connect the two thermostats as shown in figure, viz.: connect by means of one of the metal tipped cords one binding-post of each of the thermo-piles to the two binding-posts on base of the galvanometer. Then connect the two remaining posts, one on each of the thermo-piles with each other. After so doing, place the thumb on the face of one of the thermo-piles and observe the direction of the deflection of the galvanometer needle, then place thumb on face of the other thermo-pile, leaving the first uncovered, and, if the deflection is in the opposite direction to that first obtained, the instruments are properly connected. If, however, the second deflection is in same direction as obtained by pressing thumb on first thermo-pile, disconnect the two cords from either thermo-pile and interchange them, viz.: take cord from right-hand post and place in left, and cord from left post and place in right-hand post; the deflections will then be as first alluded to, one pile turning needle in one direction and the other in the opposite direction.

I have lately made an improvement* upon this instrument which enables the physician to detect differences in the

* We speak of an element as "*polarized*" when bubbles of hydrogen accumulate upon it and diminish its efficiency.

* The improvement to which I refer consists in the addition of a polarity changer of my own construction which enables me to reverse the deflection of the needle without removing the thermo-piles from the surface of the patient. If the needle, for example, shows a deflection of 15° on the right side and 12° on the left side, the difference of 3° shows double the imperfection which exists in the thermo-pile thus tested, and the proper registration should therefore be 13½°. Such imperfections in thermo-electric piles are practically unavoidable and can be detected in no other way. As far as I know, this defect has never before been remedied. This has heretofore been the only serious drawback to the differential calorimeter, and the addition of this improvement renders the instrument far more valuable for accurate scientific purposes.

electro-motive force of the thermo-electric piles employed. This corrects all errors in observations made with this instrument.

The Current-Selector.—This device is now added to all of the modern galvanic batteries, whether designed for office use or for transportation. By it, the *number of cells desired can be thrown into circuit.* If a circular dial studded with buttons (which represent the cell-connections) is used, the bar which revolves and impinges upon the buttons acts as a connection between the button on which it rests and the metallic pivot on which it revolves.

It is important that this bar be broad enough to touch each button before it leaves the one behind it, otherwise the current is apt to be broken when the intensity of the current is changed. I have known of serious results from such an accident when a large number of elements were being used upon the head of a patient. At my suggestion, a modification of the dial current-selector has been made by Waite & Bartlett, of this city.

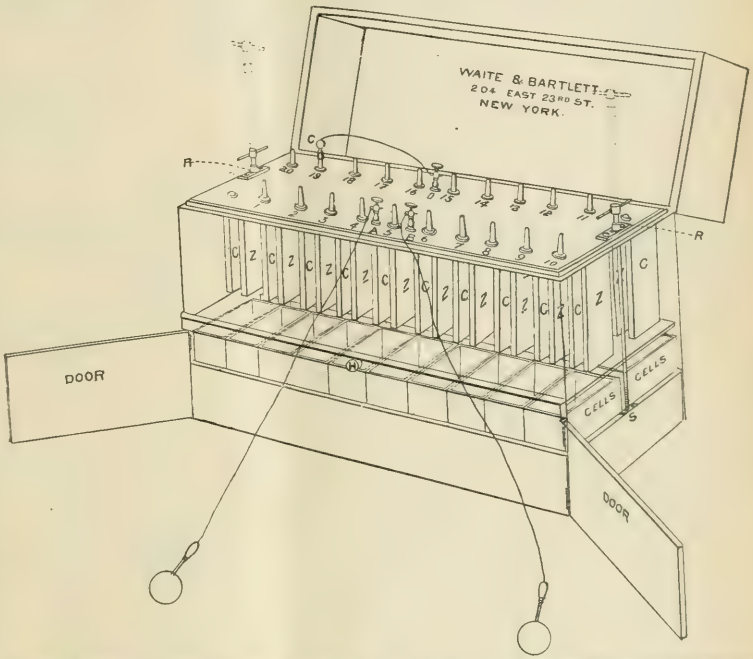


Fig. 23.—A Skeleton Drawing of the Pin Variety of Portable Galvanic Battery. *R*, handles by which the tray of cells is raised and lowered. *Z*, zinc elements. *C*, carbon elements. *A*, *B*, binding-posts. *D*, attachment of the stopper which fits over the pins. *H*, a rubber-covered diaphragm which separates the cells from the elements when the battery is not in use; this is removed when the cells are lifted so as to immerse the elements.

Another form of current-selector is that employed by the same firm for some of their instruments. I greatly prefer it to any other kind for a portable battery, as it enables the operator to select the desired number of cells from any part of the battery—thus insuring an equal amount of wear upon all of its parts. It consists of pins projecting from the dial-plate, each of which represents one cell. These may be brought into circuit by means of two stoppers which are placed upon any of the pins desired; the number of pins between the stoppers will immediately tell the operator how many cells are being used. An objection to its use is that it dispenses with a polarity changer—in case the cells employed are capable of being thus selected.

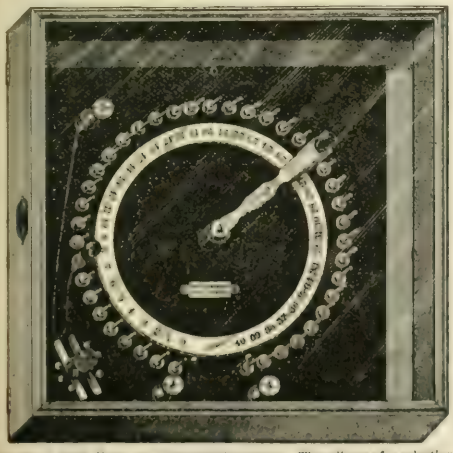


Fig. 22.—A New Form of Current-Selector. This allows of a selection of any desired number of cells from any part of the battery, thus insuring equal wear and many other advantages.

The accompanying cut shows the portable galvanic battery of this make with the current-selector attachment described. In this form one stopper only is employed, and the cells in use are indicated by the numerals placed at the base of each pin. With this arrangement a polarity changer is admissible, and is affixed to all so constructed. This is particularly to be desired.

One claim that is made in favor of this device is that this form of key-board prevents oxidation, as the wires which are usually employed to join the cell-elements with the current-selector in other apparatuses are entirely dispensed with. This advantage is an important one to those who live away from the large cities and are not sufficiently familiar with electrical apparatus to make their own repairs.

In batteries which are formed of a large number of cells, it is best to have two dial current-selectors, so that a gradual

increase or decrease of the current can be made without breaking the circuit. In one dial, each button should represent one cell, while in the other each should represent from two to five cells. It is easier to make any desired combination of cells with rapidity by means of such an arrangement than if the dials were alike.

The Polarity Changer or Commutator.—Most galvanic batteries have a switch upon the key-board that is intended for the purpose of changing the poles at will without disturbing the rheophores or electrodes. The details of the many mechanical contrivances employed for that purpose need not be given here.

This attachment is almost indispensable to a battery designed for office or experimental work, since the reactions of the poles can thus be more readily studied. It is desirable, moreover, to have it attached to a portable galvanic battery. It should be so arranged as to permit of *opening and closure of the circuit*, as well as the *reversal of the current*.

The Rheophores.—These are flexible wires which are necessary to conduct the electric current from the battery when in action to the patient. Insulated copper wire forms the best rheophore, as it is an admirable conductor. Tinsel threads insulated with cotton wrapping are more generally used (although they are not such good conductors), because they do not kink and are more flexible. They are connected at one end to the "*binding-posts*" of the battery, and at the other to the electrode. They should vary between four and six feet in length. I have some that are ten feet in length, which I employ when I examine the naked body of a patient lying upon a sofa or bed.

The Electrode.—In order to apply a current of electricity generated in a battery to the human body, various forms of electrodes are employed as termini to the rheophores. It is best to have a pair of handles to which different forms of tips may be screwed, according to the requirements of each case. The tips may be made of plain metal, or of carbon or metal covered with sponge, chamois-skin, or canton-flannel. The canton-flannel covering is the cheapest and cleanest, and may be renewed at pleasure. Each patient can thus have a clean covering for the electrode at every application. Flat electrodes of large size are useful, especially when a neutral point for the current is desired). Small tips (motor-point electrodes) are generally employed to direct the current to some special muscle or group of muscles.

The wire brush is employed chiefly in cases where anæsthesia exists. It is the only electrode that is used dry.

Most manufacturers advertise a case of electrodes designed especially for the application of electricity to different organs. Selections may be made from these as desired. I have personally devised several modifications of electrodes which are manufactured by Waite & Bartlett.

A practical point may be mentioned here, viz., that the negative electrode (*cathode*) is the most painful to the patient, and produces the greatest chemical action. It is a well-recognized fact that a bullet does the most damage at its point of escape from any dense substance which it has penetrated. In the same way an electric current produces the most profound effects at its point of escape from the body—i. e., the negative pole. It is not uncommon to see a reddening of the skin, and even vesication, produced by a strong current at the negative electrode if kept too long in contact with it. The cathode is the "stimulating" or "irritating" pole (if such an expression is admissible) of a galvanic battery. The anode is, by contrast, the "sedative" pole.

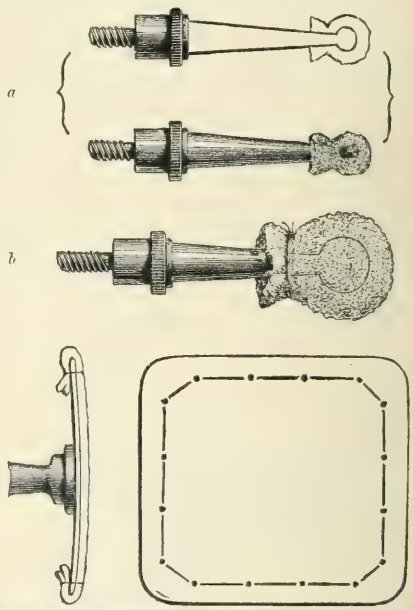


Fig. 25.—Various forms of electrodes (natural size), adapted to a screw handle, not shown in the cut. (After Erb.) *a*, the "fine" electrode or smallest size; *b*, the so-called "small" electrode; *c*, the "medium" electrode. All electrodes are covered with sponge (as in *a* and *b*) or flannel or chamois skin (as in *c*).

For the treatment of special forms of disease by electricity, different types of electrodes have been designed by various neurologists. A device of my own, which simplifies electro-diagnosis and enables a medical observer to watch and compare the effects of electrical currents of definite strengths upon muscle- and nerve-reactions of opposed limbs simultaneously, will be described farther on. By means of this device the physician may sit at a key-board and excite different sets of muscles separately or simultaneously (without moving from his chair) by touching certain keys, as if playing the piano or working a type-writer. I have found it, moreover, of great assistance in demonstrating before large audiences the action of nerves and muscles upon a living subject.

Time will not allow of a detailed description of the electrodes shown you, most of them being simple devices, which really require but a limited experience to use them in a proper way.

When you purchase a battery, two sponge-covered electrodes will probably be sent with the instrument. It is advisable, for the following reasons, to remove the sponges: 1.

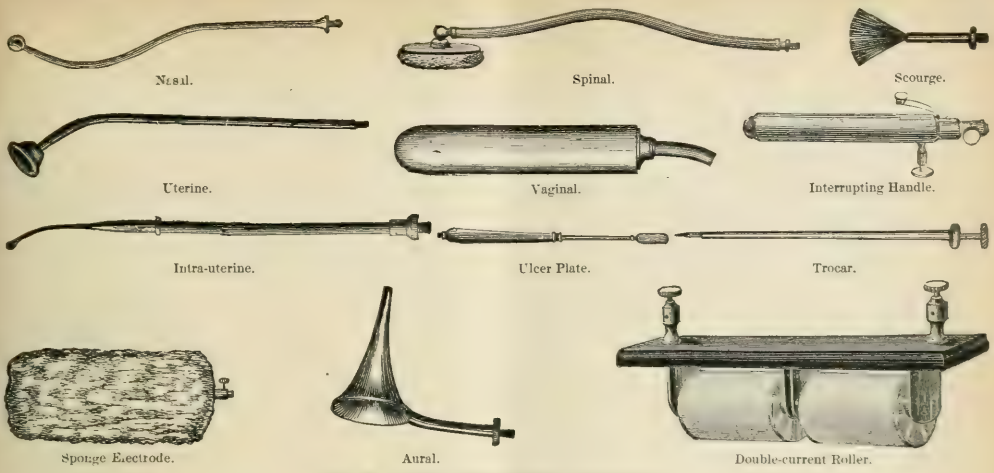


FIG. 25.—VARIOUS FORMS OF SPECIAL ELECTRODES.

Cases have been reported where disease has been transmitted by sponge-covered electrodes. 2. In case the metal electrodes become oxidized, they can be readily cleaned. 3. When employed upon a patient's body, absorbent cotton, wet in salt water, can be placed upon the clean metal, and a piece of moistened canton-flannel may then be wrapped over both and fastened to the handle with a rubber band, thus insuring *absolute cleanliness* and *perfect conduction of the electric current.*

Patients of delicate sensibilities rebel against the use of the sponges which for months or even years have been employed in case after case requiring electricity. Who of you would patronize a barber-shop where one towel constituted the entire outfit of linen? Is it right to ask of patients what you would yourself condemn? Furthermore, how can electrodes covered with dirt and other deposits under a sponge be perfect conductors of electricity? Absorbent cotton and canton-flannel are far cheaper than sponges, and can be thrown away after being used.

(*To be continued.*)

Original Communications.

THE THERAPEUTIC SIGNIFICANCE OF THE CERVICAL FOLLICLES.*

BY SIMON BARUCH, M. D.,
GYNÆCOLOGIST TO THE NORTHEASTERN DISPENSARY, NEW YORK.

THE observation of a large number of cases of uterine disease in public as well as in private practice has gradually led me to the conviction that the glands and follicles which constitute a portion of the anatomical structure of the cervix uteri play a far more important *rôle* in this class of cases than is generally admitted by authorities, and that a proper recognition of this fact will enable the judicious practitioner to attain a more positive diagnosis, prognosis, and especially a more strictly curative treatment. It is a well-recognized fact that a large proportion of the uterine cases which come under the observation of the general practitioner are classed as inflammation and catarrh of the body and neck, and that of this class the vast preponderance are connected chiefly with the cervix.

The term uterine catarrh, cervical or corporeal, is not strictly scientific, but it may be applied, as is the term "nasal catarrh," as indicating a complexus of symptoms originating in certain functional but more frequently organic changes. The physician who would treat a uterine catarrh or leucorrhœa by the injection of astringents, without investigating and searching for hypertrophies, a cystic gland degeneration, or cellulitis, would be as reprehensible as the surgeon who would treat a nasal or pharyngeal catarrh without regard to the existence of hypertrophies or neoplasms within the cavity. The treatment of the latter has in recent years been greatly simplified, because specialists have evinced the true scientific spirit in disseminating their valuable experience and in devising instruments and procedures which intelligent general practitioners have not found difficult to comprehend and utilize.

In gynæcological practice much has been accomplished in the same direction. Among recent writers in this country Dr. T. A. Emmet has been conspicuous in simplifying the treatment of a large proportion of uterine diseases, which have hitherto been the bugbear of the general practitioner, by pointing out the fact that a prominent element in the semeiology and ætiology is to be sought in the existence of some change in the circulation of the pelvic connective tissue outside of the uterus.

As a contribution to the simplification of gynæcological therapy I offer the suggestion that a more thorough investigation of the part played by the glandular structure of the cervix uteri will lead to a correct appreciation of another

* Read before the Northwestern Medical and Surgical Society, June 17, 1885.

important element in the causation of the suffering and distress for which we are constantly consulted in cases of uterine trouble.

In nearly all methods of treatment of the so-called inflammatory condition—classed under the various alluring titles, metritis, hypertrophy, habitual hyperæmia, hyperplasia, subinvolution, erosions, catarrh, or what not—the cervix receives the brunt of the attack. It is cauterized, painted, swabbed, depleted, dilated, and plugged to a far greater extent than the uterus proper. And the reason therefor is obvious. It is not because the changes due to disease are so palpable and so easily demonstrated in and upon the cervix, while they are obscure within the uterine body, but because the anatomical structure of the cervix, its exposure to mechanical irritation and violence, render it more prone to take on diseased action, as Dr. Henry Bennett long ago demonstrated.

Since, then, the cervix uteri bears so important a *rôle*, and since I propose to show that its glandular structure is the chief seat of diseased action in this part, it is essential that we study with care and somewhat minute attention all that is known of the anatomy and physiology of the cervical follicles ere we proceed to investigate in what manner they become pronounced factors in the production of much of the suffering endured by women who are treated for uterine diseases.

The anatomy of the cervix had not been thoroughly studied before Tyler Smith, with the aid of Handfield Jones and other competent microscopists, investigated this subject. All the more recent authors express their indebtedness to the enthusiastic English obstetrician. Robin, Sinéty, Sappey, and Renaut in France, Lott, Leopold, and Moericke in Germany, have written upon this subject, without, however, materially enriching the stock of information bequeathed to us in the exhaustive work of Tyler Smith on "Leucorrhœa."

I have carefully studied the contributions of all these writers, in order to cull for your instruction and my own the most salient facts in the anatomy and physiology of the cervical follicles. If I offer you some trite facts in anatomy as an introductory, I ask exoneration in the desire to render the subject clear in all its bearings, and to enlist recognition of the paramount importance of every element of information connected with it.

The cervix uteri consists of connective tissue, some elastic fibers, mucous membrane, glands, blood-vessels, lymphatics, and some muscular fiber and nerves, the presence of the latter being still *sub judice*.

For the practical purposes of this paper it would be unprofitable to enter into the mooted points of the histology of the uterine cervix. We are chiefly interested in those structures whose anatomical and physiological characteristics have been the subject of repeated demonstration, and whose intimate relation to pathology and treatment is now beyond contradiction.

The most important structure in connection with our subject is the mucous membrane and its glandular ramifications. This membrane presents, as do all structures liable to great distention, numerous folds, which are arranged in a somewhat ornamental manner, appreciated even by the unsentimental anatomist in the designation of arbor vitæ, sometimes called *plicæ palmatæ*. Its color is not so dark-red as that of the mucous lining of the body of the uterus, nor is its texture so soft and velvety. If the cervix is split open longitudinally and spread out upon an even surface, four columns of rugæ are at once seen, formed by grooves running longitudinally into projecting ridges. Each one of these columns contains three or four folds, which are somewhat thicker and more numerous on the posterior surface and in the middle portions. There is a moderately well-developed submucous connective-tissue layer, which is especially voluminous on the posterior part of the cervix. In this substratum are found the mucous crypts of the cervix, many of whose mouths are seen in the utricular depressions, situated between the villi with which the rugous surface of the mucous membrane is covered. Histologically, the rugæ are simple thickenings of the mucosa.

On examining a section containing one of the longitudinal ridges above referred to, under a low power of the microscope, transverse ridges are seen quite prominent, and in each furrow there are found subdivisions into manifold rugæ, which again are divided into distinct parts, until the principal furrow or depression appears like a fine network of a multitude of crypts, which grow less and less numerous in the direction of the os uteri externum. In each one of these subdivisions forty or fifty crypts have been counted. Thus, a cervix of moderate size would show between the transverse rugæ of the columns alone, with this low magnifying power, from 2,000 to 3,000 follicular pits; but besides the fossæ between the rugæ, says Tyler Smith, the spaces between the rugous columns and the longitudinal sulci themselves are all seen to be covered by multitudes of mucous follicles. Small plicæ are everywhere visible, and these are only a repetition of the columnar rugæ on a lesser scale. If a portion containing, say, two or three of the primary ridges and depressions is examined with a somewhat higher power (18 diam.), the rugæ themselves, and even the subdividing septa, are found to be studded with mucous follicles. The crypts in the fossæ are still further divided and subdivided into double or treble the number of follicles and laminæ seen with a lower power. In a portion of the cervix comprising only three rugæ and their two interspaces, upward of 500 mucous follicles were easily counted, so that it is within the limits of moderation to say that a well-developed virgin cervix uteri contains at least 10,000 mucous follicles.

When a longitudinal section is made through the middle of one of the rugous columns and viewed laterally, the fossæ are found to *extend obliquely and deeply into the substance of the cervix, sometimes to the extent of a sixth of an inch or more, and occasionally mucous openings pass into the center of the wall of the cervix*, and may be seen there filled with the tenacious mucus proper to the cervical glands.

The mucous membrane of the cervical canal is covered by cylindrical epithelium, especially in the deeper parts, where it is provided with cilia. The epithelium is larger in the cervix than in the body of the uterus, but it is of the same size and texture in the child as in the adult. It is shorter in the protected portions, where it often is also ciliated; it rests upon a very delicate basement membrane,

which is continuous throughout the fossæ and glands. Besides the cylindrical epithelium, there are found also in the glands and furrows of the mucous membrane *goblet-cells*, which are easily brought out by coloring with hæmatoxylin. The cylindrical epithelium ceases at the os externum, an oblique section showing a gradual thinning of the pavement epithelium of the outer surface of the cervix, until it disappears upon the elevations of the first rugæ nearest the os, where also the white color of the outer mucous covering gradually merges into that of the deeper cervical canal.

In the hardened section the interglandular structure often appears as if it consisted of a formless mass in which free granules are imbedded.

Besides, round and spindle cells show themselves in definite arrangement, the latter being found chiefly along the glands, vessels, and folds in band-like form, parallel with them, while in the remaining structure they are scattered. Directly under the plicæ palmatæ are also found parallel-lying spindle cells.

The folds of the mucous membrane are, especially in their deeper parts, covered by papillary projections, which are either pointed or club-shaped, and these contain vessel-loops and perhaps nerves. The glandular structure of the cervix is remarkable not only for its extent, but also for the variety of its secreting follicles. The latter are either hollow balls opening into a wide outlet, or they assume the shape of a bag or bottle with a narrow outlet, being subdivided in their interior by projecting ledges or papillæ, so as to assume a somewhat acinous form. Sappey has found the latter of such considerable size in the bottom of the crypts that they resembled in shape sebaceous glands, lined with elongated cylindrical epithelium and filled with viscid mucus. Another variety of glandular structure is the "Schlauchdrüse," a gland resembling a pipe or tube, which is found chiefly in the vicinity of the inner os, and which is distinguished from similar glands found within the body by having a relatively wide lumen—a characteristic of cervical glands.

Another variety are the so-called ovula Nabothii—a singular misnomer, which has come down and clung to us from a less enlightened anatomical era. These are found in moderate numbers in the child, as well as in the adult, as rounder transparent sacs filled with mucus. They are often formed by an atresia of their outlets, and thus really become retention-cysts, whose interior is subdivided by ledges and papillæ, like the acinoid glands above mentioned, and covered by cylindrical epithelium and goblet-cells. In the adult the Nabothian follicle is larger and more smooth in its interior, but in the child as well as in the adult it is filled with the characteristic glassy mucus. These glands penetrate more deeply into the structure of the cervix, being sometimes so deeply imbedded that they may be seen when distended by disease as pea-shaped protuberances upon the portio vaginalis. The glands of the cervical canal are surrounded by a web of vessels and connective-tissue fibers, of which the cervix has a greater quantity than the body. The bundles of connective tissue radiate like a fan toward the surface, and lose themselves in the mucous membrane. In the network formed by these bundles are situated the interglandular cells.

I have dwelt upon the minute histology of the cervix uteri with, perhaps, greater attention to details than would seem warranted in a paper which claims to discuss the subject practically. But it is my desire to bring out saliently the fact that *the cervix is a vast gland, whose peculiar structure adapts it perfectly to the performance of the functions assigned to it*, and which I now propose to discuss. In the normal uterus of a nulliparous young woman, and in children, the rich epithelial supply of the cervical mucous membrane and its follicles furnishes a secretion which, though not abundant, suffices to fulfill the object in view—viz., the lubrication of the cervical canal. It has not been determined to what variety of cell the actual secreting work may be assigned; but it is probable, from analogy, that the goblet-cells bear a large share in secretion. Wherever these cells are found in mucous membranes of other parts, they are found to secrete a mucus, which is garnered in their expanded thecæ until needed for use. Indeed, Sinéty professes to have seen the characteristic cervical mucus issue from them. Their importance is attested, too, by the fact demonstrated by Sinéty that, in a fœtus at term, examined immediately after death, they were plainly visible, and by the observations of Renaut, who found them in the lining of the Nabothian glands, mixed with cervical epithelium.

The cervical mucus oozes out as a clear, viscid, glassy fluid, consisting of mucin and striæ, which are, on account of the occasional great tenacity of the plasma, apt to be mistaken for fibrils. Cylindrical, oval, and spherical cells, in a state of mucous degeneration, have also been found either in rows parallel to the striæ or irregularly arranged, together, sometimes, with pavement epithelium from the neighborhood of the os externum. Its reaction is alkaline, and, if it comes in contact with the acid vaginal mucus, it is first coagulated and afterward slowly dissolved. In children, in virgins, and in chaste widows the secretion is much thinner and less abundant, being just sufficient in quantity to fill the cervical canal completely. At each menstrual period the tenacious plug is washed away, but is again secreted as a thin fluid a few days later, which becomes more and more viscid as the catamenial period approaches. Scanzoni has shown that the hyperæmia incident to the approach and termination of the menstrual period renders the cervical mucus less viscid. The observations of Kristeller have shed considerable light upon the physical properties and functions of the cervical mucus; they are reliable because made with great care, by means of a perineal retractor and not through a cylindrical speculum, which is apt to remove any mucus that may be hanging from the os uteri. Kristeller has shown that, in women who menstruate and cohabit regularly, the cervical mucus hangs from the uterine orifice as a stringy mass, 1 to 4 mm. in thickness and 1 to 6 cm. in length. It is, when fresh, transparent as molten glass, tough, adhesive, thread-like, and difficult to remove.

After treatment with a little acid it may gradually be twisted out of the uterus with forceps. The function of this stringy mass seems to be to entangle the spermatozoa, which

abound in the semen lodged within the *culs-de-sacs* of the vagina, and, by acting as a ladder, aid their migration into the uterus. The similarity in physical and chemical properties between the semen and the cervical mucus adapts it beautifully to this purpose.

During pregnancy the cervical glands are, according to Fritsch, enormously enlarged. The secretion is, in the first stages, similar to that in the unimpregnated uterus—thin, transparent, and viscid. Gradually it becomes, owing to its retention, more inspissated. As this gravitates to the os externum, the upper portion of the canal continues to be supplied with the thinner fresh secretion, which in its turn becomes more and more viscid. At the os externum, vaginal mucus comes in contact with the plug, and pavement epithelium from this part mingles with it, both of which causes operate to render it tough and white and cheesy at this point, and so well calculated to perform the function of sealing the uterine cavity during this interesting period.

The state of comparative latency of the uterine glands during the latter days of pregnancy is preparatory to the state of their greatest activity, which follows when parturition is imminent.

The somewhat firm and tenacious plug which has so long fulfilled a useful office is expelled by the secretion which now flows upon it from above, especially as the uterine os now relaxes and becomes dilated. A large quantity of viscid fluid now pours out into the vagina. This is too abundant to be affected by the usually neutralizing acid vaginal secretion, and therefore serves to lubricate and soften the cervix and neighboring parts, vagina and vulva, and promotes the progress of the fœtus through the genital passages. This function is performed, undoubtedly, by the cervical follicles, whose secretion is stimulated by the increased activity of the entire organ. There are no glands of consequence in the vagina, and the physical and chemical properties of the vaginal mucus are not adapted to the end now in view. The lubricating fluid is of alkaline reaction and formed by a plasma in which great numbers of mucous globules are suspended and intermixed with the pavement epithelium, which comes from near the external orifice, the more delicate cylindrical epithelium from within the cervical cavity being swept away in the large mass of fluid.

After the completion of labor the cervical glands continue to secrete actively, furnishing a portion of the lochial fluid and rendering the latter unirritating and protective. This is evidenced by the fact that during its last appearance it consists almost entirely of cervical mucus, which gradually diminishes in quantity and viscidity. During involution there is only a small quantity of thin, fluid, colorless mucus of alkaline reaction found in the cervix, and the external orifice appears as empty as it does in children.

To summarize, then, the physiology of the cervical glands, it appears that their function is—

1. To lubricate and fill the cervical canal with an innocuous fluid of alkaline reaction.

2. To furnish a gubernaculum by means of which the spermatozoa may be introduced into the uterine cavity.

3. To supply an important contribution to parturition by lubricating and softening the genital passage.

The cervix uteri has now been shown in its true light as an open gland of active and important function. Being exposed to certain ætiological factors, and to vast changes in its structure and physiological action, it is not surprising that it is the *fons et origo mali* in a very large proportion of the diseases peculiar to females. We may now proceed to a consideration of the *pathology and therapeutics* of our subject. A review of the systematic division of the so-called inflammatory conditions of the uterus in our text-books presents a somewhat inharmonious impression, some writers regarding metritis and its subdivisions as distinct diseases, others declining to recognize inflammation as an essential pathological factor, and a third class occupying a middle ground.

When the symptoms and pathology of the chronic inflammations of the uterus and its lining membrane are studied in the works of the first-mentioned class of authors, a very striking similarity is at once discovered. Especially are very nearly the same symptoms reiterated under each head of metritis. Hence it has been decided as a wise course by the more conservative and practical gynæcologists to group the chronic diseases of the uterus—be they inflammation, subinvolution, engorgement, hypertrophy, or hyperplasia, etc.—according to the structure which furnishes the chief symptoms in a majority of cases, and to which treatment may be most effectively addressed—viz., the mucous membrane. Important as the proper recognition of pathological changes may be, invaluable as a systematic division of uterine diseases, based upon these pathological changes, may be, successful treatment is, after all, the goal to which our best efforts are directed. Especially does it become imperative to simplify the treatment of these diseases, which are so constantly under the care of the general practitioner, in such manner that he may be enabled to cope with them in their earliest possible stages and thus prevent much of the suffering which neglect entails upon women.

In order to attain this consummation, I propose to show that in nearly all the more common uterine affections the mucous membrane and its follicles bear the most important *rôle*, and that their treatment may be rendered effective and satisfactory so soon as this fact is fully appreciated. As an illustration of this point, I may cite Schroeder, whose work is one of the most systematic text-books which enters fully into the pathology of uterine diseases. Like many other writers, he brings the cervical follicles and mucous membrane into prominence, without especially dwelling upon their significance as a most important factor in the pathology and treatment. In speaking of chronic metritis, he places at the head of all therapeutic measures "local bloodletting by the scarification of the portio vaginalis." "If swollen follicles are visible," says he, "they should be punctured, and thus the inflammatory irritation will be doubly diminished, through the emptying of the follicles and the bleeding. Even when no swollen follicles are visible, we do not rarely see the clear secretions from underlying follicles oozing out with the blood." Here we have a disease over whose real classification there has been much earnest discussion on account of pathological differences—a disease in which the structures, supposed to be chiefly or entirely involved, are

far removed from the cervical follicles, and yet a practical gynæcologist and scrupulously systematic teacher acknowledges their importance by suggesting treatment addressed to these apparently insignificant structures as dividing the honor of chief remedy with local abstraction of blood.

If we pursue the study of other common uterine diseases with other systematic writers who lay the necessary stress upon pathology, we find that the cervical follicles are constantly referred to as prominent elements in pathology, but that, unfortunately, this prominence is lost sight of when the treatment is discussed. It is this point which I desire especially to emphasize.

By far the large preponderance of the diseases in question are purely or partially cervical, presenting themselves under the classification of endometritis cervicis, erosions, ulcerations, granulations, catarrh of the cervix, subinvolution, etc., according to the author's fancy, but having in common one prominent symptom—a discharge from the genital passages, which by common consent has received the designation catarrh, popularly termed leucorrhœa or whites. Every practitioner who has treated this class of cases is aware how obstinately they resist the most approved treatment, how frequently they recur when we least expect it, and when we have congratulated ourselves upon a successful issue. Indeed, few physicians, be they general practitioners or gynæcologists, will deny that these cases of uterine catarrh are the bane of their professional lives.

If the catarrh is purely uterine, its treatment is to be carried out on the same principle as that which I advocate for the more frequent form, cervical catarrh—viz., the recognition of the paramount significance of the follicles of the uterine body. That a majority of uterine catarrhs are due to cervical disease has often been demonstrated, and I propose to establish, as clearly as lies in my power, the pathological significance of the follicles in these cases, and to point out that the only speedy and permanent cure is to be attained by directing our treatment to these follicles, which not only furnish the discharge, but which form the basis or groundwork of obstinate breaches of surface, and of the engorged and inflammatory condition of the mucous membrane of the cervical canal. Contributions to the pathology of these diseases have been almost exclusively made by German investigators, among whom Ruge and Veit, Schott, Prochnowick, Edward Mayer, and Fischel are the most prominent. Systematic writers have freely acknowledged their indebtedness to these painstaking students of common yet hitherto greatly misunderstood diseases, and I am also indebted to them for many pathological data.

Catarrh of the cervix not directly traceable to surface erosions of the portio vaginalis is probably the most obstinate to cure. It has been shown by Schroeder and others above quoted that in these cases we have a puffed, livid, and softened condition of the mucous membrane lining the canal, together with an expansion of the follicles whose intimate connection and interlacing with the mucous lining I have endeavored to impress in the first part of my paper. The anatomical structure of this lining membrane, its large extent, due to furrows, infoldings, depressions, and even clefts, all of which are lined with a delicate epithelium in single layer, render it peculiarly liable to all the diseases of similar structures. Into the ætiology of the diseases of the cervical mucous lining we can not at this time enter. It is essential to our purpose to bear in mind the fact that its peculiar reduplication, whose extensive surfaces receive the open mouths of thousands of follicles, offers a ready solution of the obstinacy of cervical catarrh.

When the mucous membrane of the cervical canal becomes irritated, hyperæmic, or inflamed from any cause, there ensues an increase of its delicate epithelial cells, which, owing to the want of space and the fact of their standing in a single row and not being layered, are pressed together more and more closely. The irritation is conveyed to the gland structure, whose own lining with cylindrical epithelium has been shown to be continuous with that of the deeper recesses of the mucous lining; the ducts of the glands are compressed by the proliferation of cell elements; their lining epithelium undergoes the same changes, their secretion is therefore increased; a gradual distension of the follicles ensues, which is enhanced later by the blocking of many outlets; they burst, pouring their accumulated contents out upon the surface, together with dead and dying epithelium. Some of the larger glands, the Nabothian follicles for instance, whose walls are more resisting, continue to fill without being able to discharge. Cysts are thus formed, which by their pressure irritate the neighboring parts, especially the interglandular connective tissue. These sometimes press their way through the connective tissue and appear on the outer surface of the portio vaginalis, where they are either spontaneously or artificially emptied, collapsing and shriveling up or forming the groundwork of ulcerations.

It is only necessary to keep prominently in view the intricate windings and furrowing of the mucous lining of the cervix, together with its enormous gland-supply hidden beneath it and penetrating to a considerable depth into the connective tissue, to understand clearly the picture I have briefly drawn of its condition in catarrh of the cervix. Bearing in mind these anatomical and pathological data, is it at all remarkable that the ordinary methods of treatment are futile? Of what avail can be applications of iodine, carbolic acid, and astringents, more or less lightly painted or swabbed upon the superficial portion of this immense and deep-seated area of disease, whose ramifications extend far beyond their reach? The dead epithelium may thus be shriveled, provided the tenacious secretions permit the penetration of such remedies, which is questionable. A desiccated surface may thus be left, which may for a time impede the outflow and perhaps check the secretion. The gland structure proper is never reached by this medication; the outermost outlets are probably subjected to its influence, while the deeper-seated secreting surfaces, hidden beneath masses of proliferated cells in the recesses and clefts which are rendered doubly inaccessible by their swollen condition, escape. Nitric and chromic acid have perhaps been the most successful medicinal agents resorted to in this treatment, because they actually destroy layer after layer of epithelial and gland structure, until the bottom of the latter is reached. The same result has been attained by the

actual cautery. But these are slow and uncertain processes; we can not appreciate how far we penetrate; the detritus is slowly cast off; the entire proceeding is so indefinite that the modern surgeon, who is accustomed to rapid, simple, and triumphant results, must seek for a more rational method. The modern surgeon would characterize an attempt to remove carious bone or fungoid masses from a fistulous canal by astringents and caustics as an irrational procedure; he would at once resort to the sharp spoon, carefully cleansed with antiseptics, remove the obnoxious masses, wash the cavity with antiseptics, and dress it with iodoform or other permanent germicide. The same rational course will prove effectual in the treatment of chronic uterine catarrh, be it corporeal or cervical. The diseased and proliferating structures must be removed in order that the healthy surfaces be enabled to undertake reparative action.

In purely uterine catarrh the diseased surface is larger, and the glandular structure is more superficial. Moreover, it has been shown that the latter atrophies more rapidly, and therefore breaks down more readily under mechanical treatment. Hence the dull curette often is sufficient to remove the diseased surface together with the degenerate glandular structures. In those cases in which hæmorrhages play an important *rôle*, curetting has long been successfully applied. I plead for an extension of this procedure to those cases in which profuse leucorrhœa exists, flowing from the uterine cavity.

(To be concluded.)

THE TREATMENT OF STRICTURE OF THE URETHRA.*

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So much has been said and written in recent years in regard to the treatment of stricture of the urethra, that one who has not had an opportunity to make a special study of the subject must often be embarrassed in selecting a plan of treatment adapted to any particular case. And yet nearly every general practitioner has several of these cases come to him each year for treatment. Their frequent appearance in my own consulting-room has compelled me to devote considerable time to the study of the subject. It is my purpose in this paper to present some observations, from the standpoint of the practical surgeon, upon those methods of treatment which have proved of most value in my own practice, and which seem to me likely to give the best results in the hands of the general practitioner.

On account of their comparative rarity, and in order to avoid extending the length of the paper unreasonably, all consideration of traumatic strictures will be omitted, and the discussion will be limited to those gradually forming strictures which are the result of a chronic inflammation of the urethral mucous membrane.

The most constant symptom of stricture is gleet. Conversely, gleet subsequently depends upon stricture, and usually stricture of large caliber. A man can not have a urethral discharge lasting over six weeks without damaging his urethra. After a gonorrhœa has lasted six weeks the inflammatory process is becoming localized, and a thickening of the peri-urethral tissue is almost inevitable. At the same time I do not consider that every man who presents himself for treatment with chronic urethritis and a moderate coarctation of the urethra has an organic stricture. It may be merely a thickening which, if allowed to go on, will develop into an organic stricture.

Another very constant symptom of stricture, and one which is generally present in the forming stage, is the dribbling of urine after the act of micturition is apparently completed. This is due to a loss of the normal elasticity of the urethra at the point where the deposition of plastic material is taking place, and the inability of the compressor urethræ muscle to overcome the abnormal resistance. A portion of the urine is consequently retained behind the coarctation, and subsequently escapes drop by drop.

Only old strictures, as a rule, cause symptoms in the absence of a gleety discharge. Such strictures may cause a variety of symptoms. Frequent micturition, if present during the day, should lead the surgeon to suspect stricture. He should also inquire if the stream is small, forked or twisted, if the urine falls drop by drop, if there has been retention, and finally if the patient has had gonorrhœa. These cases are generally strictures of small caliber, which may easily be detected.

I have known an old tight stricture, of ten or fifteen years' duration, to have been treated, as chronic inflammation of the bladder, with buchu, alkalies, and suppositories, by a physician of the highest reputation. When a patient has chronic cystitis, it is always well to consider what causes it. Inquire in regard to urinary symptoms, and examine with a suitable instrument. It may be arrested in the deep urethra. Such cases are not uncommon.

In strictures of large caliber it is a nice point to tell where coarctation is taking place. It is impossible to do this with a steel sound, as most men try to do. This is why so many men fail to find a stricture; why, consequently, so many strictures go untreated; and why, furthermore, it is so common for a man who presents himself for treatment with a gleet to exclaim, after a stricture is detected, "Why, Dr. So-and-so told me a couple of weeks ago that I had no stricture."

In order to detect a stricture of large caliber, it is necessary to use either a urethrometer or a set of metallic or flexible bulbous bougies. I prefer the bougies. My own experience, moreover, has been that a moderate degree of coarctation is more readily detected by the flexible instruments than by the olive-headed bougies of Otis. Of course it is not difficult to detect a stricture of small caliber with any instrument. It is, however, difficult for a man who has not used both to realize what a difference it makes whether one uses a steel sound or a bulbous bougie for the detection of a stricture of large caliber. Repeatedly men have come to me with chronic gonorrhœa or gleet, and have told me that they had been examined by a surgeon, and assured that they had no stricture. I have then tried a flexible bulbous bougie, and seen it arrested in less than two inches from the meatus. Then I have tried a solid blunt steel i-

* Read before the Connecticut Medical Society, May 28, 1885.

strument, and passed it right through the stricture without the least resistance. But it is these very strictures of large caliber which it is important to detect and cure before they become organized.

When a patient comes to you in whose urethra you suspect the existence of a stricture, you first measure the circumference of the penis; then, bearing in mind the ratio which this bears to the caliber of the normal urethra, you select a bougie of such a size as the measurement shows that the meatus ought to admit. Having well oiled the instrument, putting the penis gently on the stretch, you carefully pass the bougie along the urethra. If it enters the bladder without encountering any resistance, there is no stricture. If a stricture exists, the bougie will be arrested. Then take a smaller instrument and repeat the manœuvre and so continue until you find one which will pass the point of obstruction. This shows the caliber of the stricture. Then, recognizing the well-known fact that where there are several strictures the nearer the meatus the larger the caliber of the stricture, the examination is continued in the search for other strictures, a smaller and smaller instrument being used in order to detect narrowings nearer and nearer the bladder.

Having determined the existence and location of one or more strictures, do no more at this sitting. Warn the patient that the next act of micturition will probably be attended with some pain. Then, having given him such directions in regard to his hygiene and having prescribed such constitutional treatment as his individual case requires, direct him to return in three or four days for further treatment.

Every case of stricture should be treated as a whole. The physical condition of the patient should be studied. Most of these patients are run down and in an anæmic condition, due partly to the local irritation and suppuration, and partly to mental worry. Such patients need iron and general tonics.

Like every other inflamed organ, the urethra which is the seat of stricture should be placed at rest as far as possible; all sources of irritation should be removed. The urine should be rendered as unirritating as possible. All articles of food which have a tendency to cause crystals of uric acid to be present in the urine should be avoided. The diet should, therefore, be mild and unstimulating, and the amount of nitrogenous food ingested should, as a rule, be limited. The use of all kinds of alcoholic stimulants, including beer and ale, should generally be stopped. Coffee also should be omitted. Smoking, in my experience, has proved as injurious in some cases as alcohol, and should be forbidden.

In strictures of large caliber, with gleet, it is necessary to neutralize the urine with alkalies. The fluid extract of kava-kava I have used a great deal of late, and in cases attended with a gleety discharge it has proved beneficial. There is a great difference in urethræ, some being very irritable. Bromide of potassium will do a great deal for these cases. Given in full doses for a few days, it blunts the sensibility of the urethra. A combination of bicarbonate of potassium, kava-kava, and hyoscyamus is often very effective by rendering the urine alkaline, by lessening urethral irritability, and by diminishing the gleety discharge.

Finally, the patient should be warned to be as pure in word, thought, and action as possible. If a single man, he should abstain absolutely from sexual intercourse. The society of lewd women and lascivious thoughts and conversation should always be avoided. In this way nervous and vascular activity about the genital organs may be greatly diminished.

When the patient returns, if his meatus is not up to the required standard, it must be enlarged. It should be a golden rule in surgery that all strictures of the meatus must be cut, for you can not stretch them. This may be done in several ways, some men preferring a bistoury, some scissors, and others a urethrotome constructed especially for the purpose, the best one, perhaps, being that of Civiale. My own practice is to use the latter. The incision should always be made downward in the floor of the urethra. In performing this operation great care should be used to make the opening sufficiently large to admit a bulbous bougie of a size a little larger than that which our measurement of the penis has shown that the urethra should admit, in order to make allowance for the contraction which takes place in healing; but the operator should also be cautious not to make the incision unnecessarily large, lest he create an artificial hypospadias. If too large an opening is made, it subjects the patient to the exceeding inconvenience of not being able to pass his water in a compact stream. In some instances, where a perhaps too enthusiastic follower of the teachings of Dr. Otis has, in the excess of his zeal, carried the incision beyond the bounds of nature and of reason, the sufferer has been obliged to sit down upon a vessel or a water-closet to urinate. In one or two cases which have come to my knowledge such patients have applied to the surgeon with a view of having a plastic operation undertaken for the relief of the deformity resulting from this barbarous mutilation.

The hæmorrhage following this operation is sometimes quite abundant, but ordinarily stops spontaneously in a few minutes. If, however, it does not do so, it can generally be arrested by wrapping a little cotton around a probe and applying some tincture of iodine to the cut surfaces. The hæmorrhage having ceased, a piece of lint should be inserted within the meatus and allowed to remain until carried away by the stream of urine. This serves the double purpose of preventing union of the cut surfaces, and also tends to prevent recurrence of the hæmorrhage.

There are several ways in which the patulous condition of the meatus may be maintained. You may pass in every day a full-sized bulbous bougie, or a conical steel sound, or a so-called fossal sound, made especially for this purpose. I am in the habit of employing the latter. Experience has shown me that, if an instrument is not passed in every day, granulations grow so rapidly in this situation that in two days it will be impossible to pass it without subjecting the patient to a great deal of pain—much more than when it is passed every day. It is not generally necessary to confine the patient to the bed or to the house after this operation. He should bathe the parts twice a day in hot water,

and should not walk much for a day or two. In this way it is possible to obviate a tendency to inflammation at the site of the operation, and also in the adjacent parts, as the lymphatic glands. Should the wound in healing show a disposition to become a little sloughy, it is well to dust over the surface a little iodoform or bismuth.

When the wound of the meatus has healed, which usually occurs in about two weeks, the gleety discharge, for which the patient sought treatment, very often has stopped. If it has not, we again explore the deeper portion of the urethra, using as before the flexible bulbous bougies.

Many strictures are reflex in character, and entirely disappear when the meatus has been enlarged. The necessity of relieving a contracted meatus before attending to a stricture of small caliber in the deep urethra is illustrated by the following case:

The patient had gleet, and, five inches from the meatus, a so-called impassable stricture, through which a filiform bougie could not be passed. He had also a stricture of large caliber in the pendulous urethra, and a small meatus. He could only pass a little water, drop by drop, and I feared retention. I at first attempted to pass a filiform instrument through the stricture, but failed, although a No. 14 American could be easily passed down to it. Each time I saw him I persisted in the attempt as long as I dared, fearing lest inflammatory swelling in the urethra should be excited. In the mean while he was kept in bed and received appropriate constitutional treatment. Having made a thorough trial of this plan of treatment, and being unable to reach the bladder, I threw aside the filiform instruments, ignored for the time being the deep stricture, and gave him a meatus which would admit a No. 21 sound. When the meatus had healed, a full-sized conical steel sound was passed down to the face of the stricture, and gentle and continuous pressure was made. This was repeated once in four days. At the third trial the instrument passed immediately into the bladder.

After the meatus has been sufficiently enlarged, should other strictures exist, the question of treatment at once involves a determination of the comparative merits of gradual dilatation and internal urethrotomy. My own preference is for gradual dilatation, which I carry out in the following way: Having determined the caliber of the stricture, a sound, of such a size as the bulbous bougie has shown that it will admit, is introduced. If this passes easily, the next size larger may, if possible, be gently passed through the stricture. Inasmuch as strictures are rarely encountered beyond the triangular ligament, it is not necessary to pass a sound beyond this point. By avoiding this we not only do away with the most distressing part of sounding, but also lessen in no small degree the danger of exciting epididymitis, prostatitis, and cystitis. Some surgeons advise that the instrument should be left in the urethra for five minutes or even longer. My own conviction is that when the instrument has passed the strictured point it has accomplished all that it can do. I consequently withdraw it at once, believing, as I do, that any instrument in the urethra produces irritation, and that, the longer it is allowed to remain there, the greater is the irritation produced. By the simple pressure in passing an instrument through the stricture all the good possible from this plan of treatment is effected. The way in which the use of a sound benefits a stricture dependent upon the organization of plastic material is in no way analogous—as many seem to suppose that it is—to the action of over-distension in relaxing muscular spasm. In view of both of these considerations, straight steel sounds are both useful and convenient. In treating strictures of the urethra it is a good rule never to employ a steel instrument of smaller size than a No. 9 American, on account of the great danger of making a false passage. Furthermore, whenever, in introducing instruments into the urethra, blood is drawn, it is time to stop.

In regard to the frequency with which sounds should be introduced into the urethra for the cure of stricture there is a considerable diversity of practice among surgeons. The older the stricture, the more firmly organized has become the plastic material, and, in consequence, it requires less frequent introduction of instruments. These cases of stricture, which we will designate as strictures of small caliber—using that term to designate strictures which will not admit a No. 9 bougie—will improve faster by *not* introducing an instrument more often than once in six, seven, or even eight days. The exact interval appropriate for each individual case can only be learned by observing the effect upon that case of introductions at different intervals. As a rule, it is poor surgery to introduce an instrument into an old, firmly organized stricture more frequently than has been indicated. If a sound is introduced every day or two, it causes inflammation or swelling, and you can not tell how the dilatation is progressing. In treating strictures of large caliber, which, as a rule, are not so firmly organized, and in which, as a consequence, there is not so much vascular reaction, the introduction may be repeated once in four days. Practitioners do not, it seems to me, appreciate the value of gradual dilatation because they do not observe carefully enough the effect of a single introduction of a sound.

At the next visit of the patient, the largest instrument which passed through the stricture easily is again passed. Then the next size larger is tried. If this is grasped, or tightly held on withdrawal, no more is to be done at this time. Should it pass easily, we again try a still larger one. Usually it will not be possible to use an instrument more than one size larger than that previously used. At each succeeding visit the same plan is followed of first introducing that instrument which was introduced last at the previous visit. The size of the instrument is thus gradually increased until the full caliber of the urethra has been reached. When this has been attained it is necessary to continue to pass the full-sized instrument at such gradually increasing intervals as experience shows are not so long as to permit so much contraction, at the point where the stricture existed, as to render the introduction of the instrument at all difficult.

The plan of treatment thus outlined has, in my experience, proved uniformly successful. In none of the cases which have fallen under my observation have I had occasion to have recourse to internal urethrotomy, perineal section,

or electrolysis. Divulsion I have used only in some half-dozen cases of traumatic stricture, the consideration of which has been purposely excluded from the discussion. I will now state briefly why I do not use one of the other methods rather than gradual dilatation.

Perineal section is undoubtedly indicated in some cases of impassable stricture, particularly when complicated by sinuses. But I have been so fortunate, up to the present time, as not to meet with any case in which I have not been able, by the exercise often of considerable patience, to finally pass the stricture, and eventually to remove the obstruction and see the sinuses close up.

Electrolysis requires for its performance a variety of expensive apparatus which easily gets out of order, and is hardly practicable except in the hands of an expert in electrical treatment. In the short time since its introduction to the attention of the profession it has not been sufficiently simplified to be available for the general practitioner. Any cases, therefore, in which it may seem to be indicated should, for the present, be sent to the electrologist.

In regard to internal urethrotomy, which has a few earnest advocates, I have but little to say. In operations upon the urethra, the best results, as regards freedom from disagreeable and even dangerous complications, will be obtained by him who uses the minimum of violence. Furthermore, it is a rule of practice with me, in the treatment of any surgical lesion, to always select a method of treatment which, while its final result is satisfactory, is at the same time absolutely free from danger, in preference to one which is unquestionably attended by no inconsiderable risk. Gradual dilatation, in almost every case, gives favorable results, and may be carried on with perfect safety and without interfering with the ordinary business of the patient. Internal urethrotomy, on the contrary, always necessitates the confinement of the patient to his bed for several days. It is not infrequently followed by hæmorrhage, suppression of urine, septicæmia, extravasation of urine, and perineal abscess. Nor can the fact be overlooked that instances of death following the operation are occasionally reported, and, considering the tendency among medical men to report favorable cases and to say nothing of unfavorable ones, it is but fair to presume that the actual mortality is much greater than is generally supposed. Moreover, the operation does not effect a complete cure, but the passage of a sound at regular intervals is just as necessary as after treatment by gradual dilatation. Now and then an old, very resilient stricture is met with which is made worse by attempts at dilatation, or one in which bladder symptoms are so urgent, in consequence of long-continued obstruction, that prompt relief is necessary. Urethral fever sometimes follows attempts at gradual dilatation in cases of this kind, which, however, are more apt to be seen in metropolitan hospitals and dispensaries than in private practice. Internal urethrotomy should, therefore, be reserved as a last resort for cases in which other, less dangerous, methods of treatment, after repeated trials, have failed, or in which immediate relief is imperatively demanded. I am thoroughly convinced that such cases are exceedingly rare.

Finally, I wish to emphasize a few points which I consider of especial importance:

First. Constitutional treatment should be employed in every case.

Second. If the meatus is small, enlarge it.

Third. Do not use the sound too frequently.

Fourth. Do not keep it in the urethra too long.

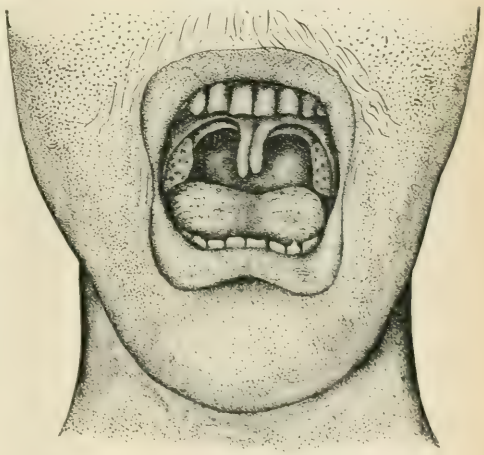
Fifth. Do not introduce it too far.

Sixth. Internal urethrotomy is occasionally, though rarely, necessary.

TWO UVULÆ IN A MAN.

By R. W. SHUFELDT, M. D.,
U. S. ARMY.

Quite recently I had occasion to examine the pharynx in the living human subject. The individual was a male of about twenty-three years of age, and, as near as I could ascertain, in fair condition so far as his general health was concerned. After his head had been placed in the proper position and light, with mouth open, so that I could properly investigate the structures to be found at the posterior aspect of this cavity, my attention was immediately attracted to the peculiar appearance presented by his *velum pendulum palati* and its median appendage.



This latter, instead of being single, as we well know to be normally the case, was evidently double, and, quite naturally, the first thing that came into my mind was, that the subject had at some time in his life submitted to the operation known among surgeons as staphylorrhaphy for the restoration of fissured palate.

Upon questioning the man, however, I found that he was perfectly ignorant of the condition in question, and was absolutely sure that he never had been in the hands of a surgeon for any such purpose. My curiosity now thoroughly awakened, I proceeded to make a careful examination of the parts involved. With the index-finger of my right hand, holding the subject's head steady with my left, I explored the posterior border of the palatine bones. Thus at once

convinced me that they were perfectly united in the median line, and I could likewise easily detect the apophysis formed at the union of their inner and posterior angles, described by anthropotomists as the posterior nasal spine. A careful inspection of the curtain of the soft palate discovered no deficiencies in it, or faint cicatrices as evidences of perhaps the former interference of the surgeon. On the contrary, the structure was broad and ample, and occupied its usual position as seen in normal subjects.

With the aid of a dissecting probe, I now examined the largely developed and double uvula, the appearance of which is faithfully shown in the drawing, which I made at the time and here offer with the present paper.

I found each appendage fully as large, both as to length and caliber, as the uvula usually is; they were united, however, for their upper two thirds, where they came in contact in the median line—a union that would not be suspected at first glance, the structure being at rest. For the remaining third, each was perfectly free and cylindrical, the right appendage being perceptibly longer than the left one. Properly stimulated at their extremities at the same time, these uvulæ contracted upward in unison; the same was attempted by a single one, if its extremity alone was irritated.

After carefully weighing in my mind all the facts presented, I came fully to the conclusion that a dissection of these uvulæ would have demonstrated the presence in each of them of a double muscular strip or, what has been improperly called by human anatomists, an azygos muscle.

The literature of such subjects not being available to me, I am unable to state anything in regard to the history of this interesting anatomical anomaly, or even say whether or not it has ever been noticed by anatomists before. In any event, I can hardly believe it to be a deviation from the normal structure of very common occurrence; indeed, I must think it a rare one, and I can only trust that my description of it, together with the accompanying drawing, may be of interest to those who collect the histories of such anomalies as they occur among vertebrates.

May 20, 1885.

Book Notices.

Kirkes's Handbook of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Dormer Harris, M. D. Lond., Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh Edition, with nearly Five Hundred Illustrations. New York: William Wood & Co., 1885. 2 vols. Pp. ix–373; vii–378.

The publishers are to be congratulated on the excellent work displayed in these volumes. The illustrations are, almost without exception, clear and satisfactory, and the type is good. Kirkes's Physiology is too well known to require an extended notice. Under the judicious editorship of Mr. Baker it has won and maintained a front rank in England, and we are glad that it has at length been presented in a form which can not but be attractive to American readers. The combination of anatomy and histology with physiology, upon which English teachers always insist, is one that can not be too strongly commended.

The present edition will be found abreast of the latest researches, and, while not laying claim to the dignity of an extended treatise, it leaves few of the more abstruse problems of the science untouched.

The chapter on "The Relation of Life to Other Forces," once placed at the beginning of the book, is now wisely removed to the end. It was hardly a fitting introduction to an elementary treatise, and was calculated to plunge the student into a number of perplexities at the outset, with which he is better prepared to contend at the end of his course. The sections on histology are, as before, concise, yet sufficiently comprehensive. The new drawings, of which there are several, are carefully executed.

BOOKS AND PAMPHLETS RECEIVED.

A Practical Treatise on Urinary and Renal Diseases, including Urinary Deposits. Illustrated by Numerous Cases and Engravings. By William Roberts, M. D., F. R. S., etc., assisted by Robert Maguire, M. D. Lond., etc. Fourth Edition. Philadelphia: Lea Brothers & Co., 1885. Pp. xvi–33 to 628, inclusive.

Diagnosis and Surgical Treatment of Abdominal Tumors. By Sir Spencer Wells, Bart., etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. vii–216. [Price, $1.50.]

A Treatise on Asiatic Cholera. Edited and Prepared by Edmund Charles Wendt, M. D., etc., in association with Drs. John C. Peters, of New York; Ely McClellan, U. S. A.; John B. Hamilton, Surgeon-General, U. S. Marine-Hospital Service; and Geo. M. Sternberg, U. S. A. Illustrated with Maps and Engravings. New York: William Wood & Co., 1885. Pp. xiii–403. [Wood's Library of Standard Medical Authors.]

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., F. R. C. P., etc. Fourth American from the Fifth English Edition. With Notes and Additions by Robert P. Harris, M. D. With Three Plates and Two Hundred and One Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxxv–34 to 663, inclusive.

Urinary and Renal Derangements and Calculous Disorders. Hints on Diagnosis and Treatment. By Lionel S. Beale, M. D., etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 356. [Price, $1.75.]

The Regimen to be adopted in Cases of Gout. By Dr. Wilhelm Ebstein, Professor of Clinical Medicine in Göttingen. Translated by John Scott, M. A., M. B., etc. London: J. & A. Churchill, 1885. Pp. 68.

Many Drugs: Few Remedies. By Geo. T. Welch, M. D., Keyport, N. J., Member of the Monmouth County Medical Society, etc. [Reprinted from the "Medical Record."]

Dr. G. Beck's therapeutischer Almanach. 12. Jahrgang, 1885. Des Taschenbuches der neuesten Therapie IV. Bändchen, 3. Heft. Bern: Schmid, Francke, & Co., 1885. Pp. 82.

Dott. Pietro Panzeri.—Risultati di cure operative per ginocchio valgo. [Reprinted from the "Archivio e atti della Società di chirurgia italiana."]

Rules for the General Management of Infants, recommended by the Obstetrical Society of London. London: Longmans Green, Reader, & Dyer, 1885. Pp. 8. Price, 1*d*.

Clinical Lectures. On Scrofulous Neck. By T. Clifford Allbutt, M. A., M. D., F. R. S., F. R. C. P., Consulting Physician to the Leeds General Infirmary. And on the Surgery of Scrofulous Glands. By T. Pridgin Teale, M. A., M. B., F. R. C. S., Consulting Surgeon to the Leeds General Infirmary. London: J. & A. Churchill, 1885. Pp. 32.

Remarks upon Periuterine Cellulitis and Periuterine Peritonitis. By H. T. Hanks, M. D., New York. [Reprinted from the Albany "Medical Annals."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JUNE 27, 1885.

GENERAL AND SPECIAL NATIONAL MEDICAL SOCIETIES.

We have before on several occasions spoken in favor of the various national organizations devoted to the study of the special branches of medicine, as compared with sections or other devices for accomplishing special work at the meetings of the American Medical Association. It is to be conceded that the lesser general organizations—the state societies and those of a still narrower sphere from a territorial point of view—furnish eligible opportunities for communication between specialists on the one hand and general practitioners on the other. Such communication is of the greatest benefit to both classes, and consequently to medicine in general. But the society work which really advances the special departments of medical study is not promoted so much in that way as by gatherings that may be called to a certain extent exclusive—not in an offensive sense, but simply as offering particular attractions to the few who are engaged in the branch of medicine concerned, and comparatively little to enlist the attention of others. Whoever contributes to the proceedings of a special society is reasonably certain of encountering criticism from men who found it on their own observations and their own study in regard to the subject in hand, and not on random thoughts which, however bright and however plausible they may be, will in general scarcely bear the after-scrutiny of those who gave them expression, to say nothing of the cold reader. Consequently a great deal is accomplished within a short space of time, and the gain to the profession is enhanced.

We are persuaded that there are but few of our brethren who will be found to dissent materially from this view after they have carefully considered it, and we are fully convinced that any opposition there may be to the special societies is, in so far as it is not purely spiteful, founded upon failure to have duly considered the natural difference between the scope of a general and that of a special society. At the meeting of the American Laryngological Association, held this week in Detroit, the subject was ably handled by the president of the association, Dr. Shurly, whose address will be found in this issue of the "Journal." Dr. Shurly reviews some of the more specific objections that are occasionally urged against the special societies, and we think he argues most convincingly that they are untenable. It seems to us that it is just such questions as these that can most appropriately receive attention in presidential addresses, and we have no doubt that a wholesome impression will remain from the frank and pithy way in which some of them were attended to by Dr. Shurly. There was, of course, no occasion to maintain a *raison d'être* for the body over whose meeting he was presiding, for its achievements are well known to be among those that have deserved the fullest recognition.

THE REMOVAL OF THE OVARIES FOR THE RELIEF OF REFLEX NEUROSES.

Dr. Schmalfuss, Hegar's assistant, contributes a valuable paper to the latest number of the "Archiv für Gynäkologie," with the brief and expressive title "Zur Castration bei Neurosen." The importance of the communication is to be measured by the evident care with which the included statistics were compiled. It is stated that in every case the patient was under observation for a long time before the radical measure was adopted, and that she was seen and examined sufficiently long after the operation for any change in her condition to be accurately noted. The tubes were always removed with the ovaries, and the latter were generally found to be diseased.

The article is an actual addition to our knowledge of the subject, and is of real scientific value when compared with the vague and inaccurate accounts of single cases with which the journals and society reports used to teem. The writer analyzes in all thirty-two cases, which he divides into three groups, the first of which includes those patients who complained chiefly of pains in the loins and abdomen, hyperæsthesia of the vulva and vagina, and the other train of neuralgic symptoms which go to form a well-known picture. In the second class are grouped women with general nervous symptoms, including hysteria, while the last comprises the severest forms of reflex irritation, including hystero-epilepsy. Without entering into the histories of the individual cases, which are detailed with great care, and in a manner that allows of no doubt concerning the accuracy of the observations, we may say that the writer finds that twenty-four of the thirty-two patients were cured, while six were decidedly improved by removal of the ovaries. Among other interesting facts in connection with the subject, he mentions the persistence of the menstrual molimen for months and years after the operation. This was noticed in more than half the cases. Positive data, even in a small series, like the present, are of great importance, in that they furnish a decided refutation of the statement of those who are absolutely opposed to oöphorectomy. If statistics are worth anything, these must certainly prove that there are reflex neuroses of ovarian origin, that they are due to disease of the ovaries, and that they are permanently relieved by removal of the affected organs. But, while we subscribe to much of what the writer has stated, we are inclined to lay most emphasis upon the fact that Professor Hegar never operates for the removal of ovaries until all other treatment has been tried in vain.

MINOR PARAGRAPHS.

A NEW GYNÆCOLOGICAL JOURNAL.

We have received the first number of the "British Gynæcological Journal," which is the official publication of the newly organized British Gynæcological Society concerning the establishment of which we lately spoke in terms of commendation. The new journal is edited by Dr. Fancourt Barnes, and published by Messrs. Smith, Elder, & Co., of London. The first issue is dated April, 1885, and we infer that the publication is to be quarterly, although we do not find it so stated. The con-

tents of the opening number are interesting, including the minutes of the foundation meeting and those of the inaugural regular meeting, together with an exceedingly readable address by the president, Dr. Alfred Meadows, the popular obstetrician of St. Mary's Hospital, a lecture by Dr. J. H. Aveling, a review of the third edition of Dr. Thomas Addis Emmet's "Principles and Practice of Gynæcology," and a number of well-arranged abstracts of current literature. To the many physicians in the United States who regretted the discontinuance of the "Obstetrical Journal of Great Britain and Ireland" this new journal will prove, we do not doubt, a most welcome successor to that publication.

THE RAGE FOR PICTORIAL ILLUSTRATIONS.

Unless we suppose that the authors of a great part of current medical literature have about the opinion of their readers that the late "Boss" Tweed is reputed to have had of the public in general—that, while most of them failed to take in what they read, they were all duly impressed by pictures—it is difficult to imagine why the engraver's art is so constantly called into play to depict commonplace matters. It is hard to see, for instance, on what other theory the journals have of late contained so many pictures of test-tubes showing the gross appearances of the scum that forms at the top. The outlines of the tubes themselves are usually faultlessly portrayed, but what idea is sought to be conveyed by the representations of the conglomerations in the liquid is by no means easy to make out.

THE FIRST BLOW AT MEDICAL PAUPERISM.

In spite of all that has been said of the abuse of medical charity, both here and in Great Britain, little if anything has heretofore been done to overcome it. We are glad to see, however, that the first effective blow seems likely to be struck by our English brethren, in the form of a legislative measure disfranchising the recipients of medical services at the public expense. The project is not over-strained, for those who, for the sake of the public safety, are sent to hospitals for infectious diseases are exempt from the operation of the act.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 23, 1885:

Diseases.	Week ending June 16.		Week ending June 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	0	0
Typhoid fever	14	6	7	1
Scarlet fever	63	13	54	7
Cerebro-spinal meningitis	4	4	2	2
Measles	95	9	89	17
Diphtheria	57	27	57	23

Old Shoes and Cholera. "Apropos of cholera," says the Paris correspondent of the "Lancet"—and we commend the remark to those who think that nothing is to be feared from imported rags—"the report of the Society of Hygiene of Milan draws attention to the influence of old shoes as a means of propagating the disease. When a person treads a soil more or less damp in a locality infected, there is every chance of his conveying the germs in the manner described."

A New Medical Journal in Texas.—Dr. F. E. Daniel, well known for his excellent management of the "Texas Courier-Record of Medicine," announces that he has severed his connection with that journal and will soon issue the first number of "Daniel's Texas Medical Journal," to be published at Austin. He makes an earnest appeal to the profession in Texas to sustain his undertaking, and we trust that a fitting response will be made.

The Alumni Prize of the College of Physicians and Surgeons.—We would call our readers' attention to the committee's announcement, which will be found in our advertising columns. The prize offered by the Alumni Association of the College of Physicians and Surgeons is substantial in amount and one of the most creditable to the winner of all that are offered in this country.

Precautions against Cholera in Russia.—The "Progrès médical" learns from a Russian newspaper that an official recommendation has been sent to the home Government from the Caucasus to the effect that all the railways be furnished with flying pharmacies (*pharmacies volantes*), together with a corps of medical officers and attendants.

An Epizootic is reported from Knoxville, near Pittsburgh, Pa., affecting various sorts of domestic animals. The dispatches to the newspapers express the suspicion that the disease is glanders.

The Death of Dr. Edmund A. Arnold is announced as having taken place on Friday of last week, in the twenty-ninth year of his age. The deceased, who was a son of Dr. E. S. F. Arnold, was a graduate of Bellevue Hospital Medical College, of the class of 1880, and a member of the Medical Society of the County of New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 14, 1885, to June 20, 1885:*

Porter, J. Y., Captain and Assistant Surgeon. Having been found incapacitated for active service by an army retiring-board, ordered to proceed to his home and report by letter to the Adjutant-General of the army. S. O. 136, A. G. O., June 15, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending June 20, 1885.*

Arthur, George, Passed Assistant Surgeon. Granted leave of absence for one year, with permission to leave the United States.

Deane, C. W., Passed Assistant Surgeon. Granted leave of absence for three months.

Cleborne, C. J., Medical Inspector. As member of Medical and Naval Examining Boards, Philadelphia, Pa. June 22, 1885.

Lippincott, George C., Passed Assistant Surgeon. Detached from temporary duty, Naval Academy, and waiting orders.

Mackie, Benjamin S., Surgeon. As member of Medical and Naval Examining Boards, Philadelphia, Pa. June 22, 1885.

Shafer, Joseph. Commissioned an Assistant Surgeon, active list. June 12, 1885.

Society Meetings for the Coming Week:

Wednesday, *July 1st:* Medical Society of the County of Richmond, N. Y. (annual—Stapleton).

Thursday, *July 2d:* Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia Washington County, Vt., Medical Society.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held in New York, Wednesday, Thursday, and Friday, June 17, 18, and 19, 1885.

Wednesday's Proceedings.

The Temperature Center.—Dr. ISAAC OTT, the retiring president, called the meeting to order. Neurological science, he said, had been advancing during the past year. Referring to the special line in which he had been working, he thought it could now be stated positively that the temperature of the body was as much under the control of the nervous system as the heart was. His own investigations, and those of some others, pointed to the anterior part of the optic thalami as the locality of the temperature center. He then introduced the vice-president, Dr. LEONARD WEBER, of New York, who took the chair.

Officers for the Ensuing Year were then elected as follows: President, Dr. C. K. MILLS, of Philadelphia; vice-president, Dr. V. P. GIBNEY, of New York; secretary and treasurer, Dr. R. W. AMIDON, of New York; members of the council, Dr. GEORGE W. JACOBY and Dr. E. C. SEGUIN, of New York.

A Case of Chronic Myelitis; Recovery.—Dr. A. D. ROCKWELL, of New York, read a paper with this title. [See page 690.]

Dr. E. C. SEGUIN thought the case would come under the category of cases of somewhat modified polio-myelitis with some extension into the gray matter. It certainly could not be regarded as an example of cure of myelitis transversa. He then referred to some cases of polio-myelitis which he had cured.

Dr. L. C. GRAY, of Brooklyn, thought the term chronic myelitis would remain an indefinite one so long as we knew so little about the functionally distinct columns of the cord. Disease of certain of these columns could be recognized from given symptoms, but there were other columns which had been shown to be distinct in function, although the exact symptoms resulting from their diseases had not yet been recognized. The term chronic as applied to myelitis might be understood differently by different authors, and he related a case or two in which symptoms existed over a year before a cure was finally effected. He had also noticed a quiescence of symptoms for two or three months in some cases, all means of treatment failing, when suddenly improvement began on the use of electricity.

Methods of Staining in Microscopic Study.—Dr. STARR read the paper in which he described the following methods of staining nervous tissue for microscopical study, and pointed out the advantages of the several methods: with hæmatoxylin, with acid fuchsin, with Seguin's modification of the aniline-blue, with double staining with methyl-blue and acid fuchsin, and with saffranin.

On the Use of Osmic Acid in Peripheral Neuralgias.—Dr. JACOBY read the first paper of the evening session, bearing this title. [It will be published in full hereafter.]

Dr. SACHS, by invitation, said that he had witnessed the treatment by osmic acid at the hands of Eulenburg, and that the results had been only partially successful, perhaps one third of the patients not being benefited at all. The acid which he had used in Berlin caused the patient no pain, but that obtained in this city had caused quite severe pain. He thought this method of treatment might be tried where other methods had proved unsuccessful.

Dr. SEGUIN had not employed osmic acid, but had treated cases of neuralgia on the same general principle, namely, by the injection of some substance, such as nitrate of silver, over the course of the nerve. In some instances benefit had resulted, and he mentioned one notable case of cure. The plan was not new, having been employed many years ago by the French. He thought the good obtained was by counter-irritation, sometimes by the formation of an abscess.

Thursday's Proceedings.

Two Cases of Spina Bifida cured; one followed by Hydrocephalus.—Dr. GIBNEY reported the cases, a brief account of which had been given before the New York Pathological Society a few months before. In the patient, who died of an intercurrent disease after a cure of the spina bifida had been effected, the treatment was by injections of the iodo-glycerin fluid. The tumor had fallen to the level of the surrounding surface, and was apparently completely cured.

The Use of Strychnine in Nervous Diseases.—Dr. GRAY read a paper with this title. His attention had been called to the subject by a paper by Dr. Jewell, in which large doses of strychnine had been advocated. Dr. Gray had employed the drug in many cases of myelitis, but in only two really acute cases, having desisted from its use in this class of cases because of the unfavorable symptoms which it caused. Also in one case of transverse myelitis, one-thirtieth-grain doses having been given for about a month without any toxic symptoms, the dose was increased to one twenty-fifth of a grain, and within three or four days, without warning, alarming symptoms of strychnine poisoning developed. In certain chronic cases the drug had produced good effects; but Dr. Gray would begin with one-fiftieth-grain doses, and would cautiously increase the dose, not carrying it above one twentieth of a grain. In five cases of progressive muscular atrophy the effect of the drug had been simply to produce stimulation without apparent real improvement. He had never felt himself warranted in giving the large doses administered by Dr. Jewell (one-eighth- or one-tenth-grain doses); he would not go beyond the first toxic symptoms.

Dr. C. L. DANA had had experience with large doses of strychnine in certain functional forms of nervous disease. One patient, who had become unable to attend to business because of mental and physical depression, began taking one-fifteenth-grain doses, and increased the amount so that he took, in divided doses, as much as a grain a day. Under this treatment he felt better than under any other, and doses not quite so large had been of benefit in other cases. He had not seen any explosive or cumulative effects of the drug.

Dr. SEGUIN had heard the same ideas regarding the use of strychnine advanced many years ago by Brown-Séquard. Dr. Seguin had given the drug in increasing doses in a number of cases of functional disease of the nervous system with benefit. With reference to Dr. Jewell's practice, he thought it was pretty risky because of the uncertainty of diagnosis in many cases. It had occurred to him that perhaps one reason why Dr. Jewell's patients had borne such large doses without evil results was that they had no central motor apparatus left to respond to its influence. Dr. Seguin would recommend the administration of strychnine hypodermically, thus avoiding the explosive effects which might come from a collection of pills in the alimentary tract.

Paronymy versus Heteronymy as Neuronymic Principles.—The president, Dr. B. G. WILDER, of Ithaca, N. Y., read an address with this title. The desirability of a change of encephalic nomenclature was shown by quotations from various authors. The object was to insure greater accuracy and brevity, and to facilitate the means of communicating knowledge between neurologists of all nations. It was proposed to discard vernacular names, to make a selection of shorter technical classical ones, and to abbreviate some by the omission of non-essen-

tial words and others by the substitution of prefixes for adjectives. The number of terms used in the principal languages to designate different parts of the brain was about nine thousand, whereas somewhat more than five hundred were sufficient. Dr. Wilder disclaimed having any desire to coin new words; on the contrary, he had lain awake more nights in thinking of how to avoid the necessity for this than in any other study. After giving the subject much attention he had concluded that neuronymy would be most advanced by the employment of Latin technical names as far as possible with an English dress or with a vernacular face and aspect. What he proposed and advocated was simply this: that, so far as possible for each part of the central nervous system, there should be found or made a name consisting of a single Latin word; that for each such Latin name there should likewise be found or made an English equivalent, not a translation, but a paronym; and, further, that in obtaining these names, Latin and English, due regard should be had both to existing nomenclature and to the established rules of etymological conversion. He hoped it would be understood that he did not wish, much less undertake, to upset names as they now existed. Most of the words which he had proposed were old terms translated, combined, or abridged. By the use of paronyms instead of heteronyms any neurologist would recognize the name of any portion of the neuron in Latin, Italian, Spanish, French, English, or German.

Friday's Proceedings.

The Relation between the Symptoms and the Lesions of Posterior Spinal Sclerosis.—Dr. E. C. Spitzka, of New York, read a paper with this title, in which he gave an analytical review of cases reported by different authors, and also the observations which he made in two cases in which an autopsy had been obtained. The following is the substance of his concluding remarks: While it must be admitted that the primary lesion of tabes was competent, for each affected level of the root zones and great horns, to produce all the characteristic symptoms of the disease referable to that level, yet in the extent and distribution of the consecutive lesions we had valuable guides to the extent, severity, and duration of the primary disturbance, and might attribute to the following special disturbances the ensuing degeneration of the tracts whose functions were abolished or diminished: 1. That of the column of Goll to the disturbance of muscular sense in the lower extremities. 2. That of the comma-shaped internal bands of the column of Burdach to the corresponding disturbances in the upper extremities. 3. That of the triangular area bordering on the periphery of the cord and its posterior root-entry to the rarer analgesic development. 4. That of the column of Clarke and the direct cerebellar tract to the disturbed space-sense. It was probable that some of these views would in time have to be modified.

Dr. Seguin called attention to the insusceptibility of tabetic patients to the sensory effects of aconitine. He had observed that in both the first and second stages of tabes it required very large doses of aconitine to produce the peripheral subjective sensations so characteristic of the action of that drug upon the spinal axis in healthy subjects. Perhaps out of fifteen patients with tabes only one manifested the tingling sensations in the extremities usually seen, and in that patient it required enormous doses. The amount taken by two or three patients was almost sufficient to produce collapse, but they had not the special symptoms referred to. It had occurred to him that perhaps this fact was to be explained by an early change in the part of the gray matter in the cord referred to by the author. He thought it was opposed to the view that aconitine acted on the peripheral extremity of the nerves.

On a Seldom Described Artery (Arteria Termatica), with Suggestions as to the Names of the Principal Encephalic Arteries.—The President demonstrated the arteria termatica, which he had always found given off from the anterior communicating, or, in case of the absence (which was frequent) of the anterior communicating, from the junction of the two anterior cerebral arteries. The interesting feature of the artery was that it was azygous. He proposed to name the principal encephalic arteries in accordance with the principles of neuronymy laid down in his address. Instead of anterior communicating he would say præcommunicant, and, instead of posterior communicating, postcommunicant, etc.

Dr. Starr had observed absence of the præcommunicant artery in two brains out of fifteen dissected during the past winter.

On Two Little-known Cerebral Fissues, with Suggestions as to Fissural and Gyral Names.—The President showed in the human brain the fissura inflecta, described only by Italian writers; also a fissure near the olfactory bulb, most distinct in animals, called by Owen the basi-rhinal fissure. Dr. Wilder had arrived at the conclusion that this fissure was of important morphological significance, and had found on further reading that his views in this respect were only confirmatory of Owen's and Broca's. For fissural and gyral names he would use single words with the prefixes præ, post, sub, etc.

Two Cases of Friedreich's Disease.—The paper had been written by Dr. Wharton Senkler, of Philadelphia, and in his absence was read by Dr. Massey. The two cases described were almost typical cases of Friedreich's disease with the exception that they were not hereditary. There was no history of syphilis. No autopsy was made.

Dr. Seguin had recently published five cases of Friedreich's disease, and he also briefly referred to some cases by Dr. Smith, of Boston.

Dr. R. W. Amidon, of New York, had under observation two cases of what he believed to be Friedreich's disease, the symptoms in one of which he briefly described. The paper was also discussed by Dr. Starr and Dr. Jacoby.

A Galvanometer.—Dr. Jacoby presented a galvanometer, the invention of Dr. Rudisch. The relative value of this and other like instruments was discussed at considerable length.

A Brain Monstrosity was presented by Dr. Spitzka at the evening session. The specimen had been removed from the body of a child, aged two years and a half, with a number of deformities of the extremities. The chief feature in the malformation of the brain was cerebellar. Dr. Spitzka also presented specimens illustrating Gudden's atrophy method, which had a bearing on the anatomy and physiology of the tracts comprised under the name lemniscus or fillet, and also on the anatomy of the trineural fasciculus. The specimens were from a kitten.

The President then exhibited specimens illustrating (*a*) the form and extent of the adult aula; (*b*) the non-extension of the rima to the tip of the medicornu; (*c*) the enlargement, yet complete circumscription, of the porta in an "alinjected" hydrencephal; (*d*) the fimbrial revert and its relations to the prosoplex; (*e*) the continuity of the diacœlian endyma from the mesal surface of the thalamus over the habena to the diatele; (*f*) the insula in a dog, monkey, chimpanzee, and porpoise. The island of Reil in the porpoise he had found to present a large extent of that surface, equal to that in man, but, being much more mountainous in man, the entire surface was greater in this portion of the human brain.

A Contribution to the Pathology of the Cerebellum.—Dr. Seguin gave the history of a case in which at the autopsy there had been found a cyst of the superior portion of the vermis, extending an inch into the right cerebellar lobe. The man

had had symptoms dating from about 1857, but in 1867 he was seen by the physician under whose care he had since been the greater portion of the time. He had been seen in consultation by Dr. Seguin in 1877. In 1867 he had epileptoid attacks, and began to suffer from severe headache; the eyesight partially failed, there was nystagmus, with cerebellar inco-ordination and exaggerated patellar reflex, but no distinct paralysis or ataxia. A short time before death, stupor, increasing paresis, and bulbar symptoms came on. Dr. Seguin had made a diagnosis of disease, very likely tumor, of the cerebellum, probably of the superior vermis. The patient's statement that he had not had syphilis was credited. At the autopsy, however, besides the tumor mentioned, there was found extensive atheromatous degeneration of the cerebral arteries in patches, and in the basilar artery the change had extended throughout, rendering the vessel quite rigid. The yellowish patches, apparently of new formation, were said to be characteristic of syphilis, but it was believed this patient had not had that disease.

Dr. AMIDON gave the history of a case of cerebellar tumor in a child six years of age, the symptoms having led him to a diagnosis of tubercular meningitis, which was discarded because of the continued absence of fever. There were muscular weakness, irritability, and external strabismus, the head being somewhat hydrocephalic in appearance. Finally, there were complete failure of speech, incontinence of urine, and death in a comatose condition. The autopsy showed a sarcoma involving the superior vermis and the lateral lobes. An interesting fact was that the child's mother had had a sarcoma of the neck excised.

Notes on Hydrochlorate of Cocaine.—Dr. BAUDUY, of St. Louis, read a paper with this title, and said he considered this drug almost a specific for melancholia; also for the morphine habit, although the cocaine habit, once formed, was equally baneful. It was also useful in certain sexual neuroses, hypochondriacal insanity, etc. It caused wakefulness, relieved hunger, was anti-emetic, etc.

A Committee on Electrical Dosage was appointed, consisting of Dr. JACOBY, Dr. BIRDSALL, and Dr. AMIDON.

The society then adjourned, to meet at the call of the council about the same time next year.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of June 15, 1885.

The President, Dr. CHARLES A. LEALE, in the Chair.

A Few Practical Remarks on Rupture of the Perinæum—Dr. FRANK H. HAMILTON, the author of the paper, did not believe that any resistance which could be considered justifiable applied to the perinæum could appreciably delay the advance of the child's head and tend to prevent rupture. If the object in making pressure upon the perinæum was to direct the child's head forward, toward the pubes, the advice to support the perinæum could be understood, but it was only in rare cases, as in the absence of proper curvature of the coccyx, that this indication was not met by nature. He also considered it an objection to the use of the forceps, even if it was removed before the head passed the perinæum, that it was liable to increase the danger to the perinæum. It was sometimes employed to hasten delivery under ordinary circumstances, and must then give the head less time to become molded before reaching the perinæum. Grave perineal lesions were much more common now than formerly, a fact which was coincident with the increased use of the forceps and anæsthetics. He thought the future would probably show that our progress in the use of the forceps and anæsthetics had been too rapid. He mentioned anæsthetics because they were so commonly associated with artificial labor. He did not think that laceration of the perinæum and prolapsus of the uterus always stood in the relation of cause and effect. The uterus might be made to descend from many causes, whether the perinæum was sound or not, and if it did descend and was brought into actual contact with the perinæum, the presence of this body would be an important obstacle to its further protrusion. Rupture of the perinæum could affect the uterus only as it became associated with atrophy of the muscular fibers of the vagina, and relaxation of its walls, in which case the vagina would become an active agent in dragging the uterus down. These consequences to the vagina and uterus did not always occur after destruction of the perinæum, but were likely to occur in fat subjects.

Regarding the primary operation for laceration of the perinæum, Dr. Hamilton could not agree with those authors who advocated its use, and he gave several objections to its adoption. One of the principal objections was that an apparently serious rent might disappear almost completely after the parts regained their tonicity, and be perfectly repaired by granulation. Again, it was very difficult to get union in these cases, although sutures were applied early. Hewitt had said the operation should be done within an hour after delivery, if it was expected to obtain primary union; Dr. Hamilton also believed that primary union would not be likely to take place if the operation was done later than an hour after the birth of the child, but he thought further that even the immediate operation would probably prove fruitless. It was proposed to perform a serious operation, under every surgical disadvantage, when the patient was prostrated and trembling from the results of a severe labor and was in the worst possible condition, both mentally and physically, to endure the shock of the operation. Nothing but the most urgent, imperative necessity would justify the operation under these circumstances, and such a necessity had not been shown to exist.

As to the secondary operation, when the sphincter ani was not involved, the preparatory treatment consisted in thorough evacuation of the bowels forty-eight hours before the operation by a saline cathartic, and on the morning of the operation by a copious enema of warm water, followed by the introduction of a suppository of morphine. During the operation the surfaces should be thoroughly and extensively denuded, say one inch in an antero-posterior direction, and nearly as far inward on the vaginal wall. All bleeding having ceased, three well-waxed sutures of the largest-sized harness-maker's silk should be introduced, at a sufficient depth to include the entire denuded surfaces. The surfaces should be brought together with moderate firmness. In most cases it was well to insert two or three superficial sutures. The knees should be tied together loosely, with a small pillow between them. The patient could then lie either on the side or on the back. The greatest care should be taken in the after-treatment, keeping the parts clean, drawing the urine, etc. The deep sutures should be left in six or seven days, perhaps longer. The fine ones might be removed earlier. The bowels should be moved after the tenth day. In case the recto-vaginal wall was involved, the operation would be more severe, and in this case the deep sutures should remain as long as they served a useful purpose, and the evacuation of the bowels should be further delayed. He made no reference to the wire suture, finding it hard to introduce and remove; he preferred the so-called quill suture, using a bougie instead of a quill. If a considerable portion of the recto-vaginal septum was involved he would recommend the use of the wire suture, at least near the rectum.

In some supplementary remarks Dr. Hamilton referred to the use of chloroform in labor, advocated by Dr. Barker. He

thought Dr. Barker was in error when he expressed the opinion that chloroform, by causing relaxation of the vaginal structures, lessened the liability to rupture of the perinæum. Nature had provided for this extreme relaxation, and chloroform could not further affect it. The other argument advanced by Dr. Barker concerning the effect of chloroform upon the action of the uterus Dr. Hamilton thought had little bearing upon the question, for the head would have afterward to pass the perinæum, and rupture would be as likely to take place as if the anæsthetic had not been used. He quoted Meigs, who said he had never had in his practice a case of durable rent of the perinæum, as showing that surgical interference and anæsthetics had tended to increase rupture of the perinæum.

Dr. I. E. Taylor discussed this paper, after other papers had been read, and said that, although it had been stated by the author that rupture of the perinæum was now very common, it had very seldom occurred in his practice. His views on some points were opposed to those expressed by the author of the paper, and he gave his reasons for using the forceps in certain cases before the head had reached the perinæum, and as to the manner in which pressure with the fingers over the perinæum, while it was not intended to support it, tended to prevent rupture of that body. The principle aimed at was to allow the perinæum to adapt itself to the circumstances and to become as far distended as possible before the passage of the head and shoulders. He thought the shoulders, when large, were liable to produce rupture after the head had passed without doing injury. As to the use of anæsthetics, it would sometimes be found that ether would prove effective when chloroform had failed, and the employment of the one or of the other of these agents would depend upon the circumstances of the case. He mentioned some objections to the primary operation for rupture of the perinæum, and also to its performance even for some weeks after the occurrence of the accident.

Persistent Flatness over the Liver as a Proof that Acute Diffuse Peritonitis is not associated with Intestinal or Gastric Perforation.—Dr. Austin Flint, Sr., read the paper, in which he referred to a paper on this subject which he had read before the Medical Society of the State of New York in 1882, and which had been quoted by certain authors since that date. He again took this occasion to refer to a case, a brief report of which he had already published, in support of the view advanced at that time when his only evidence consisted of experiments upon the cadaver. In the case referred to he had expressed the opinion that perforation had not taken place, because of the persistence of dullness over the liver. Some of the physicians who saw the patient had entertained a different opinion. About the seventh day an aggravation of the symptoms took place, and the patient died. There was at death resonance over the liver, flatness having been noticed in the morning. The autopsy showed perforation of the vermiform appendix, surrounded by a wall of lymph and exudative material, inclosing pus. Dr. Flint regarded the case as proof of his view, as it appeared evident that up to the day of death there had been no escape of the intestinal gases into the peritoneal cavity; but as soon as this escape took place, and rapidly led to death, the peritoneal cavity became distended with gas and changed the percussion note over the liver from one of dullness to one of resonance. The case was also interesting as showing the possible advantages of an exploratory incision.

Intussusception of the Intestines, with the Report of a Case.—Dr. Charles S. Wood, the author of the paper, reported the case of a boy, eight years of age, in whom there were undoubted symptoms of intussusception of the intestine, consisting of pain over the abdomen, increased pulse and temperature, projectile vomiting of matter having the odor of fæces, etc., these symptoms lasting for a number of days. The question of laparotomy was raised, but, inasmuch as he had known patients to recover without, and as the operation had nearly always proved fatal in children, he decided to continue treatment by injections of water at intervals of about two hours, fomentations over the abdomen, etc. On the fourth day the injections brought away a little fæcal matter, showing that the invagination was beginning to become reduced, and from the seventh day the patient slowly convalesced. He had become greatly emaciated, there were bed-sores, and the greatest care was necessary to conduct him to complete recovery. It was thought a portion of the sloughed bowel was found in the fæces. Dr. Wood then gave the symptoms and treatment of intussusception, and quoted cases reported by other authors in which injections had led to recovery. Statistics also, so far as they went, showed that laparotomy in children was very fatal, and for this reason, and because a number recovered by the plan of treatment adopted in this case, he thought laparotomy should not be resorted to except in extreme cases. The persistent use of injections, with other accessory treatment, offered the best chance of saving life in intussusception in the young subject.

A Method of Direct Local Treatment for Diseases in the Region of the Ileo-cæcal Valve, and also for the Safe Removal of Impactions of the Intestines.—The President made some remarks on this subject. [They will be published in full hereafter.]

Malignant Endocarditis.—Dr. H. M. Biggs presented a heart illustrating this condition, having vegetations on all the valves. He had not found the record of any other case in which vegetations existed on all the valves. This patient died during an attack of pneumonia, and the autopsy showed pulmonary infarctions, besides consolidation in the opposite lobe.

Dr. Biggs also presented the bladder and kidneys removed from a patient who had given symptoms of vesical calculus, having at intervals for years passed blood with the urine, and had dysuria. On a number of occasions the calculus had been sought for, once the finger being introduced into the bladder, but it had not been found. Finally its presence was detected by the sound, but the patient died before the time set for an operation. The walls of the bladder were hypertrophied, and it contained a calculus of the size of a hickory-nut. The ureters were dilated, and there was pyelo-nephritis.

NEW YORK STATE MEDICAL ASSOCIATION, THIRD DISTRICT BRANCH.

First Annual Meeting, held in Syracuse, Tuesday, June 9, 1885.

The President, Dr. John G. Orton, of Binghamton, in the Chair.

About seventy members were registered during the day.

Dr. H. D. Didama, chairman of the Committee of Arrangements, said that the committee had no special report to make, only that everything had been done to make the meeting in all its points an unqualified success. He welcomed the members to the city, and said that he trusted the branch would prove itself to be not even second to the branch in New York city.

The President's Address.—The President had chosen as a subject for his remarks the "Reciprocal Relations of the Medical Profession to the State, to Corporations, and to Individuals." The medical profession, he said, was brought into reciprocal relations with the State by its connection with health boards, and in its labors for the preservation of wholesome sanitary laws. The State had very properly imposed certain qualifications upon physicians before allowing them to practice or act

in company with the health boards. All physicians devoted to their profession should take earnestly in hand, in self-defense, measures for suppressing impostors who traded on public credulity, and ask that the press, the clergy, and men of position and influence consider well the moral responsibility they assumed in commending to the confidence of the public the plausible quacks and their worthless nostrums. He referred to the duties of the profession in examining recruits for the army or navy, or attending the soldiers in the spread of camp fevers, cholera, scurvy, and other plagues; and in examining applicants for pensions and for life insurance companies. Here physicians served the Government and the corporations. The duties of their relations should be performed honestly and to the best of their ability. Their honor, in cases of expert testimony in the courts, should also be faithfully guarded. In the reciprocal relations of the physician to the individual were found relations which tended to the highest cultivation of the noblest instincts. The constant care of the sick, the suffering, and the dying could not but imbue the conscientious physician with an appreciation of the greatness of his mission and of the responsibilities he assumed. The relations between physician and patient were necessarily and so often of an intimate and confiding character that the small aggregate of cases of misplaced confidence was a testimonial of the integrity of the profession. A physician who hoped for success must have unlimited stores of self-denial and self-devotion, not only to carry him through, but to hold him above all and every temptation, that he might be a perfectly reliable repository of personal and family honor. It was with much pride and pleasure that he congratulated each one present, and all who were in affiliation with this organization, on the auspicious character of the first annual meeting. The great seal of success and permanency was stamped upon it.

The Executive Committee's Report was next presented, and was adopted.

The Committee on By-Laws reported a change in the laws regarding the order of business for the day, and recommended that a common set of by-laws be adopted by the State association for the use of all the districts throughout the State. The committee was given further time to make arrangements.

A Committee on Registration was appointed, consisting of Dr. Charles W. Brown and Dr. John H. Price of Elmira.

The Committee on Nomination by counties was: Broome County, Dr. Putnam; Chemung County, Dr. Wales; Chenango County, Dr. Avery; Cortlandt County, Dr. Jewett; Cayuga County, Dr. Laird; Madison County, Dr. Ure; Onondaga County, Dr. Head; Otsego County, Dr. Leaming; Schuyler County, Dr. Smelzer; Seneca County, Dr. Allison; Tompkins County, Dr. Farrington.

The Varying Degree of Severity of Symptoms of Strangulated Inguinal Hernia.—A paper with this title was read by Dr. Frederick Hyde, of Homer, who gave a review of the subject, the treatment to be employed in the various cases, and statistics showing the fatality of the accident in its varying forms of severity. He cited instances, one the case of a man in Cortlandt, who was toward the last attended by him. A small swelling in the right groin had been noticed, but it had not produced any bad effects. In carrying an armful of wood up a long flight of stairs one day, the patient felt a sharp pain in the swelling at the groin, that was afterward found to be the commencement of strangulation. He was visited by several physicians, and by their advice an operation was performed. The operation did not have the desired effect, and the man died. An autopsy was made, and the result showed that, if the operation had been done at the beginning of the strangulation, the patient's life would probably have been saved. The doctor gave eleven valuable suggestions at the close of his remarks.

The subject was discussed by Dr. J. W. S. Gouley, of New York. Dr. Kneeland, Dr. Jewett, and Dr. Ferguson.

On motion of Dr. Didama, Dr. J. W. S. Gouley, of New York, and Dr. E. D. Ferguson, of Troy, were invited to seats with the members.

The Ordinary Treatment of Nasal Catarrh. — Dr. Nathan Jacobson, in a paper on this subject, said that the disease was an American institution, and was fast becoming a mark of true American citizenship. He cited the present mode of treating it, which had not met with satisfactory results, so that patients, after trying many practitioners without benefit, went to the specialists, and afterward resorted to the snuff or catarrh cure most thoroughly advertised, but still found no help. Intelligent local treatment was necessary to treat nasal catarrh successfully. The physician must make a thorough examination in each case, and then treat it systematically. Nasal catarrh, if left to itself, it was believed, would cause consumption, but of this there was grave doubt. There was little doubt, however, that catarrh, on becoming chronic, would aid in the development of consumption, should the patient have a tendency in that direction.

A Puzzling Case of Abdominal Tumor was the subject of a paper read by Dr. W. W. Munson, of Otisco, which was discussed by Dr. Gouley, of New York.

The Nominating Committee reported as follows: *For Secretary*—Dr. Charles W. Brown, of Elmira. *Executive Committee*—Dr. C. B. Richards, Dr. W. R. Ladd, Dr. G. W. Avery, Dr. F. W. Ross, Dr. H. O. Jewett, Dr. O. M. Allabin, Dr. Gilbert Birdsall, Dr. A. D. Head, Dr. J. K. Leaming, Dr. R. T. Smelzer, Dr. Elias Lester, Dr. R. W. Eastman, Dr. J. M. Farrington.

Tubercular Consumption never inherited, always produced.—Dr. H. D. Didama then read a paper on this subject, which was discussed by many members.

The following papers were then read, and several of them discussed: "Operation for Deviated Septum Nasi," by Dr. F. W. Ross, of Elmira; "Recent Advances in Dermatological Therapeutics," by Dr. F. W. Putnam, of Binghamton; "Pistol-Shot Wounds of the Kidney and Lung," by Dr. George P. Merritt, of Cherry Valley; "Perityphlitis," by Dr. Theron A. Wales, of Elmira; "Typhoid Fever as we see it in Central New York," by Dr. H. L. Elsner, of Syracuse; "Swing Suspension in Cases of Deformed Spine," by Dr. C. L. Squire, of Elmira; "Diabetes," by Dr. G. C. Smith, of Delhi; and "Puerperal Insanity," by Dr. C. F. MacDonald, of Auburn.

The State Association's Library.—Dr. Gouley stated that letters had been sent to the fellows of the State association requesting books, pamphlets, and journals for the new library, and that from fifteen fellows over a thousand volumes had been received. He wished that all those who could contribute would do so.

Dr. C. W. Brown, Dr. J. H. Chittenden, and Dr. T. A. Wales were appointed a Committee of Publication and Printing.

Dr. F. W. Ross, of Elmira, moved a vote of thanks to the Committee of Arrangements for the handsome manner in which they had entertained the association; and it was carried unanimously. The meeting then adjourned.

ILLINOIS STATE MEDICAL SOCIETY.

(*Concluded from page 707.*)

The Treatment of Epilepsy.—Dr. D. R. Brower, of Chicago, read the report of a special committee on this subject. He first called attention to the absence of any constant lesions. The phenomena, he thought, were due to a want of resistance

in the nerve-cells, in consequence of which they discharged their force without adequate peripheral irritation. The cells so disturbed might be in the cerebral cortex or in the medulla, and in the medulla the trouble might be due to general excitability or to a disturbance of nutrition beginning in the vasomotor center, making at least three kinds of epilepsy. He then dwelt upon the small percentage of cures that resulted from medicinal treatment, and the number that had followed judicious surgery.

Many cases had their origin in injuries to the head, the scalp, or the skull, and recovery had followed the removal of cicatrices and the use of the trephine. Trephining had been successful in a large proportion of cases; it was justifiable in all cases of supposed injury to the skull, and the amount of bone removed should be large. Besides operations for the relief of phimosis and for the removal of diseased ovaries, tying the vertebral artery was advised.

The medicinal treatment was then considered. Besides prevention of the attacks, the general treatment should be tonic. The importance of generous diet and gymnastic exercises was insisted upon.

The tonic remedies advised were brucine, strychnine, arsenic, and zinc, preference being given to brucine. The drug must be pushed to its full physiological action, and this action must be maintained for at least a month, then stopped for a short time and begun again.

Dr. W. A. Byrd, of Quincy, thought that if surgical treatment failed to cure epilepsy when it was necessary to remove a piece of the skull, it was because not enough bone was taken out. In trephining—where a large portion of the bone was removed—no bad symptoms followed as a rule.

Officers for the Ensuing Year.—The Committee on Nominations then reported the following nominations: For president, Dr. W. A. Byrd, of Quincy; first vice-president, Dr. W. T. Kirk, of Atlanta; second vice-president, Dr. A. Wetmore, of Waterloo; permanent secretary, Dr. S. J. Jones, of Chicago; treasurer, Dr. Walter Hay, of Chicago. Judicial Committee, Dr. E. F. Ingals, of Chicago; Dr. F. B. Haller, of Vandalia; Dr. W. Hill, of Bloomington. Assistant secretary, Dr. Harlan Luce, of Bloomington. Committee of Arrangements, Dr. J. L. White, Dr. T. H. Worrall, Dr. Lee Smith, Dr. Burns, Dr. W. Hill, of Bloomington. Committee on Practical Medicine, Dr. J. J. M. Angear, of Chicago; Dr. H. R. Guthrie, of Sparta. Committee on Surgery, Dr. C. Truesdale, of Rock Island; Dr. T. M. McIlvaine, of Peoria; Dr. M. Reece, of Abington. Committee on Obstetrics, Dr. W. W. Jaggard, of Chicago; Dr. Hugo Rothsteen, of Waterloo; Dr. E. Ingersoll, of Canton. Committee on Gynæcology, Dr. J. H. Etheridge, of Chicago; Dr. M. J. Mergler, of Chicago; Dr. C. C. Hunt, of Dixon. Committee on Materia Medica and Therapeutics, Dr. E. B. Montgomery, of Quincy; Dr. J. M. G. Carter, of Waukegan; Dr. Catherine Miller, of Lincoln. Committee on Ophthalmology and Otology, Dr. Robert Tilley, of Chicago; Dr. A. C. Corr, of Carlinville; Dr. W. T. Speaker, of Mt. Morris. Committee on Necrology, Dr. E. F. Ingals, of Chicago; Dr. W. Hill, of Bloomington; Dr. G. W. Cox. Committee on Orthopædic Surgery, Dr. C. E. Webster, of Chicago. Committee on Diseases of Children, Dr. F. E. Waxham, of Chicago; Dr. E. B. Slater, of Aurora. Committee on Microscopy in Gynæcology, Dr. O. B. Will, of Peoria. Committee on Dermatology, Dr. H. J. Reynolds and Dr. W. J. Maynard, of Chicago. Committee on Publication, Dr. J. F. Todd, of Chicago. Committee on Physiology, Dr. A. Wetmore, of Waterloo. Committee on Insanity, Dr. Barnes, of Bloomington. Committee on Legislation for the Insane, Dr. Walter Hay, of Chicago; Dr. L. P. Cook, of Mendota; Dr. B. F. Haller, of Vandalia. Committee on Medical and Sanitary Legislation, Dr. B. M. Griffith, of Springfield; Dr. W. A. Haskell, of Alton; Dr. A. B. Strong, of Chicago; Dr. J. L. White, of Bloomington. These nominees were elected. It was decided to hold the next meeting at Bloomington, beginning on the third Tuesday of May, 1886.

Thursday's Proceedings.

Medical Education was the title of the first paper, by Dr. H. R. Guthrie, of Sparta.

Education preliminary to the Study of Medicine.—Dr. G. N. Kreider, of Springfield, read a paper in which he stated that it was conceded that Germany furnished the best preliminary education, while our candidates generally entered college abruptly without sufficient preliminary training. He then gave a *résumé* of what constituted a proper course for a young man to pursue before he entered upon his professional training. Regarding prescription writing, good Latin had practically gone out of use, even by the most classical scholars, yet a student should receive at least a short course in Latin grammar before he took up the study of medicine. Among the six thousand students that entered the American medical colleges annually, twelve per cent. had taken degrees from literary colleges or from a high school; twenty per cent. possibly had attended some literary institution; while nearly four thousand annually entered with but superficial training. He took the high school as a basis of a preliminary course. The moral training needed a radical change, for in the profession of medicine there were more suicides than among any other class of professional men.

Considerable discussion ensued.

The Treatment of Eczema.—Dr. Henry J. Reynolds, of Chicago, read a paper in which he said that an intelligent knowledge of the principles upon which treatment should be based always suggested the form of treatment that would be applicable. The pathological condition not being absolutely identical in any two cases, the treatment must always vary. The disease was always either acute, subacute, or chronic, regardless of its name or location, and he arranged the treatment accordingly. In the acute form the great principle involved was *rest*, which implied not only quietude of the member or part, but rest from all irritating influences, such as scratching, irritation of lice, friction, dirt incident to the calling of the individual, too frequent washing, etc. Soothing and protecting measures, therefore, were indicated in this stage, among which were carron-oil, poultices, etc. In the subacute, as in all other stages and forms, scratching must be strictly prohibited, as it was the most fruitful of all sources of aggravation. He used in this and the chronic condition (either of which might at any time develop acute symptoms and require the treatment changed accordingly) pure, impalpably fine boric acid as a dusting-powder, having first got rid of crusts and scales by soaking with oil and washing with soap and warm water. In the chronic form, however, he used more stimulating measures, such as the use of green soap. To relieve intense itching he had found nothing so effectual as letting it alone. Bandaging and strapping were advisable whenever practicable, and he preferred the cotton roller to the rubber bandage where there was much exudation or maceration of the skin. As certain constitutional conditions predisposed to the disease, and therefore necessarily aggravated or prolonged it when once established, these conditions must be sought after and corrected. He had but little faith in arsenic in this or any other disease; all he knew positively of it was that it might do harm. Chrysarobin, internally, he had tried without any good result.

The Treatment of Croup and Tubage of the Larynx was the subject of the next paper, by Dr. F. E. Waxham, of Chica-

go, of which the "Journal" gave a brief *résumé* in the May 9th issue, in the proceedings of the Chicago Medical Society.

The Doctor in Court.—A paper with this title was next read by Dr. C. H. Worred, of Lincoln.

The Report of the Committee on Surgery was presented by Dr. W. A. Byrd, of Quincy. The report dealt with the current literature of surgery, and with the subjects of thyroidectomy, trephining for epilepsy and insanity, abdominal surgery, amputation at the hip joint, substitutes for the ligation of arteries, psoas abscess, Pott's disease, and various diseases of bone.

Other papers were read as follows: "Obstruction of the Bowels," by Dr. W. H. Veatch, of Carthage; "Brain Tumors as associated with Optic Neuritis," by Dr. R. Tilley, of Chicago; and "Simple Renal Catarrh," by Dr. J. N. Danforth, of Chicago.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of January 6, 1885.

The President, Dr. William M. Polk, in the Chair.

Serrated Scissors for Repairing the Cervix Uteri.—Dr. T. A. Emmet showed a pair of scissors, presented to him by Dr. Protheroe Smith, of London, one blade of which was serrated, to prevent slipping from the dense tissue of the cervix. In reply to a remark by Dr. Chamberlain, he said the scissors presented to the society by Dr. Dawson had, he believed, only one fang at the end of each blade, whereas these, being serrated the entire length of the blade, would prevent slipping before the point had yet grasped the cicatricial tissue.

A Clamp for Use in Perineorrhaphy.—Dr. E. Noeggerath said that when he was in Freiburg lately he assisted at several operations by Professor Hegar. In the operation for prolapsus of the anterior wall of the vagina it ordinarily took a very long time to denude the surfaces, and occasionally the procedure was attended with much hæmorrhage. But the operation, as it was performed by Professor Hegar, was done in a remarkably short time, as he grasped the redundant tissue between the blades of a straight clamp [exhibited by Dr. Noeggerath], passed the sutures, and then excised the tissue. Dr. Noeggerath also presented a similar instrument, the clamp being curved, which he had devised to accomplish the same purpose, and had shown to the society about fifteen years ago. He thought the curved clamp was preferable, inasmuch as it enabled the operator to remove a greater amount of the surplus tissue. As to the results of this manner of operating, Professor Hegar had shown him some patients upon whom the operation had been performed a number of years ago with perfect success.

Dr. J. E. Janvrin said the clamp used by Hegar was identical with one used a number of years ago by the late Dr. Peaslee, except that Dr. Peaslee's had no handles. Dr. Janvrin had not employed it lately, but formerly he had used it with very good results.

Dr. T. A. Emmet remarked that an instrument involving the same principle was used by the late Dr. Budd as many as twenty-five years ago.

An Antiseptic Curette.—Dr. Noeggerath also presented a curette, the handle being a tube for the conveyance of an antiseptic fluid from a syringe or irrigator during the operation of curetting the uterine cavity. In a great many cases of curetting there was no urgent necessity for antiseptic treatment, but there were other cases in which it could not be dispensed with; those, for instance, in which there was sepsis two or three weeks after miscarriage, parametric or perimetric inflammation, or mucous fibroids in which the curette was employed to remove the hypertrophic condition of the membrane. He had recently employed the curette, with a stream of bichloride-of-mercury solution running through it into the uterine cavity, in a case of extreme sepsis after miscarriage, and the temperature fell almost immediately afterward.

Tubes for Intra-uterine Injections.—Dr. Noeggerath also presented a tube for injecting water into the uterus after confinement, invented by a physician of Cologne, the peculiarity of the instrument being that it caused the stream of water to flatten and enter the uterus less forcibly, thus diminishing the danger of the injection entering the uterine sinuses, and also that of causing severe chills an hour or more after the operation.

Dr. H. T. Hanks also presented a tube for making intra-uterine injections. Being made of silver, it could be bent at any desired angle, and admitted of thorough cleansing, either with boiling water or some antiseptic solution. The bulb contained two apertures of exit for the fluid, and was fastened to the tube by a screw.

Dr. W. M. Chamberlain remarked that the late Dr. Nott's instrument was a very good one for making intra-uterine injections. He thought the antiseptic curette presented by Dr. Noeggerath was open to the objection that, the curve being short and thick, it would be difficult to reach some portions of the uterine surface with the scraping edge.

Dr. Noeggerath said that in presenting the instrument he had not meant to say its shape was perfect, but simply desired to illustrate a principle. With regard to injecting tubes, he had long since abandoned the use of metallic instruments within a few days after confinement, because they were liable to cause a lesion of the newly-formed mucous membrane, and thus give access to septic material. He had employed a rubber tube with a canal on its outer surface which allowed the water to run off freely.

Laparotomy for a Fibroid Tumor of the Uterus.—Dr. B. F. Dawson presented a large fibroid tumor of the uterus with the following history: The patient, forty-seven years of age, regular in menstruation, first noticed enlargement of the abdomen about four years ago. She was seen by several physicians, one of whom told her that the abdominal enlargement was due to an ovarian tumor, and another that it was due to a tumor of the uterus. The swelling having considerably increased, two years ago she consulted Dr. Phelps, of Bellows Falls, who advised her to await events. About a year ago the abdominal enlargement had become so great that Dr. Phelps, assisted by Dr. Campbell, performed tapping, and withdrew fluid which had the appearance of urine. Nine months ago the tapping was repeated, when the fluid was less clear; at three subsequent tappings the fluid had gradually assumed a milky appearance. It was two days since Dr. Dawson first saw the patient and removed the tumor. She was then decidedly cyanotic, so great was the abdominal distension, and he was unable to make a positive diagnosis before withdrawing the fluid. Vaginal examination only revealed mobility of the cervical portion of the uterus. Seven gallons of fluid were withdrawn, which had a thick, whitish appearance, but no odor. The finger was introduced through a small abdominal opening, and a tumor, attached to the uterus and filling the entire lower pelvic cavity, was appreciated. In removing it, the fundus of the uterus also had to be excised, including the ovaries and tubes. The stump was fixed in the abdominal wound by his clamp. He had been informed that evening by telegraph that the patient's temperature was 101.5° F., her respiration 32, and her pulse 120.

Tubal Gestation; Expulsion of the Fœtus and Membranes through the Uterus.—Dr. Janvrin presented a specimen with the following history: A fœtus, apparently of only two months' development, had been expelled four months after

conception, the woman having been exposed to pregnancy only on the 17th of August last. About the 15th of September there was a slight "show," lasting for two days. It returned again on the 21st, lasting one day, and again about the 27th, lasting one or two days. Dr. Janvrin saw her on the 3d of October, when there was a very slight flow. On examination, the uterus was found to be a little enlarged, particularly toward the left horn, the os was slightly patulous, and considerable tenderness existed over the left horn and tube. He advised rest, and decided to watch the case closely and await developments. He saw the patient five days later, and daily from that time until the 14th of October. There was a more marked flow; the symptoms of pregnancy were present—nausea, changes in the appearance of the breasts, etc. He saw the patient again on the 28th of October, and became convinced, from a thorough examination, that the fœtus lay partially in the left Fallopian tube, as the tube was enlarged. The enlargement was symmetrical, being as great at the junction with the uterus as at any other point. He felt convinced, however, that the mass projected considerably into the uterine cavity, and he used considerable force in pressing upon the fœtus, trying to expel it into the uterus, but failed. The gravity of the case was explained to the patient and her husband, the opinion that probably electricity would have to be employed was expressed, and a consultation was suggested. Dr. Thomas saw the patient with him at noon of the following day. During the night the patient had had severe pains, like those of labor, confined to the left side of the uterus and to the tube, and at the same time there was a slight flow. The pains ceased early in the morning. Dr. Thomas examined the patient, and, on retiring to another room, expressed himself as decidedly of the opinion that there had not been tubal pregnancy; that the fœtus was probably entirely in the cavity of the womb, situated pretty well up in the left horn. Dr. Janvrin then examined the patient, and found that the mass had nearly disappeared from the tube, but was convinced that it still projected somewhat into the tube, perhaps about one fourth of its length. At all of his previous examinations the right horn of the uterus was much flattened, but within the last twenty-four hours the right side had become bulging, almost as much so as the left horn. He felt so positive in his diagnosis that he was now of the opinion that the fœtus had become sufficiently detached to cause complete miscarriage within a short time. But the mass remained within the uterus, the organ did not enlarge, and the soreness and tenderness diminished to a certain degree but did not completely disappear. After about six weeks the patient began to have some flow, which, when Dr. Janvrin was called, three or four days later, had become quite marked. Believing that the fœtus was dead, he expected expulsion to take place soon, and advised the patient to keep quiet. Notwithstanding absolute rest, the fœtus and membranes were expelled the following day, December 15th, four months after conception, having the appearance of only two months' development. The placenta was atrophied except at one point, as large as the thumb-nail, where it was fresh and had carried sufficient blood to prevent decomposition but not to sustain life.

Dr. T. A. Emmet thought there must be a certain number of cases of tubal pregnancy involving the horn of the uterus in which it would be possible to dilate the horn with an instrument similar to Barnes's uterine dilator, which he once exhibited to the society. He did not know, however, what amount of danger there might be of causing rupture of the walls. In reply to a question, he said that in Dr. McBurney's case the placenta and fœtus could be distinctly recognized within the tube through the rectum.

The President remarked that Dr. Janvrin's case was interesting as going to dispel doubt on the question whether the fœtus could be expelled from the tube into the uterus. When he once reported a case, one gentleman took the ground that it was impossible for the fœtus to pass from the tube down into the uterus, for two reasons, the first being absence of expulsive power in the tube, and the second that before the descent into the uterus could take place the tube would become ruptured.

Dr. Emmet remarked that Parry reported a case in which a child at full term was forced from the tube out through the uterus. He added that the muscular structure of the tubes certainly did become thicker during pregnancy.

An Operation for Fistula in Ano.—Dr. T. A. Emmet referred to the difficulty experienced at times from leakage, after the usual operation of division of the sphincter for fistula in ano, and said that, to avoid this accident, he adopted another procedure about five weeks ago. The internal fistulous opening was about half or three quarters of an inch above the sphincter, the external one about an inch and a half to the left of the anus. He placed the woman in Sims's posture, introduced a rectal speculum, and divided the tissue with the scissors as far up as possible without involving the sphincter. Then Dr. Bache Emmet, who was assisting him, put one finger into the rectum, bringing the rectal surface under the cut, and enabling him to denude the entire tract of the sinus without enlarging the opening into the gut. While the parts were held in this position he inserted the first suture into the integument, close to the sphincter, outside, passing it through the lower edge of the internal opening of the fistula, and he so continued to pass interrupted sutures until the wound was closed. To make the result more certain, he then introduced three interrupted sutures of catgut, approximating the mucous surfaces within the rectum more closely. He thought the operation might have been more easily performed had he inserted sutures in the walls of the fistula outwardly before using the scissors; as it was, he experienced great difficulty in passing the sutures so deep. The result had been perfect. Such an operation would prove of great benefit if we could thereby cure the disease and avoid dividing the sphincter muscle.

Partial Removal of the Uterus.—Dr. Emmet also related a case seen in consultation with Dr. T. H. Burchard. He first saw the patient, a woman sixty-eight years of age, in good general health, about November 20, 1884, when there was a condition of the cervical canal suggestive of malignant disease—probably commencing epithelioma. A surgeon who had seen the patient had expressed the opinion that the disease was limited in extent. Dr. Emmet advised an early operation, which was performed about the 24th of November, Dr. Burchard and his assistant and Dr. Harrison being present. Dr. Emmet's intention was to attempt to remove the diseased tissue by excising a V-shaped piece, but while he was proceeding with the operation, making a moderate degree of traction upon the uterus with the tenaculum, a rent took place, extending from one broad ligament to the other, and making a large opening in Douglas's *cul-de sac*. It was then found that the entire posterior wall of the uterus had become involved in the disease. He now made the incision through and back of the uterus, a little below the insertion of the tube, and forward nearly on a line with the dip of the peritonæum. When the upper part of the cavity of the womb was opened an ounce or more of pent-up pus escaped. Having reached healthy uterine tissue, he afterward removed a portion of the vaginal tissue in Douglas's *cul-de sac*, and then carefully brought together the peritoneal surfaces from one broad ligament to the other with silver sutures. The mucous membrane of the vagina was attached between the existing sutures in the peritonæum, and he also united the mucous membrane of the vagina to that of the uterus, forming a series of radiating folds. At the close of the operation the fundus of the uterus, which

was not more than an inch in depth, covered the roof of the vagina like the lid of a pot. To the surprise of all, the temperature rose only half a degree after the operation. It seemed very certain that, had the operation not been performed, peritonitis would have developed within two or three weeks.

Dr. T. H. BUCHARD (present by invitation) remarked that Dr. Delafield had examined the tissue and pronounced the disease epitheliomatous cancer.

Dr. NOEGGERATH thought the disadvantages of the ordinary operation for fistula in ano, as pointed out by Dr. Emmet, must have been recognized by every one. An English surgeon, whose name he could not recall, had performed an operation nearly similar to the one described, during which he curetted the fistulous tract and then sewed it up. The results had been the same as in Dr. Emmet's case.

Dr. W. R. GILLETTE thought the operation referred to by Dr. Noeggerath had first been performed by Dr. Jenks, of Detroit.

Dr. CHAMBERLAIN said he performed the operation described by Dr. Noeggerath last May, not knowing that it had been done before. The opening was well out on the buttock, and, after forcible dilatation, it seemed that the sinus would be long in filling up if the ordinary operation were performed. He therefore curetted the fistulous tract, removing all the pyogenic membrane, and united the edges with sutures passed by a highly curved needle. Union took place by first intention, and retention had been complete since the temporary paralysis from dilatation had passed away.

Dr. EMMET had performed the operation attributed to Dr. Jenks three years ago.

HENRY J. GARRIGUES, M. D.,
B. F. DAWSON, M. D.,
FRANK P. FOSTER, M. D., *ex officio*,
Committee on Publication.

Miscellany.

Deaths from Anæsthetics.—In a recent issue of the "British Medical Journal," Dr. E. H. Jacob reports the deaths from anæsthesia during the year 1884. Although the list is by no means complete, being limited to England and Scotland, it is sufficiently so to afford an indication of the general character of the cases. Nine deaths were due to chloroform, three to a mixture of chloroform and ether, while six were attributed to the use of ether alone. The writer notes that the deaths from chloroform took place during slight operations, the patients being comparatively healthy, while those from ether occurred in the course of serious operations (three being ovariotomies), so that the element of shock was also present. In the face of these statistics it is extraordinary to remark the tenacity with which the English cling to the more dangerous anæsthetic. In spite of the peril, which they are perfectly ready to acknowledge, chloroform still appears to them to possess decided advantages over ether. There seems to be a certain degree of pure stubbornness in this refusal to be convinced.

Mr. Thornton's Cases of Hysterectomy.—In the same journal Mr. Knowsley Thornton reports eighteen cases of hysterectomy with two deaths. He adopted the extra-peritoneal method of treating the pedicle in every instance, employing full antiseptic precautions. Mr. Thornton regards the spray as a great advantage, because "it enables us to perform an aseptic operation, and protects the patient during the early days, and until the peritonæum is sealed." He rightly lays stress upon the fact that the healing of the peritonæum is the first object to be attained, the sloughing of the extra-peritoneal portion of the stump being then attended with comparatively little danger. Comparing his own results with those of Dr. Keith, Mr. Thornton aptly remarks that, aside from Listerism or non-Listerism, there is "something more in the method of the individual surgeon which brings the success." We are not prepared to enter into a discussion of this interminable question, which seems to be (in London and Edinburgh at least) no nearer a solution than it was five years ago. Mr. Thornton's statistics at least prove that he is a remarkably successful surgeon, and that he certainly loses nothing by his extreme care.

Antiseptic Vaccination.—Dr. Moritz Bauer contributes a lengthy article on this subject to the "Centralblatt für die ges. Therapie." Reviewing the experiments of Sacco, who studied the development of the vesicle when exposed freely to the air and when hermetically sealed beneath a watch-glass, and those of Häger, who added a small quantity of corrosive sublimate to the virus, he affirms that the only real cause of septic infection in a vaccination-sore is previous impurity of the lymph, and that the most thorough antiseptic precautions can not eliminate this factor. After a series of carefully conducted experiments, he finds that the activity of the lymph is determined by the presence of a peculiar form of micro-organism (the vaccine-coccus), which assumes different forms, its earliest manifestation being that of groups of four. On assuming, as they do afterward, the form of chains, their activity seems to be diminished. But an absolutely pure lymph, says the writer, which does not contain other micro-organisms besides those mentioned, is very rare. In order to secure the best possible results, the utmost care must be observed in taking the lymph, the hands and instruments being thoroughly disinfected, while the air is kept as pure as possible. In preserving the lymph, not only must the ordinary precautions be taken to exclude warmth and moisture, but a reliable antiseptic should be added to it. In vaccinating, the lancet and arm should be rendered thoroughly aseptic, a weak solution of corrosive sublimate being recommended. The wound is to be subsequently dressed with carbolized gauze, which should be removed on the fourth day. The writer states that, as a result of these precautions, many of the unpleasant local consequences of vaccination are prevented.

THERAPEUTICAL NOTES.

Pelletierine in the Treatment of Tape-worm.—M. Bérenger-Féraud, of the French navy, has lately made an analytical study of many hundreds of cases of tape-worm observed in the naval hospitals ("Bull. gén. de thérap."). He concludes that the pomegranate is the remedy *par excellence*, and that the alkaloid pelletierine is much to be preferred to any crude preparation of the bark. To be reasonably certain of succeeding with it, however, it is absolutely necessary to observe certain minute details, which may be briefly stated as follows: The day before the attempt is to be made, the patient should be restricted rigorously to a diet of milk, cream, bread, rice, and eggs. Beginning at a certain hour the next morning—say six o'clock—the attempt is made to dislodge the worm. At that hour a dose is given consisting of an infusion of from one third to half an ounce of senna leaves in about three ounces of water, flavored with some aromatic syrup. The patient is to remain in bed. At seven o'clock he takes one half of his dose of pelletierine, the whole dose averaging six or seven grains of the tannate dissolved in syrup. After taking the first dose, the patient is to lie as still as possible, with his eyes closed, in order to reduce the nervous symptoms and the tendency to vomit. At half-past seven the remainder of the pelletierine is to be taken, and quietude is to be observed as before, with the eyes closed. At eight o'clock, provided there is no nausea, a purgative dose of castor-oil (proportional to the patient's susceptibility) is taken. He is still to remain quiet until the nervous disturbances and nausea have subsided. The desire to go to stool should be restrained as long as possible; if it does not occur soon, a purgative enema (of senna or sulphate of sodium) is to be given. In some cases it is well to give an enema of the sulphate of sodium and a decoction of pomegranate root. The vessel on which the patient is to sit should contain warm water, to lessen the liability of rupture of the worm when it has been partly expelled. On no account should the patient rise from the vessel until the whole worm has been voided, provided any part of it has appeared; and no traction should be made upon the worm. Partial or complete failure of the expulsion is best remedied by copious injections containing sulphate of sodium. In case vomiting occurs after one of the doses of pelletierine, more is to be given at once, the

amount being in inverse proportion to the length of time since the preceding dose was taken.

Faradization in the Treatment of Intestinal Obstruction.—M. Laborde (*Ibid.*) relates a case in which, the usual expedients having been tried in vain, one electrode of a Gaiffe apparatus was applied to the anus, and the other promenaded over the abdomen, the current being varied in intensity, for fifteen minutes. As this had no effect, the anal electrode was kept in place, and the other held steady on the hypogastrium. After an energetic current had been passed for ten minutes, gurgling was heard, and flatus was passed, followed by about a spoonful of a greenish liquid. The application was thereupon repeated, after which an enormous discharge of gas and fæces took place, and the patient was relieved at once.

Coniine as a Pelvic Anodyne.—In his inaugural address, the first president of the British Gynæcological Society, Dr. Alfred Meadows ("Brit. Gynæc. Jour."), said that, as an example of a pelvic anodyne, with special reference to the ovaries, he knew of none that could compare with conium, or, better still, with the alkaloid coniine, used as a vaginal pessary. In all cases, whether neuralgic or inflammatory, in which the ovaries are the seat of pain, he regards it as quite a specific, no drug that he knows of acting with equal certainty.

Potassium Bromide in the Treatment of Ovarian Menorrhagia.—The same author (*Ibid.*) said that every one would concede that potassium bromide exercised a most powerful influence upon the ovaries. No drug, in his experience, equaled it in controlling ovarian menorrhagia; it not only limited the flow in these particular cases, but seemed to exercise a distinct and controlling influence upon ovulation itself, decreasing its frequency.

Medicated Metal Bougies in the Treatment of Gleet.—Dr. T. J. Hudson ("Lancet") never uses injections, but employs silver sounds, anointed with various medicinal substances, which are to be retained in the urethra for periods varying from ten minutes to (in the most rebellious cases) four or five hours. The instrument is passed into the bladder, after urination. Carbolized oil (1 to 20), a compound of iodoform and resin ointment (2 drachms to the ounce), and iodide-of-sulphur ointment diluted with benzoinated lard are the preparations mentioned, Stress is laid on the length of time that the instrument is kept in position.

Euodia Longifolia as a Preventive of Abortion.—The "Lancet" quotes the "Pharmaceutical Journal" as stating that the leaves of the rutaceous plant *Euodia longifolia*, a native of Fiji, have been employed successfully by the native women as a preventive of abortion. An infusion is used for several months prior to the time for parturition. It is made by rubbing the leaves into a pulp with cocoa-nut milk, adding more liquid, and then straining, the resulting greenish mixture forming the medicine.

Urari in the Treatment of Tetanus.—At a recent meeting of the Surgical Section of the Academy of Medicine in Ireland ("Brit. Med. Jour."), Mr. McArdle read the notes of a case of acute traumatic tetanus in which doses of two thirds of a grain of urari, every fifth hour, resulted in a cure, the more remarkable effects being relaxation of the contracted muscles in from six to ten minutes, very rapid and tumultuous action of the heart, cyanosis, labored breathing, and dilatation of the pupils. Once the patient was sufficiently under the influence of the drug, the action of the bowels was regular. Mr. McArdle suggested its combination with pilocarpine, in the hope that the cardiac and respiratory trouble might be prevented. He also stated that it must be used in large doses and that its action was cumulative.

Simulo in the Treatment of Epilepsy.—Dr. Larrea ("Boletin Médico"; "Brit. Med. Jour.") recommends the treatment of epilepsy with simulo, the fruit of *Capparis cacuaca*, a plant indigenous to Peru, the medicinal properties of which have long been known to the Indians of that country. Melochara, a conserve made from an allied plant, is also used for epilepsy. About an ounce and a half of powdered simulo is mixed with a pint of sweet sacramental wine, and a wineglassful of the mixture is to be taken night and morning. When a lad, the author himself was cured with this remedy, and he states that he has used it extensively in epilepsy, hysteria, and other nervous diseases.

Antipyrine as a Preventive of the Pyrexia of Phthisis.—At a recent meeting of the Paris *Académie de médecine* ("Gaz. hebdom. de méd. et de chir.") M. Darenberg called attention to the use of antipyrine in phthisis. The drug should be used, he said, less to reduce the fever than to prevent it, and it should be given in large doses.

The Administration of Sulphide of Potassium.—To avoid the offensive odor of this drug, M. Pierre Vigier (*Ibid.*) proposes the following formula:

Sulphide of potassium, } Tincture of benzoin, }	each	1 part;
Distilled water		100 parts.

The mixture should be strained through linen, to avoid leaving bits of benzoin resin in it. Its odor is said to bear a close resemblance to that of the acacia flower. A different perfume, equally agreeable, is produced by replacing half the distilled water with rose-water.

The Treatment of Furuncles.—At a recent meeting of the *Société médicale des hôpitaux*, M. Gingeot (*Ibid.*) maintained that the formation of boils was not dependent on any diathesis, but was of parasitic origin. He uses an abortive treatment consisting of local applications of tincture of camphor or tincture of iodine, of which the latter is to be preferred. Several applications are to be made in rapid succession until the skin assumes a deep brown or blackish color. The author uses the sulphides, however, to overcome the disposition to successive crops of boils.

Antipyrine.—Much has been published of late concerning this drug, but we do not remember to have seen anywhere so much practical information given within a small compass as in the following, which we translate from a recent number of the "Progrès medical": Antipyrine is an alkaloid derived from quinoleine. Its hydrochlorate is a white powder, which turns yellowish-gray on continued exposure to the air. It is soluble in three parts of cold water, in half its weight of warm water, and in alcohol. Its taste is bitter, but less disagreeable and less persistent than that of quinine. It is a powerful antipyretic, having properties identical with those of kairine, but its action is more prolonged and much more decided, and it produces no alteration of the blood. The reactionary rise of temperature following the reduction caused by it is not accompanied by shivering. It sometimes gives rise to moderate sweats (which, however, according to M. Huchard, do not occur when it is given in doses of not more than seven or eight grains), vomiting, pharyngeal constriction, and a special rash, but collapse has not been observed. According to Arduin and Hénocque, it has antiputrescent and hæmostatic properties. It is eliminated with the urine, in which it may be detected thirty-six hours after its administration. Filehne, who first experimented with it, gave it in quantities of from seventy-five to ninety grains, in three doses an hour apart. Others have given as much as a hundred and fifty grains. For fear of collapse, it is prudent, however, to raise the dose only as the effects are observed. In the case of children it is advised to give a grain and a half for each year of the age. The intensity and rapidity of its action are increased by giving it hypodermically. The solution in half its weight of warm water preserves its clearness on cooling. Injections into the buttock cause only temporary pain, without any inflammatory reaction. The pain, however, is sufficient to have caused several experimenters to give up the hypodermic administration, and one of them, M. Huchard, thinks it less efficacious than giving it by the mouth. Dr. Pávay, on the other hand, has noticed no pain or sense of burning after the injections (into the gluteal muscles, followed by friction for a few minutes), and urges their use whenever the administration of the drug by the mouth is not available.

Cocainization of the Bladder.—Dr. P. Bruns, of Tübingen ("Berlin. klin. Woch."; "Lancet"), records a case of litholapaxy in which the bladder and the urethra had been rendered insensitive with cocaine. The bladder was first washed out with a boro-salicylate solution; then three hundred grains of a two-per-cent. solution of cocaine were thrown in, and half that quantity was injected into the urethra. After a few minutes the bladder was filled with the boro-salicylate solution, and the operation was proceeded with. Throughout its whole duration, twenty-two minutes, no pain was felt, although previously the passage of a catheter had scarcely been borne. During the evacuation, each distension of the bladder caused pain, but that was when the anæsthesia had already lasted for half an hour. Finally, a small quantity of a ten-per-cent. solution of iodoform in glycerin was injected, to protect the abraded bladder from purulent absorption.

PROCEEDINGS

OF THE

AMERICAN MEDICAL ASSOCIATION'S

NEW COMMITTEE

ON THE

INTERNATIONAL MEDICAL CONGRESS.

(By Telegraph.)

CHICAGO, *June 24, 1885.*—Pursuant to call, the American Medical Association's Committee on the International Medical Congress convened at the Palmer House, at 12.20 P. M., with the temporary chairman, Dr. R. Beverly Cole, and the temporary secretary, Dr. John V. Shoemaker, in their places; also the following gentlemen: Dr D. A. Linthicum, Helena, Ark.; Dr. George A. Ketchum, Mobile; Dr. A. Y. P. Garnett, Washington; Dr. William E. Duncan, Ellendale, Dakota; Dr. Robert Battey, Rome, Ga.; Dr. E. P. Cook, Mendota, Ill.; Dr. F. W. Beard, Vincennes, Ind.; Dr. D. W. Stormont, Topeka, Kan.; Dr. W. H. Wathen, Louisville; Dr. A. H. Wilson, South Boston; Dr. A. R. Smart, Hudson, Mich.; Dr. N. F. Essig, Plattsburg, Mo.; Dr. John S. Lynch, Baltimore; Dr. George F. French, Minneapolis; Dr. William Pierson, Orange, N. J.; Dr. J. W. S. Gouley, New York; Dr. E. Eliot, New York; Dr. X. C. Scott, Cleveland; Dr. I. Minis Hays, Philadelphia; Dr. F. L. Simm, Memphis; Dr. J. W. McLaughlin, Austin; Dr. E. F. Upham, West Randolph, Va.; Dr. Nicholas Senn, Milwaukee; Dr. G. Baird, Wheeling; Dr. John S. Billings, Washington, U. S. A.; Dr. John B. Hamilton, Washington, U. S. Marine-Hospital Service. Dr. French moved, duly seconded, that Dr. N. S. Davis, father of the American Medical Association, and Dr. William Brodie, president of same, be invited to seats during the deliberations of this committee. Dr. Eliot asked why they should be invited any more than others. Dr. Simm thought that if the invitation was extended to one, it should be to others who were equally distinguished. Regarding Dr. Brodie, some thought that he was already a member. The resolution passed at New Orleans said the president-elect should be a member *ex officio* of this committee. Dr. Cole thought the resolution was intended for Dr. H. F. Campbell. Dr. Battey inquired which gentleman the resolution was intended for, Campbell or Brodie. Dr. Wathen thought the gentlemen invited should be made exceptions of, as one was the editor of the association's journal and the other the president. Dr. Battey thought their advice and counsel would be valuable and was in favor of admitting them as guests. Dr. Smart said: If the president of the American Medical Association was a member *ex officio*, he had a right to be present and needed no invitation. Dr. Billings said that the original intent of the resolution was for Dr. Campbell and for no one else. He was in favor of inviting Dr. Davis and Dr. Brodie as guests of the committee, but, if they were admitted, he thought that they should not vote. The motion was then carried, and Dr. French and Dr. Billings were appointed a committee to escort Dr. Davis and Dr. Brodie to the hall.

The secretary read Dr. Flint's resignation. Dr. Battey said that while he regretted to lose the wise counsel of Dr. Flint yet he desired that his resignation be accepted, and that his proxy as a member of the committee be accepted. Dr. Smart asked that the action of the association at its meeting in New Orleans defining the power of those present in this direction be read before he voted, which was accordingly done although, as was stated by the chairman, it was not a part of this committee's work. Dr. Billings said it gave the committee of thirty-eight power to fill vacancies in their own number, but, if any of the original seven resigned, this thirty-eight could not fill the vacancy. He moved to lay the acceptance of Dr. Flint's resignation on the table, which was seconded by Dr. Wilson. Dr. Hamilton thought that the entire number now constituted the committee. The president said as he understood it, the thirty-eight were added to the seven, therefore the whole number now constituted the committee and the original number had become an integral part of it. Dr. Billings, with the consent of his seconder, then withdrew his motion, and the motion to accept Dr. Flint's resignation was carried unanimously. Dr. Hamilton moved, duly seconded, that Dr. Gouley be appointed a member of the committee in Dr. Flint's place. Carried. Dr. E. P. Cook said that he had a letter from Dr. Charles Denison, of Denver, stating that he was unavoidably absent, and that he desired Dr. H. A. Johnson to represent him. If Dr. Johnson could not accept, then he desired Dr. Cook to be his proxy. As Dr. Johnson was out of the city, Dr. Cook inquired if he could represent Dr. Denison. Dr. Battey then offered the following resolution: "That it was the sense of the committee that in the absence of members from its meeting the vacant places should be filled, if at all, by members of the American Medical Association for the vacant States or Government departments." Dr. Linthicum moved, as an amendment, that no proxies be received. Carried. Dr. Battey's resolution also prevailed. The secretary then read the minutes of the informal meeting of the committee that was held in New Orleans, which were adopted without correction. Dr. Hamilton, duly seconded, moved that the present temporary officers of the organization be made the permanent officers. Dr. Wilson moved that the voting be done by ballot. Dr. Cole and Dr. Shoemaker invited Dr. Lynch and Dr. Garnett to their places while they retired temporarily from the hall. Dr. Watson, of Iowa, offered as a substitute that the meeting proceed to take an informal ballot for president and secretary of the organization. Dr. N. S. Davis explained the facility with which a formal ballot could be taken after first taking an informal vote. Dr. Baird as a substitute moved that the meeting proceed to elect permanent officers by ballot. The latter was adopted. Dr. Cole was placed in nomination by Dr. Gouley. Dr. Lynch was nominated by Dr. Ketchum, resulting on the first ballot in Dr. Cole receiving 12 votes, Dr. Lynch 12 votes, Dr. Flint 1 vote, Dr. Hamilton 1 vote, Dr. Battey 1 vote. Total, 27 votes.

A second ballot was then taken, in which Dr. Cole received 13 votes, Dr. Lynch 14 votes, Dr. Battey 1 vote. Total, 28 votes, with no election.

A third ballot resulted as follows: Dr. Cole received 17 votes, Dr. Lynch 11 votes. Total, 28 votes.

Dr. Cole was declared elected permanent chairman. He stated that he would do his best to have the congress of 1887 a successful one. He was with no clique, and was one of all the members. He returned thanks for the honor thus conferred upon him, and would attend the committee's meetings, no matter what the cost might be to him, if his health permitted him to do so. Dr. Gouley thought that they should have a vice-chairman, and moved, duly seconded, that Dr. Lynch be made first vice-chairman, which was done by the vote of the secretary. Dr. Gouley nominated the present temporary secretary for the permanent officer of the committee. Others placed in nomination were Dr. Garnett and Dr. Billings, with one or two scattering votes, and Dr Shoemaker received 16 out of 26 votes on the first ballot, and was declared permanent secretary. Dr. X. C. Scott offered the following resolution: "That the chair appoint a sub-committee of nine to prepare a revision of the rules and preliminary organization of the Ninth International Medical Congress, as published at Washington in 1884, and that this sub-committee report their revision to the Committee of Arrangements during its afternoon or evening session on this 24th of June, 1885." Carried. Dr. Gouley moved, duly seconded, that the future quorum be fifteen. Carried. The chair appointed Dr. Scott, of Ohio; Dr. Wathen, of Kentucky; Dr. Billings, U. S. Army; Dr. Shoemaker, of Pennsylvania; Dr. Hamilton, Marine-Hospital Service; Dr. Upham, of Vermont; Dr. Gouley, of New York; Dr. McLaughlin, Texas; and Dr. Linthicum, of Arkansas, the sub-committee. In accordance with the resolution offered by Dr. Scott, Dr. Simm suggested that the delegates from the different States be consulted in regard to the proper person to select from said States, and that absentees holding proxies be also consulted in regard to appointments in said States as were empowered to act for them by said proxies. Dr. Wilson

moved, duly seconded, that members of this committee, who might desire, be invited to come before the sub-committee and make such suggestions regarding appointments from their States or Territories as they regarded proper. Carried. The committee adjourned until 7.30 P. M.

7.50 P. M.—President Cole presiding. Reading of minutes was dispensed with. Dr. Scott reported that the sub-committee had prepared only a partial report on rules governing the association, and asked that the committee be given further time, which, upon vote being taken, was granted. Dr. Garnett presented an opinion by Mr. Randall, Ex-speaker of the United States House of Representatives, relative to the legal status of the committee now in session. Some members of the American Medical Association having expressed the opinion that the present committee, which was appointed at the New Orleans meeting, was legally entitled to supersede the original committee of seven appointed at the Washington meeting, 1884. The opinion indorsed the action of the association. A motion was made by Dr. Hamilton that this opinion be ordered printed in the journal of the association. Dr. N. S. Davis said his opinion had already been published regardless of lawyers, which was in accordance with Mr. Randall's views. However, he had no objection to publishing it; it was so ordered. Adjourned until 9 A. M. Thursday.

The foregoing is all that has reached us at the hour at which we are obliged to go to press.—EDITOR.

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ON THE USE OF GALVANISM IN CHRONIC DISEASES OF THE PHARYNX.*

BY E. L. SHURLY, M. D.,
DETROIT.

You will doubtless remember that at the Congress of 1880 I presented a short paper calling attention to the use of galvanism in the treatment of pharyngitis sicca. At that time I had had but a limited experience with this agent in such conditions, but since then I have used galvanism in a number of cases with, I think, such good results as to justify me in again calling your attention to the subject. The difficulties which I then narrated as attending the use of electrodes in the pharynx can be much reduced through the use of cocaine, and therefore this treatment is practicable for almost any person. I believe it is very generally confessed that our knowledge of the pathology and pathogenesis of the chronic affections of the pharyngeal mucous membrane is far from exact or complete.

Certain well-recognized features or symptoms, such as habitual engorgement, hypersecretion, glandular enlargement with or without paucity or perversion of secretion, constituting the local manifestations of many cases which present themselves to us, and which, I am sorry to say, puzzle us in the selection of the proper means for amelioration. That some of these conditions of the pharynx—chronic engorgement, hypersecretion, etc.—are often only local expressions of a derangement of the stomach, the intestinal canal, or possibly some more remote organ, is well known and does not surprise us, since the anatomical and physiological connection or relationship between these organs and the pharynx is probably intimate. We also meet with neuroses of the pharynx—hyperæsthesia, spasm, paræsthesia, etc.—which are dependent upon derangement either of these same organs or the genito-urinary or mental apparatus, all of which require little or no local treatment. But, besides this class of cases, there are certain organic lesions of the pharyngeal mucous membrane which can not be traced to any particular disorder of the neighboring or remote organs or glands, which are characterized by changes such as glandular hypertrophy, general hyperplasia, hypersecretion with or without extraordinary epithelial development, atrophy with diminished secretion, etc. It is to these that I wish particularly to call your attention.

They constitute changes which may be regarded as trophic, and which, however inexplicable, must be regarded as distinct local disorders. In my mind there has long been a conviction that glandular hypertrophy and atrophy with or without persistent extra secretion and without much organic change in the membrane are due to a perversion of function of the nervous apparatus distributed to the pharyngeal region. It does seem impossible that the mere mechanical effect of infiltration or interstitial deposit can account altogether for the wasting of the membrane. Likewise does it seem impossible that the disagreeable symptoms of typical pharyngeal disease, even when associated with thickening or wasting of the glandulæ, etc., can be fairly attributed to ordinary inflammation and its consequences, because we often find people with throats presenting such appearances, even to a considerable degree, who do not complain of inconvenience nor show disturbance of the nutrition of the part. Therefore it would seem probable that some of these conditions must be at least regarded as distinct local disease having for its origin some nutritive abnormality antecedent to the inflammatory changes; and may we not find a possible explanation in the supposition of metabolic derangement through a disordered trophic function of the hypoglossal, pneumogastric, or sympathetic nerves?

Considering the analogy between the functions of the hypoglossal and the fifth, and the facts already demonstrated regarding the trophic influence of the latter nerve, this hypothesis would seem to gain support. However, the light of further investigation may show that, instead of the hypoglossal, either the pneumogastric or sympathetic, or both, may be the reigning influence in the nutritive changes of the pharyngeal mucous membrane; but, whichever may be the case, the result is the same. Acting upon the foregoing theory, I have been led into the employment of different agents for local use, with a view of counteracting this perverted trophic influence; but, of all the agents used, I think I have obtained more lasting effects from galvanism. Many of the local stimulant applications, while certainly valuable, are soon followed by a reaction which shows the excitement to have been only of short duration and in no wise of vital character. But with the galvanic current I think I have found much more enduring effects; for example, the mucous membrane remains in many cases of a vivid color and bathed in a quite fluid secretion for a number of hours after the application, and, moreover, leaves a sensation of heat and pliability—in cases of atrophy—which the patients describe as slightly exhilarating. The effect of the application is sometimes felt in adjacent parts—such as the cervical region. One of my patients states that the sensation of heat always remains in his throat for about forty-eight hours. After a few applications the sense of dryness and the collection of desiccated secretion in and about the naso-pharynx, which occur in the severer forms of chronic naso-pharyngeal disease, very sensibly lessen. In cases of engorgement accompanied by hypersecretion the result of this treatment has been quite efficient. Also in distinctly neurotic conditions—such as paræsthesia—I have had good effects from galvanism.

I usually pursue the following method, viz.: First wash off the surface of the membrane, by means of a spray or posterior douche, with a solution of common salt or other appropriate fluid; then apply a four-per-cent. solution of cocaine hydrochlorate, and, after an interval of about five minutes, apply the electrodes (which I here show you), one through the nasal passage and the other to the posterior and lateral wall of the pharynx, moving them both rapidly but gently over the surface, being careful to keep them

* Read before the American Laryngological Association, June 24, 1885.

closely applied. I generally connect the electrodes with two cells (increasing to four or five) of a battery composed of the improved Leclanché cells. The electrodes are not covered, but naked, unless it is desired—as in cases purely nervous—to apply one electrode to the side of the neck, when that is covered. Gagging and muscular movements require the removal of the instruments, after a few seconds, for a short period of repose, when they are reapplied perhaps four or five times, according to the tolerance of the patient and the sensible effect produced. The *séance* may be repeated two or three times a week, as may seem advisable. I have experienced the greatest difficulty from the intolerance of the parts in question to the manipulation, but, as before mentioned, the use of cocaine has afforded, in the majority of cases, the desired tolerance. However, as might be expected, the drug to a certain extent antagonizes the effect of the galvanic application, and must be compensated for either by a longer or more frequent manipulation. In some cases one thorough treatment a week will prove sufficient.

Of course, it is not expected that this, any more than any other, plan of treatment will restore already destroyed tissue, but that it is competent to arrest those metamorphoses which finally result in either the loss of glandular as well as other elements of the membrane, or the substitution of adventitious for the normal tissues, I firmly believe, in view of my experience with it. The period of time required for reaching permanent results will vary, of course, according to the kind of case and the state of chronicity presented. The only therapeutic theory which I have to offer is a very commonplace one, viz., the restoration of the nutrition and normal secretion of the parts through the direct application of the electric fluid to the terminal nerve-filaments.

THE RESPIRATORY FUNCTION OF THE HUMAN LARYNX.*

FROM EXPERIMENTAL STUDIES IN THE PHYSIOLOGICAL LABORATORY OF HARVARD UNIVERSITY.

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The human larynx has two principal functions: (*a*) The respiratory, (*b*) the phonatory. They are mentioned in the order of their importance, for, while the muscles concerned in phonation, supplemented by other constrictors, are charged with the additional duty of closing the laryngeal aperture to protect the air-passages from the entrance of foreign bodies, yet it must be conceded that, whether employed in phonation—marvelous as this function is—or brought into action to exclude some foreign substance, the part performed by these constrictors is entirely subordinate to that of the respiratory muscle of the larynx, whose office is to hold the glottis open in order to insure an uninterrupted passage of air to and from the lungs.† Nevertheless, it is this important muscle which is not only the chief among the intrinsic muscles of the larynx, but also one of the most essential of the whole body—a muscle, be it remembered, of *organic life**—that many writers would have us believe has a special tendency to succumb to disease. Gerhardt, in his well-known paper,† was perhaps the first to speak of unilateral paralysis of this muscle (the posterior crico-arytenoid) as the most innocent of all forms of laryngeal paralyses. He points out that neither the voice nor the respiration is impaired in such lesions. Schech‡ writes in the same strain, and believes that, as the voice and quiet respiration are not affected in these instances, this circumstance accounts for their having escaped more frequent mention. Two prominent exponents of this theory (Rosenbach* and Semon‖) have stated that in central or peripheral affections where the filaments of the recurrent laryngeal nerve are compressed, the fibers innervating the respiratory muscle are earlier affected than those going to the phonatory muscles; that this is in accordance with the well-ascertained fact that, in central or peripheral nerve lesions, the extensor muscles△ are more readily paralyzed than the flexors; that there is a "proclivity of the *ab*ductor fibers of the recurrent laryngeal nerve to become affected sooner than the *ad*ductor fibers, or even exclusively, in cases of undoubted central or peripheral injury, or disease of the roots or trunks of the pneumogastric, spinal accessory, or recurrent nerves." Another author◊ has recently gone so far as to say that the vulnerability of these *ab*ductor fibers is a fact upon which all observers are now agreed.

We hazard the opinion, notwithstanding, that if we investigate this complicated subject from a somewhat different point of view—one not strictly clinical—we may discover certain reasons why one should not subscribe unconditionally to this conception of the pathology of laryngeal neuroses. We propose, therefore, to inquire into the truth of this problem purely from an anatomical, physiological,

* Read before the American Laryngological Association, June 24, 1885.

† The intrinsic laryngeal muscles are in pairs except one, the transverse arytenoid. The posterior crico-arytenoids are the respiratory muscles. The phonatory muscles, which, like the respiratory muscles, are attached to the arytenoid cartilages, are the internal thyro-arytenoids, the lateral crico-arytenoids, and the transverse arytenoid. These phonatory muscles are, when it is necessary, brought into action solely to close the glottis and not for the purpose of phonation. Under these circumstances they are supplemented by the muscles which compose the aryteno-epiglottidean folds, and which, together with certain other muscular fasciculi, may be classed as the sphincter group—the constrictor vestibuli laryngis. The thyro-cricoids are also phonatory muscles; but with these, on account of their anatomical situation, we have nothing to do in this paper.

* By this expression we refer to the normal automatic character of the muscular action, and not to the microscopic structure of the muscle itself.

† "Studien u. Beobachtungen über Kehlkopflähmung," Virchow's "Archiv," vol. xxvii, p. 88, 1863.

‡ "Experimentelle Untersuchungen über die Funktionen der Nerven und Muskeln des Kehlkopfes," "Zeitsch. f. Biologie," Band ix, p. 258, 1873.

* "Bresl. ärztl. Zeitschr.," Nos. 2–3, 1880; "Berlin. klin. Wochenschr.," No. 17, 1884; Virchow's "Archiv," Band 99, 1885.

‖ Mackenzie, "Diseases of the Throat and Nose," German edition, 1880; "Arch. of Laryngology," vol. ii, No. 3, 1881; "Berlin. klin. Wochenschr.," Nos. 46–49, 1883; *Ibid.*, No. 22, 1884.

△ To this assumption that the posterior crico-arytenoid muscles are *extensors* we shall recur.

◊ Gottstein, "Die Krankheiten des Kehlkopfes," p. 192, Wien, 1884.

and experimental standpoint. This being, then, in no sense, a clinical paper, clinical evidence will not be offered, although the writer's experience is far from being in accord with the dictum that the nerve filaments which preside over the most useful and important function of the larynx should be especially prone to have that function arrested. The superior laryngeal nerve, and the median laryngeal, recently described by Exner,* need not in this study concern us. The only other nerve, as far as we know to-day, going to the intrinsic muscles of the larynx is the inferior or recurrent laryngeal. This nerve, according to our present knowledge, is purely motor, † and supplies all the intrinsic laryngeal muscles except the longitudinal tensors, the thyrocricoids. It is an anatomical fact that it does not send off any branches to these muscles until it has reached the border of the cricoid cartilage. In its trunk, therefore, are contained two sets of nerve fibers—the respiratory and the phonatory—which must necessarily be strictly differentiated, since they are destined for muscles which carry on two separate and distinct functions. Now, where do these two sets of nerve filaments come from; is their origin as distinct as their function; whence do they derive their separate individualities; which are relatively or numerically the stronger?

The sources from which nervous impulses for the larynx may be received are the brain, the medulla oblongata, and the spinal cord. The channels through which they may be transmitted are the several motor nerves which join the pneumogastric before the recurrent is given off, for we are aware that from this point the recurrent proceeds to the larynx without any branch or junction which is in any way connected with the functions of that organ.

The experimental researches of Krause,‡ and the clinical observations of Delavan,* justify the belief that there is a center of motion for the larynx in the cortical substance of the brain. It is also probable, as advanced by many, that the several nerve filaments of the recurrent laryngeal may have independent ganglionic centers somewhere in the brain or medulla. Let us now follow down the real motor nerve tract of the larynx from the medulla oblongata to the point of exit of the recurrent laryngeal from the pneumogastric, and enumerate the different nerves which, from what we know positively or imagine hypothetically, may in any way influence either of the functions of the larynx. In so doing we shall adopt Longet's classification,‖ who divided them into the *direct* and the *indirect*. Starting, then, at the medulla, we name as the direct communications to the pneumogastric the internal branch of the spinal accessory, the facial, the hypoglossal, and the anterior branches of the first and second cervical. The sympathetic may also furnish some direct fibers. Under the head of indirect nerves—namely, those which join the pneumogastric after having previously passed through the sympathetic ganglia—we have all the branches of the cervical below the second, and those of the dorsal nerves situated, of course, above the point where the inferior laryngeal shoots off from the pneumogastric to run its backward course to the laryngeal muscles.

Our knowledge of the part played by these different nerves in the performance of the functions of the larynx is now, and, from the inherent difficulties of the problem, must for a long time to come remain, unsatisfactory. The mass of contradictory statements which one encounters in working up a subject in any way connected with the respiration, and consequently with the pneumogastric nerve, is a sufficient admonition against too positive and dogmatic assertions. We approach this question, therefore, with reserve, admitting, as we must, that a great part of the subject is yet hardly beyond the confines of plausible conjecture.

It is pretty certain, however, as determined by the reliable experiments of Bischoff,* Longet,† Cl. Bernard,‡ and Schech (*loc. cit.*), that the spinal accessory is a purely motor nerve presiding over phonation, and having nothing to do with the respiratory function of the larynx.# That there may be other phonatory fibers in the pneumogastric we can not gainsay. Now, how is the respiratory function innervated? Probably in many different and complex ways, in accordance with the truth of the physiological law enunciated by Longet.‖ "Les moyens d'innervation propres à entretenir le jeu d'un organe se multiplient en raison de son importance physiologique." The posterior crico-arytenoids—the respiratory muscles of the larynx—are paramount to all the rest in physiological importance. From many sources they re-

* "Die Innervation des Kehlkopfes," "Sitzungsb. d. k. Akademie d. Wissenschaften," Band 89, Abth. iii, 1 u. 2 Heft, 1884.

† We are aware that some have stated, but without giving experimental data to substantiate the assertion, that the recurrent contains sensory as well as motor fibers. We have not the space here to dwell upon our own experiments to determine this point, but they justify our remark that the recurrent is "purely motor."

‡ "Ueber die Beziehungen der Grosshirnrinde zu Kehlkopf und Rachen," "Sitzungsberichte der kgl. preuss. Akad. der Wissensch. zu Berlin," November, 1883.

* "On the Localization of the Cortical Motor Center of the Larynx," New York "Med. Record," February 14, 1885.

‖ "Traité de physiologie," vol. iii, p. 512, Paris, 1869.

* "Nervii accessorii Willisii anat. et physiol.," Heidelberg, 1832.

† "Rech. expérimen. sur les fonctions des mus. et des nerfs du larynx," etc., "Gaz. méd. de Paris," 1841.

‡ "Fonctions du nerf spinal," etc., "Leçons sur la physiologie et la pathologie du système nerveux," tome ii, Paris, 1858.

Experimental physiology teaches us that if we cut the recurrent nerves of a kitten or a puppy a few days old it immediately dies of suffocation, which is not the case in old animals. The reason of this, as originally explained by Legallois ("Expériences sur le principe de la vie," Paris, 1812), is because in very young animals the cartilaginous portion of the glottis is but slightly developed, and, the soft and yielding parts not being held in position by the muscles, the laryngeal walls are sucked together by the inspiratory effort, and the laryngeal aperture is accordingly completely closed. Cl. Bernard showed that section of the spinal accessory in a kitten five weeks old was followed by aphonia, but glottic respiration remained free. Two days afterward, the kitten having remained well but voiceless, its recurrents were cut, when it instantly died asphyxiated. He concludes from this that the pneumogastric has a motor power independent of the spinal accessory which permits the animal to breathe after the latter has been cut; or, in other words, the larynx is a vocal organ when excited by the spinal accessory, and a respiratory organ when under the influence of the pneumogastric, or more probably of other motor nerves associated with it. In certain animals, as the chimpanzee, the internal branch of the spinal accessory does not blend with the pneumogastric, but goes direct as a separate nerve to the larynx.

‖ "Traité de phys.," vol. iii, p. 517, Paris, 1869.

ceive an abundant nerve supply, which is to protect them from disease, not to open up new channels by which harm might come to them. With others we assume that there are independent ganglia in the central nervous system which are essentially their own. Being respiratory muscles, it is more than probable that they may receive nerve force from such respiratory nerves as the facial, the hypoglossal, and the others already mentioned which run into the pneumogastric. But in this connection we must quote Longet's own words:* "Si la phonation, fonction secondaire et accessoire, dépend d'un nerf unique et disparaît avec lui, la dilatation respiratoire de la glotte, si essentielle, si indispensable à la conservation de la vie, est sous la dépendance ou plutôt sous la protection de nerfs multiples qui, dans certains limites, peuvent se suppléer les uns les autres. Aussi, comme je l'ai déjà fait remarquer, précisément avant de donner origine aux récurrents qui animent les muscles crico-aryténoïdiens postérieurs, voit-on les pneumogastriques emprunter des fibres motrices à des nerfs qui tous interviennent dans la respiration."

Summing up what has preceded, we can say that it all points to the conclusion that the respiratory nerve filaments contained in the recurrent laryngeal are derived from a greater variety of sources than the phonatory.

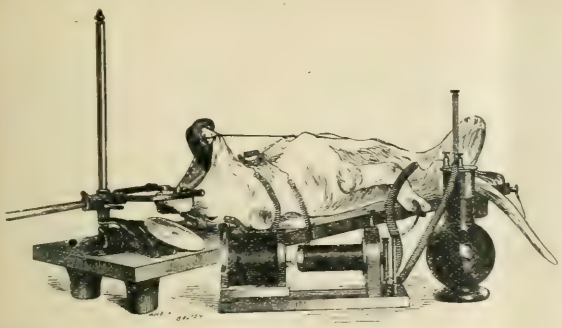
We pass now to the experimental evidence bearing on this point. It is a fact, familiar to all, that if anything other than air finds its way into the larynx it produces, by reflex action, a sudden closure of the glottis. It is equally certain that, under normal conditions, the same contraction of the laryngeal muscles may be instantly called forth by direct stimulation of one or both of the recurrent nerves. Now, it may with reason be asked, How is it that this constricting action of the phonatory muscles is brought about if it be true that the nerve fibers animating the dilators of the glottis are the stronger and the more numerous? Why should we not get *ab*duction of the vocal bands instead of *ad*duction on irritating the recurrent nerves? The phonatory muscles are to the respiratory muscles as five to two, and the closure of the glottis has always been ascribed to the superior numerical strength of these constrictors. Yet if we compare, bulk for bulk, the muscular fibers which compose the five muscles of phonation with those of the two respiratory muscles, we do not find that they are much, if any, in excess of the latter, and we venture to think that there is some other factor concerned in this phenomenon apart from mere muscular force. It may be sought, perhaps, in this important difference between the respiratory and the phonatory function of the glottis—namely, that, while the respiratory muscles are ever on the alert, holding the glottis open during the entire healthy life of an individual, in his waking as well as in his sleeping hours, the phonatory muscles, on the other hand, are more dependent upon the *consciousness* of the individual in order to respond to any irritation. To explain: The phonatory function of the phonatory muscles could, as far as life is concerned, be dispensed with. Not so their constricting action with the view of excluding the passage of foreign bodies to the lungs. The constrictor muscles of the larynx are the sentinels who guard the approach to these vital organs. But they cease to act if the animal is in profound narcosis; they are asleep, so to speak, on their watch. A man in the condition known as "dead drunk," lying, let us suppose, on his back with his mouth open, would offer no obstacle to prevent any living insect that chanced his way from crawling in and out of his mouth, or meandering round in his larynx *à volonté*, without exciting reflex contraction of its muscles. The power of ether, chloroform, and other anæsthetics to impair the action of these constrictors is too well known to need mention. To carry this line of thought a little further, should we not expect that, provided we could preserve the organic life of an animal while its volition was at the same time completely abolished—should we not expect, we ask, under these circumstances, to get a dilatation of the glottis on irritating the recurrent nerves instead of a closure, for the posterior crico-arytenoid muscles are muscles of organic life? Indeed we believe we should, and we submit the following experiments in support of that belief. In performing the experiments the writer has had the advantage of the collaboration of Professor Henry P. Bowditch, to whom he would express his thanks. With one exception, when a horse was the subject of an experiment, the animals used were dogs, the proper selection of which for studies in experimental laryngology is highly important. If a dog is either very old or very large he is most unsatisfactory, if not absolutely worthless. He should be small and young; the breed is of no consequence. By arranging him in the following manner a perfect view of the glottis can be obtained: After being thoroughly etherized, he is secured on his back to a dog-holder. A longitudinal incision is made in the skin covering the larynx, the fascia is divided, and the muscles are drawn aside. The larynx and trachea are thereby brought into view. One or both of the recurrent laryngeal nerves may now be exposed. The mouth is held open by the upper jaw being firmly attached to the cross-bar of the dog-holder, while a cord, tied round the lower jaw and secured to any fixed point, keeps the jaws separated to the extent desired. If the animal is placed before a window, the light is transmitted through the wall of the trachea, illuminating the glottis below, while the ordinary head reflector throws the light in through the open mouth from above. The tongue may be stretched up over the lower jaw and secured to the skin by a thread. The epiglottis may be either tied up by a string passed through its tip, or held up by an instrument suitably curved, having a long handle. The accompanying picture, taken from a photograph of a dog in readiness for experimentation, may serve to make our description somewhat clearer. The animal is here shown under conditions by which both recurrents could be stimulated simultaneously.*

The phenomenon of an irritation applied to the recurrent laryngeal nerve producing an *ab*duction of the corresponding vocal band was first observed by accident. A

* *Loc. cit.*, p. 518.

* For the sake of completeness of the figure, the primary coil is represented as connected with a small bichromate cell, but in practice it was connected with a Grove cell in a battery-closet. The induction apparatus is the one described and figured in the "Proceedings of the American Academy of Arts and Sciences," October 12, 1875.

small dog, of no particular breed, of an age estimated at about ten months, as it still had some of its puppy teeth, was being prepared for a different order of research. On



looking for the left recurrent nerve, it was not found in its proper anatomical situation, but two small nerves were discovered near by. As it was doubtful what these two branches were, or whether they went to the larynx at all, a shielded electrode was placed on the outer and larger nerve, and, while the vocal bands were watched through the mouth, it was irritated. The very unexpected result of the stimulation was a forcible *ab*duction of the left vocal band. Dr. J. W. Warren, assistant in physiology, was requested to come and witness this unusual sight. The ether sponge had been removed from the dog since the beginning of the experiment, and by the time Dr. Warren was ready to look at the larynx the animal was somewhat out of its influence.* At all events, on stimulating the nerve a second time, the familiar closure of the glottis was manifested instead of the dilatation so evident a few moments before. On the assumption that the degree to which the animal was narcotized might have something to do with these phenomena, a large quantity of ether was again administered. After the dog was profoundly under its influence, the nerve was irritated a second time, when both Professor Bowditch and Dr. Warren observed the *ab*duction of the vocal band, which was more marked in proportion as the stimulation was more intense. On removing the anæsthetic the dilatation became less and less as the animal regained its consciousness, when finally a contraction of the glottis supervened. The different stages in this experiment were readily followed by watching the dog's vocal bands while, at the same time, the recurrent nerve was irritated at intervals of a few moments. Between extreme dilatation and forcible contraction, under these circumstances, there seemed to be a neutral point, so to speak, when the stimulation produced merely a vibratory movement of the vocal band; but this was soon succeeded by an attempt at contraction, and this in turn passed into a frank and decided closure of the glottis as the animal, as before mentioned, came out of the effects of the ether. Similar results followed stimulation of one or the other of the divisions of the left recurrent nerve. These branches, as was shown by subsequent dissection, and as you will see on the specimen, united into one nerve fifteen millimetres below the cricoid cartilage, and from this point to the larynx it is a single nerve. The effects of irritation applied to the right recurrent (which was single) agreed with those on the left. Stimulation was effected by means of an ordinary induction apparatus,* the intensity varying from 1 to 40. In general, however, in this and in subsequent investigations on other dogs, the intensity used was from 1 to 8, never over 10, and generally about 3. The experiment many times observed on this animal was repeated, with confirmatory results, on eight different dogs. But the extent and the force, it must be mentioned, with which the vocal bands were *ab*ducted differed in different dogs. In five instances the arytenoid cartilage was rotated outward so forcibly that the vocal band lay flat against the wall of the larynx. Moreover, in one case there was a marked *ab*duction of the vocal band on the opposite side. In other dogs a *mixed* movement was observed—that is, the band approached the median line anteriorly, while a simultaneous contraction of the posterior crico-arytenoid muscle took place posteriorly, which left, in the respiratory portion of the glottis, a large triangular opening, the glottic picture resembling an exaggerated form of paralysis of the arytænoidæus transversus muscle. These phenomena were observed after the recurrent nerve had been cut and its peripheral end stimulated as well as when the nerve was intact. Usually when a young dog is under ether the vocal bands are seen moving rhythmically and regularly with respiration. Occasionally, in this condition of profound narcosis, we noticed that, although the animal was breathing, the respiratory excursions of the vocal bands had entirely ceased, the glottis remaining widely dilated. As soon as the respiratory movements had recommenced, irritation of the recurrent nerve was followed by the usual *ab*duction of the vocal band, an action we have become accustomed to regard as the normal one, *provided* the consciousness of an animal is completely abolished by sulphuric ether. The most striking demonstration, however, of this dilatation of the glottis is obtained by placing an electrode on each of the recurrent nerves and irritating the two nerves at the same time. Both arytenoid cartilages are now rotated simultaneously outward, the glottis is held widely open during the stimulation, and the effect is one not soon to be forgotten. Krause † has noticed the difference in the mobility of the vocal bands according as the animal was more or less narcotized. Just in proportion as consciousness was deadened, the *ad*uctors became sluggish. We have repeatedly observed the same effect when the dog was under morphine, chloral, or chloroform, but we failed with all these agents to obtain the total abolition of the action of the constrictors, on irritating the recurrent nerves,

* Not in any of these experiments sufficiently to feel pain.

* The electrical apparatus was the same as that used by the writer in former experiments, to which the reader is referred for an explanation of the terms employed. (See "Experimental Researches on the Tension of the Vocal Bands," "Trans. of the Amer. Laryngological Association," 1883, p. 121.)

† "Experimentelle Untersuchungen und Studien über Contracturen der Stimmbandmuskeln," Virchow's "Archiv," Band 98, 1884.

which is so marked when large quantities of ether, which can be given with safety, are administered.

From the enormous development of the respiratory laryngeal muscles of the horse we conjectured that their contraction might be even more easily called forth than that of a dog's. In this we were disappointed in the single experiment we have performed on this animal. Chloroform was the anæsthetic used. An incision was made in the thyro-cricoid membrane, through which the finger was inserted and directed between the vocal bands. On irritating the recurrent nerve the finger was tightly squeezed by the contracting glottis. It is probable, however, that if ether had been employed instead of chloroform, and the horse thoroughly saturated with it, we should have felt the glottis dilate and not contract. We were indebted to the Harvard Veterinary College for this observation, and chloroform, for reasons of convenience, is the only anæsthetic used in that institution.

With a view to ascertaining whether certain fibers in the recurrent were more vulnerable than others, we undertook a series of observations of which the following may be taken as the type: The nerve was exposed and a small crystal of chromic acid was laid upon it. The electrode being placed below this point, the nerve was irritated at intervals while the chromic acid was working its slow destruction. In order to watch the effect upon the vocal band, the dog was arranged as in the previous experiments. When the animal was thoroughly etherized, the results did not differ materially from those already described. Stimulation produced *ab*duction of the vocal band. As the destructive process of the acid progressed, the vocal band gradually became completely paralyzed. But, even after the respiratory movements of the vocal band had entirely ceased, irritation was followed by an outward rotation of the arytenoid cartilage. This was only occasionally seen, and lasted but a moment, for, as soon as the conductivity of the nerve was completely destroyed, stimulation naturally produced no effect. We can only say that under these circumstances we were able to produce an *ab*duction of the vocal band as long as *any* action at all was produced. How early or how late in the destructive process the *ad*ductor or phonatory filaments were attacked we know not. Being few in number (probably) as compared with the respiratory filaments, and as ether, as we have shown, arrests so effectually their action, we can not say here whether there was a "proclivity" of either the one set or the other to become affected. We simply demonstrated that the *ab*ductors held on to the last moment, for, as long as a single nerve-fiber of any kind was left intact, we got a contraction of the posterior crico-arytenoid muscle. When the destruction of the nerve was complete, the vocal band stood motionless in the cadaveric position.

In proceeding now to a new order of experiment, we are able to record the endurance of the respiratory filaments contained in the recurrent laryngeal nerve, while those destined to supply the phonatory apparatus were altogether unable to respond to stimulation. We took a small, young dog, exposed the left recurrent nerve, and carefully passed a thread through the middle of it. The two ends of the thread were tied together in order to prevent its slipping out, but no pressure was exerted on the nerve itself. The object of the thread was simply to act as a foreign body. It was hoped that inflammation might thereby be excited, and, as the respiratory or phonatory fibers were the more readily attacked, the effect of an irritation applied to the nerve below the thread would be followed by certain derangements of motion of the vocal band. After the thread had been secured in the nerve, the parts were restored as nearly as possible to their normal situations, and the incision in the neck was sewed up. Inspection of the glottis showed that both vocal bands were moving normally with respiration. The following day the dog was again etherized and the glottis examined. No apparent change had taken place in either the appearance or natural mobility of the parts. The nerve was not disturbed. Since the thread had been introduced in it the nature of the dog had undergone a change. From having been a confirmed howler he had become a model of propriety. This happy improvement in his disposition lasted until he was destroyed. The quieting effect of a thread in the recurrent nerve has been noticed in many dogs subsequently. At the end of a week, the dog having been etherized and the glottis inspected on four different occasions, he was again placed under the anæsthetic. As soon as a cannula could be placed in the external jugular vein chloral was injected into it and the ether removed. It is important to remember that in the following experiments the animal was chloralized and not under the influence of ether. A slight but evident change was now observable in the vocal band corresponding to the nerve operated upon. Although the arytenoid cartilage of this side appeared to move with respiration as naturally as did the right cartilage, the anterior portion of the left vocal band seemed to have lost its "tone"; it did not come up with the same "snap" on expiration as its fellow. On opening the incision in the neck, the nerve was found imbedded in a considerable mass of inflammatory tissue, from which it was impossible to separate it. After exposing the nerve below this point, it was placed in a shielded electrode. Irritation with an intensity varying from 1 to 10 produced *ab*duction of the left vocal band, and cessation of its respiratory movements, the band remaining in the position of deep inspiration as long as the stimulation was kept up. On ceasing the irritation the respiratory movements went on as before. The right vocal band was in no way influenced when the left recurrent was stimulated with an intensity not exceeding 10. When, however, a more powerful stimulation (15) was employed, the right vocal band was brought to the median line (phonatory position), while at the same time the left band was pulled outward. We have, then, here a double effect: *ad*duction of the vocal band on the healthy side, and *ab*duction on the side where some alteration had taken place in the nerve fibers; or, in other words, the normal action of constriction of the right side was manifested while the left band was *ab*ducted, owing to the degeneration of the phonatory fibers, the respiratory filaments remaining unharmed; and, consequently, the respiratory muscle alone responded to the stimulation. The right vocal band was now paralyzed by section of the right

pneumogastric, the band coming to a standstill in the cadaveric position, or the position we are accustomed to see in cases of "recurrent paralysis." Stimulation applied to the right recurrent resulted in a smart closure of the glottis, effected by the right vocal band being brought forcibly against its fellow, as well as by the contraction of the arytænoidæus transversus, which approximated the two arytenoid cartilages. It could not be accurately determined whether the anterior portion of the left band contracted or not, as even a feeble irritation produced such a rapid and complete closure of the laryngeal aperture. If the closure of the left vocal band was brought into action, it was very slight; it was evident that the closure of the glottis was chiefly effected by the contraction of the constrictors on the right side, and by the arytænoidæus transversus muscle. The electrode was again changed to the left recurrent below the insertion of the thread. Stimulation was followed by the same outward rotation of the left arytenoid cartilage as was observed in the first experiment. There was also a marked movement of the right arytenoid cartilage toward its fellow, as if by the contraction of the arytænoidæus transversus muscle. The action of this muscle was prominently brought into play in the next experiment, when the peripheral end of the left recurrent was stimulated, after section of the nerve below the thread. Both vocal bands were now paralyzed and standing in the cadaveric position. All avenues to the brain were thereby cut off except through the anastomoses of the terminal branches of the recurrent with those of the superior laryngeal, and, perhaps, also with those from the pharyngeal plexus. Irritation of the peripheral end of the left recurrent produced both a contraction of the left posterior crico-arytenoid and transverse arytenoid muscles. That is, there was a distinct outward rotation of the vocal process of the left arytenoid cartilage, and an approximation of both arytenoid cartilages at the same time.

Positive as were the results of this series of experiments, we lay no stress upon them. If they are of any worth, it will be by suggesting to others some better method than was here employed, for all our attempts to verify the observations have failed. Even when the thread had been previously soaked in a one-per-cent. solution of chromic acid it did not cause any material disturbance when introduced through the nerve and retained there for many days. The only change noticed was that, in some of the dogs, a more powerful stimulation was required to produce a contraction of the vocal muscles through the nerve operated upon than in the opposite healthy side.

CONCLUSIONS.

The principal fact herein demonstrated is, to our mind, the power and the endurance of the posterior crico-arytenoid muscles and of the nerves which supply them. We have spoken of the theoretical reasons: (1) The physiological importance of these muscles; (2) their belonging to organic life; (3) their extensive nerve-supply, all of which would tend to preserve their functional integrity. Moreover, if it be true that there is a "proclivity" of the *ab*ductor fibers to become diseased, and that unilateral paralysis of the abductor muscle is such a common and harmless lesion, should we not expect, theoretically, that bilateral paralysis of this muscle would occur more frequently? Yet there can be no dispute whatever that bilateral paralysis of the posterior crico-arytenoids is a disease as rare as it is grave.

Now, with regard to these muscles being *extensors*, and, like the extensors in other parts of the body—the forearm, for instance—more liable to succumb to disease than the flexors, we would ask this simple question: Why should the terms "extension" and "flexion" be applied to the rotation of the arytenoid cartilages? The principal office of the posterior crico-arytenoids is to maintain the respiratory patency of the glottis. From the beginning to the end of life they are in a state of semi-contraction—holding the glottis open. They come, therefore, just as near being flexors as extensors; but, as a matter of fact, they are neither the one nor the other in the ordinary acceptation of these terms as applied to muscles of the general system. They are *respiratory* muscles carrying on a special function. One might as well speak of the movements of the pupil as extension and flexion, or compare the diastole of the heart to the extension of the forearm, or its systole to the bending of the little toes. Muscles are analogous as they discharge analogous functions. We recognize no more analogy between the posterior crico-arytenoid muscles of the larynx and the extensor communis digitorum of the forearm than there is between "respiration" and "prehension." If we wish to seek muscles that are analogous, let us turn to other respiratory muscles and ask how they are affected by disease. In diffused, progressive diseases of the nervo-muscular system we know that of all muscles, except the heart itself, those belonging to the respiratory system are always the last to be attacked, and there is no valid reason why the respiratory muscles of the larynx—either one or both—should offer an exception to the rule, especially as they are the most important of all.

We propose to investigate this subject from a clinical aspect at some future date, when, perhaps, the positions which immobile vocal bands assume may be sufficiently explained without attributing to a wise and conservative nature a "proclivity" to attack one of the most vital muscles of the human system.

DISCUSSION.

J. Solis-Cohen.—It is a great honor to the American Laryngological Association to have had this valuable paper read before it, and I believe it will be an historical paper. These experiments will be subjected to criticism, and their verification will become a matter of history in the controversy now existing in the laryngological world as to the liability of these abductor fibers to become diseased sooner than the adductors. The dogmatism with which the assertion has been made seems to have almost paralyzed laryngologists, for, with the exception of myself, I hardly know of any one who has ventured a word against it. Even last year, when I presented a case opposing the theory, and showed a picture of the larynx, it was simply in deference to myself that not much was said against it. Not a single member of the Laryngological Association, even of those living in Philadelphia, where the patient was, would accept my invitation to the members to see the patient for himself, and verify the fact that the picture I presented was a correct one. The

only word of commendation I received was from Krause, of Berlin, who wrote me a very interesting letter, stating that he believed my observation was correct, but attributed the lesion to a different cause. I will recall the case for a moment. A man had received a wound in the neck. He had instantly become aphonic, and when I saw him, a few months afterward, one vocal band was in extreme abduction. I took it for granted that the adductor fibers of the pneumogastric had alone been injured. Krause's explanation is this: The injury of the carotid having been attended with hæmorrhage, a clot must have occurred around the pneumogastric nerve, producing compression, which became permanent by the formation of the cicatrices. I do not know where that patient is now. I have seen him several times, and the affected vocal band has remained in extreme abduction.

I have had no experience in such physiological experiments as Dr. Hooper has made; but there is a point he spoke of which receives clinical support. That is with reference to the influence of the facial nerve in sending the respiratory forces to the pharyngeal. We all know the effect of cold on the facial nerve in restoring suspended respiration. I remember a case in which I was called to see a child who had diphtheria following measles. There was great dyspnœa, but I declined to perform tracheotomy, because the child was under two years of age, and I knew that the operation was usually unsuccessful after measles. Knowing the great effect of cold on the facial nerves, in stimulating the facial centers, we placed ice cloths all over the lower part of the neck and jaw up to the ears. Every time the iced cloth was placed around the jaw an inspiration took place, and the physician in attendance, Dr. O'Hara, by his own efforts in keeping this up, saved the child's life. So many times a minute he replaced the cloth. Several pieces of cloth were kept between two pieces of ice. As soon as the piece in position ceased to produce any effect it was replaced by another. So there is a point in which, clinically and physiologically, these facts support each other. The phenomenon of stimulating one recurrent nerve so that its vocal band passes beyond the median line in phonation is, if I remember right, confirmatory of some of Krause's experiments. He states that, when he stimulated one nerve, the vocal band of the opposite side moved also. It would touch the other, no matter what position it was in, whether it was in the median line, in the cadaveric position, or in the inspiratory position. In the case presented by me last year, when the man tried to speak, the sound vocal band crossed away over beyond the median line, and beyond the ordinary position which it occupies in the dead body.

Dr. Harrison Allen said that, in his judgment, the analogy between constriction and adduction, and between dilatation and abduction, was tenable. At least it was of some value in suggesting research. Careful clinical study would often take the place of experiments, and it could be certainly shown from the clinical point of view that adductor muscles and constricting muscles were alike in their ability to withstand disease as compared to the abductors and dilators. The morphologist could also assert that the position of a flexed point in a limb resembled the epiglottis when bent down over the aperture of the glottis, as the extension of the limb-joint might be compared to the erect position of the epiglottis. In the muscles of the limb it was found that the adductors were specialized muscles of the flexor group, and the abductors of the extensor group. Perhaps it might be well to have distinct terms to express this harmony of action between flexion and constriction, but, as part of the study of muscle phenomena taken in a comprehensive sense, the speaker saw much to show that a close association, if not identity, existed.

Dr. Isaacs.—In support of the paper in a clinical way, I have had a recent experience, similar to the one related by Dr. Cohen, excepting as to the origin. A gentleman had a cold, over-used the voice during the cold, and in the course of two or three days became completely aphonic. I saw him five weeks later, and found complete paralysis of the left cord, which was fixed in extreme abduction. After two months, there had been no special change in the position. In phonation the sound cord did not cross over as in Dr. Cohen's case; it crossed a little beyond the median line, but very little.

Dr. Delavan desired to unite his congratulations with those of Dr. Cohen upon the paper just presented. It was a most welcome and valuable addition to our knowledge of the subject, and worthy of the highest praise. Reference had been made in the paper to a motor center for the human larynx. Since he had first called attention to the existence of such a center several important contributions had appeared which tended still further to establish the fact; he hoped that sufficient clinical and pathological evidence would soon be accumulated to place it beyond a doubt.

Dr. Hooper.—I have only attempted in this paper to study this subject on general physiological and experimental grounds. Clinically it seems to me a difficult question and one in which there are many sources of error. We are dealing, in the first place, with one of the most complicated organs in the body, and in using the laryngeal mirror we are looking at things in perspective, which are in almost constant motion. It is often impossible to say whether a vocal band stands motionless in the median line or a few millimetres off from it. If we call every paralyzed vocal band we see a paralysis of the posterior crico-arytenoid muscle, we can multiply such cases very rapidly. Not only is the theory that there is a proclivity of the posterior crico-arytenoid fibers to become diseased contrary to nature, but the dogmatic manner with which it has by some been advanced ought of itself to cause us to doubt its accuracy. I should feel sorry to have an association like our own subscribe to this notion on the very shallow evidence we have at present.

I must thank you for the attention you have given my paper. What there is in it which you say has interested you is chiefly due to the perfect arrangements of the physiological laboratory of the Harvard Medical School for pursuing such investigations. The professor of physiology, Dr. Bowditch, and others connected with the department, are always ready with their time and advice to aid those who are carrying on any kind of research, and I shall, therefore, convey your kind expressions of interest to the quarter where they really belong.

BRONCHIAL BREATHING A SIGN OF PLEURITIC EFFUSION.

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The differential lines between pneumonia and pleuritic effusion are ordinarily so clearly and closely drawn that a mistaken diagnosis between these two diseases would appear almost evidence of criminal ignorance. And yet such mistakes are made frequently and by skillful observers. Cases present themselves wherein all the physical signs fail of conclusiveness, and even the exploratory needle leaves doubt as to the actual state of affairs behind the chest-wall. I wish in this article to speak of one group of symptoms which, above all others, is misleading in pleurisy, and which has, within my own experience, been productive of mistaken diagnosis in several instances.

As ordinarily stated in the text-books, the entrance of

fluid into the pleural sac obtunds the signs of an air-containing chamber. In proportion as the pleural tide rises the air-sounds are dulled, until the negative list includes:

Diminution or Absence of
- Respiratory murmur.
- Vocal fremitus.
- Vocal resonance.
- Whispered resonance.
- Percussion resonance.
- Flexibility of chest-wall.

Silence reigns over the invaded region. This picture is typical and obtains in the majority of cases. Occasionally, however, a patient appears with many signs of an effusion, but, in place of diminished respiratory symptoms, he exhibits bronchial breathing and whispered bronchophony all over the dull area. Naturally such symptoms lead one's thoughts directly to pneumonia, inasmuch as they are declared to be indicative of pulmonary consolidation, and are even specified as eliminative of pleural fluid.

Of late years, however, records of such cases have appeared in the journals, and Bacelli, of Rome, not only has described the symptoms, but has made the occurrence of whispered pectoriloquy with an effusion in the chest a differential point between a serous exudation and empyema.

Now, the question arises how to explain this phenomenon of bronchial breathing over a fluid effusion. Bacelli says that an effusion which is homogeneous in character—*i. e.*, serous—will take up and transmit the vibrations of the collapsed lung more readily than a purulent exudation, which is heterogeneous in character, and hence the occurrence of audible whispers in the former case and their absence in the latter. This explanation was eagerly seized by clinicians all over the world, and carefully studied until it was found that it could not be supported by facts. Whispered pectoriloquy occurs with purulent as well as with serous effusions, and thus Bacelli's theory falls to the ground.

In my own study of these eccentric symptoms I have arrived at certain conclusions which I desire to submit to the judgment of others. In the first place, I have noticed that bronchial breathing and whispered pectoriloquy have only occurred with effusions of considerable size. I can not lay down any boundaries for the amount of fluid necessary to produce them, and I imagine this amount would vary with other conditions of the chest-wall and lung. In all the cases where I have observed these signs, however, the effusion has reached *at least* to the third rib in front, and in some instances still higher. Secondly, I can not reconcile my mind to the theory that the sounds heard are transmitted through the fluid. Water does not readily take up vibrations from the air. Two stones struck together in the water cause powerful vibrations of the same, but struck together above the water, the sound is inaudible to a submerged ear. We know that some heart-murmurs are transmitted long distances. I have traced such murmurs along the spine from the occiput to the sacrum. Now, when a murmur is heard in the lumbar region, are we to suppose that it has taken the short cut through diaphragm, stomach, pancreas, and bowels to our ear? Sound vibrations, like electrical waves, travel best along lines of least resistance, and such lines for the heart-sounds are found along the ribs and spinal column. The same argument holds good for the bronchial murmur of pleurisy. As an effusion begins to form, the breath-sounds fade out. They are not adapted to pass through the water, nor are they strong enough to overcome other lines of resistance. That bronchial breathing is present may be proved by listening to the lung above the effusion, and especially high up between the shoulder-blades behind. Two conditions might still bring these vibrations to our ear when placed over the fluid. Should the murmur become strong enough to push its way along the ribs, we should hear it; or, if the tension of the chest-wall should be increased in any way so as to convey their vibrations more readily, we should obtain bronchial breathing over the fluid. A telephone works satisfactorily according to the delicacy with which the tension of the tympanum is adjusted to the vibrations of the impinging voice. As an effusion of fluid in the pleural cavity increases in size, its weight puts the chest-wall in a state of increased tension. The intercostal spaces are obliterated—that is, they are stretched more or less taut. In such a condition the vibrations which are thrown against the upper and the back parts of the chest are readily transmitted all over the surface of the affected side and become audible over the dull area.

Recognizing this fact, therefore, that bronchial breathing may be conspicuously associated with pleuritic effusion, we find that this sign is bereft of differential value. Instead of a light to illumine the diagnosis, it becomes a dangerous shoal, upon which an opinion may be and often is wrecked.

I need not relate the instances where this bronchial breathing has, within my experience, led observers astray, but I will merely refer to one illustrative case: I was called in consultation to a young lady, twenty-three years of age, who was thought to have pneumonia in the left side. Upon examination, I found the signs of a pleuritic effusion, except the presence of loud bronchial breathing and whispered pectoriloquy, all over the dull area. These signs were so marked that they almost shook my interpretation of the other signs. The impulse of the heart, however, was palpable and visible about one inch beyond the *right mammillary line*, and the young lady said she had noticed this beating herself for several days, but had not mentioned it for fear of being laughed at, if she said her heart was way over there. I tapped the chest, plunging my needle into the region of bronchial breathing, and drew off about five pints of serous fluid. Now, the displacement of the heart was the key-note to this case, and removed from my mind the doubts raised by the auscultatory signs. It is, of course, possible that a congenital transposition of the heart, or its retention in an abnormal position by adhesions from an old pleurisy, may render the diagnosis difficult. Such cases have occurred. Usually, however, the associated transposition of other organs or the history of the case will enable one to solve the problem. It should be laid down as a maxim that the determination of the apex impulse should be *obligatory* in every examination of the chest, no matter what the disease or what the nature of the other signs may be. The man who makes this his habit will often find occasions to congratulate himself upon escape from error.

HERPES TONSURANS MACULOSUS.

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The name herpes tonsurans maculosus is given to an acute eruption disseminated more or less over the entire body, and caused by the vegetable parasite, the *Trichophyton tonsurans*. It is comparatively infrequent in its occurrence here, and, though it has a common origin with ordinary ringworm, yet it differs from this in the manner of its invasion, the acuteness of its development, the extent of surface implicated, and in its general course. The individual lesions retain, however, the salient characteristics of the ordinary form.

The conditions under which it may occur are the same as those favoring the development of ordinary ringworm—viz., damp lodgings, clothes, etc.; immediate infection, etc. Its own power of infection, in the earlier stages at least, does not seem, however, to be very active, and, in the many cases which I have observed, I have not yet been able to trace its having been communicated from one person to another, though all conditions for such communication were present. In fact, one of the patients whose cases are reported here, was for nearly two weeks in constant contact with another lady before the disease was treated, and still no infection occurred. The other patient, a boy, slept with his mother during the entire time that the disease was present, and yet she remained free from it.

In all probability an outbreak of herpes tonsurans maculosus is due to multiple infection. The spores of the parasite, obtaining access to the skin at many points, develop rapidly under suitable conditions. The simultaneous outbreak of many lesions, it may be on one part of the body, as an upper or lower extremity, or on various parts widely separated from each other, and many other factors, speak for this manner of origin. These primary lesions may, however, again serve as foci of infection, inasmuch as the scales of epidermis, being detached by the movements of the body, the friction of the patient's linen, carry the spores to other as yet unaffected portions, where the process begins anew. A succession of outbreaks thus appears until, in a short time, the patient is covered with the lesions in all stages of development.

There is no particular localization to the disease, and no portion of the body is invulnerable to its attack. The backs and flanks are, however, usually more thickly studded with the lesions, but they are also found in great numbers on the face, neck, chest, abdomen, and extremities. The outbreak of the affection may be preceded by malaise, some fever, loss of appetite, and symptoms of general disturbance. In the course of the disease the irritation and consequent loss of sleep in children may give rise to serious anxiety.

The eruption first appears upon the portion of the body affected in the form of small papules about as large as a millet-seed, of a pale red color, which disappear on pressure, and are slightly elevated. On those parts where there is much perspiration the color of the lesions is a dark red. Shortly after the appearance of the papules—it may be only a few hours—peripheral growth has ensued and slight exfoliation of the epidermis will be observed in the centers, while the edges remain smooth and red. The lesions are at first circular, but, as they grow larger, many become oval in shape, their long axes lying in the direction of the cleavage lines of the skin. Their development is at first rapid, and in the course of a week or ten days they attain the size of a twenty-five-cent piece, or even larger. Where the edges of two or more of the lesions come together, the portions which were in contact disappear and a gyrate form of eruption remains. As the lesions increase in size their edges become more elevated, are of a bright red, and scaly, fading gradually away into the surrounding tissue. At times vesiculation is observed. The central portions are more or less scaly and in process of involution, but in the larger lesions these squamæ have ceased forming and the skin may be found perfectly normal. As they become older they acquire a dirty, light-brown color, and they approach more nearly to a typical ringworm. Many of the lesions, however, do not follow this course, but abort and disappear a few days after their first appearance. The itching of the eruption is not very severe, unless, through improper treatment or from other causes, a consecutive eczema or dermatitis complicates it.

If left to itself, the disease runs its course in from two to six months. The edges flatten out, the erythematous condition disappears, desquamation occurs, and the skin becomes again normal. Slight pigmentation may remain for a variable length of time. One spot often remains, especially on those parts of the body which are well protected, and may serve as a focus for reinfection. If the epidermis scales are examined under the microscope, the mycelia and conidia of the *Trichophyton tonsurans* will be found, but very sparingly, in the younger lesions. In ordinary ringworm, any small epidermis scale will show large numbers of the parasite, but a search for hours through squamæ taken from young spots of herpes tonsurans maculosus will be rewarded by the discovery of only a few spores, and perhaps a beginning mycelial formation. As the lesions, however, become larger and approach more nearly the type of ordinary ringworm, the presence of the parasite is easily demonstrable.

The diagnosis presents no special difficulty to the dermatologist, and should not to the practitioner in general, if the determining characteristics of ordinary ringworm are kept in mind. Only at its first appearance can it be mistaken, but its development is so rapid that ordinary observation very soon clears up any existing doubt as to the nature of the eruption. Should an eczema complicate the disease, the finding of a fresh and uninjured lesion will demonstrate the real disease present.

The histories of the two cases which I desire to report are as follows:

Case I. - Miss —— states that the eruption from which she suffers has existed for two weeks, and that during that time she has received no treatment. Two days before I first saw her, on December 20th, she consulted Dr. Robert Abbe, who kindly referred her to me. She informed me that about six months before she had had on the outer surface of the left thigh a circular spot

with red elevated edges, the center of which was covered with squamæ. It itched slightly, but caused no special trouble, and finally disappeared, though it received no treatment. The eruption with which she was afflicted at the time I saw her was preceded by some feeling of malaise and general disturbance, and showed itself simultaneously on neck, flanks, and thighs, under the form of small, erythematous, slightly itchy papules. They were rather closely aggregated, and peripheral enlargement took place rapidly. At first she paid little attention to the eruption, until the continued appearance of fresh lesions and the growth of the primary ones suggested to her the advisability of consulting a physician. On examination, the following condition was found: On the face and neck, and along the margin of the hair, on the shoulders, arms, and backs of the hands, the entire trunk, the thighs as far as the knees, and on the left heel, there was an eruption of papules, circular, oval, and gyrate spots of all sizes and in all stages of development. In the axillæ and on the mons Veneris were likewise a few lesions. All the characterizing objective symptoms were present, and there was no hesitation in deciding upon the nature of the affection. The largest lesions, situated on the left thigh near the crest of the ilium and on the back, were of the size of a twenty-five-cent piece, and oval in shape. The itching was not very severe, but still enough to cause some discomfort. Some of the scales from the younger lesions were examined under the microscope, but beyond a few spores nothing was found. An anti-parasitic treatment was immediately instituted, consisting of salicylic acid dissolved in alcohol. Two days later, December 22d, the patient reported slight improvement, but many new lesions had appeared on the abdomen, mammæ, etc. Those on the back and thighs were improved.

December 24th.—Improvement was more marked. No new spots had appeared, and a decided change could be seen in those already present. Some had completely disappeared, while even in the larger ones the prominence of the edges and the erythematous condition had greatly decreased. Treatment was continued.

30th.—The disease was substantially cured. No new lesions had appeared since her last visit, the erythematous condition and elevation of the edges had disappeared, and there remained only here and there some roughness of the skin, though in many places where the disease had been present the skin was already normal in appearance. Treatment was suspended and an indifferent ointment was ordered, to relieve the slight irritation which the lotion had produced.

The patient returned, however, ten days later. There had been an outbreak on the inner surface of the thighs, and perhaps a dozen new spots had appeared. A few days of the treatment brought these to an end, and there has been no new return of the disease.

Case II.—In May, 1884, while I was attending the dermatological class at the Bellevue Out door Department with Dr. W. G. Robinson, a boy of twelve presented himself for treatment, complaining of an itchy eruption situated principally on the trunk, and to a lesser degree on the extremities and neck, which had first appeared one week previously. Any description as to its first appearance, or his condition at the time, could not be obtained.

On removing his clothes, an extensive eruption was found covering the portions of the body already mentioned, and consisting of lesions of about the size of a five-cent piece. They were rather uniform in size, and to a large extent were undoubtedly of the same age. They presented the characteristic objective appearances already mentioned as marking an outbreak of herpes tonsurans maculosus. They were all of a light-brown color, and little erythema was present, but this was evidently due to his decided aversion to the laws of cleanliness. Anti-parasitic treatment was immediately instituted.

The patient returned in four days, and it was found that the spots had not increased in size, that no new ones had appeared, and that the itching had diminished to a great extent. He was directed to continue treatment and to return in a week. On presenting himself after that time all signs of the disease were gone. There was only a slight roughness of the skin remaining.

As may be seen, these two cases presented substantially the same appearances and course. In both the disease was comparatively recent, and, though existing in the vicinity and on parts covered with hair, had not been communicated to the hair follicles and hairs. If this had occurred, the cure of the eruption would necessarily have required a greater length of time and more special treatment.

The treatment of this form of disease caused by the *Trichophyton tonsurans* is in substance the same as that used in the other forms, only some care should be taken in the choice of the anti-parasitic. It should be borne in mind that an application limited to the lesions alone or to a certain number of them at one time will be useless; it is absolutely necessary to apply the anti-parasitic remedy to the whole body, even upon those portions which appear perfectly normal. It is important to check the progress of the disease as quickly as possible, and, the longer it is temporized with, the greater the difficulty in curing it, and the greater the risk that an eczema or a dermatitis may arise to complicate it. After the arrest of the affection, and there is a certainty of the death of the parasitic spores, the skin should be protected by the inunction of some bland salve, and powder should be freely used. More or less exfoliation of the epidermis occurs, and the skin becomes normal in from a week to ten days.

23 East Thirty-first Street.

THE THERAPEUTIC SIGNIFICANCE OF THE CERVICAL FOLLICLES.

By SIMON BARUCH, M. D.,
GYNÆCOLOGIST TO THE NORTHEASTERN DISPENSARY, NEW YORK.

(*Concluded from page 720.*)

The subject of uterine catarrh is referred to incidentally and not with a view to discuss it here, because I desire to point out the different conditions of the glands in disease of the cervix. In the latter atrophy is the exception, cystic degeneration being followed by it only after a very long existence of the process. A different method is indicated in cervical catarrh; the glandular structure must be reached by the treatment if we would succeed. The cyst-like distension must be removed by laying open the walls of the glands. The latter being very numerous, and their walls somewhat tough and resisting, the application of remedies should be preceded by scarification of the mucous membrane and submucous glandular structure, and in the more obstinate cases, where no cellulitis coexists, the sharp curette would answer a good purpose. Whether the catarrh be corporeal or cervical, therefore, the glandular structure is the secreting structure, and it must be reached by the means indicated. The patient is carefully prepared by reducing any pre-existing cellulitis, and softening infiltration

in the annexa by the usual remedies, rest, hot douches, glycerin tampons, etc. If the disease is extensive, or the patient very nervous, an anæsthetic may be required. While the patient lies in Sims's position, the cervix and vagina are thoroughly irrigated by an antiseptic solution; a Wilson's or Goodell's dilator, previously rendered aseptic, is introduced into the cervical canal for the purpose of dilating it to the required caliber. A blunt-pointed bistoury is now made to scarify the canal longitudinally and somewhat deeply. If a sharp curette be now made to scrape over the surface, it will bring away more or less glutinous, glairy fluid from the ruptured cystic follicles, and perhaps some *débris* of the latter. A thorough swabbing with tincture of iodine, after bleeding has been somewhat checked by pressure, completes the operation. A carbolized glycerin tampon of cotton or oakum will neutralize the discharge and allay irritation. Hot antiseptic douches may afterward be resorted to daily and the treatment continued on ordinary principles. By adopting the course here mapped out, we follow the teachings of modern surgery, which are applicable in gynæcology as well. The method here proposed may appear somewhat heroic, but we have a heroic disease to deal with. Moreover, it is well known that even more radical measures have been advocated and practiced for the cure of obstinate cervical catarrh. Schroeder has recommended very highly, for the cure of those obstinate cases in which great glandular enlargement of the mucous lining exists, the excision of the entire diseased mucosa. He makes an incision on each side of the cervix, so as to divide it into two separate halves, up to the inner os. The mucous membrane and glands are now removed by an incision passing through the cervical parenchyma; each lip is turned upon itself, and its folded surfaces are stitched together, so that the entire cervix is covered within and without by squamous epithelium. Olshausen reports eighty cases, and he regards this operation, done under continuous antiseptic irrigation, as not only free from danger, but remarkable in its results. Hegar, Kehrer, and others have devised similar operations. All these surgical procedures prove the great significance of the cervical follicles, for it is evident that the removal of the mucosa containing them is regarded as the most essential element in the treatment of intractable cases of uterine catarrh.

The radical cure of so-called hypertrophy of the uterus, chronic metritis in the various forms in which the cervix is involved and involution has been interrupted, has frequently been accomplished by A. Martin ("Arch. für Gynaekologie," 1879, 488). The failure of all local therapeutics by caustics, injections, etc., has placed this malady in the category of incurable diseases. Carl Braun had shown in 1864 that involution was hastened by amputation of the cervix, and Martin followed and confirmed Braun's ideas. He operated in seventy-two cases, chiefly complicated with ectropium, erosions, and ulcers of the portio vaginalis, with perfect cure in sixty four cases; portions 3 to 4 ctm. long were removed, and in the course of a few weeks complete involution resulted. Kehrer and Schroeder, also Hegar, cited similar experiences during the discussion, the former citing forty to fifty cases in which he obtained good results by excision of triangular pieces on each side and union of the edges (is this not akin to Emmet's operation?).

In this country these heroic operations have not received much approbation, first, because they mutilate and disfigure the cervix uteri more or less, or, when the latter is entirely removed, it becomes difficult to retain the uterus in position; and, second, because we have in Emmet's operation a superior procedure in the class of cases referred to by Schroeder and Martin, which, occurring in parous women, are almost invariably connected with lacerations of the cervix. There had been no operation devised which removed diseased tissues and at the same time restored the cervix to an almost normal form and condition after the traumatism of childbirth before Dr. Emmet gave to the world his now classical operation of trachelorrhaphy. Indeed, to him we owe the recognition of the fact that a lacerated cervix completely or partially healed, combined with more or less cellulitis, is at the bottom of the great preponderance of uterine diseases, outside of neoplasms and malpositions. But what Dr. Emmet has taught, and is still teaching with more emphasis than all else, and what yet is more neglected and misunderstood, is the *principle that his operation is not intended as a plastic procedure for the reunion of the torn edges of the cervix, but that its aim and scope lie far beyond the mere œsthetic effect, in the removal of diseased tissues, to whose presence are due the local and especially the reflex symptoms which we are called upon to treat.* It is remarkable how slowly the appreciation of this principle and of these facts, which we daily observe here, has dawned upon gynæcologists abroad. It is not so surprising that lacerations of the cervix were not recognized in England so long as they were sought for through the old tubular speculum, because only their exposure by Sims's speculum, and the approximation of the torn edges by means of tenacula, could convince skeptics. In Germany, however, where Sims's and Simon's retractors are in constant use, Emmet's views have not received that warm appreciation which is accorded to them in this country. The reason is obvious to any one who is familiar with German gynæcological literature, which contains the most garbled descriptions and most erroneous views concerning the operation for lacerated cervix. For instance, Olshausen says ("Klinische Beiträge zur Gynaek. und Geburtshülfe," 1884, p. 32), in referring to Schroeder's operation: "We agree with him that, in the so-called laceration-ectropium, it is more safe, and at the same time a not more serious procedure, to extirpate the diseased mucosa than to make the Emmet 'ectropium operation.' We have, therefore, not been able to become friendly to the latter, and have only executed it a few times." *Dr. Emmet's operation is really intended to* "extirpate the diseased mucosa." Hegar tells us ("Hegar und Kaltenbach," 1881, p. 539): "Emmet hopes, by simple union of sutures, to relieve the patients of all their troubles and to produce a recession of the tissue changes"; and Hegar dismisses the description of the operation for lacerated cervix in these words: "While the assistant holds the lips of the os uteri on a stretch, the edges of the tear are freshened smoothly and thoroughly by knife or scissors; the freshened surfaces are brought together by needles, etc. As the

operation is only slightly painful, chloroform is usually dispensed with" (!).

These brief references from prominent German authors afford ample evidence of the fact that the principle as well as the technique of Emmet's operation is not understood. Any one who has seen Dr. Emmet operate will smile when he reads the description given by Hegar. Whoever has seen Dr. Emmet labor from ten minutes to an hour, or even longer, over a lacerated cervix, digging and snipping away diseased glands and cicatricial tissue, knows that it is not the slight operation described by Hegar, and will appreciate how egregiously his work is misrepresented abroad. We can not wonder that the imperfect knowledge of this valuable surgical procedure has failed to establish its usefulness. Only a few days ago I heard Dr. Emmet inveigh bitterly against the practice of superficial denudation. He said that he believed the operation was doing more harm than good, because every novice deemed himself competent to perform it without really understanding the essential principle, which was "*to remove the cicatricial plug.*" He also said that he never operated for lacerated cervix unless there were symptoms indicating the necessity for the procedure. While I appreciate fully the fact that the mere existence of the laceration of the cervix is not the exciting cause of those symptoms which keep the poor woman in a constant state of invalidism, I do not believe that the latter are invariably, or even frequently, due to "a cicatricial plug," but that at least the catarrh and the erosion, and probably also the reflex symptoms, owe their origin to another factor, viz., *disease of the glandular structure*, which is almost invariably present. In those trying cases of cervical catarrh connected with abrasions, hyperplasia of the cervix, and subinvolution, which are the fertile source of ill-health in parous women, and to detail whose symptoms would be to you but an oft-told tale, a lacerated cervix is, as I have said, a frequently co-existing condition, and constitutes, together with more or less pelvic cellulitis, the chief element in the case. That this is a clinical fact is attested by the results of the operation of trachelorrhaphy when properly executed, viz., when it is done not alone for the purpose of restoring the tear, but for the purpose of extirpating the diseased mucosa, with its numerous diseased follicles, down to the healthy parenchyma.

I show you here a specimen of this condition, and you will see one of the glands forming a large cyst, which I have opened for your inspection. All the pathological changes which have been detailed under the general head of cervical catarrh, as involving the mucous membrane, are here seen in an exaggerated form, owing to the obstruction in the circulation of the cervix, the eversion of the lips, and the neighboring cellulitis. Erosions, too, present an additional source of pain and discharge. No application of caustics will cure these cases, for how can we penetrate these callous structures and cyst-walls? We may heal the erosions over by a slow process, squamous epithelium taking the place of the cylindrical or the everted mucous membrane. We may by this means check the secretions from the surfaces within reach of applications, among which nitrate of silver has proved the best, but yet the most harmful eventually, because of the inodular tissue produced by it. Crude pyroligneous acid is much used by the Germans in erosions. But so long as cystic degeneration of the follicles remains, so long as new cysts form, our patient will continue to suffer the backaches and reflex symptoms which render her life miserable. How often women apply for relief under these conditions, and how rarely they receive it by medicinal application, is within the experience of all. But, if we have regard for the true cause of these symptoms, we may afford them relief by simply puncturing the glands separately, or, what is better, by deeply scarifying the entire everted surface, from the inner os to the point beyond the junction of the vaginal covering of the cervix, by radiating incisions. The hæmorrhage may be a little free, but can readily be checked by pressure. The relief from distress is marvelous; and those who have seen these poor women return again and again with the request for the same treatment will not be skeptical regarding my proposition, that *in these diseased and distended glands lies the true cause of the trouble.* Indeed, such cases may, by scarification, hot douches, glycerin tampons, and rest, be almost entirely restored, unless the latter important element can not be gained, as is the case in women who have household or other duties to perform. In the latter, as also in the more pronounced and intractable forms among the better circumstanced, nothing short of trachelorrhaphy will bring permanent relief. But the operation should be thorough; all diseased and hyperplastic structure should be removed, and the cervix should be restored as nearly as possible to its normal size and shape. Unfortunately, there are specialists even who do not in this respect follow the principles laid down by Dr. Emmet, and who, as he says, inclose the "cicatricial plug," whose removal he regards as paramount, in the newly made wound. Among gynæcologists in this city even I have seen few who succeed in giving the cervix after this operation an almost virginal shape, as Dr. Emmet almost invariably does, by first slitting up the angle for the removal of cicatricial tissue, and then bringing the edges together by deep sutures directed toward the angle of the wound and not across from one edge to the other. I am disposed to believe that it is not this removal of the "cicatricial plug" which renders Dr. Emmet's operation in his own hands so signally successful, but that the solution lies in the complete ablation of the *diseased gland structure* which necessarily follows the removal of this cicatricial plug. When a considerable wedge is excised from the angles of the laceration, the surgeon is compelled to resort to free ablation of the thickened flaps, in order to bring them into nice apposition, if he would avoid inclosing a deep gap in the angle; the result is a cervix almost virginal in appearance, which I have seen very few surgeons besides Dr. Emmet able to produce. Let it be borne in mind that the great aim of the operation of lacerated cervix is the removal of the diseased gland structure; let this be unsparingly removed, and this great health-saving and, I believe, life-saving operation will perform its proper function.

There is no treatment for subinvolution which can compare to trachelorrhaphy in brilliancy of results. When we

read the description of this disease, which is now known to be almost invariably only a portion of a complexus of conditions following an imperfect "getting up" from childbed; and if we compare the results of treatment by ergot, tonics, baths, astringents, electricity, and injections, which was in vogue several years ago, with the brilliant results of trachelorrhaphy—we find cause to congratulate ourselves on the fact that we live in this happy era in which surgery counts its triumphs daily.

A few weeks after the wound is healed the uterine canal shows a decrease of depth, there is new life infused into its circulation, involution is re-established, and with it the patient is restored to health. How many weary years have been passed in bootless medication, how many days and months of invalidism have been suffered ere this happy consummation was reached by one brilliant stroke of the surgeon's hand, the sufferer often tells with a sorrowing yet with a grateful heart.

Some twelve years ago I wrote an elaborate article on subinvolution for the Charleston, S. C., "Medical Journal," in which I presented all the remedies which were at that time thought efficient. The recollection of my lengthy account of the therapeutics of this affection has led me to these reflections upon the comparative advantages of the present method of treating subinvolution.

In those cases of cervical disease termed *ulceration* and *erosion* the follicles are again found to enact an important pathological *rôle*. Whether they become more freely developed on their original site, as maintained by Fischel, or whether a new formation of follicles ensues, as is, with more convincing proof, asserted by C. Ruge, the fact is established beyond contradiction that so-called *erosions of the portio vaginalis rest upon a groundwork of glands.* "The entire eroded spot," says Ruge, "is the free surface of a new development of glandular structure upon the normally glandless portio vaginalis; it is covered with a cylindrical epithelium in single layer. At the same time are formed numerous depressions into the tissue, which in single spots are still solid, but soon become hollow, and present themselves as glandular tubes or bags, which, penetrating deeply into the tissue, branch freely and *communicate often with neighboring glands.* From the latter arise partly constricted rounded formations whose inner walls are covered with very fine papillary projections. Repeatedly we found a complete spongy system of glands. The larger glands lie in the mucosa, but even muscular fibers do not hinder their further development. In many cases they reach such massive accumulation that all normal structure is pressed aside. All these constrictions and depressions have cylindrical epithelium which resembles the more superficial. The intervening structure is a young connective tissue permeated by numerous capillary loops. In a peculiar manner we found repeatedly real gland lamina as well as follicle-like formations on parts where the portio vaginalis was covered superficially by normal epithelium and where the papillæ even showed no change. *Their origin is very probably due to the small crypts which in the cervical canal are covered with cylindrical epithelium* [italics mine], but which are sparse in the portio, by means of the deep penetration of these crypts in a direction from within outward toward the portio, whose epithelium they push before them. It is possible that they may partly arise in the connective tissue of the portio vaginalis." From this description of the pathology of erosions it would appear that the follicular structures form their basis, and that it would be irrational to attempt to cure these surface breaches without destruction of the gland-tissue. Strong acids answer a good purpose here, because the diseased surface is within easy reach and may be again and again subjected to treatment.

But the more radical removal by the sharp curette or spoon, or by scissors and knife, as is best done by Emmet's or Schroeder's operation, leads to a more rapid and successful issue, and affords a permanent result, *because the glands, which are the chief pathological factors, are thoroughly removed.* I have no experience with Schroeder's operation, but Emmet's trachelorrhaphy, or some modification of it, has served an excellent purpose in such cases.

The radical extirpation of the gland-tissue becomes more imperative if we accept the view of Ruge and Veit, that there is not only a close relationship between erosions and cancer, but that many cases of cancer may actually be traced to an origin in the gland structure. The process of repair in these erosions confirms this view.

"While in the repair of erosions, in some cases, the cylindrical epithelium transforms itself into squamous epithelium, which, by increase and layering, gradually narrows the gland-outlets more and more, compresses them, as it were cuts them off, so that they persist under the squamous epithelium; on the other hand, instead of this incomplete healing, the squamous epithelium may creep into the glands. Often the upper half of the gland is found already filled. But another process of termination may occur. Frequently everything up to a small piece of gland-tissue, corresponding to its bottom, may be converted into squamous epithelium or into a better-layered, polymorphous, dermoidal epithelium. In short, we obtain in these processes of cure pictures such as we have frequently described in the development of cancer, as beginning of the latter. *A gland in process of cancerous degeneration is not to be distinguished from one in process of cure.* In the cervix an analogous process of cure takes place when an erosion becomes covered by epidermis; *the squamous epithelium which forms in simple ectropium, or in prolapsus with ectropium, often creeps into the gland only on one side in order to fill it gradually*" ("Zeitschr. für Geburtsh. und Gynaek.," 1881, p. 174). The pathological study of cervical diseases which are here presented briefly points to the inevitable conclusion that *the cervical follicles are significant factors in all benign diseases of the cervix uteri.*

The connection between benign and malignant disease of the cervix has already been referred to. It remains now to show more definitely how far *the cervical follicles are significant as elements in the pathology of that most loathsome of all uterine diseases, carcinoma.* I must again draw from that valuable source of information on pathology, the labors of Ruge and Veit, who have examined numerous specimens of carcinomatous tissue, removed, in various stages, by Carl Schroeder and others. The minute descriptions of the mi-

croscopic appearances, which are beautifully illustrated in their work ("Der Krebs der Gebärmutter," "Zeitsch. für Geburtshülfe und Gynækol.," 1881), establish beyond a doubt the correctness of their view that *carcinoma of the cervix originates in the follicles.* "When it develops within the cervix, it arises from the connective tissue or the already present though rankly growing glands, while, when it develops on the portio vaginalis, it takes its origin in the connective tissue or in newly formed glands. Hence both forms have this much in common, although they differ in some other respects: that *a glandular formation serves them as their point of origin*" (pp. 208, 209).

It would probably interest you as deeply as it interested me during the investigation of this momentous question to follow these practical microscopists, who are intimately connected in their work with Berlin's best clinical gynæcologists, in the description of some of the microscopic drawings which they furnish. But I will quote very briefly, in order to impress upon your minds the salient points in connection with my subject, only the concluding summary (p. 169): "First, the squamous epithelium was found sometimes slightly thickened near the end (of the portio); next followed *glandular erosions*, covered with cylindrical epithelium which degenerated into cancer. In many cases in which cancer apparently occurred upon the plain terminations of the squamous epithelium, its development from glands could frequently be demonstrated beyond a doubt. We can say that a large proportion of carcinoma of the portio vaginalis are gland cancers, which receive their origin in newly developed glands (erosions). We therefore still remain upon our former standpoint, that erosions are not always simple and insignificant processes. We are glad (in reply to Scanzoni, who said that the incipient stages of development of cancer were unknown) to say that we have seen early development of cancer, and that we have demonstrated for this category a development from glands."

What lessons are inculcated by the pathological evidences which I have brought before you to prove the paramount influence of the gland structure as a factor in benign as well as in malignant diseases of the cervix uteri? The original intention of my studies on the subject was to demonstrate the urgent necessity of recognizing the gland structure in the operation for lacerated cervix, to show how important the mere repair of the laceration would be in the direction of a cure, and to insist upon the necessity of free, thorough, and unsparing removal of all gland-tissue in this operation. But, as the subject became more and more elaborated in my mind, I was led into the more complete review which is here presented.

Ruge and Veit have told us: "*A gland in process of cancerous degeneration is not to be distinguished from one in process of cure.*" Pregnant words these from the pen of careful observers, reminding us how readily the scale may be turned from a benign to a malignant process.

The microscope has confirmed the conclusions which clinical observation has furnished. Dr. Emmet has long insisted that epithelioma of the cervix was almost invariably connected with a previously existing laceration, having never discovered epithelioma in women who had not at some time been delivered of a fœtus. Breisky, Gusserow, Hofmaier, and others have confirmed Emmet's view to this extent at least, that, in their experience, carcinoma of the cervix is comparatively rare in nulliparous women.

The lesson, therefore, is plain. Lacerations, erosions, and ulcerations, which do not readily respond to ordinary treatment, must be regarded with suspicion as possible sources for the development of malignant disease. When surgical measures are demanded for their repair, the removal of the gland structure is paramount, and should be executed, as vigorously as is done in true malignant disease, by encroaching as far as possible upon the healthy parenchyma of the cervix. This complete extirpation of the gland structure will not only secure a complete cure in benign cases, but prevent the possible development of malignant disease.

Summary.

1. A thorough knowledge of the anatomy, physiology, and pathology of the cervical follicles will simplify the treatment of many uterine affections.

2. The cervix uteri represents a large gland of active and important function in the various sexual relations of woman.

3. In the majority of the more common diseases of the uterus the mucous membrane and its follicles play the most important rôle. A recognition of this fact will make treatment more successful.

4. Metritis, subinvolution, hyperplasia with catarrh, erosions, etc., must be studied in connection with the glands of the cervix.

5. In obstinate cases medicinal applications fail because the secreting surfaces of the follicles are not reached. Scarification and the curette are valuable adjuncts in nulliparous women or in parous women without cervix laceration.

6. In parous women with lacerations, trachelorrhaphy is the most valuable procedure. As a simple plastic operation it will fail. Success depends on extirpation of the follicles, which is more important than "removal of the cicatricial plug."

7. The microscope demonstrates the dependence of catarrh, ulceration, erosion, and hypertrophy of the cervix, and often also of the body of the uterus, upon the glandular structure of the cervix uteri.

8. The cervical follicles are significant as elements in the pathology of cervix cancer, because the microscope demonstrates the dependence of the latter upon erosions, which are based upon the gland structure.

9. Laceration and erosion must be regarded with suspicion, as possible sources of future malignant disease. In operating for their removal, extirpation of the cervical follicles must be unsparing.

Protective Choleraic Inoculation in Spain, under the direction of Dr. Ferran, the Government prohibition of which has been withdrawn, is to be further prosecuted, as we learn by the "Union medicale," under the observation of a French commission consisting of Professor Brouardel, M. Roux, who is an assistant of Pasteur's, and M. Albarran, the last named gentleman having been chosen on account of his knowledge of the Spanish language.

The Honorary Degree of LL. D. has been conferred on Dr. Thomas F. Rochester, of Buffalo.

Book Notices.

Lectures on Diseases of the Nervous Sytsem, especially in Women. By S. Weir Mitchell, M. D., Member of the National Academy of Sciences, Physician to the Orthopædic Hospital and Infirmary for Diseases of the Nervous System, etc. Second Edition, revised and enlarged, with Five Plates. Philadelphia: Lea Brothers & Co., 1885. Pp. 287. [Price, $1.75.]

Dr. Mitchell's numerous admirers will welcome a new edition of his interesting little volume, especially as it contains several fresh pages on the subject of hysteria, on which he always writes so graphically. Chapter XVI, on "The Rectum and Defecation in Hysteria," contains a number of curious and interesting facts concerning this protean disorder. The closing chapter contains a concise statement of the advantages and method of application of the rest-cure, which the talented author has already rendered so famous.

The subject of chorea is carefully treated of, the relation of the disease to locality and meteorological conditions being carefully studied and illustrated by charts. The style is, like that of all of the author's writings, clear and forcible. Aside from its scientific value, the book offers most interesting reading.

Modern Therapeutics of the Diseases of Children, with Observations on the Hygiene of Infancy. By Joseph F. Edwards, M. D., Editor of the "Annals of Hygiene," etc. Philadelphia: D. G. Brinton, 1885. Pp. vii–17 to 346, inclusive.

The author modestly remarks in the preface that "no similar work of anything like this extent has ever been published," a statement calculated to raise the expectations of the reader to a high pitch. Unfortunately, these expectations are not entirely realized. The volume certainly contains a number of valuable suggestions, and will be acceptable to a certain class of readers, but, to tell the truth, there is so much waste matter in it that the true pearls are hard to find. Numbers of the prescriptions which are credited to certain modern physicians have been in use for over a century, and many of the "eminent specialists" whose teachings are quoted are unknown to fame.

The main criticism to be urged against the book is its prolixity. The writer has certainly devoted an immense amount of time to the compilation.

The Year-Book of Treatment for 1884. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1885. Pp. 316.

This little volume contains a large amount of useful information within a small space. The names of the contributors are a sufficient guarantee of the accuracy of the work. The paragraphs, although necessarily condensed, are sufficiently full; the references to current literature are carefully given, and show wide research. Although the writers are English, they graciously allow a fair amount of space to extracts from American journals. We note as especially worthy of commendation, the sections on "Diseases of the Stomach, Intestines, and Liver," by Dr. Brinton; on "General Surgery," by Mr. Bryant; and on "Diseases of Women," by Dr. Williams. Mr. Champneys contributes a lengthy chapter on "Midwifery," and Mr. Malcolm Morris an excellent resume of the latest advances in the department of dermatology. There are two carefully prepared indexes: one referring to the authors quoted, the other to diseases. The book is of a size suitable for the pocket, and the type and binding leave nothing to be desired.

Modern Medical Therapeutics: A Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Edited by Joseph F. Edwards, M. D., and D. G. Brinton, M. D. Eighth Edition, Enlarged and Revised. Philadelphia: D. G. Brinton, 1885. Pp. xv–629.

The fact that this work has reached an eighth edition proves that it must be popular with the profession, yet this is not necessarily an argument in favor of its intrinsic excellence. Although we do not regard with much favor the regular practice of borrowing other men's prescriptions, there are undoubtedly useful hints to be derived from a study of the methods of treatment employed by different practitioners. The advantage complacently set forth by the editors, that the present edition has been increased by "more than a hundred pages," will not strike the thoughtful reader as especially great. There is too much irrelevant matter in the book already. The size of the volume is the least of its attractions. While, as we before remarked, we do not become enthusiastic over Dr. Napheys's works, they certainly possess good points, and should not be dismissed without some commendation.

BOOKS AND PAMPHLETS RECEIVED.

On Some Common Injuries to Limbs; their Treatment and After-treatment, including Bone-setting (so called). By Edward Cotterell, M. R. C. S. Eng., L. R. C. P. Lond., etc. With Illustrations. London: H. K. Lewis, 1885. Pp. x–108.

Hay Fever, and its Successful Treatment by Superficial Organic Alteration of the Nasal Mucous Membrane. By Charles E. Sajous, M. D., etc. Illustrated with Thirteen Wood Engravings. Philadelphia: F. A. Davis, Att'y, 1885. Pp. 103.

A Treatise on Practical Chemistry and Qualitative Inorganic Analysis, adapted for Use in the Laboratories of Colleges and Schools. By Frank Clowes, D. Sc. Lond., etc. With Illustrations. From the Fourth English Edition. Philadelphia: Lea Brothers & Co., 1885. Pp. xiv–376.

The Ten Laws of Health; or, How Diseases are produced and prevented: and Family Guide to Protection against Epidemic Diseases and Other Dangerous Infections. By J. R. Black, M. D. Philadelphia: J. B. Lippincott Co., 1885. Pp. xviii–13 to 413, inclusive. [Price, $2.]

The Pathology and Treatment of Stricture of the Urethra and Urinary Fistulæ. By Sir Henry Thompson, F. R. C. S., M. B. Lond., etc. Fourth Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xii–254. [Price, $2.]

Medical Topics. Containing: 1. Hints and Suggestions for Reform in Medical Education. 2. A Plea for the State Regulation of Medicine and Surgery. 3. Medical Education; its Objects and Requirements. By F. R. Sturgis, M. D., Ex-president of the Medical Society of the County of New York, etc. New York: William Wood & Co., 1885. Pp. 63. [Price, 25c.]

Pneumonia in Young Children. By L. Emmett Holt, A. M., M. D., Attending Physician to the Children's Department of the Northwestern Dispensary, etc. [Reprinted from the "Medical Record."]

Epilepsy. By L. W. Baker, M. D., Superintendent of a Hospital for Epileptic Children, Baldwinsville, Mass. [Reprinted from the "Journal of Nervous and Mental Disease."]

Catalogo español, clasificado, descriptivo é ilustrado, de los libros publicados por D. Appleton y Ca. 1885.

Second Annual Report of the New York Skin and Cancer Hospital.

Minutes of the Medical Society of Delaware, at its Ninety-fifth Annual Session.

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NEW YORK, SATURDAY, JULY 4, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

In this issue we conclude our report of the Chicago meeting of the American Medical Association's Committee on the International Medical Congress. Several of the members of the original committee were present and took part in the proceedings, a fact that can not be otherwise construed than as a complete recognition on their part—and presumably on the part of the original committee as a body—of the new committee's legitimacy.

The enlarged committee, therefore, with power to fill vacancies occurring even among the original members, now constitutes the only body charged with the organization of the Congress. That being the case, its acts assume an importance that might have been questioned before. We are glad to be able to say that the convictions which we expressed two weeks ago have been justified by the moderation and breadth of view shown at Chicago. Of course, we deplore the fact that the committee was under compulsion to cut off the heads of a number of distinguished men whose co-operation the Congress can ill afford to spare; and it is humiliating to reflect that this compulsion was not the outgrowth of any spontaneous expression of feeling on the part of the profession, but merely the natural sequence of the excitement brought about at New Orleans. It was none the less real and morally binding, however, and we readily concede that the committee, whatever may have been the feelings of its individual members, had no course open to it but the very course that it took. When in the future—and, to judge by the action taken in Philadelphia, in the near future—it comes to be admitted on all hands that an honest difference of opinion as to how far a sentiment should be allowed to sway the policy of the profession ought never to have been magnified into an issue before which every other consideration should be made to yield, and perverted into a test of personal worth, it will certainly be recognized that the responsibility for carrying out those monstrous notions to the extent of wantonly humiliating some of the best men to be found in the ranks of the medical profession, and at the same time detracting from the strength of the home representation at a convocation of the medical men of the whole world, condemnation will not be visited upon this committee, but upon those whose acts called it into existence.

The committee, we repeat, is not to be held chargeable with the crippling of the Congress that must be the result of the foolish policy settled upon at New Orleans—a policy that has already begun to bear its bitter fruit, as shown by the action of our brethren in Philadelphia. The preambles and resolution adopted by them (for a copy of which we are indebted to the courtesy of the "Medical News," of Philadelphia) show plainly that the strong men of the profession in that city are not to be made the cat's paws of a little knot of agitators. It is significant that several of the names signed to the resolution are those of men appointed to high positions in the new list of officers of the Congress.

There was only one other main question with which the committee had to wrestle, and that was the demand for a more strictly geographical representation in the organization of the Congress. So far as the proceedings at New Orleans could be taken as an indication of what was wanted, this demand seemed much more obtrusive than the feeling on the code question. There was danger, consequently, that the committee would feel constrained to take sweeping measures, and to make the officers of the Congress represent not the medical achievements of the country, but its territorial districts. We think an examination of the new list of officers decided upon by the committee will show that, while it has done all that could fairly be expected of it by the most exacting stickler for local representation, it has yet contrived to fill the prominent places with well-known men—men in every way fitted for the positions to which they have been appointed. We must therefore congratulate the committee upon this portion of its work, and we feel convinced that whatever sense of disappointment may be the portion of those whose names have been lopped off from the original list will arise from the thought, not that they as individuals have had an indignity put upon them, but that they are debarred from showing their devotion to American medicine on an occasion when, more than on any other, it would have been conspicuous and effective. While we praise the work of the committee, we must confess that the outlook for the Congress is gloomy.

THE EMBRYOLOGICAL RELATIONS OF CONGENITAL MALFORMATIONS OF THE PHARYNX.

At the fourteenth congress of the German *Gesellschaft für Chirurgie*, an excellent digest of the proceedings of which is published in the form of a supplement to the "Centralblatt für Chirurgie," Dr. Albrecht, of Brussels, read a notable paper on the morphological significance of pharyngeal diverticula. He sought to establish that, besides the lungs, there were two different sorts of these diverticula in the human subject, namely, the dorsal, epipharyngeal, or retropharyngeal, and the lateral or parapharyngeal. The epipharyngeal diverticula of man, he says, are those which Zenker and von Ziemssen have characterized as "impulse-diverticula" (*Pulsionsdivertikel*). In all the cases thus far observed the opening of the larynx, that of the œsophagus, and that of the diverticulum have all been situated at the same level. Since a like diverticulum, the so-called œsophageal cæcum of the veterinarians, is found as a normal structure in several of the *Mammalia* (constantly in the hog, the camel, and the elephant, and occasionally in the ox), Albrecht maintains that Zenker and von Ziemssen's impulse-diverticula in man have the morphological significance of atavistic formations, and are to be referred to the same sources as the œsophageal cæcum, which latter, furthermore, he looks upon as a

homologue of the air-bladder of fishes, having no homology with lungs, since there are certain *Teleosteans* (*Diodon*, *Triodon*, and *Tetrodon*) that have both lungs and air-bladders, while, on the other hand, in some of the *Selachians* (*Galeus*, *Mustelus*, and *Acanthias*) the air-bladder is found to have the form of an epipharyngeal diverticulum. Since in the hog, the œsophageal cæcum (*Rachentasche*) of which was demonstrated with a preparation, the pouch is overlain by the crico-pharyngeus muscle, and its mucous membrane can be inverted beneath the crico-pharyngeus with the finger, thus what is known in man as pharyngocele being produced artificially, we have an explanation of the presence, often recorded in literature, of muscular fibers on the cranial portion of the impulse-diverticulum in man, doubted by Zenker and von Ziemssen on theoretical grounds. The Zenker-von Ziemssen *versus* König controversy in regard to these muscular fibers is therefore decided in König's favor, for the cranial portion of the pouch must, under all circumstances, be covered by the crico-pharyngeus.

In man, the author continues, all the parapharyngeal diverticula have the same morphological significance; they all originate in the second post-oral cleft (bounded by the hyal arch, consisting of the styloid process, the stylo-hyoid ligament, and the lesser cornu of the hyoid bone, and the ventral rudiment of the first branchial arch, the greater cornu of the hyoid bone), the cutaneous opening of which is closed, while the blind termination thus formed is dilated into a pouch. To the same mode of origin we must refer congenital cervical fistulas, and congenital hydroceles, atheromas, and dermoid cysts of the neck. If the second post-oral cleft does not close at all, a congenital cervical fistula is the result; if its cutaneous opening closes, an internal incomplete fistula is formed, which, if its lateral blind end bulges, gives the impression, as in a case cited from Watson, of a lateral diverticulum of the pharynx; if both the cutaneous and the pharyngeal openings close, either a hydrocele, an atheroma, or a dermoid cyst is developed, according as the contents are serous, pultaceous, or containing dermoid formations, such as hair and teeth.

Like congenital fistulas of the neck, the parapharyngeal diverticula lie mediad of the sterno-cleido-mastoid muscle, making their way first between the external and the internal carotid arteries, then between the glosso-pharyngeal nerve and the stylo-pharyngeus muscle, to open finally into the pharynx behind the pharyngo-palatine arch. The reason why the cutaneous orifice of a congenital cervical fistula and the blind end of a pharyngeal diverticulum lie close above the sterno-clavicular joint is to be found in the cranio-caudad migration of the two respectively, a migration which tallies with the caudad migration of the stomach, the heart, and the aortic arch; and the single explanation lies in the fact that, instead of the twenty-first spinal nerve, a cranial nerve goes to the stomach in man, and the inferior laryngeal nerve makes a turn two feet long, in the adult, around the fourth aortic arch (the arch of the aorta on the left, and the innominate artery and the proximal portion of the subclavian on the right side) before reaching the laryngeal muscles to which it is distributed. The author considers that the larynx, the air-passages, and the lungs constitute a normal hypopharyngeal diverticulum.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 30, 1885:

DISEASES.	Week ending June 23.		Week ending June 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	1	13	4
Scarlet fever	54	7	29	7
Cerebro-spinal meningitis	2	2	1	1
Measles	89	17	100	25
Diphtheria	57	23	63	35

The American Medical Association's Committee on the International Medical Congress.—Chicago, *June 25th.*—The meeting of to-day was called to order by the Chairman, Dr. Cole, at 9.20 A. M. The minutes of yesterday's meeting were read and adopted. Dr. R. Battey offered the following preamble and resolution:

Whereas, It is expedient that the meetings of this committee shall represent, as far as practicable, the profession of all portions of our country,

Resolved, That any member of the committee who may be unable to attend a meeting shall be empowered to send as his proxy for the meeting any member of the American Medical Association in good professional standing, and a resident of his State or member of his Government Department. Adopted unanimously.

Chairman Scott, of the sub-committee appointed yesterday, stated that the secretary would read this committee's report before its adoption, as it had been placed in his hands. Some general remarks were made as to the method of adopting the rules, and it was decided to act on them *seriatim*. The result of this action was that most of the rules reported by the committee were adopted, some amendments being made to a few of them. As they can not be given with exactness until after the committee's final revision, it is thought best not to attempt to incorporate them in this report. It is sufficient to say at present that Rule I was so amended as to guard against the participation of irregular practitioners in the meetings of the Congress.

That portion of the committee's report which had reference to the list of officers for the Congress contained the following nominations: For president, Austin Flint, of New York. For vice-presidents, N. S. Davis, of Chicago; H. F. Campbell, of Augusta, Ga.; R. P. Howard, of Montreal, Canada; T. G. Richardson, of New Orleans; A. Stillé, of Philadelphia; W. O. Baldwin, of Montgomery, Ala.; H. M. Skillman, of Lexington, Ky.; L. A. Sayre, of New York; W. W. Dawson, of Cincinnati; J. M. Toner, of Washington; W. Brodie, of Detroit; J. L. Atlee, of Lancaster, Pa.; and O. W. Holmes, of Boston. For secretary-general, John Packard, of Philadelphia. For chairman of the Finance Committee, F. S. Dennis, of New York. For members of the Committee of Arrangements (those whose names are printed in italics being also members of the executive sub-committee):

George A. Ketchum, Mobile; D. A. Linthicum, Helena, Ark.; *R. B. Cole* (chairman), San Francisco; Charles Denison, Denver, Col.; W. C. Wile, Sandy Hook, Conn.; W. E. Duncan, Dakota Territory; L. P. Bush, Wilmington, Del.; *A. Y. P. Garnett*, Washington; R. D. Murray, Moultrie, Pa.; Robert Battey, Rome, Ga.; E. P. Cook, Mendota, Ill.; F. W.

Beard, Vincennes, Ind.; W. Watson, Dubuque, Iowa; D. W. Stormont, Topeka, Kan.; W. H. Wathen, Louisville; J. W. Dupree, Baton Rouge; S. C. Gordon, Portland, Me.; *J. S. Lynch* (vice-chairman), Baltimore; A. H. Wilson, South Boston, Mass.; A. R. Smart, Hudson, Mich.; George F. French, Minneapolis; J. M. Taylor, Corinth, Miss.; N. F. Essig, Plattsburg, Mo.; R. C. Moore, Omaha; J. W. Parsons, Portsmouth, N. H.; William Pierson, Orange, N. J.; Ellsworth Eliot, New York; X. C. Scott, Cleveland; E. P. Fraser, Portland, Oregon; *J. V. Shoemaker* (secretary), Philadelphia; W. E. Anthony, Providence; R. A. Kinloch, Charleston; F. L. Sim, Memphis; J. W. McLaughlin, Austin; E. T. Upham, West Randolph, Vt.; W. C. Dabney, Charlottesville, Va.; G. Baird, Wheeling, W. Va.; Nicholas Senn, Milwaukee; J. J. McAchran, Laramie City, Wyoming Territory; J. B. Hamilton, Washington; Robert Murray, U. S. Army, Washington; F. M. Gunnell, U. S. Navy, Washington; *W. Pierson;* J. S. Billings, U. S. Army; J. M. Brown, U. S. Navy; I. M. Hays, Philadelphia; H. F. Campbell, Augusta, Ga.; *C. Johnston*, Baltimore; *J. W. S. Gouley*, New York; L. A. Sayre, New York; G. J. Engelmann, St. Louis; *F. S. Dennis*, New York; and *J. Packard*, Philadelphia. For Local Committee of Arrangements: A. Y. P. Garnett (chairman), J. S. Billings, S. O. Ritchie, and Frank Baker, all of Washington, with power to add to their number any of the physicians of Washington in good standing. For officers of sections: SECTION I (*Medical Education, Legislation, and Registration*).—President, S. E. Chaillé, New Orleans. Vice-presidents: G. Capples, San Antonio, Tex.; R. J. Dunglison, Philadelphia. Secretaries: E. F. Dunbar, Boston; Trail Green, Easton, Pa. Council: H. D. Didama, Syracuse, N. Y.; D. C. Gilman, Baltimore; J. F. Harrison, University of Virginia; C. A. Lindsley, New Haven; W. Pepper, Philadelphia; J. F. Prioleau, Charleston; L. McL. Tiffany, Baltimore; H. Gibbons, San Francisco; J. A. Dibbrell, Jr., Little Rock, Ark.; C. L. Allen, Rutland, Vt.; H. O. Hitchcock, Kalamazoo, Mich.; R. H. Reed, Mansfield, O.; J. W. Bailey, Gainesville, Ga.; K. Wylie, Sanford, Fla. SECTION II (*Anatomy*).—President, J. Leidy, Philadelphia. Vice-presidents: W. Pancoast, Philadelphia; C. W. Kelley, Louisville; S. Logan, New Orleans. Secretaries: W. W. Keen, Philadelphia; G. E. de Schweinitz, Philadelphia. Council: H. Allen, Philadelphia; F. Baker, Washington; A. Henson, Philadelphia; T. Dwight, Boston; F. L. Parker, Charleston; C. T. Parkes, Chicago; T. T. Sabine, New York; N. Senn, Milwaukee; J. F. Shepherd, Montreal; R. W. Shufeldt, U. S. Army; G. Halley, Kansas City; S. W. Craft, Jackson, Miss. SECTION III (*Physiology*).—President: J. C. Dalton, New York. Vice-presidents: H. P. Bowditch, Boston; J. F. Hibberd, Richmond, Ind.; H. N. Martin, Baltimore; M. Michel, Charleston. Secretary: J. G. Curtis, New York. Council: G. Baumgarten, St. Louis; H. G. Beyer, U. S. Navy; A. Flint, Jr., New York; W. Lee, Washington; J. J. Mason, Newport, R. I.; H. Sewall, Ann Arbor, Mich.; W. F. Hyer, Holly Springs, Mich.; J. H. Wyeth, San Francisco; A. D. Brubaker, Philadelphia; A. F. Whelan, Hillsdale, Mich.; T. S. Latimer, Baltimore; S. Putnam, Montpelier, Vt.; C. H. A. Kleinschmidt, Washington. SECTION IV (*Pathology*).—President: F. Delafield, New York. Vice-president: W. Pepper, Philadelphia. Secretaries: H. M. Briggs, New York; W. H. Welch, Baltimore; I. N. Himes, Cleveland. Council: C. Kenger, Chicago; R. H. Fitz, Boston; E. G. Janeway, New York; J. B. Johnson, St. Louis; G. M. Sternberg, U. S. Army; W. F. Whitney, Boston; C. H. Hunter, Minneapolis; E. O. Shakespeare, Philadelphia; H. Schmidt, New Orleans. M. Longstreth, Philadelphia. SECTION V (*Medicine—including the original section in Nervous Diseases and Psychiatry*).—President: J. M. DaCosta, Philadelphia. Vice-presidents: Alonzo Clark, New York; J. B. McCaw, Richmond; C. F. Folsom, Boston; J. P. Gray, Utica, N. Y.; J. S. Jewell, Chicago; R. McSherry, Baltimore; A. B. Palmer, Ann Arbor, Mich.; T. F. Rochester, Buffalo; S. W. Mitchell, Philadelphia; P. G. Robinson, St. Paul. Secretaries: W. Osler, Philadelphia; J. T. Whittaker, Cincinnati; W. Hay, Chicago. Council: R. Bartholow, Philadelphia; F. T. Miles, Baltimore; S. G. Webber, Boston; J. P. Logan, Atlanta; F. B. Lester, Kansas City; A. B. Arnold, Baltimore; E. D. Ferguson, Troy, N. Y.; S. C. Chew, Baltimore; W. H. Geddings, Aiken, S. C.; W. W. Johnston, Washington; G. A. Ketchum, Mobile; F. Minot, Boston; B. Robinson, New York; J. Burnett, Cleveland; W. W. Cleaver, Lebanon, Ky.; W. H. Phillips, Canton, O.; S. S. Clark, St. Albans, Vt.; G. Williamson, Ottawa, Canada; J. Draper, Brattleboro, Vt.; E. Grissom, Raleigh, N. C.; P. Brice, Tuscaloosa, Ala. SECTION VI (*Surgery*).—President: D. W. Yandell, Louisville. Vice-presidents: D. H. Agnew, Philadelphia; W. T. Briggs, Nashville; S. W. Gross, Philadelphia; W. H. Hingston, Montreal; R. A. Kinloch, Charleston; E. M. Moore, Rochester; M. Gunn, Chicago. Secretaries: J. C. Warren, Boston; D. P. Allen, Cleveland. Council: J. Ashhurst, Jr., Philadelphia; D. W. Cheever, Boston; P. S. Conner, Cincinnati; G. E. Fenwick, Montreal; F. H. Gerrish, Portland, Me.; J. C. Hutchison, Brooklyn; C. Johnston, Baltimore; T. M. Markoe, New York; A. P. Smith, Baltimore; J. F. Thompson, Washington; T. R. Varick, Jersey City; H. H. Mudd, St. Louis; J. R. Weist, Richmond, Ind.; J. P. Wall, Tampa, Fla.; —— Mercer, Omaha; H. Bingham, Burlington, Vt.; T. A. Dunsmore, Minneapolis; J. T. Carpenter, Pottsville, Pa.; W. S. Janney, Philadelphia; J. Garretson, Philadelphia; I. N. Quimby, Jersey City; T. A. McGraw, Detroit; —— Russell, ——, Wis.; J. H. Rawson, Burlington, Ia.; H. W. Austin, U. S. Marine-Hospital Service; O. Coskery, Baltimore; W. T. Andrews, Mitchell, Dak.; H. H. Smith, Philadelphia; —— Westmoreland, Scranton, Pa. SECTION VII (*Obstetrics and Gynæcology*).—President: R. Battey, Rome, Ga. Vice-presidents: W. T. Howard, Baltimore; R. B. Maury, Memphis; J. C. Reeve, Dayton, O.; A. H. Smith, Philadelphia; T. A. Reamy, Cincinnati; T. G. Thomas, New York; W. H. Byford, Chicago; H. P. C. Wilson, Baltimore; J. Goodman, Louisville; W. P. King, Sedalia, Mo. Secretaries: T. Opie, Baltimore; J. R. Chadwick, Boston; G. J. Engelmann, St. Louis. Council: R. P. Harris, Philadelphia; A. F. A. King, Washington; E. Van de Warker, Syracuse; W. T. Lusk, New York; R. S. Sutton, Pittsburgh; T. Parvin, Philadelphia; R. Glisan, Portland, Oregon; J. Scott, San Francisco; C. V. Northam, Lawrence, Kansas; E. P. Sale, Aberdeen, Miss.; W. Varian, Titusville, Pa.; T. B. Harvey, Indianapolis; E. Warner, Worcester, Mass.; L. Fay, Lowell, Mass.; D. Crea, Council Bluffs, Iowa; B. E. Hadra, San Antonio, Tex.; L. Robinson, San Francisco; E. S. Dunster, Ann Arbor, Mich.; H. O. Marcy, Boston; T. Opie, Baltimore; W. H. Baker, Boston; W. Gardner, Montreal; W. Goodell, Philadelphia; A. R. Jackson, Chicago; J. T. Johnson, Washington. SECTION VIII (*Ophthalmology*).—President: E. Williams, Cincinnati. Vice-presidents: H. D. Noyes, New York; E. L. Holmes, Chicago; W. Thomson, Philadelphia. Secretary: S. M. Burnett, Washington. Council: C. S. Bull, New York; A. W. Calhoun, Atlanta; H. Derby, Boston; E. G. Loring, New York; W. F. Norris, Philadelphia; W. W. Seely, Cincinnati; S. Theobald, Baltimore; O. F. Wadsworth, Boston; H. W. Williams, Boston; J. Green, St. Louis; P. D. Keyser, Philadelphia; D. Hunt, Boston; B. J. Jeffries, Boston; A. G. Sinclair, Memphis; B. Baldwin, Montgomery, Ala.; W. H. Sanders, Mobile; B. E. Frier, Kansas City; E. Smith, Detroit; J. L. Thompson, Indianapolis. SECTION IX (*Otology*).—President: C. J. Blake, Boston. Vice-presidents: A. M. Wilder, San Francisco; H. N. Spencer, St. Louis; D. S. Reynolds, Louisville. Secretary, S.

O. Ritchie, Washington. Council: J. H. White, Richmond; J. O. Green, Boston; G. Strawbridge, Philadelphia; S. J. Jones, Chicago; C. Turnbull, Philadelphia; J. A. Lippincott, Pittsburgh; C. H. Burnett, Philadelphia; C. J. Lundy, Detroit; E. H. Hazen, Davenport, Iowa. Section X (*Dermatology and Syphilis*).—President: W. A. Hardaway, St. Louis. Vice-presidents: J. M. Keller, Hot Springs, Ark.; J. N. Hyde, Chicago; J. C. White, Boston; L. A. Duhring, Philadelphia. Secretaries: F. E. Daniel, Austin, Tex.; W. T. Carlett, Cleveland. Council: I. E. Atkinson, Baltimore; A. R. Robinson, New York; E. Wigglesworth, Boston; H. C. Yarrow, Washington; H. O. Walker, Detroit; W. F. Glenn, Nashville; H. R. Carter, U. S. Marine-Hospital Service; J. J. McAchran, Laramie City, W. T.; J. A. Octerlony, Louisville; LeG. B. Denslow, St. Paul. Section XI (*Laryngology*).—President: J. N. Mackenzie, Baltimore. Vice-presidents: M. F. Coomes, Louisville; F. I. Knight, Boston. Secretaries: D. Bryson Delavan, New York; E. F. Ingals, Chicago. Council: W. H. Daly, Pittsburgh; G. W. Major, Montreal; E. C. Morgan, Washington; W. Porter, St. Louis; E. L. Shurly, Detroit; R. P. Lincoln, New York; C. Sajous, Philadelphia; H. Goldthwaite, New York. Section XII (*Public and International Hygiene*).—President: H. A. Johnson, Chicago. Vice-presidents: A. L. Carroll, Albany; J. L. Cabell, University of Virginia; J. B. Lindsley, Nashville; J. E. Reeves, Wheeling; J. N. McCormick, Bowling Green, Ky. Secretaries: W. Wyman, U. S. Marine-Hospital Service; G. H. Rohé, Baltimore. Council: A. Gihon, U. S. Navy; H. B. Baker, Lansing, Mich.; G. P. Conn, Concord, N. H.; W. H. Ford, Philadelphia; H. Leffmann, Philadelphia; D. W. Hand, St. Paul; J. H. Kidder, Washington; J. H. Rauch, Springfield, Ill.; J. H. Raymond, Brooklyn; J. R. Smith, U. S. Army; S. Smith, New York; H. P. Wolcott, Cambridge, Mass.; G. B. Thornton, Memphis; R. M. Sweringen, Austin, Tex.; C. M. Hewitt, Red Wing, Minn.; H. F. Lester, Detroit; E. S. Elder, Indianapolis; O. C. DeWolff, Chicago; E. L. B. Godfrey, Camden, N. J.; H. S. Orme, Los Angeles, Cal.; J. Holt, New Orleans; W. S. Robinson, Muscatine, Iowa; W. L. Schenck, Osage City, Kansas; B. Lee, Philadelphia. Section XIII (*Collective Investigation, Nomenclature, Vital Statistics, and Climatology*).—President: N. S. Davis, Chicago. Vice-presidents: J. Cochran, Mobile; E. M. Snow, Providence. Secretary: J. F. Todd, Chicago. Council: N. Allen, Lowell, Mass.; R. A. Cleeman, Philadelphia; J. H. Hollister, Chicago; J. T. Reeve, Appleton, Wis.; J. Tyson, Philadelphia; E. T. Sabal, Jacksonville, Fla.; A. C. Hamlin, Bangor, Me.; T. S. Hopkins, Thomasville, Ga.; T. J. Allen, Shreveport, La.; C. Denison, Denver; H. C. Ghent, Austin, Tex.; E. P. Hurd, Newburyport, Mass.; E. W. Morley, Cleveland; O. W. Wight, Detroit; T. T. Miner, Seattle, Wash. T.; P. C. Remondino, San Diego, Cal.; J. W. Parsons, Portsmouth, N. H.; W. P. Hart, Washington, Ark. Section XIV (*Military and Naval Surgery and Medicine*).—President: D. L. Huntington, U. S. Army. Vice-presidents: F. H. Hamilton, New York; H. McGuire, Richmond; S. P. Moore, Richmond; W. E. Taylor, U. S. Navy (retired); P. O. Hooper, Little Rock, Ark.; E. Andrews, Chicago; L. H. Gregory, St. Louis; D. McLane, Detroit. Secretaries: B. F. Pope, U. S. Army; McF. C. Gaston, Atlanta. Council: D. Bloodgood, U. S. Navy; R. B. Bontecou, Troy, N. Y.; J. H. Brinton, Philadelphia; E. J. Marsh, Paterson, N. J.; C. M. Martin, Mobile; G. Peck, U. S. Navy; W. E. Peck, Davenport, Iowa; C. Smart, U. S. Army; J. R. Tryon, U. S. Navy; A. A. Woodhull, U. S. Army; J. W. Hamilton, Columbus, O.; W. Murphy, St. Paul; W. C. B. Fifield, Bangor, Me.; L. Goodrich, U. S. Army; W. S. Tremaine, U. S. Army; J. H. Peaslee, Omaha; S. E. Armstrong, U. S. Marine-Hospital Service. Section XV (*Practical and Experimental Therapeutics*).—President: H. C. Wood, Philadelphia. Vice-presidents: E. R. Squibb, Brooklyn; R. T. Edes, Boston; F. P. Porcher, Charleston. Secretaries: R. T. Reichert, Philadelphia; R. M. Smith, Philadelphia. Council: G. Griswold, New York; R. Amory, Boston; H. M. Lyman, Chicago; S. Nickels, Cincinnati: F. Steyart, Cincinnati; I. Ott, Easton, Pa.; D. W. Prentiss, Washington; C. Rice, New York; C. H. White, U. S. Navy; T. F. Wood, Wilmington, N. C.; J. M. Flint, U. S. Navy; E. P. Fraser, Portland, Oregon; T. F. Breck, Springfield, Mass.; R. D. Webb, Livingston, Ala.; F. Woodbury, Philadelphia; J. V. Van Velsas, Yankton, Dakota T.; —— Codlock, Knoxville, Tenn.; J. F. Y. Payne, Galveston, Tex.; T. Weed, Cleveland; D. W. C. Wade, Holley, Mich.; R. C. Moore, Omaha; G. M. Garland, Boston; —— Crompton, Lancaster, Pa. Section XVI (*Diseases of Children*).—President: J. L. Smith, New York. Vice-presidents: D. Miller, Chicago; S. C. Busey, Washington. Secretary: E. T. Williams, Boston. Council: F. Forchheimer, Cincinnati; J. M. Keating, Philadelphia; W. Lee, Baltimore; J. H. Pope, Marshall, Tex.; W. B. Atkinson, Philadelphia; A. Walker, Evansville, Ind.; W. A. Conklin, Dayton, O.; W. F. Holt, Macon, Ga.; K. Johnson, Grand Rapids, Mich.; C. A. Leale, New York; S. H. Charlton, Seymour, Ind.; W. H. Dougherty, Augusta, Ga.; B. H. Riggs, Selma, Ala.; H. H. Middlekamp, Ironton, Mo.; J. A. Hodge, Henderson, Ky.; G. W. Moody, Huron, Dakota T.; A. A. Horner, Helena, Ark.

Dr. W. H. Wathen offered the following preamble and resolution:

Whereas, It has become necessary, in order that this committee may fully understand the professional and personal standing of the various persons suggested for appointment, therefore be it

Resolved, That it is the sense of this meeting that all remarks bearing upon the qualifications of said persons be considered as strictly confidential between the members of the committee, and that the report of such remarks, if heretofore recorded, be expunged from the minutes. Carried unanimously.

The committee then adjourned, to meet in St. Louis on the Monday preceding the next meeting of the American Medical Association.

New York State Medical Association, Northern Branch.—The first annual meeting will be held in Utica on Tuesday, the 7th instant. The following papers are expected to be read: "Well-water and its Uses," by Dr. Malck A. Southworth, Little Falls; "The Treatment of Hæmorrhoids by Recent Methods and Instruments," by Dr. Leroy J. Brooks, Norwich; "Extra-uterine Pregnancy," by Dr. William A. Hall, Fulton; "Ankylosis of the Knee Joint as a Remedy for Extreme Paralysis of the Leg, due to Infantile Paralysis," by Dr. Stephen Smith, New York; "The Advantages of Paris as a Place of Medical Education," by Dr. M. M. Bagg, Utica; "Jaborandi and its Uses in Typhoid Fever," by Dr. Wallace Clarke, Utica.

The District Medical Society for the County of Hudson, N. J., will meet at the Stevens Institute, in Hoboken, on Tuesday, the 7th inst., at 3 o'clock P. M. Dr. W. P. Watson will read a paper on Cholera Infantum, and Dr. J. Lewis Smith and Dr. J. H. Ripley, of New York, are expected to take part in the discussion.

The International Medical Congress and the Medical Profession of Philadelphia. A meeting of the members of the medical profession of Philadelphia concerned in the organization of the International Medical Congress of 1887 was held at the Hall of the College of Physicians, on Monday, June 29th. Dr. Alfred Stillé in the Chair. Dr. David W. Yandell, of Louisville, was present by invitation.

After hearing a report of the proceedings of the new committee, at the meeting held in Chicago last week, and, after considering the changes in the organization which were made, including the restriction of the scope of the membership, by which a large proportion of the profession of the country would be excluded from the Congress, the following preambles and resolution were unanimously adopted:

Whereas, Certain serious changes have been recently effected in the preliminary organization and rules for the International Medical Congress of 1887, it has seemed desirable for the members of the General Committee and the officers of the Sections resident in Philadelphia to meet for consultation; and

Whereas, It has appeared that these changes are inconsistent with the original plan, and detrimental to the interests of the medical profession in America, and of the International Medical Congress; therefore be it

Resolved, That we, the undersigned, consider that our duty to the profession and to ourselves requires us to decline to hold any office whatsoever in connection with the said Congress as now proposed to be organized:

D. Hayes Agnew,
Roberts Bartholow,
John H. Brinton,
Charles H. Burnett,
R. A. Cleemann,
J. M. Da Costa,
Louis A. Duhring,
William H. Ford,
William Goodell,
Samuel W. Gross,
Robert P. Harris,
I. Minis Hays,
William W. Keen,
Joseph Leidy,
S. Weir Mitchell,
William F. Norris,
William Osler,
John H. Packard,
Theophilus Parvin,
William Pepper,
Edward T. Reichart,
Albert H. Smith,
Robert Meade Smith,
Alfred Stillé,
George Strawbridge,
William Thomson,
James Tyson,
Horatio C. Wood,
David W. Yandell.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 21, 1885, to June 27, 1885:*

Hartsuff, Albert, Major and Surgeon. Assigned to duty at Fort Hamilton, New York Harbor. S. O. 133, Department of the East, June 24, 1885.

Middleton, J. V. D., Major and Surgeon. Granted one month's leave, with permission to apply for fifteen days' extension, to take effect about the 15th proximo. S. O. 88, Department of the Missouri, June 19, 1885.

Brown, H. E., Major and Surgeon. Assigned to duty as post surgeon, Fort Reno, Indian Territory. S. O. 91, Department of the Missouri, June 24, 1885.

Taylor, Blair D., Captain and Assistant Surgeon. Ordered from Department of Texas to Department of the East. S. O. 141, A. G. O., June 20, 1885.

Caster, William F., Captain and Assistant Surgeon. Ordered from Department of the East to Department of Texas. S. O. 141, A. G. O., June 20, 1885.

Davis, William B., Captain and Assistant Surgeon. Leave of absence extended three months. S. O. 142, A. G. O., June 23, 1885.

Ebert, R. G., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about July 5th. S. O. 97, Department of the Columbia, June 17, 1885.

Robertson, R. L., First Lieutenant and Assistant Surgeon. Now on leave of absence, directed to report in person by July 7, 1885, to commanding officer, Columbus Barracks, Ohio, to accompany detachment of recruits to Department of Texas. On completion of this duty, to rejoin his proper station. S. O. 143, A. G. O., June 24, 1885.

Society Meetings for the Coming Week:

Monday, *July 6th:* New York Academy of Sciences (Section in Biology); Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford City, Conn., Medical Association; Chicago Medical Society.

Tuesday, *July 7th:* Elmira, N. Y., Academy of Medicine: Buffalo Medical and Surgical Association; Medical Society of the County of Broome, N. Y.; Ogdensburg, N. Y., Medical Association; Hudson County (Jersey City) and Union County (quarterly), N. J., Medical Societies; Chittenden County, Vt., Medical Society; Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *July 8th:* American Microscopical Society of the City of New York; Medical Societies of the Counties of Cayuga and Seneca (annual). N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Franklin District (quarterly—Greenfield), Hampshire District (quarterly—Northampton), and Worcester District, Mass. (Worcester), Medical Societies.

Thursday, *July 9th:* Brooklyn Pathological Society; Medical Society of the County of Fulton, N. Y. (semi-annual—Johnstown); South Boston, Mass., Medical Club (private).

Friday, *July 10th:* Medical Society of the Town of Saugerties, N. Y.

Saturday, *July 11th:* Worcester North District, Mass., Medical Society.

Proceedings of Societies.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of June 3, 1885.

A Plea for the Medicinal Use of Pure Alcohol and Alcoholic Mixtures of Known Composition in Preference to Ordinary Fermented Liquids.—Dr. Henry Leffmann read the following paper:

I present to the College this evening, with some misgivings, I confess, a topic which can scarcely yet be considered a "live issue" in clinical medicine, but which is destined, I am certain, to become one. At the present time the profession does not take kindly to suggestions having in view material modifications of its policy in reference to alcoholic liquors. The majority of physicians regard those who preach or practice total abstinence, or throw doubt on the indispensability of alcohol as a therapeutic agent, as entitled to little respect or tolerance. In presenting the view that we should abandon in clinical medicine the use of the natural wines and liquors, and resort to mixtures confessedly fictitious, we must expect to encounter all the force of the conservative spirit. Many centuries of constant use have developed in the race a feeling that fermented drinks, particularly those that, like wines and malt liquors, have suffered no modification by distillation or admixture, are bounties of nature wisely given for our use. The traditions of the past associate the first preparation of liquor with the gods, and in all ages poetry and prose have combined to increase the reverence for these natural products. Yet all this feeling is nothing but a superstition. Fermentation is now known to be a process occurring under the influence of micro-organisms, and it allies itself with ordinary putrefaction. The secret which we have for "Nature's laboratory" is born of ignorance, and

there is no progress in chemistry more gratifying in its results than that which deals with dispelling the illusions which have surrounded its application to medicine.

Whatever ulterior relations the plan advocated here may have to the questions of total abstinence are not presented for discussion; I merely offer it as a contribution to the methods of exactness and certainty in clinical work.

In the medicinal and dietetic use of fermented liquors, it is the effect of the ethyl alcohol which is sought to be obtained. It is true that those who prescribe liquors a great deal are in the habit of saying that the accessory ingredients, compound ethers, astringents, or bitter principles, etc., are also efficacious, but that, if we closely observe the customs of such prescribers, it will be found not only that the effect expected from the alcohol outweighs that to be obtained from any other ingredient, but also that, in the majority of cases, the accessory ingredients are either not known or recognized.

Taking this fact, then, as a starting point, that an agent universally recognized as one of powerful physiological activity should be used only in the most definite condition. The forms of fermented liquors are numerous, and each form is subject to minor variations, depending on locality and season. The demand exceeds the supply, and hence the strong temptation to dilute and substitute. Within the past few months further notice has been given of the communications by American consuls abroad to the effect that the wines and brandies exported from France and Portugal are fictitious articles, in the majority of cases, and it needs but a little inquiry to show that a very large trade in liquors more or less spurious is carried on over the entire world.

Chemical analysis still has much to accomplish in the study of fermented liquors, but enough is known to enable us to imitate their essential features. The tabular statement of composition gives us a long list of mineral ingredients, but we are reasonably certain that, besides the ethyl alcohol, the only ingredients that need attention are the traces of fusel oil, compound ethers, astringent and bitter principles, and the effect even of their accessories is often more on the mind than on the body.

I suggest first, then, that in all cases in which the general physiological effect of ethyl alcohol is desired, it should be given by prescription, in the form of a rectified spirit of standard strength. My friend, Dr. A. W. Miller, who is familiar with this topic, both from the point of view of the pharmacist and physician, has suggested that such a standard, pure spirit be made officinal under the title *spiritus maydis rectificatus*. Such a suggestion is in the interest of clinical accuracy and safety to the patient. If the medical profession have any concern in the protection of the health and morals of the community—and it would certainly appear that it has great concern—no better opportunity is offered for good work than in reforming the widespread errors in reference to the use of alcoholic liquors. Where is the physician who would say to a patient, Take a little laudanum or chloral every day, and leave to the patient or the druggist the duty of determining the dose, or the duration of the treatment? Yet every day physicians give similar recommendations in regard to liquors. The use of rectified spirits in present plans is to be recommended on the same ground that we give potassium bromide and iodide in accurate dosage, instead of the soda water which contains them, or morphine and quinine instead of opium and Peruvian bark. Incidental to the therapeutic accuracy and moral safety which are involved in such practice is the not unimportant question of cheapness. Many liquors command prices far above the actual commercial value of the ingredients they contain. A pure French brandy, for instance, costs twelve dollars a gallon. Its place can be taken by a spirit of much less cost.

Several objections may be made to the plan of using the plain spirit. I can not stop to consider the one which arises from a belief in the superiority of a natural product, from a view that that which arises from a natural process will be necessarily superior to anything artificial; this, as I have said before, is a superstition; but there are some suggestions which are really important. It may be that the accessory ingredients have some therapeutic value, and it has been said to me that while pure alcohol may easily be used during acute disease and in hospital practice, that in long-continued treatment, and as a dietetic, patients can not be made to take it. In these cases the method to be pursued is plain. Let the alcohol be mixed with suitable accessory ingredients. If a combination of bitter tonic, sedative, and stimulant is wanted, it can be prescribed, and so on. There need be no difficulty in the matter, because modern art in the preparation of fictitious liquors has reached such perfection that excellent imitations of the natural liquors are made, and these have the advantage of definite and known composition and greater cheapness.

It is not uninteresting to note here the general nature of this work. I have the samples to illustrate it. In the preparation of fictitious liquors three methods may be employed. 1. The genuine liquor may be diluted with a suitable strength of pure spirit. This will give us a liquor differing but little from the original. 2. The liquor may be imitated by adding to pure spirit coloring and flavoring ingredients. In many cases this will give a liquor substantially identical with the original. 3. The liquor may be made up weak, and then taste and appearance of alcoholic strength be given by means of pepper and bead oil. The latter method is reprehensible, but the two former methods are, I hold, not injurious, and should be recognized.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 4, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

Biniodide of Mercury as a Disinfectant in Obstetrics.—Dr. E. P. Bernardy read a paper with this title. His attention had first been called to the use of the biniodide of mercury as a germicide by Dr. Miquel, who had published in "L'Annuaire météorologique de Montsouris" the results of some experiments made to determine the minimum amount of a disinfectant necessary to prevent fermentation in a litre of sterilized beef-broth. His experiments showed that the mercurials were the best antiseptics, the biniodide being nearly three times as strong as the bichloride. In his table of disinfectants he placed the bichloride fourth on the list. To a litre of sterilized beef-broth he found it required 0·025 gramme of the biniodide of mercury to keep the broth pure, while 0·070 gramme of the bichloride of mercury was necessary to produce like effects. This showed that bacterial life was impossible in a solution of one forty-thousandth part of the biniodide, while of the bichloride it required one fourteen-thousandth part. The reader had been so forcibly impressed with these experiments that he had determined to give the biniodide of mercury a trial in obstetric cases where it was necessary to use an antiseptic. The following were the cases in which it had been used:

Case I.—On February 7, 1885, he was requested to take charge of Mrs. D., who had been confined about six weeks previously. It had been her second confinement, the duration of labor had been short and delivery natural, but an extensive laceration of the perinæum had occurred. No attempt had been made to bring the parts together by sutures. On the third evening she had been at-

tacked with severe frontal headache and chills, followed by fever, with great tenderness over the region of the uterus. There being no improvement in her condition, her medical attendant was discharged, and another called in, who gave such an unfavorable prognosis that he also was requested to cease his attendance. The patient had well-marked symptoms of septic poisoning. The pulse ranged from 130 to 140, was small and thready, and disappeared under the pressure of the finger; the temperature was 104° to 105°. She was slightly delirious, and had constant vomiting; the abdomen was swollen and excessively tender; the uterus was enlarged, extending fully three inches above the pubes. In the right side there seemed to be a growth extending up into the abdomen, tender on pressure. On making a vaginal examination, the os was found dilated so that the index-finger could readily enter the uterus. Its withdrawal was followed by a gush of highly offensive matter. The uterus was surrounded by organized lymph, and was immovable. The mass on the right side was easily detected, and was continuous with the lymph surrounding the uterus. The vagina was hot. The perinæum was torn to the anus; the surface was raw and discharged an acrid matter which scalded the surrounding parts. The urine was dark, and, on standing, deposited a reddish material which looked like blood-corpuscles. Dr. A. E. Russell examined the specimen and reported it to be slightly acid, with no albumin or sugar; under the microscope occasional pus-corpuscles were seen, and it was swarming with bacteria. In conjunction with internal treatment, intra-uterine injections were made three or four times a day. A solution of bichloride of mercury, 1 to 2,000, was first used. This was continued for three days without any marked results. The discharges continued as offensive as before. On the fourth day the bichloride was replaced by a 1-to-4,000 solution of biniodide of mercury. Within twenty-four hours an amelioration of all symptoms took place, the pulse fell to 100, and the temperature to 101°; the urine became clear and the discharge odorless. The injections were continued for ten days, their frequency being gradually reduced. The uterus returned to almost its normal size, and the lymph was gradually absorbed. The patient recovered.

Case II.—March 19, 1885, he was called to attend Mrs. W. in her first confinement. On his arrival, he found she had been in labor several hours. Examination showed the os perfectly dilated and the bag of waters protruding. The presentation was of the vertex, in the first position, and he ruptured the amnion. The vagina near its outlet was roughened with venereal warts, and they spread also over the vulva. Labor progressed rapidly and the second stage was happily ended. After waiting nearly an hour, making pressure on the uterus, he made slight traction on the cord, and, while doing so, felt, with his hand upon the uterus, a cup-like depression of the fundus take place. This convinced him that he had an adherent placenta to deal with, and that it would be folly to wait any longer. On introducing the hand he found the placenta completely adherent, so that it could hardly be said which was uterus and which placenta. After considerable trouble, he at last succeeded in detaching the placenta; it took fully three quarters of an hour. On making a second examination, to ascertain if the whole had been removed, his hand came in content with long shreds hanging from all sides of the uterus; the more he scraped, the more there seemed to be. He gave the patient two drachms of fluid extract of ergot. She did well for two days, when toward evening she complained of a chill and severe frontal headache. He then gave her ten grains of sulphate of quinine, with a quarter of a grain of sulphate of morphine, at one dose, and washed out the uterus with a 1-to-4,000 solution of biniodide of mercury. The pulse was 115 and the temperature 102°. The discharge was highly offensive. The injections were repeated every four hours. On the evening of the next day the pulse was 98, the temperature 100°, the discharge odorless, and the patient was perfectly well in ten days more.

Case III.—April 23, 1885, he was requested to call at once to see Mrs. K., who was reported in imminent danger of death. This was her ninth confinement. The history of the previous ones, with one exception, was not good. Her labors had been natural, but followed by terrible flooding and protracted convalescence. He found her in an attack of puerperal convulsions. He gave at once thirty grains of bromide of potassium and twenty of chloral hydrate. This dose was repeated in half an hour; ten minutes later another convulsion occurred. He then bled the patient freely. The os uteri was somewhat enlarged, the cervix soft and dilatable; there was a vertex presentation. Dr. Curtin, whom he had sent for, having confirmed his opinion, and considering that the patient's time was quite up, it was decided to etherize her, dilate the cervix, and deliver. The forceps was applied, and traction made at intervals. A living child was safely extracted. Continuous pressure was maintained over the uterus, but, after the expulsion of the placenta, the organ did not contract until it had been washed out with hot water. The bromide and chloral were continued every two hours, and no more convulsions occurred. The patient did well up to the fourth day, when the discharges became very offensive and the pulse accelerated, and slight tenderness existed over the uterus; but there was no chill or fever. The uterus was thoroughly washed out with a solution of biniodide of mercury, 1 to 4,000, and within twenty-four hours the discharge had become odorless and the tenderness over the uterus had disappeared. The patient recovered after a tedious convalescence.

In these cases it would be seen that the biniodide was prompt in its action, markedly so in Case I, where the bichloride and the biniodide were both employed, the result being decidedly in favor of the biniodide. Naturally, it would be said, here were only three cases from which deductions were to be drawn, and it was only after it had been carefully used in a large number of cases that its efficacy could be proved. It was for this reason that he brought it to the attention of the members of this society, who were in a position to give it a fair and impartial trial, and at some future time give the results of their investigations. He had found the 1-to-4,000 solution of the biniodide non-irritating, and had used it extensively in his gynæcological practice and in washing out pus cavities with good results. In it we had a preparation in which the smallest amount of drug was used with results far exceeding those of any other antiseptic. On account of the small quantity of mercury, there would be less chance of salivation. The method he had pursued in making the solution was: Take three grains and a half of the salt, well triturated in a mortar and rubbed, with one quart of boiling water, slowly added, giving a solution of 1 to 4,390. Since writing the foregoing he had seen in the "Philadelphia Medical Times" for May 16th that Dr. Panas, eye surgeon of the Hôtel-Dieu, used the 1-to-25,000 solution of biniodide of mercury in eye cases. He made the following statements: "After a number of experiments, I have convinced myself that a solution in water, 1 to 10,000, of the bichloride, or a similar solution, 1 to 25,000, of the biniodide of mercury, is much superior to any other antiseptic solution employed in eye surgery.' Here again we had a statement that the biniodide in a smaller quantity was as good an antiseptic as the bichloride.

Dr. Montgomery's experience had led him to the conclusion that the bichloride of mercury was far more effective as a disinfectant than carbolic acid. Its introduction into the Philadelphia Hospital had been due to Dr. Parvin, who had found it very satisfactory. In eighteen cases of puerperal fever that were treated with bichloride injections, only three deaths occurred. This success was attributed by the hospital staff to the use of the bichloride. In private practice the speaker followed the plan of Dr. Garrigues, of New York, and avoided intra-uterine injections after labor, but applied pledgets wet with a bichloride solution over the vulva, after carefully cleansing away clots and washing the external parts with a similar solution. In his last term at the Philadelphia Hospital he had had only two cases of puerperal fever, one of which commenced twelve days after delivery. The history of Dr. Bernardy's cases showed an equal if not better antiseptic power in the biniodide of mercury.

Dr. J. V. Kelly some years ago had had several fatal cases of puerperal fever, and about twenty-five patients that got well.

The trouble commenced in a case of abortion, in which he did not succeed in removing all of the placenta. He was at the same time attending a bad case of erysipelas, and at that time the relationship of puerperal fever and erysipelas was not known to him. He was on the point of giving up his practice and leaving the town, and he consulted Dr. Goodell on that question. Dr. Goodell discountenanced such action, but advised him, when attending an obstetric case, to remove his coat and roll up his sleeves, and wash his hands and arms well with turpentine, using the nail-brush thoroughly. Since that time he had washed his hands in turpentine every day and again before every case of labor. He also used a wash of vinegar or carbolic acid solution before touching a puerperal patient. He had met with no puerperal fever or other septicæmic symptoms since that time.

Dr. Parvin said that, as reference had been made to his having used corrosive-sublimate vaginal injections in the cases of puerperal septicæmia under his care in the Philadelphia Hospital last year, he would refer to the antiseptic treatment in the cases occurring the present year. When he took charge of the obstetrical ward, on the 1st of January, he found five recent cases of septicæmia: two of these patients died; one of the two had apparently recovered and then was attacked by pneumonia —quite possibly this pneumonia had a septic origin. Then there were at least seven other cases, but all these patients, as well as three of the original five, recovered. Injections of a solution of corrosive sublimate, 1 to 5,000, were used in all cases immediately after labor. The external parts were washed, too, with a similar solution. This injection was repeated twice a day in all cases for the first week after labor, while it was used oftener in those having septicæmia. Intra-uterine injections were used only when vaginal injections failed to correct the offensiveness of the discharge, but, as was well known, there might be serious, even fatal, cases of septic disease though the lochial flow was not at all offensive. In private practice, after once washing out the vagina thoroughly with the antiseptic solution immediately after labor, this need not be repeated unless symptoms demanded it, but the bathing of the vulva twice a day with the solution ought not to be omitted. Add, if preferred, to this treatment the use of antiseptic napkins, a practice pursued by Dr. Montgomery at the Philadelphia Hospital so successfully, and he thought we had taken the most important means to guard against the entrance of septic germs after labor. He had had no experience with the biniodide of mercury, and did not know that it would supersede the bichloride. The argument in its favor was as strong as three successful cases could make it, but these were entirely too few, as Dr. Bernardy had justly said, to prove its value and its superiority. In one of the doctor's cases labor was induced, apparently on account of eclampsia. Now, was this the best treatment? Obstetricians were by no means agreed, some of the best condemning such treatment.

Dr. Montgomery used the bichloride solution as an external wash only, not as an injection. He thought the records of the hospitals in which injections were used would not show such good results as those in which they were omitted, if septicæmia was not present.

Dr. Willard had a warning to sound with regard to the use of strong bichloride solutions. He had been using washes and antiseptic dressings made with a 1-to-1,000 solution of bichloride, but, in consequence of what had been written about the advantages of stronger solutions, he had increased the strength to 1 to 500 and within twenty-four hours the stools contained bloody mucus, and were small and griping; there was vesication about the wound and around the limb under the dressings. Entirely dry dressings had been used, but they had been moistened by pus and serum from the wound. He did not see the advantage of solutions in serum so strong as 1 to 100 or 75. Serum was a decomposable substance, and an uncertain portion of the antiseptic agent was destroyed by it. Weak solutions in boiling water seemed more reasonable, and answered every purpose.

Dr. Longaker would like to hear how Dr. Bernardy removed the placenta in the case of adhesion narrated by him. He had been using Credé's method with great satisfaction. He thought the hand should be kept out of the parturient canal as much as possible. He did not use vaginal injections after labor, but depended upon outside washes. He found that the temperature rarely rose during the puerperal period, even after instrumental delivery. He thought care during the third stage would avoid the necessity for antiseptics.

Dr. Parish agreed with Dr. Parvin's views. He had found a solution of 1 to 1,000 of bichloride irritating, and he now used one of 1 to 2,000 or 5,000. Strong solutions caused an appearance resembling erysipelas or inflammation of the derma. Injections were not necessary in every case. Where the surroundings were cleanly and the patient was a multipara he did not use them; but in primiparæ, with contusions or lacerations, and when version or instruments had been employed, he was in the habit of injecting a weak solution of bichloride immediately after delivery. He did not repeat it, but simply washed out the vagina. Cleanliness of hands, instruments, and nurse was the most important point. He had never had any trouble in private practice.

Dr. Bernardy, in closing the discussion, remarked that he thought he had a far better antiseptic in biniodide than the bichloride. He had used the former in surgical cases also, for washing out pus cavities, and always with good results. He did not use intra-uterine washes in every case of labor. He had attended, since the first of the year, about seventy cases of labor, and he had employed the intra-uterine injections in only the three cases detailed. In every case of labor he used carbolic-acid soap on his hands and arms and the external genitalia of the patient. The eclamptic patient had reached or passed her full term, and there was no reason why the child should not be removed. In the case of adherent placenta it was peeled off forcibly and a shreddy lining was left in the uterus, as no line of separation had formed. He believed the dangers consequent on passing the hand and arm into the uterus and vagina were much exaggerated, and he did not hesitate to do so when the exigencies of the case demanded it.

(To be concluded.)

NEW YORK OBSTETRICAL SOCIETY.

Meeting of January 20, 1885.

Dr. W. M. Chamberlain Chairman *pro tem.*

A Spiral Tenaculum was presented by Dr. James B. Hunter, who had found it especially useful in operations for fistulæ within the vagina and for repairing the perinæum and cervix uteri. The instrument retained its grasp upon the tissues more firmly than the ordinary tenaculum, and was easily engaged and disengaged.

A Soft-Rubber Female Catheter was also presented by Dr. Hunter. The opening was at the extremity of the tube, and the walls gradually increased in thickness toward one end. He had known nurses to set up a urethritis or cystitis by the use of rigid catheters after minor operations, which was more troublesome than the original disease. He never employed the silver catheter, because of the danger of the mucous membrane becoming engaged in the orifice and being injured.

The Chairman thought the spiral tenaculum might enable

us to avoid hacking the tissues, which sometimes took place when the ordinary tenaculum failed to retain its grasp. With regard to the rubber catheter, he asked if it would not in some cases be too soft.

Dr. HUNTER said that when a firmer instrument was required the ordinary rubber male catheter could be used.

Removal of the Ovaries and Tubes for Extreme Dysmenorrhœa and Mania.—Dr. B. F. DAWSON presented the Fallopian tubes and ovaries removed two days before from a patient with the following history: She was thirty-six years of age, from New Jersey, had been suffering from apparently hysterical symptoms for two years, and from dysmenorrhœa, which became more aggravated at each return of the menstrual flow. Dr. Dawson first saw her eighteen months ago, but was unable to make a satistactory examination of the pelvic organs because of hyperæsthesia and symptoms of hysteria. Two months afterward he made another examination, and found tenderness over the region of both ovaries, but the patient's condition was still such as to forbid a thorough exploration of the pelvic organs. She then passed into the hands of a physician prominent in the treatment of nervous diseases, who stated that her symptoms were due to simple hysteria and nervous disturbance. But she grew worse, and became the subject of marked convulsive seizures, and two months ago was advised to come to New York for further examination and treatment for disease of the sexual organs. December 29th her physician, Dr. Allen, wrote Dr. Dawson that she was in one of her periodical attacks, and had for four days been lying in a maniacal state. He advised that an operation be performed for her relief before the return of another menstrual period, as it was feared she would not be able to live through another attack. The patient arrived in New York on Saturday night, pulseless at the wrist, the extremities cold, the mind lethargic. There was ovarian enlargement with tenderness. After a consultation it was decided to operate the next morning, but, when morning came, two hours were spent in stimulating the patient, to put her in a condition at all suitable for an operation. It was probable that not more than a wineglassful of blood was lost during the operation. The right ovary was removed with some difficulty. The left one was as large as a hen's egg, and bound down by adhesions. While he was endeavoring to liberate it it burst in his hand, and material escaped which felt like lumps of charcoal. It proved to be a black, granular mass, probably composed of coagulated blood which had become encysted within the tumor. This ovary also contained several cysts, and both organs were in a state of congestion. The patient rallied well just after the operation, her mind was clear, and she said she felt better than for many months, and confidently believed that she would recover. But the following morning the temperature rose to 105·5° F., and, although it was readily reduced temporarily by the coiled tube conveying water, it would again rise, and death seemed inevitable. At 4 P. M. the pulse could scarcely be felt at the wrist. By request, Dr. Howe transfused about three ounces of blood and an equal quantity of salt and water. But neither the pulse nor the respiration showed any marked improvement, and she died in the morning. Death might have been accelerated by shock, but it was thought to be chiefly due to inanition and loss of nerve power resulting from protracted illness.

Dr. DAWSON was of opinion that the blood-clot removed from the left ovary was formed at the last menstrual period, when it was feared that the patient would die. He attributed her symptoms to the condition of the ovaries, and said that, had an operation been allowed when he urged it six months ago, the patient would have stood a better chance of recovery, and would have been spared months of extreme suffering.

Dr. A. JACOBI said that, in order to complete the history of the case, one or two things would be desirable. One was, recovery after the operation; another, since the patient had died, a post-mortem examination, and he would suggest that, if it was possible, one should yet be made. Those who had listened to the history had not seen the patient; certainly Dr. Dawson had, and he had given reasons why he had regarded the symptoms as of reflex origin, and therefore had operated upon the ovaries. But possibly an autopsy would give a clew to the origin of the symptoms, as it had done in some other cases, in a direction different from that to which Dr. Dawson had pointed. He would not say that this was one of the cases, but meningitis, more or less localized and more or less old, had given rise to a great many symptoms which had very frequently been mistaken for reflex symptoms. He therefore thought that a post-mortem examination would be very important in order to determine absolutely that there was nothing in the brain which might explain the symptoms. If nothing was found in the brain he would certainly be of the same opinion with Dr. Dawson, that the ovaries were the cause of all the symptoms complained of for so many years.

Dr. DAWSON remarked that the maniacal symptoms dated back only a few menstrual periods, and that after the operation the patient became clear in her mind. The history was not one of meningeal trouble.

Dr. JACOBI said there were many cases of meningitis which did not show pathognomonic symptoms. He did not think our knowledge of reflex symptoms was sufficiently advanced to enable us always to exclude disease of the central organ of which we knew so little.

Dr. DAWSON said that a year ago, at the request of Dr. C. H. Brown, he saw a woman with mania, in whom he detected an enlarged ovary, and, inasmuch as there was a possibility of the mental trouble being of reflex origin, he advised an operation, which was consented to. The specimen was shown to the society. He saw the woman about six weeks ago, and her husband told him that she was herself again, and absolutely free from maniacal symptoms; the operation, he said, had cured her. A month ago, however, her symptoms of mania had returned. This case would go to support the view taken by Dr. Jacobi that we were in ignorance of the influence which disease of the ovaries might have in the production of mania.

Dr. HUNTER thought that time enough was not always allowed to elapse after removal of the ovaries before denying its beneficial effect. He recalled a case operated upon by Dr. Thomas some years ago for the relief of maniacal symptoms for which the patient had been restrained nearly a year. Both ovaries were found to be diseased, but no improvement followed their removal; the patient became a hopeless maniac. But, after the lapse of a number of months, improvement began, and now, two years after the operation, the patient was perfectly well. She had been a burden to her household for ten years. Dr. Hunter had seen several other cases in which recovery did not begin to take place for from twelve to eighteen months after removal of the ovaries for symptoms attributed to disease of those organs.

Dr. JACOBI inquired of Dr. Hunter whether he attributed the patient's improvement eighteen months after the operation to removal of the ovaries.

Dr. HUNTER replied that that was the deduction; there was no question as to disease of the ovaries; they were both cystic. The symptoms of mania began with dysmenorrhœa, and were aggravated during each menstrual period.

Dr. JACOBI thought that such cases ought to be accepted with a good deal of doubt. Eighteen months was a long time to wait after an operation for recovery to take place; he did not think that so great a length of time should be required for

the absorption of inflammatory deposits which might have occurred in the neighborhood of the diseased organs and caused a continuance of the symptoms. Besides, there were many cases of mania which got well without removal of the ovaries, and cases of the kind related by Dr. Hunter should not, therefore, be allowed to prove too much in favor of the operation.

Dr. Hunter remarked that in the case to which he referred menstruation had continued with more or less regularity a year or two after the operation. He had records of cases in which menstruation had continued for about a year after the operation. If the periods continued to recur for a year, it was not unreasonable to suppose that improvement would begin at the end of that time. He believed, with Dr. Jacobi, that it would require a number of cases to prove the matter positively.

The Chairman inquired whether we were to understand that the improvement began with the cessation of menstruation.

Dr. Hunter replied in the affirmative. He further referred to a case of which he had very full records—that of a woman who had suffered from dysmenorrhœa of increasing severity for eight years. She preferred death to her condition before the operation. No marked improvement followed the removal of the ovaries, and at the end of six months she was still suffering from severe pain. At the close of the year, however, she wrote that she was perfectly well. She menstruated about the eleventh month after the operation. One ovary had been found to be enlarged and cystic, and both tubes were enlarged.

Prolapsus of the Rectum.—Dr. A. Jacobi related the history of a case of prolapsus of the rectum in a child nearly three years of age, which was presented at his clinic recently. As it entered the room it walked a little peculiarly, as if suffering from soreness of the inguinal glands. It was unable to have a movement from the bowels without straining, and in the passage of both fæces and urine was obliged to lie upon the belly and face. Dr. Jacobi attempted to place the boy upon a chair, but he struggled against it, and his mother said he was unable to sit. On letting his pantaloons down it was observed there was prolapsus of the rectum a distance of three inches, presenting the appearance of a sausage of a dark-red hue. The protrusion bled very easily when touched. At the outer end was an opening, into which he inserted his thermometer-case to take the measurements. As the silver case passed the anus it was grasped rather tightly, which would explain why there had been difficulty in having passages. This condition had lasted for three weeks. An attempt had been made at reduction, but unsuccessfully. Dr. Jacobi supposed the intestine, being so tightly grasped by the anus, could not be in a healthy condition, and, on examining the parts with great care, he found that at the seat of the constriction there were numerous cuts, with rough edges, of varying depth, some extending as deep as the peritoneal coat, showing that amputation of the protruded gut was gradually taking place. He certainly would not undertake reposition at the college clinic-room, and, accordingly, had the child sent to Mount Sinai Hospital, there to be kept under observation. It seemed wiser to allow the colon to become gradually amputated than to undertake reduction, in view of the liability of tearing the exposed peritonæum. He drove to the hospital himself shortly after the child was sent, to instruct the house-physician to do nothing in the case except under his directions or those of the physician in charge. He was told the next day that one of the assistants, on seeing a case of prolapsus of the rectum enter the wards, availed himself of the absence of the house-physician, and squeezed and handled the parts long enough to reduce the protrusion. The next day the child had some difficulty in passing fæces, but the difficulty disappeared by the third day. Little or nothing that was peculiar could be felt in the rectum; probably the incarcerated parts were too high to be reached. But the patient was unable to pass urine, and the catheter had to be used. Six or seven days afterward, learning that the elastic catheter had been used two or three times daily by the nurse in the presence of the house physician, Dr. Jacobi told the physician to employ a silver catheter so that the bladder could be properly explored. A good deal of difficulty was experienced in introducing the catheter; the bladder was bent at its neck, and some force had to be employed to overcome the obstruction. Before the catheter was withdrawn the curve was turned, which straightened the canal, and no further difficulty was experienced in urination. It was not easy to say what had caused the flexion of the neck of the bladder to become aggravated on the reduction of the prolapsed rectum. It could not very well have been caused by peritonitic adhesions, for the reason that one introduction of the silver catheter, with anteflexion of the bladder to the normal or nearly normal position, was sufficient to relieve the trouble. While the child at present seemed to be quite well, an important question arose as to what would be the final result in the case. It was hardly possible that a considerable amount of cicatrization would not take place where there had been partial amputation of the gut, and it seemed more than probable that in the course of time the child would suffer from stricture of the intestine. If this should occur, the case would be a difficult one to treat, because of the marked sigmoid flexure which existed in children. Had spontaneous amputation taken place the child would have been under his immediate observation, and it was not probable that it would have been attended by any serious danger, inasmuch as a portion of the gut was sometimes successfully amputated in intussusception.

The Chairman thought there was at present danger of fæcal matter becoming lodged in some of the cuts within the intestinal coats, and producing further injury.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The Albany Alumni Lectures.—The "Albany Medical Annals" announces that the next course will be given on the 3d of March, 1886, by Professor S. Oakley Van der Poel, M. D., LL. D., of New York, on "Hygiene; its Relations to the Profession and the General Public."

The Republic of Guatemala owes a debt of gratitude to a physician of this city, who, according to the "Eastern Medical Journal," has presented a collection of serpents to the American Museum of Natural History which consists of "all the serpents of the Republic of Guatemala." Surely an easier way of ridding a country of snakes can scarcely be imagined, although our contemporary does not give us the *modus operandi* by which it was accomplished.

Infectious Endocarditis.—We are indebted to Dr. John H. Musser and Dr. George A. Piersol, of Philadelphia, for a copy of their pamphlet entitled "Notes of a Case of Infectious, so-called Ulcerative, Endocarditis, and of a Case of Acute Pericarditis," extracted from the "Transactions of the College of Physicians of Philadelphia." It has seldom been our fortune to meet with so satisfactory a clinical study, and we would particularly commend the photographs, by Dr. Piersol, which accompanied the copy sent us. They seem to represent the perfection of the photographic art as applied to medicine.

The French Medical Year-Book.—We have received from the publishers, the Messrs. E. Plon, Nourrit et Cie., of Paris, the seventh volume of the "Annee médicale," for the year 1884. This excellent pub-

lication, edited by Dr. Bourneville, the *rédacteur en chef* of the "Progrès médical," with the collaboration of a number of eminent practitioners, furnishes a *résumé* of the progress of medicine during the year. It is divided into departments corresponding to the practical branches, and an excellent index makes it easy of reference.

Parturition and Measles.—Dr. A. R. Simmons, of Ithaca, N. Y., writes as follows: "On the morning of March 22d I first saw the patient. On Friday morning, the 20th, she had complained of headache and sore throat, and the next day she had begun to cough. That night labor pains set in and continued all night. The next morning I found the mouth of the womb patulous, but the pains had nearly ceased. The conjunctivæ, the roof of the mouth, and the throat were then reddened, and she coughed a little. Labor pains began again about 6 P. M., and the child was born about 1.30 A. M. It was a normal labor in every respect, and the signs of measles were then very prominent. Seven hours afterward the measles rash was out on her face and neck, there was some delirium, the pulse was 128, and the temperature was 104° F. I was obliged to catheterize her, and continued to do so until April 3d; the expulsive power and the desire to urinate were wanting. The average daily quantity of urine was about a pint, and it contained no albumin or casts. On the 24th the pulse was 108, and the temperature 100°; the tongue was moist. She had passed a very good night, but with some delirium. The rash covered the whole body; the cough was severe, the result of the usual bronchitis; there was some soreness over the bowels, but pressure was very well borne; the lochia were normal; the bowels had moved. At night the pulse was 100, and the temperature 101·3°; there was no tympanites. On the 27th the temperature was 100·8°, and the pulse 120; there was no tenderness of the abdomen, but her back ached; the lochia were offensive, but normal in quantity; the breasts were full of milk. In the afternoon the temperature was 99°, and the pulse 100; a free movement of the bowels had been secured, which had relieved her. From this time she convalesced rapidly, and was sitting up on the sixteenth day after delivery.

"I consider that there was no possibility of error in the diagnosis of measles; a very extensive epidemic was raging at the time, and a case had occurred in the same house early in the month. Knowing that the pregnant woman had not had measles, I advised her removal from the house, but it was not done. The baby coughed some on the 29th and 30th of March, and a rash appeared on the latter day, but, when I saw it at night, it was hardly perceptible, and it was all gone the next day. The child had a convulsion on the 2d of April, but, has since been well. I will add that in the same epidemic a child seven weeks old had the measles a week after its mother was attacked. Both recovered."

Congenital Dislocation of the Patella.—A correspondent writes from Louisville, inclosing a letter from a former pupil of his, asking for information bearing upon the following case: A girl, seven years old, having loose joints, although in robust health, has the patella resting on the external condyle. It is easily replaced while the limb is extended, but requires considerable force to keep it in place during flexion. Both limbs are affected alike. The girl's father, her aunt, and the aunt's daughter, all have their patellas resting on the outer condyle. The doctor asks: Can anything be done to rectify the deformity, what can be done, and is there anything in literature in regard to such an hereditary deformity?

Prevailing Diseases in Illinois.—A correspondent writing from Stillwell, Ill., says that he has encountered an "epidemic" of inflammatory rheumatism and one of paralysis in both children and adults; also that he has regularly to contend with typho-malarial fever in the autumn and cholera infantum in the summer. He would be glad to receive hints as to the management of these various affections.

A Correction.—We regret that an error crept into our report of the proceedings of the recent annual meeting of the Illinois State Medical Society. In the issue for June 20th, page 701, we gave an abstract of a paper entitled "How the Vitality of a Seed is Preserved," and credited the paper to Dr. H. Judd, of Galesburg. The paper, we now learn, was really read by Dr. A. Wetmore, of Waterloo, and we take pleasure in making the correction.

THERAPEUTICAL NOTES.

Veratrum Viride in the Treatment of Palpitation.—M. Sée ("Union méd."; "Dtsch. Med.-Ztg.") recommends the use of tincture of veratrum viride for controlling over-action of the heart in cases of exophthalmic goitre. From three to five drops are to be given three or four times a day, for several weeks or months together.

Persian Insect Powder as a Medicine.—The "Deutsche Medizinal-Zeitung" alludes to the fact that a Russian physician, Dr. Swiontezki, has lately recommended an alcoholic extract of Persian insect powder, with the addition of santonin, as a "sure cure" for cholera; and then quotes from another Russian source to the effect that enemas of the insect powder are effective in the treatment of ascarides, and have no poisonous action.

Massage in the Treatment of Fæcal Accumulation.—Kriwjäkin ("Protok. der kankasisch. med. Gesellsch."; "Dtsch. Med.-Ztg.") reports four cases of obstinate constipation, varying from eight to twelve days in duration, in which the trouble was overcome by deep massage. The fingers, previously oiled, are to be pressed firmly upon the abdomen, and movements of massage are then to be executed, especially upon those parts where hardened masses are felt. The process is to be continued for twenty minutes, and repeated at intervals of an hour and a half until the bowels are moved.

Strychnine in the Treatment of Supra-orbital Neuralgia.—Howe ("Revist. Argent. de Buenos Aires"; "Dtsch. Med.-Ztg.") has succeeded in curing with strychnine a patient who had suffered for fifteen years with a neuralgia that had resisted all other treatment. Four hypodermic injections of the drug were given at the seat of the pain, and this was followed by improvement. The subsequent injections were thrown into the back. The treatment lasted three weeks, and the result is said to have been brilliant.

Sucupira.—This seems to be the generic name of the *soukoupire*, a tall tree found in several varieties in Brazil. According to M. Campardon ("Gaz. hebdom. de méd. et de chir."), the Brazilians use the bark as a depurative and to mitigate the pain of rheumatism.

Iodine and Pyridine in the Treatment of Asthma.—The alkaloid termed pyridine (C_5H_5N) is a colorless, volatile liquid, of a very penetrating odor, miscible with water, and forming with the mineral acids salts which are very soluble but unstable. It is obtained by the dry distillation of various organic substances, such as Dippel's animal oil, certain alkaloids (including cinchonine, quinine, morphine, and atropine), and coal-tar. It is found also in the condensed products of tobacco-smoke and in nicotin itself. M. Germain Sée lately read an interesting paper before the *Académie des sciences* ("Rev. méd.") on the use of pyridine in the treatment of asthma. He declares that iodine is the greatest curative agent in this affection, whatever form it may take, and that pyridine is the best palliative for use during the attacks. It causes a decided and immediate diminution of the feeling of oppression, so that the breathing becomes calm, while the action of the heart preserves its regularity as well as its force. After about an hour there is in many cases an irresistible desire to go to sleep, but no stupor or any approach to anæsthesia, although the reflex excitability is diminished. The remedy should be given by inhalation, a fluidrachm or more being poured on to a napkin in a close room. The inhalation should be continued for twenty or thirty minutes, and should be repeated three times a day. After two or three inhalations, auscultation will show great improvement of the physical signs. A few persons seem to have their susceptibility to the action of the drug impaired at the end of a week or ten days, and then it is well to begin with the iodine treatment.

Preparations of Iodoform.—The same journal quotes from the "Courrier médical" as follows:

Iodoform	15 grains;
Glycerin	5 drachms;
Essence of mint	6 drops.

Used on vaginal tampons.

Iodoform	15 grains;
Glycerin	75 "
Distilled water	8 ounces.

For injections in cases of gonorrhœa and chronic catarrh of the bladder

Iodoform		15 grains;
Sulphuric ether, Olive oil,	each	75 "

For subcutaneous injections in cases of syphilis, from half to three quarters of the mixture being used daily or every other day.

Iodoform	15–30 grains;
Potassium iodide	1 drachm;
Tokay wine	2½ drachms.

For internal use, in cases of convulsions, in doses of from three to fifteen drops, in a glass of wine, three times a day.

Iodoform	1½ grain;
Lycopodium	6 grains;
Extract of phellandrium seed	15 "

Divide into ten pills, from three to five of which are to be taken daily, for bronchorrhœa or emphysema. It should be borne in mind that the internal use of iodoform disposes to hæmoptysis.

Discs for Sick Headache.—At a recent meeting of the *Société de thérapeutique* ("Progr. méd.") M. Mayet, fils, stated that he had had discs made after the following formula:

Menthol, Chloral hydrate,	each	7½ grains;
Spermaceti		30 "
Cocoa butter		15 "

A disc is to be bound on over the seat of the pain. M. Mayet said that he had never observed that these discs had an irritating effect.

Erythrina Corrallodendron as a Calmative.—Bochefontaine and Rey ("Année méd.") have found this plant, which is in common use in Brazil, where it is called *mulungu* or *murungu*, of service as a calmative and hypnotic in the agitation and sleeplessness of the insane, seven or eight grains of an extract being sufficient to cause sleep in such cases.

The Treatment of an Acute Attack of Articular Gout.—In a recent monograph by Dr. Robson Roose (London: H. K. Lewis), the author says that, when called to a case of this sort, he invariably examines the urine for albumin. If he finds none, and there is constipation with signs of congestion of the liver, he orders two or three grains of calomel, to be followed by a draught containing sulphate and carbonate of magnesium. If there is no marked evidence of hepatic congestion, milder remedies will suffice for the constipation; the saline draught alone, or ten grains of pilula colocynthidis et hyoscyami, with perhaps a grain of calomel or a quarter of a grain of resin of podophyllum, generally producing a free action of the bowels. At the same time he orders a mixture containing ten minims of wine of colchicum and from ten to twenty grains of some alkaline salt, such as bicarbonate of potassium or of sodium, carbonate of magnesium, or citrate of magnesium or potassium. This should be taken four times in the twenty-four hours, and continued according to circumstances. If there is much fever, two drachms of solution of acetate of ammonium may be added to each dose. The following application gives great relief from the pain:

Extract of belladonna	2 drachms;
Glycerin	½ ounce;
Water	2 drachms.

It is applied to the affected joint on coon wool, and the part should be raised on a pillow and kept in a comfortable position. While active symptoms continue, the diet should be restricted to such articles as arrowroot, sago, gruel, milk puddings, etc. Seltzer, Apollinaris, or any other aerated alkaline water may be used freely. When the acute symptoms have subsided, beef-tea, fish, and chicken may be taken in small quantities, but the return to the usual diet should be gradual. Rest and care are essential for some days after the subsidence of the paroxysm. Leeches, blisters, and especially cold applications should be avoided.

The Hygiene of the Lying-in Chamber.—In a recent address before the Medical Society of the County of Albany ("Albany Med. Annals"), Dr. T. K. Peers said: "I attend everything that I am called to within the legitimate domain of my profession, from scarlet fever to phagedenic ulcers. I witness, assist in holding, and hold a number of autopsies every year, and all this time keeping right on with my obstetric work without regard. I have never ordered the paper from the walls of the expected lying-in chamber, nor have I ever had them sized with a solution of mercuric bichloride. Neither do I immerse hands or instruments in any disinfectant previous to or during attendance on these cases. I will also add that I have never in a single instance employed intra-uterine injections at such times, contenting myself with simple vaginal douches; and, notwithstanding this very great carelessness and almost criminal neglect on my part, I am still able to hold up my hands for inspection, and find them perfectly clean, washed of even the stigma of misfortune. Not a death has occurred to any patient I ever attended during confinement, save as above reported [two deaths from hæmorrhage and one from eclampsia]; and, although I have many times witnessed chill, fever, abdominal tenderness, etc., hot water *per vaginam*, hot fomentations to the abdomen, diet, and anodynes have constituted and completed the treatment and cure."

Inhalations of Oxygen for Puerperal Convulsions.—It is known, says Holstein ("Gaz. méd. de Paris") that oxygen has the property of enfeebling, or, to use a fashionable term, "inhibiting," exaggerated reflexes. On the strength of this fact, Professor Lachkiévitch, of Kharkow, lately proposed inhalations of oxygen in cases of puerperal eclampsia of reflex origin. In two consecutive cases Favre ("Wratch"), acting on the suggestion, has produced truly brilliant results. He is convinced that a bag of oxygen will soon be considered as indispensable in lying-in hospitals and obstetrical clinics as the forceps, the craniotclast, and other like instruments.

Tannate of Mercury in the Treatment of Syphilis.—According to Leblond ("Gaz. hebdom. de méd. et de chir."), this new preparation of mercury (the *hydrargyrum tannicum oxydulatum* of the Germans) has the composition $Hg_2(C_{21}H_{19}O_{17})_2$. The simplest way of preparing it is by adding to a solution of mercurous nitrate a slight excess of sodium tannate in solution. The tannate of mercury falls in the form of a yellow precipitate which rapidly turns green. It is washed by decantation until the washings no longer precipitate on the addition of acetate of lead, and cease to show an acid reaction. The precipitate is then collected on a filter and dried in the open air. It is insoluble, and should be given in the form of pills, for which Casanow's formula is as follows:

Tannate of mercury	45 grains;
Extract and powder of licorice	q. s.

Divide into sixty pills; two to be taken twice a day, after eating. The salt is incompatible with alkalies, even in weak solution.

The Action of Veratrine in Cholera Nostras.—Schulz ("Dtsch. med. Wchnschr."; "Ctrlbl. f. klin. Med.") infers that the effect of this alkaloid in the treatment of cholera nostras is not due to its action on the micro-organisms, but to its inducing a temporary hyperæmia of the intestine, whereby the resisting power of the latter is enhanced.

Lotions for Pruritus of the Genitals.—A contributor to the "Union médicale" credits Doyon with the following prescriptions:

Bichloride of mercury, Chloride of ammonium,	each	4 grains;
Almond mixture		13 ounces.

In case this fails, use:

Chloral hydrate	75 grains;
Rose-water	3 ounces;
Distilled water	4½ "

After the parts have been bathed with the lotion, they are to be powdered with starch.

Cocaine in the Treatment of Sore Nipples.—Herrgott ("Ann. de gynéc."; "Union méd.") sums up his experience as follows: 1. All the women with sore nipples who came under observation were able to give suck without pain after a four-per-cent. solution of cocaine hydrochlorate had been applied to the nipple. 2. The condition of the nipple was improved, and, where the cracks were not deep, they disappeared rapidly. 3. Cocaine should be used whenever the nipples are sensitive, in order to prevent fissures, the latter being often due to a shrinking movement on the part of the mother whenever the child seizes the breast.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON.

BY AMBROSE L. RANNEY, M. D., NEW YORK.

LECTURE I.

(*Continued from page 715.*)

THE CHOICE OF A BATTERY AND ELECTRICAL APPARATUS.

In selecting a battery for purely medical purposes, the chief objects to be attained are (1) *cheapness;* (2) *constancy of the elements*, and their *accessibility for repairs, cleaning*, etc.; (3) *durability of the elements;* (4) a *sufficient number of elements;* (5) *ease of renewal of the elements;* (6) *ease of introduction of any number of elements into the circuit;* and (7) an ability to select such as may be required *from any part of the battery.*



FIG. 26.—THE PHYSICIAN'S HANDY CABINET BATTERY. The accompanying cut represents a light and compact form of cabinet battery, designed by the author. It is on castors, and can be wheeled about the consultation room. This admits of the use of the instrument when the patient is in the gynæcological chair or upon the office lounge, or when any form of fixed apparatus, such as the laryngoscope, the inhaler or spray, etc., is being simultaneously employed. In some of my later models an immovable tray is placed beneath the battery for electrodes, and a movable shelf is also provided upon which a milliampère-meter, the solution of table salt, and the electrodes in actual use can be set. A glass cover protects the battery from dirt when not in use. *E*, faradaic coils; *K*, plunger; *G*, faradaic binding-posts; *F*, interrupter; *D*, drip-cup; *R*, current-selector of single cells; *S*, the same of four cells to each button; *M*, coil to work the interrupter for the galvanic current; *L*, switch to work or disconnect the interrupter (*V*); *P*, galvanic binding-posts; 3-5 and 4-6, connecting rods to allow of the action of *M*. The commutator lies above *P*.

For the general practitioner it is necessary, as a rule, that a galvanic or faradaic battery *shall be arranged for transportation;* hence the cups which hold the fluid should have a rubber cover, or some other device which will preclude the possibility of spilling the fluid. Again, some of the batteries manufactured are liable to become rapidly oxidized by the fumes of the battery fluid. This tends to destroy their durability, and to cause difficulty in keeping them in good working order. Finally, it is very desirable that portable batteries should be as light as possible, and not too large to be handled easily.

The *attachments upon the key-board* of every portable galvanic battery should comprise a current-selector and a commutator. There should be at least four rheophores, in order to make allowance for breakage, additional connections, etc. Several electrodes of different sizes and shapes should also be selected—preferably a large, a medium, and a small one—a wire brush, and an interrupting electrode. These can be added to as circumstances demand.

For office purposes a CABINET BATTERY has some decided advantages over a permanent one placed in an adjoining closet or cellar and connected, by means of wires, with a key-board in the consulting-room. A cabinet battery can be easily wheeled about, and is readily repaired. The cabinet should be so arranged as to allow the back and front of the compartment for the cells to be removed, in case the battery needs repairs, or a renewal of the fluid. The connections of the battery with the key-board should also be made as easy of access as possible; this decreases the expense of alterations or repairs when such become necessary. They should be protected, moreover, as far as possible, against oxidation and dirt.

The cabinet battery which I use in my own office was made, under my special direction, by Waite & Bartlett, of this city, and is as nearly perfect as one could desire. It contains *forty cells of the Leclanché pattern*, which are equivalent to sixty of the gravity cell. The connections and the cells can be exposed and easily reached by removing the front and back of the case. The accompanying cut represents its special features better than a verbal description. Considerable expense in constructing such a battery may be saved in the case, and by dispensing with some of the accessory apparatus shown.

The *gravity cell* makes a very serviceable and durable permanent battery for office work. It has one advantage over some other cells—viz., that it has great constancy of action and that its activity can be renewed by the addition of crystals of sulphate of copper to the fluid when necessary without disturbing the cells. For this reason the sulphate-of-copper cell, in some one of its various forms, is employed exclusively in telegraphic lines. It can not be transported, however, about the room to suit the convenience of the patient or the physician during his examination so well as some other cells adapted for a cabinet battery. It is also difficult in many cases to repair the wire connections of a fixed battery (running, as they often do, through partitions and plastered walls to reach the key-board) when they become inefficient from any cause.

A PERMANENT BATTERY is somewhat cheaper to construct and takes up less room in the office than a cabinet, because no

case is required; but, in my opinion, these two advantages are not sufficient to render it preferable to the other for office or experimental work. I have known several of my medical friends to discard it (after a thorough trial) for a cabinet battery. If a permanent battery is deemed preferable by any of you (for reasons of your own) rather than a cabinet battery, be sure and place your cells on shelves in your office or waiting-room, and not in a cellar. The wires will not be so liable to corrode from dampness, and the cells will be constantly under your eye, so that you can see when they require attention.

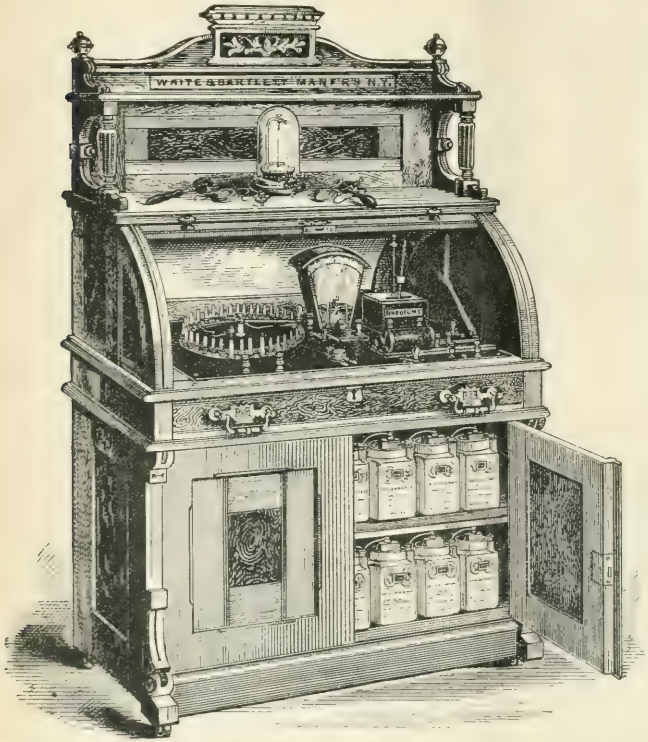


Fig. 27.—Large Cabinet Battery. From a photograph of one used by the author, and constructed from designs specially furnished by him. The current-selector and rheotome differ in several respects from those commonly used. The faradaic attachment has a Du Bois-Reymond coil. The milliampère-meter shown in the cut is that devised by Dr. Rudisch. I am at present engaged in the construction of one of a novel pattern, which I hope to present to the profession hereafter. The cells are of the Leclanché pattern. The faradaic attachment is operated by a Fuller's cell.

Respecting the selection of the cheaper forms of batteries for general medical use, it is important that accuracy of workmanship shall not have been sacrificed in order to lessen the cost. The construction of the primary and secondary coils of a faradaic machine and the adaptability of the interrupter to slow and rapid breaks in the circuit should be looked into before a decision is reached. Poor coils and a bad interrupter render a faradaic machine almost worthless. A "*dropcup*" containing mercury, in which the zinc element is placed when the battery is not in use, is a desirable feature in a faradaic machine.

Do not buy a magneto-electric machine whose motor power is furnished by a crank to be turned by the hand. It is practically useless for medical purposes when compared with a good faradaic instrument.

The Grenet cell is now used by most of the manufacturers of electrical apparatus for a portable galvanic or faradaic battery. It is the best cell for many reasons. A thirty-cell galvanic battery gives all the current that is required by the general practitioner. Personally, I prefer the one made by Waite & Bartlett, of this city, over that of other manufacturers, on account of its modified current-selector (Fig. 23). It does not oxidize as do other forms of batteries (which have a dial current-selector attachment) when in constant use. It is also cheaper than those made by many other firms. Every galvanic battery should have a *commutator* on the key-board. Without this appliance electro-diagnosis becomes difficult.

Respecting the purchase of a static electric machine, it may be well to state that a good one is quite expensive, and is only adapted for office use. I am convinced that static electricity has some points of advantage which can justly be urged in its favor as a therapeutical agent, but it can never be extensively employed or take the place of galvanic and faradaic currents. Its use unquestionably creates a profound impression upon the mind and body of the patient. He sits upon an insulated stool, sees the "wheels go round," feels himself getting charged with electricity, and is made painfully conscious of its presence when sparks of an inch in length are elicited from his surface and through his clothing. How much of the reported benefits derived only from the use of this instrument are due to the mental impression so made upon the patient is still a problem which I have not solved to my satisfaction.

The best American instrument of this kind is probably made by I. & H. Berge, of New York. It works well in all weathers, and their largest machine will produce a spark eight inches long. The electrodes for static electricity have to be made specially for its use. They must be well insulated by means of glass or hard rubber. Dr. W. J. Morton* has done much to popularize the use of static electricity in this country. A water-motor is required to run a large static machine with uniformity, although it is not absolutely essential to its use in medical practice, as hand-power will answer all practical purposes. A single-plate

* "Medical Record," April, 1881.

machine is but a toy as a means of treatment of nervous diseases. *Sufficient quantity*, as well as length of spark, is essential to the satisfactory employment of static elec-

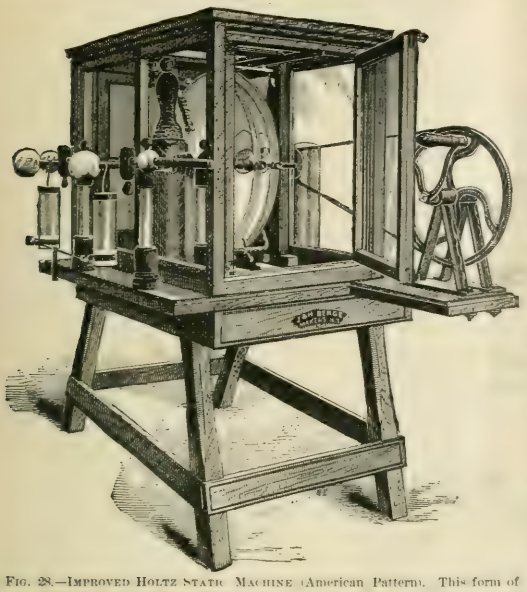


FIG. 28.—IMPROVED HOLTZ STATIC MACHINE (American Pattern). This form of machine is the best now offered to the profession. The author is at present engaged in devising some radical improvements upon the instrument which will (in his opinion) greatly enhance its practical utility and reduce its cost.

tricity. My own machine consists of six revolving twenty-inch plates and three stationary plates. It works well in all weathers, and gives as large a quantity as any patient can bear.

The following deductions express my convictions regarding the therapeutical value of static electricity, derived from an experience with it in quite a large number of cases:

1. In certain diseased conditions I regard its effects as more instantaneous and satisfactory than those of galvanism or faradism.

2. A machine so inclosed in glass as to prevent the action of dampness upon the revolving and stationary plates will work in all weathers, and is therefore free from the most serious objection which can be raised against franklinism. In the summer months the dampness of the air is liable to cause diffusion of the electricity generated by friction, and thus to render its employment upon a patient difficult and often unsatisfactory.

3. Quantity, as well as intensity, is requisite; hence large plates, and several of them, are preferable to any of the single-plate machines.

4. In the treatment of muscular pains, chronic muscular rheumatism, spasmodic affections, the functional nervous diseases, and neuralgia, I have found this form of electricity of great value.

5. In treating muscular pains and muscular rheumatism, spasm, and neuralgias, I prefer the spark to insulation. Patients who may have suffered for years are frequently cured in a few sittings.

6. I prefer insulation over all other methods when the tonic action of static electricity is desired. Cerebral hyperæmia and anæmia, headache, and vertigo are often rapidly relieved by this method. I frequently combine insulation with the "electric wind" (drawn from the head by means of an umbrella electrode) in these cases, as the accumulated electricity is thus concentrated toward the head.

7. Sparks are particularly to service in treating numbness and cutaneous anæsthesia. I have remarked this effect especially in the sensory disturbances which frequently accompany hemiplegia of cerebral origin.

8. Hemiplegia and paraplegia are best treated by means of the direct spark rather than the indirect spark. Sometimes quite severe shocks are required before the remedial effects become apparent.

9. Wooden electrodes are preferable to those composed of metal when employed about the eye or ear, or when the patient is very sensitive to electric currents.

10. By drawing sparks from the region of weak or diseased viscera, I have sometimes noticed very apparent benefits. Pulmonary, gastric, and hepatic disorders are often directly affected by this agent when so applied. I have relieved bronchitis in this way, and have had in some instances equally beneficial results in thus treating nervous dyspepsia, gastralgia, torpidity of the liver, etc. Some authors have reported beneficial effects from this agent in the treatment of phthisis.

11. Muscular contractions can be excited by static electricity with far less pain than by faradism or galvanism.

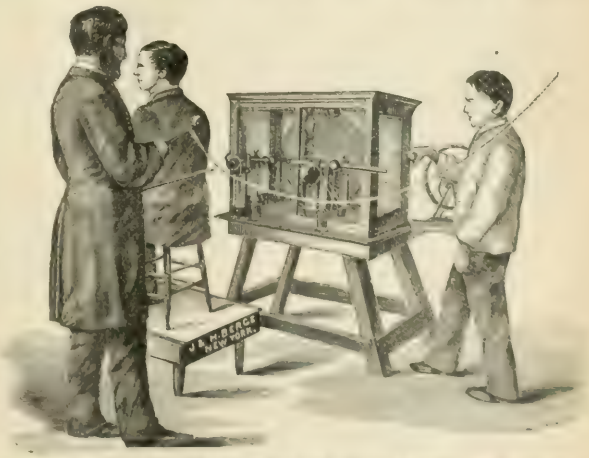


FIG. 29. DRAWING THE INDIRECT SPARK FROM THE BODY OF A PATIENT. The chain attached to the electrode is connected with a neighboring gas-pipe or water-faucet. This is to be compared with Fig. 3.

The so-called "static induced current" * is a very efficient way of subjecting individual muscles to the current when

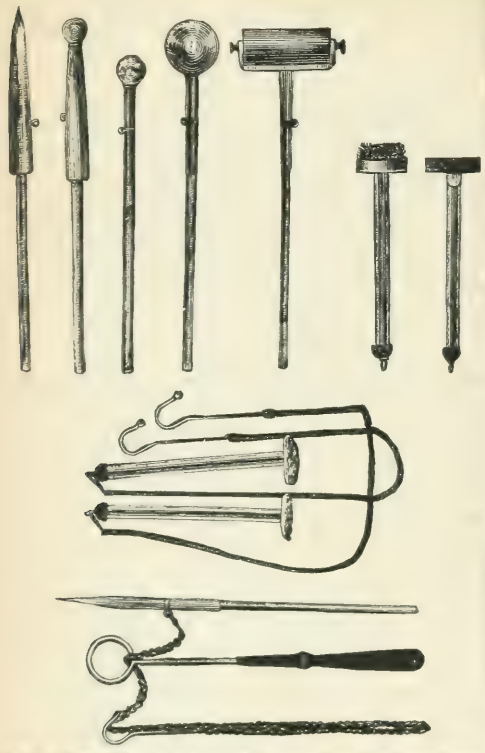


Fig. 30.—Various Forms of Electrodes Employed with a Static Machine. The handles are usually of glass. The author has substituted handles of hard rubber, which do not break easily and are equally efficient for the purpose of insulation.

their contraction is desired. The painlessness of this method is a point which alone should strongly recommend it.

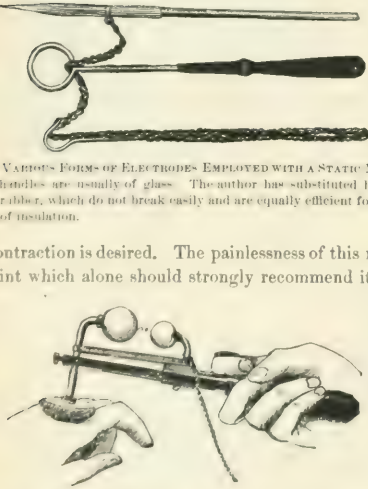


Fig. 31.—Morton's Spark Electrode. The sponge-covered tips may be of any size or shape.

12. Perhaps the most phenomenal results which have been obtained by static electricity are achieved in the treatment of hysterical patients. Hysterical aphonia, hemianæsthesia, paralysis, and hystero-epilepsy have been cured by a few settings, by means of insulation and sparks.

(*To be continued.*)

* First described by Dr. W. J. Morton.

Original Communications.

CHOLERA ASIATICA AND CHOLERA NOSTRAS;

THEIR DIAGNOSIS AND TREATMENT,

WITH SPECIAL REFERENCE TO THE BACILLUS.*

By ARNOLD STUB, M. D.,
BROOKLYN.

Mr. President and Members of the Kings County Medical Society: At a meeting of the Royal Medical and Chirurgical Society of London, March 31, 1885, Sir Guyer Hunter made the remark that he had not been able to find a difference between cholera asiatica and cholera nostras. Upon reading this remark, I remembered a case which occurred in my own practice, and whose history tends to support the opinion of the English physician. Permit me to relate the case:

Monday, July 26, 1881, a prominent gentleman, closely connected with one of the transatlantic steamship companies, was taken with a light diarrhœa, which continued Tuesday and Wednesday; a few dark-colored, painless stools and a feeling of being tired were not sufficient to make him call for medical aid, and he contented himself with taking a few drops of essence of ginger and some of the so-called Sun cholera mixture, which, however, did not relieve the disorder. After midnight, during the night from the 28th to the 29th, his diarrhœa increased, vomiting commenced, spasmodic contractions of the muscles of the calves of his legs and severe griping pains created considerable suffering, and I was sent for.

I found the gentleman very much prostrated. Constant vomiting of a greenish fluid, profuse odorless alvine discharges of rice-water appearance, a cold skin, an anxious countenance, cold tongue, constant spasms of the muscles of the lower extremities, and extreme prostration marked the case. I ordered at once sinapisms to various parts of the body, alternately applied, and brushing of the skin with diluted alcohol. Internally I prescribed a mixture consisting of

℞ Ol. cajeputi,
Ol. cinnamomi,
Ol. menth. pip., ... āā gtt. xii;
Sp. vini gallici ..... ℥ j;
Mist. potass. citrat ..... usque ad. ℥ vj.

M. S. One tablespoonful every half-hour until vomiting ceases.

I also ordered

℞ Mass. hydrarg. ..... gr. xx;
Pulv. opii ..... gr. viij.

M. ft. massa in pil. No. 8 divid. S. One pill every two hours.

Ice in small pieces to relieve thirst, hot flat-irons to the soles of the feet, and heated flannels to the abdomen, in numberless other cases, had not failed to give the desired relief, and when I called again, a few hours afterward, I expected to find a change for the better. However, I was sadly disappointed, and the patient remained in the same condition until next day.

On the morning of the 30th I found all the symptoms increased—the vomiting and purging were almost constant, the skin was cold and clammy, and the hands had the characteristic appearance of those of a washerwoman. If I lifted a fold of

* Read before the Medical Society of the County of Kings, May 19, 1885.

the skin from any part of the body, it remained standing in the same position for some time. The eyes were sunken, and the nose looked pinched. The whole face had an anxious and dusky look, the tongue was as if paralyzed, the voice was almost inaudible, the lips were blue, and the radial pulse could not be felt. The vomited matter as well as the rice-water discharges was strongly alkaline, and changed litmus-paper from red to blue. The urine was suppressed. I ordered at once a hot bath, and continued treatment; also ordered bags filled with hot bran to the lumbar region. To allay the excessive thirst, I ordered the ice to be continued. I also prescribed iced champagne and brandy.

August 1st, the patient became still lower. The tongue and skin were of a reptile-like coldness. A few drops of urine, drawn with a catheter, coagulated immediately upon being heated in a test-tube. Ordered one ounce of Tokay wine hourly *per rectum*, because champagne or brandy was not retained by the stomach. Directed another hot bath to be given, and called Dr. Hesse, formerly of this city, in consultation.

We both came to the conclusion to try musk and camphor, āā gr. ij, every two hours; ordered oatmeal gruel and Tokay wine *per rectum* every two hours; repeated the bath in a few hours; and continued the friction of the skin. Hot bran bags were constantly applied to the lumbar region.

The first of the powders the patient vomited at once; the second, given immediately afterward, he retained. Sometimes his stomach rejected the champagne, when we alternated the latter with iced brandy.

The following day we added strong black coffee to the stimulants prescribed, and continued this treatment until the eighth day of his illness, when his skin gradually became of natural warmth, his pulse noticeably of greater volume, his stomach less irritable, his mind less confused, and his speech more audible.

During this time he had taken every twenty-four hours one bottle of Tokay wine, with oatmeal gruel, *per rectum;* one bottle of champagne and a considerable quantity of brandy by the mouth. The urine was entirely suppressed for three days, when it returned, and became gradually less albuminous.

After the eighth day we commenced to feed with clam-broth, beef-tea, etc., and continued champagne and brandy according to circumstances. Prostration still remained.

About the ninth day well-marked typhoid symptoms developed, with a range of temperature of 102° in the morning and 104° in the evening.

At the end of the second week he complained of an intolerable itching, particularly in the face, and, in spite of all efforts to prevent him, he would scratch until the blood trickled down his face. I may remark here that no opiates had been given him for over a week. During the whole time he had been kept in a horizontal position, and even a change of garments was effected in that position. The itching lasted for about twenty-four hours, when all at once a furunculosis commenced, particularly attacking the face. Some of the boils were very tardy in healing, and had an almost gangrenous appearance in the center. The whole illness lasted five weeks, when I considered the gentleman sufficiently strong to be removed to the Catskills.

Dr. Hesse, as well as myself, came to the conclusion that this was a case identical with Asiatic cholera, although we did not feel ourselves justified in calling it by that name, because no other case of such a nature had appeared in the city. We were at a loss to find symptoms for a differential diagnosis between cholera nostras and cholera asiatica, except from the circumstance that no epidemic cholera existed in this country or in Europe.

I may add that from the time I made my first call I ordered disinfectants in the form of chloride of lime and carbolic acid to be used in the sick-room as well as all over the house, and restricted the attendance upon the patient to as few persons as possible, who avoided intercourse with the rest of the family.

During the year 1868 or 1869 I was called upon to see a case of sporadic cholera in consultation with the late Dr. Barthelmess. The patient lived in Boerum Place. When I saw him the disease was in the algid stage, and all I am able to remember about it is, that he died the same day, which was the third day of his illness.

During the summer of 1866 I had spent a whole night at a boarding-house in Flatbush, whose inmates had been taken down with cholera asiatica. Myself and the husband of one of the victims were the only persons who left the house alive next morning.

I was called upon to attend the wife of this gentleman, and found a whole house full of dead and dying without a single attendant. If Dr. Conklin, who was health officer at that time, happens to be present, he will perhaps be able to refresh my memory by telling us how many people died in that house that night.

Gentlemen, I have a very vivid recollection of that terrible night and of those cases, and I assure you that I am not able to draw a line of distinction between the cases seen in 1866 at Flatbush, in the boarding-house kept by the keeper of the Penitentiary, from whence the disease had been communicated to the inmates of the boarding-house, and those cases of sporadic cholera which I have seen since, in 1868 or 1869, and in 1881.

The question naturally presents itself to my mind, Are the views of Sir Guyer Hunter correct, and is there actually no line of distinction between cholera nostras and cholera asiatica, when the first case or cases of the latter appear in a community like ours? I must answer this question in the negative as long as we take the complex of symptoms into consideration only.

But, gentlemen, within the last year or two investigations have been made into the etiology of Asiatic cholera which bring us a step farther toward distinguishing between the two diseases above mentioned.

When I first became acquainted with the labors of Dr. Koch, and read of his discovery of the comma bacillus, I was enthusiastic in the belief that at last we had found the real cause of Asiatic cholera, and, by a simple microscopical investigation, would be able to diagnosticate cholera asiatica from cholera nostras.

But, gentlemen, here I was doomed to be disappointed. Then, immediately afterward, Dr. Prior and Dr. Finkler published the result of their investigations, and proved, or at least attempted to prove, that the comma bacillus might also be found in cholera nostras.

Dr. Deneke found the curved bacillus in old cheese, Dr. Lewis found it in sputa, and last, but by no means least, Emmerich declared that the comma bacillus was not the cause of cholera, but that a bacterium, discovered by him in Naples, alone was the whole source of the disorder.

After I became acquainted with the foregoing state-

ments I immediately began to investigate, and spoiled about a large boxful of covering glasses in the attempt to find the comma bacillus in sputa, in old cheese, in the discharges of cholera nostras, in chicken cholera, and in the discharges of typhoid-fever patients.

I certainly did find curved bacilli in every one of the specimens, but I did not find the characteristic spirillum which I found in the preparations sent me by Dr. Nicati, of Marseilles, and those I received afterward through Mr. Emmerich and Mr. McAllister, of New York, procured from microscopical laboratories in Berlin and Brussels, and representing comma bacilli artificially cultivated.

Although the curved bacilli found in cholera nostras and in old cheese are also spirilla, they are of a different size and have less of the corkscrew shape than the comma bacilli. After the former have been prepared for the cover glass and put up in balsam for examination, they assume partly the form of the cholera bacillus; but even in this condition they are larger than the latter. But if a suspended drop from the rice-water stools of a cholera-nostras patient and one from the stools of a patient suffering from Asiatic cholera are examined alongside of each other, a difference in the size and shape of the spirilla will become easily apparent. The spirillum of Asiatic cholera is only to be mistaken for that of recurrent fever, and Koch himself declares that he could not distinguish one species from the other if placed alongside of each other.

Gentlemen, I believe that Koch is correct in reference to his views of the ætiology of cholera and in regard to the bacillus question. And the reason why I think so I shall state later on.

Starting from this base, let me suppose that the cholera raging in Spain at the present time assumes wider proportions; it spreads again to France; it reaches Germany and invades England. Steamers bring us within ten or twelve days in direct communication with ports which may be visited by cholera patients at any time. One of the latter may get on board of the steamer; he may be well at the time he enters the steamer; he may be taken with a diarrhœa during the time he is on board. According to authors, the time of incubation may vary from one to fourteen days, and, if this is correct, a man may travel from Marseilles to Liverpool or London, and from London to New York, without having the slightest symptoms of cholera before he lands here, or he may have diarrhœa which may pass unnoticed by him and others; but this man, although he may never himself develop the second stage of cholera, may deposit upon the steamer, or perhaps afterward in this city, the germ which will, in a few days, infect the whole city with the pestilence, and we may never find out where it came from.

Now, gentlemen, let me suppose that such conditions prevail this coming summer; we have learned that the cholera in France, perhaps in Germany, but not in England. The English steamers, consequently, are not subjected to quarantine. All rags have been carefully excluded from landing upon these shores, although I never heard that rags had carried the disease, provided they were not wet. And I am called, perhaps after midnight—which, by the way, seems to be the time such cases first become most troublesome—to see a patient who suffers from symptoms of cholera. The question naturally arises, Have I to deal with a case of cholera morbus or cholera asiatica? The question is an important one. Shall I notify the Board of Health, and perhaps unnecessarily alarm the community? Shall I isolate the patient, or shall I let matters go on, wait for developments, and jeopardize the lives of other people? In order to come to a proper diagnosis of the case, I proceed at once to look for the cholera bacillus in the rice-water discharges. In three different ways this object may be attained. I take two covering glasses, clean them well, after the most approved method, in nitric acid, wash them in alcohol and in ether, and afterward in distilled water.

As soon as they are dry I place a drop of the rice-water discharges upon one of those glasses with a spatula, previously sterilized by heating it over an alcohol-flame or a Bunsen burner, and spread the drop of the rice-water discharge carefully out upon the covering glass. I place the second glass upon the first and draw them asunder, in order to cause an even and uniform spread of the material upon both glasses.

As soon as they are completely dried, which will be in a few minutes, I draw them slowly three times through the flame of an alcohol-lamp, holding them with a pair of forceps covered side upward. Then I take them home and heat in a test-tube a small portion of a watery solution of gentian violet or fuchsin. As soon as the fluid begins to smoke, I pour some of it into a watch-glass, and, taking the covering glasses between two fingers, I let them drop upon the fluid with the side containing the suspected material downward. I let them swim for about ten minutes, take them from the fluid, wash them in sixty-per-cent. alcohol for about two minutes, remove the water by dipping them for a few seconds into absolute alcohol, wait a few minutes longer until they are dry, and then examine them under the microscope with a power of $\frac{1}{15}$ water immersion, or, better still, with $\frac{1}{12}$ oil immersion, and expect, of course, to be able to diagnosticate, from what I see, true Asiatic cholera or cholera morbus.

But, gentlemen, although the method above described is exactly the one used by Koch to bring the comma bacilli into view, if the material is taken directly from the patient, or if taken from an artificial cultivation, I may be sadly disappointed in all probability, because, in the first place, I may find no characteristic spirilla, and those bacilli we do find may belong, as far as their microscopical appearances show, just as well to cholera morbus; or I may find only straight, rod-like bacteria mixed with a few curved ones, such as can be seen in all the excrements of ordinary diarrhœa; because it is a well-established fact, I think, that in the beginning of Asiatic cholera the characteristic spirillum can not be immediately recognized under the microscope. A better method, however, would be to place a drop of rice-water discharge upon a covering glass, and put the latter, with the drop of fluid downward, upon a shallow glass cell; if this suspended drop, which may be stained with one of the basic aniline colors, is examined with a powerful immersion lens, it is possible that we may find sufficient evidence

to base a diagnosis upon. We shall see at least a large quantity of bacteria alive, and, if the fluid contains a sufficient quantity of the cholera bacilli, they will appear like a swarm of mosquitoes moving hither and thither, and among those there will be noticed occasionally a few spirilla of a wave-like form. So, at least, does Koch describe the microscopical appearance of a suspended drop of artificial beef-tea cultivation, and there is no doubt that the same may be observed if rice-water discharges are used for examination from a patient who has been sick for some time, but it is very doubtful if we shall be able to gain this result in the earliest stage of cholera.

Another method of distinguishing the cholera bacilli is published in the "Deutsche medicinische Wochenschrift," Berlin, April 2, 1885. Professor Max Schottelius, of Freiburg, went to Italy to study the cholera, and, being admitted into a cholera hospital of Turin, he made numerous investigations. The principal result he obtained is the following: He mixed 100 to 200 c. cm. of the suspected fæcal matter, or rather rice-water discharge, with 250 to 500 c. cm. of slightly alkaline meat-broth. This mixture must be shaken and put into a high beaker-glass. The glass must be put in a warm place, the temperature of which does not exceed 40° C., or 104° F. The fluid remains standing for from ten to twelve hours. After this time the surface of the fluid is touched with a glass rod, and a drop placed upon a covering glass; further preparation, and staining with a concentrated watery solution of fuchsin, as described before, will, under the microscope with a power of about 600 diameters, show almost a pure cultivation of the comma bacillus, if the case has been genuine cholera. Examination of a suspended drop of this mixture gives also a characteristic and perhaps still better demonstration. The surest method, however, suitable for diagnostic purposes, will be the cultivation with nutritive gelatin upon glass plates, and we shall find it of sufficient simplicity to make practical use of it, provided we are able to obtain at short notice the necessary nutritive gelatin of slight alkaline reaction. I herewith will mention briefly two formulæ found to be most efficient for use: First, 17 ounces of good, finely chopped meat, added to 34 fluidounces of distilled water, and well stirred, remains standing in the ice-box for twenty-four hours. Afterward the whole is strained through gauze by means of a press, and sufficient distilled water added to make again 34 ounces. To this must be added 2½ drachms of table-salt, and from 1½ ounce to 3 ounces of the purest gelatin; allow the whole to dissolve by gentle heat, neutralize with carbonate of sodium, and add a little of the latter in excess to give the mass a weak alkaline reaction, sufficient to turn red litmus-paper slightly blue. The neutralized solution must be boiled for an hour upon a water-bath and, still hot, filtered through paper. The filtrate, boiled again and afterward put upon ice, must be clear and transparent. During the boiling process a turbidity, caused by phosphates, may appear, which, however, will disappear as soon as the gelatin has been cooled upon ice.

Another process, described by Dr. F. Hueppe, professor of hygiene and bacteriology at the laboratory of Fresenius, of Wiesbaden, is the following: Peptone, 3 p. c.; grape-sugar, 0·5 p. c.; extract of meat, 0·5 p. c. and from 5 to 10 p. c. gelatin. I will not try your patience by giving the whole process necessary for this preparation. It will be sufficient, I think, if I mention that a little apparatus is required and a great deal of exactness and time. We, as practical physicians, may have the former, but hardly the latter, at our command, consequently I would like to take the liberty of suggesting that Dr. Squibb, for instance, take the matter in hand and prepare for us the gelatin, or that the Board of Health establish a laboratory where not only shall the gelatin be prepared, but, under the supervision of a competent medical man, such investigations carried out as I have already suggested or shall hereafter describe.

Supposing we are in possession of the necessary gelatin and desire to make the cultivation as above mentioned. For this purpose we take an object-glass, according to the size of the stage of our microscope, to enable us to examine the same afterward in all directions with a lens. We put some of the nutritive gelatin into a test-tube and warm it in hot water until the gelatin becomes fluid; then, by means of a pipette, we carefully transfer some of the gelatin to the object-glass.

The portion of gelatin transferred must be a few millimetres thick and no part touch the edge of the object-glass. Then we take, with a sterilized platinum-wire, a drop from the rice-water discharges, and inoculate the gelatin by making a few strokes upon it of not sufficient depth to reach the glass below the gelatin.

The longer our object-glass, the more strokes we shall be able to make, and the easier it will be to recognize and differentiate the colonies of bacteria which will grow there. After the gelatin has been inoculated, the plate of glass must be placed under a bell-glass whose walls are dampened inside with distilled water. This, however, is not absolutely necessary. Eighteen hours afterward we shall observe the result of the inoculation by the growth of the different species of bacilli. In case of Asiatic cholera we shall observe in the early stages of the growth a small, pale drop, not of a perfectly circular appearance, such as almost all other colonies of bacteria present, but with irregular, rough edges. From the very beginning of its growth it has a granulated appearance. A few hours after the first appearance of these drops upon the gelatin the granulation appears more marked, and looks like a mass of irregular-shaped, highly refractive granules, which Koch compares to a little pile of small pieces of glass. Within twenty-four hours the gelatin becomes fluid in the immediate neighborhood of the colony, and the latter sinks deeper into the gelatin. A small funnel-shaped impression is formed, in the midst of which the colony may be seen as a small whitish spot or dot. For the purpose of making these observations, the glass plate must be placed under a microscope and examined with a power of about eighty diameters. In order to make these cultivations, a temperature not lower than 68° F. is necessary, which during the summer months will be easy to reach. In case we have to deal with a cultivation of the bacilli of cholera nostras discovered by Finkler and Prior, we shall find discs of a regular, even shape, and within thirty hours a funnel of 1 c.m. in diameter will have formed, which

in two or three days will have widened out to such an extent that the whole of the gelatin will have flowed off from the object-glass.

(To be concluded.)

A CASE OF COMMINUTED AND DEPRESSED FRACTURE OF THE SKULL; TREPHINING; FUNGUS DURÆ MATRIS; RECOVERY.*

By W. C. BURKE, Jr., M. D.,
SOUTH NORWALK, CONN.

C. R., aged eleven, was struck by a locomotive attached to an express-train, running at a high rate of speed, on the afternoon of November 6, 1883.

He sustained a compound comminuted and depressed fracture of the left temporal bone, involving slightly the frontal and parietal bones of the same side. The blow was given while the boy was in the act of jumping from a car directly in front of the approaching train, which he did not see. He was thrown a considerable distance to the side of the track, and, when picked up, was unconscious, breathing stertorously, and bleeding profusely from the divided temporal artery. He was taken to the accident-room at the station, and seen by me within ten minutes after the accident. At this time the pulse was very feeble and slow; breathing stertorous; pupils moderately but unequally dilated, the right more than the left. The wound was cleansed, the bleeding vessels were secured, a temporary dressing was put on, and he was conveyed to his home a mile distant. He had lost a good deal of blood.

An hour later, with the assistance of Dr. J. G. Gregory, I removed the dressings, and, enlarging the opening in the scalp, found that the skull had been fractured and depressed over an area two inches by two and a half, located a little above and in front of the left ear. The fractures did not extend beyond this oval in any direction. I found nearly all the pieces of bone lying loose in the wound, and they were easily removed. After removing all the fragments in sight and carefully cleansing the exposed membranes, I found a gaping wound of the membranes and brain substance. Gently insinuating my little finger into this opening, at the depth of an inch and a half from the surface of the skull, I felt two pieces of bone, which I cautiously removed, carrying the slender forceps along my finger as a guide. They proved to be fragments of the internal table of the skull turned edgewise and in their long diameter, evidently shot into the brain by the blow, like flying glass. These increased the depth of the wound by nearly an inch, making the wound of the brain about two inches and a half deep. The direction was obliquely downward and backward toward the pons Varolii. Considerable hæmorrhage from the brain substance was controlled after some delay. Two vessels in the external wound required ligatures.

Just as I was withdrawing the last fragment from the wound the patient gave the first symptom of returning consciousness. He groaned and turned his head partially to the left. After careful cleansing of the membranes they were approximated, everything being left in as natural a condition as possible, and the external wound was closed by fourteen interrupted sutures.

A compress wrung out in a five per cent. solution of carbolic acid and secured by a roller bandage, completed the dressing. These dressings were to be moistened repeatedly during the night with the solution. He rallied well from the shock, but passed a restless night, tossing about a good deal. Sixty-nine hours after the accident he uttered his first coherent sentence, although he had spoken detached words twenty-four hours previous. Everything progressed favorably, the wound apparently healing well. On the sixth day I removed a part of the stitches, and the remainder on the seventh. When union had taken place throughout, except at the point of exit of the two ligatures, a piece of rubber tissue was laid next the wound, and over this several layers of gauze secured by the roller. The next day the dressings were not disturbed. On the ninth the boy complained of a pain in the wound, and the dressings bulged at the seat of injury. On removal, a cauliflower-like growth, protruding three eighths of an inch above surrounding scalp, had reopened the wound to the extent of the opening in the skull-bone. The edges were everted so that its diameter was a little over three inches. In the afternoon of the same day I attempted to remove a portion with the galvano-cautery, but with only partial success. Several things were tried in the next day or two, but were of no avail.

The growth by this time had increased to formidable proportions. I then determined to try the dried sulphate of zinc upon it. So I put on a free coating of this, and over it a compress and bandage, drawn as tight as the patient would allow, which was not nearly so firm as I should have preferred, as he complained that it gave him "a feeling in his head of bursting."

This dressing was allowed to remain forty-eight hours, when, on removal, I was pleased to find a slough, three eighths of an inch thick, easily removed. Another coating of the zinc was put on and similarly dressed, remaining forty-eight hours. This process was continued until all the diseased tissue had been removed down to the level of the healthy brain substance, when the zinc was discontinued and iodoform substituted. When the dressings were again removed, healthy granulations had sprung up all over the wound, and the process of repair went on as rapidly as could be desired. The constitutional treatment had been with iron and quinine—in short, supportive.

At no time had the temperature been above 101° F., and that only once, during the first forty-eight hours. A slight amount of brain substance had been lost. He was discharged, January 25th, two months and nineteen days after the accident.

A recovery from so frightful an accident is rare when we consider the extent of injury to the brain substance, the wound extending well toward a region of the cerebrum usually considered vital. And the recovery from fungus duræ matris was hardly less remarkable. There were, I believe, fifty-one cases of this disease following wounds of the brain during the late war, in which forty-five of the patients died, only 1·13 per cent. recovering. The boy is in perfect health now, and has no headache or other unpleasant symptoms. Mentally, no special change is noticeable; but his teacher thinks he does not commit to memory with quite so great facility as before the accident. But even this is doubtful.

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ON THE ERADICATION OF SYPHILIS DURING THE FIRST STAGE BY SURGICAL MEANS.*

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Inasmuch as it was originally planned that this paper should not appear till the end of this year or the beginning

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of the next, I am enabled to give but an outline of what it is my intention ultimately to say upon this subject. Being but the outline of an argument in favor of a specific therapeutic measure, it will necessarily be very brief. For the purpose of economizing time, I will purposely avoid reference to authors and the discussion of the various views held upon this interesting and intricate question. Various, however, as are these views, and great as may be the intricacy of this subject, it is yet possible to reduce them to simpler proportions for convenience of analytical study and synthetical deduction. My plan, therefore, this evening, will be to submit to you only that way of viewing this question which accords with my argument, and the digressions therefrom shall be as limited as possible for the purpose of saving time.

Syphilis is a constitutional disease and contagious in the true sense of the word; that is, communicable only by contact, and therefore produced invariably by inoculation—except it occasionally be autogenetic. It is preceded by a period of incubation, and manifests itself in three periods—primary, secondary, tertiary.

The primary stage consists in the formation, growth, and decadence of a highly characteristic sore at the seat of inoculation after an average incubation of much longer duration than precedes any other sore with which it might be confounded. A variable time after the formation of this sore, or chancre, the nearest set of lymphatic glands become enlarged.

The secondary stage is ushered in by acute characteristic general signs and symptoms after a definite interval, measured by weeks, succeeding the appearance of the chancre. This continues for a variable time, to be followed by a period of quiescence, usually measured by months.

The tertiary stage exhibits itself in the form of special pathological changes in one or a number of places, and either in one or a number of tissues, at the same time or at different times. These manifestations are mostly dependent upon their location for their greatest significance. Thus, a nodular enlargement of the tibia is in itself harmless; long radii of the calvaria perhaps the same, but for the proximity of a vital organ; an exostosis within the lower part of the spinal canal, although similar in character, is not now so harmless, but, if sufficiently large, will induce paralysis of the parts below; the same projecting from the walls surrounding the medulla has a significance that is fatal; even in this latter instance the effect may be nil so long as the growth does not continue beyond a certain size. This is the general character of tertiary manifestations. A carcinoma of the breast will kill by its virulence and not by its increase in size, while the converse is essentially true of syphilitic formations.

Thus we understand that the existence of syphilis is a constant menace to the body it inhabits. Of the nature of its active principle nothing definite is known. One fact is quite universally admitted, and that is, that, when inoculation has once taken place and the chancre is formed, secondary symptoms demonstrating systemic infection are inevitable, and so, as a rule, are tertiary manifestations in the majority of cases.

As rational therapeutics preponderates over empiricism, it becomes more evident that ætiological data increase in value for the treatment of disease. A thorough comprehension of these is impossible without an exact knowledge of the minute pathological changes that accompany disordered states of the body. In syphilis we have no knowledge of the character of the virus itself. Its manifestations are known to us both macroscopically and microscopically, the latter especially in the tertiary forms. The changes it induces at the beginning, in the formation of the primary lesion, are not so well understood nor so generally accepted.

To adopt a rational plan for the interception of this poison previous to its general invasion of the body, the following questions must be answered:

1. Does the disease arise *de novo*—is it autogenetic?
2. What are the necessary conditions for inoculation?
3. What is the effect of the virus at the seat of inoculation?
4. Is there a decided interval between local and systemic manifestations?
5. By what channels does the disease enter the system—by the blood or by the lymphatics?
6. Can the progress of the virus be traced from the time and place of its entrance into the tissues until general infection has occurred?

That all this can be done I shall now proceed to demonstrate:

1. *Does the disease arise de novo—is it autogenetic?*

Syphilis must have originated at some period, and at not so remote a day but that the circumstances existing at that time to favor its production must also exist at the present day. Therefore I can not deny the possibility of its occasional spontaneous origin, although compelled to admit that it must be a comparatively rare occurrence.

2. *What are the necessary conditions for inoculation?*

These consist in the presence of the virus and stable living cells in direct contact. The cutis being composed of dead, and to some extent desiccated, cells, it is evident that inoculation can not take place through it. Observation demonstrates that this is true, for the rule is, in carefully studied cases, that a denudation of the cutis vera is a constant and necessary precursor of the chancre. I will relate an incident in point:

Two medical students, at a Western university, spent a night together in the same bed with a woman of obtuse morals. Neither student had had any sexual congress for several months preceding this night, nor did they during a long period subsequent. One developed a chancre, and, later, secondary symptoms; the other never suffered the least local or general disturbance. Circumstances would not warrant the supposition that the chancre developed *de novo*. On the other hand, it would be contrary to clinical observation and the result of scientific experimentation to suppose that the more fortunate student escaped because he enjoyed a special immunity, for he had never had syphilis. The correct solution of the problem lies in the assumption that the one affected had abraded a portion of the mucous membrane of his penis while the other had not, and this

was actually the case. This is not a lone instance; there are many others.

The denudation of the cutis vera—an abrasion, in other words—is, therefore, necessary for the introduction of syphilis through the skin or mucous membrane; that is, direct contact between the virus and the stable living cells.

3. *What is the effect of the virus at the seat of inoculation?*

It gradually, but inevitably, induces circumscribed tissue changes of a special character, which become evident only after a lapse of time varying from a little more than a week to more than two months. The tissue changes consist mainly of a proliferation of the vessel-walls and immediate fixed cells, without the usual amount of serous effusion and hyperæmia. They manifest themselves in the form of an elevated ulceroid, with a hard base, and having a serous rather than a purulent discharge. The variation in the time at which the initial lesion appears after inoculation is due more, if not entirely, to its location with reference to the lymphatic vessels than to various grades of susceptibility by some supposed to exist in the individual. This is also especially true as regards the length of the interval between the appearance of the chancre and the onset of secondary symptoms.

4. *Is there a decided interval between local and systemic infections?*

An affirmative answer to this question will be gainsaid by no one. An intermediate manifestation, however, is apparent between these local and general disturbances, and it shows itself in the first set of lymphatic glands reached by the lymphatic vessels beginning at the seat of inoculation. The time at which these glands show evidence of participation in the syphilitic process varies. Enlargement may commence shortly after the formation of the primary lesion or within a brief period before the onset of general secondary symptoms. There can be no doubt, though, about there being a distinct interval between local and general infection. The action of the lymphatic glands leads to the next question.

5. *By what channels does the disease enter the system—by the blood or by the lymphatics?*

By the blood?—When we consider the rapidity with which the blood flows through our bodies, and the uniform results obtained in producing rapid effects by intra-sanguineous injections, it is impossible to reconcile these well-established facts with the comparative exceeding slowness of general syphilitic infection, unless it be on one ground. This would be that a second incubation takes place in the blood analogous to that at the point of inoculation, or that the period of incubation of the virus in the blood is longer than that among the stable cells; but this would be contrary to all known physiologic laws and processes. Were the blood vessels and their contents the distributing channels of this poison, the general infection of the patient would not be so long in taking effect, nor would it be interrupted. The blood is not the channel by which the virus enters the system.

By the lymphatics?—We all know, from the results of investigation in the physiological and pathological laboratories, as well as clinical experience, that the blood is the body's distributer of food and air in its passage from the heart, while on its return it renovates the tissues by the abstraction of those impurities that are the natural result of physiological metamorphosis. The lymphatics, on the contrary, among other things, perform an interceptive function in preventing or retarding the entrance into the circulating blood of those deleterious substances for the elimination of which there appears to be no special provision. Thus, although carbonic oxide and urea are very poisonous, they enter the blood to be promptly excreted, the one by the lungs and the other by the kidneys; there is a special provision for their elimination, as they are a normal, constant, and necessary product. Contrariwise, the virus of carcinoma is not the outcome of normal, constant, and necessary physiological activity, but the result of changes that are abnormal, inconstant, and decidedly unnecessary, and hence has not provided for it a special and normal eliminative organ. If it once enters the blood, it will remain and spread disaster. It only gets there insidiously. The blood does not take it up. Lymphatic vessels which ramify throughout the body and lymph-spaces existing in nearly all the tissues absorb this product of unusual and abnormal metamorphosis and conduct it to the first set of lymphatic glands. Here it is retained as long as the gland is capable of holding it, and, when this retentive function becomes inefficient, the poison passes into the blood, and the general infection of the individual is the immediate and inevitable result.

It is through the lymphatics, then, that syphilis enters the system, although retarded in its progress through the glands.

6. *Can the progress of the virus be traced from the time and place of entrance into the tissues until general infection has occurred?*

This is possible, and it occurs in the following way:

As soon as the poison comes in contact with the living cells it sets up an irritative process, which, in consequence of its persistence and special qualities, eventuates in the peculiar cell proliferation that gives rise to the initial lesion of syphilis. This cell formation is peculiar in that it involves the vessel-walls, causing them to grow eccentrically as well as concentrically, thus giving rise to an increase in their external diameter coincident with a diminution of caliber. Many detached cells and nuclei are to be found within the lumen of the capillaries obstructing the flow of blood. The immediate fixed connective-tissue cells also participate in the proliferating process, and to such an extent that the intercapillary spaces become packed with these new formations. In consequence of the diminished caliber of the vessels, there is an absence of the degree of hyperæmia so common in pathological cell formations. Serous effusion is also lacking on account of the scanty blood supply and the thickening of the vascular walls. Those compacted cells which are on and nearest the surface, being enabled to imbibe their nourishment from all directions except one, die and fall off from this side—that is, die at the surface. Considerable pressure is exerted within this cell accumulation and causes the contained serum to find its way out through

the surface breach, in which direction evidently is the least resistance. The induration of this, the chancre, is due to the close packing of the cells, the lessened blood-supply, and the spare amount of serous effusion. The long continuance of the induration after it has healed over is also accounted for by the diminished local circulation and abnormal condition of the vascular walls as being a decided interference in carrying on any absorptive process.

The lymph-spaces and vessels in contact with these new products absorb the virus and convey it to the nearest lymph-glands. Here the virus is arrested and tends to set up a process identical with that existing at the place whence it just arrived. Eventually this is accomplished as well as it is possible in a different tissue. The result is an enlarged and indurated gland. We all know, too, how hard are these glands and how hard is the chancre. The typical primary sore does not really suppurate, for it simply throws off superficial layers of cells and *débris* with a limited amount of modified serum. A fact that is interesting to note now is that the glands involved, although enlarged and indurated, rarely suppurate.

The production of leucocytes constitutes one of the functions of lymphatic glands, and from them the white corpuscles are at once admitted to the circulating blood. It is evident from this that, after a brief residence in these glands, the poison will be admitted to the blood and pervade the whole body. The glands, however, as a rule, either destroy the virus they have brought to them, or render it innocuous, but not in all instances. It is hardly necessary to remark that in the case of syphilis we have a notable exception to this rule, but not without compensatory action of the gland—to wit, the retention of the virus for a sufficient length of time to admit of its mechanical removal. When the virus has penetrated those parts of the glands which are about to be launched into the circulating blood, the first step toward general infection has been taken. Additional loads of virus are thereafter constantly being thrust into the circulation and carried by it to all parts of the body. The other lymphatic glands being more susceptible to the influence of this and similar poisons than any of the other tissues, it is but natural that a general glandular disturbance should note the beginning of secondary symptoms, and that is actually what occurs in most instances. That the more superficial glands should be the ones mentioned as being enlarged at this time is only natural, for the deeper ones are not felt by the physician. Therefore does it happen that we are usually told that the cervical and supra-trochlear glands are the ones most commonly found enlarged at, or just preceding, the onset of secondary symptoms.

When we consider that of all disorders, excepting phthisis, there is probably none that is so malign in its effects upon our species as syphilis; when also we regard the fact that a very large proportion of the victims of this affection are a prey to heredity; and when, lastly, we reflect upon the present utter impossibility of preventing a general systemic syphilitic infection, and that too in defiance of valuable palliative medicinal resources—I say, then, it must be admitted that any therapeutic measure that may be proposed for the eradication of syphilis previous to systemic infection is justifiable, if based on rational grounds. Not only is it justifiable, but it is unmistakably our duty to attempt these means if they give a reasonable promise of success.

In the light of established facts, it is hard to believe that well-informed men still exist who will not admit the purely local nature of the chancre and resulting enlargement of the nearest lymphatic glands. It is a widely known fact that a person having syphilis is unable to develop a second primary lesion so long as he gives evidence of existing constitutional infection. Less widely known is the equally well-established fact that additional chancres may be developed *ad libitum* up to a short time before the outbreak of symptoms denoting constitutional infection.

In fact, the strongest claim for the curability of syphilis is based upon this very fact of a person with general symptoms being uninoculable with the same disease. He enjoys absolute immunity from additional infection, and must be cured to be at all susceptible of reinfection and the development of a second chancre after having once suffered constitutional syphilis.

If this is the correct view, and surely it is the most reasonable one, it is equally as certain that constitutional syphilis does not exist up to a short time before the secondary eruptions, because a second chancre or series of chancres may be developed either by auto-inoculation or hetero-inoculation during this particular period.

In the treatment of any disease, it should be our first effort to attempt its abortion, and of none can it more truly be said that such attempt is our first and imperative duty than syphilis. Complete excision of all the structure harboring the virus while it is still local would positively abort the disease. At present it appears that the chancre and nearest set of lymphatic glands are the only structures affected during this primary period. Their thorough excision promises to effect the immediate termination of the disease, if accomplished sufficiently early. I should call sufficiently early any time previous to the appearance of secondary symptoms, and while the glands were still not much enlarged. All measures of this kind would be, however, absolutely contra-indicated after the outbreak of the secondary stage.

As regards the mode of operating, I think one thing very important and essential to success. It is that, inasmuch as glandular infection is due to material coming from the chancre, the safest way would be to remove the primary sore first and the glands afterward. Then, again, as the virus traverses gland after gland in regular order, reaching the one farthest removed after it has affected the nearer ones, it would be most safe to begin the glandular excision with the removal of the most distant one first and ending with the nearest and first affected.

I recognize at once one possible source of failure in this treatment, and that is that some of the virus may be retained in the lymphatic vessels between the excised sore and glands and permit of its absorption through collateral channels. This is guarded against, as far as possible, by the elimination of the active source of infection, the chancre, before the absorbents are cut off from their receiving

glands. Perhaps it would be well to allow several hours to elapse between the excision of the sore and of the glands, so as to admit of the convergence of all the virus in the lymphatics to the glands about to be extirpated. Or, best of all, it would be most advisable to excise all the lymphatics between the chancre and glands if at all affected, and possibly it would be still better to always excise these vessels, whether they appear to be affected or not.

Only clinical experience and experimental research can, however, positively settle this point, and it is for the purpose of gaining this valuable experience as soon as possible that I have thus early offered this paper. If every man will cast aside his prejudices and attempt this abortive treatment of syphilis, we shall soon see demonstrated the fallacy or correctness of this view. That it will prove correct I have not the least doubt. It is only necessary to cast our eyes about and note the increased percentage of cures from carcinomatous excisions, since complete extirpation of the whole set of lymphatic glands nearest the neoplasm has come into vogue, to gain hope and confidence for the method of cure herein advocated. These glands, be it remembered, in operations for carcinoma, are thoroughly excised, although very often without the slightest evidence of disease. We have but to recollect the character of syphilis and its associations to feel the deepest commiseration for the innocent progeny who inherit the disorder. For this reason alone, if for no other, every rational means ought to be tried, and is justifiable, to prevent its spread not only around us but to future generations.

Perhaps many former advocates of chancre excision will be opposed to this abortive plan of treatment because of the almost generally conceded failure of that half-way therapeutic measure. Yet even this method may be all that is necessary in rare instances where the glands have not yet received any of the virus. I am willing to believe that some of the reported cases of cure in this way were actual instances of aborted syphilis. It is to be hoped, therefore, that those gentlemen who once championed chancre excision, and, of course, those who do so still, will be the first to take in hand the practical testing of the more thorough method it seems to me so proper to advocate.

Deeming the foregoing sufficient an outline to subserve the purpose of creating intelligent discussion on this question, I will complete my remarks with a few additional statements.

My object has been to be fair and temperate in all that has been said. Although readily admitting plenty of room for honest differences of opinion in more than one part of my argument, I have refrained from attempting a systematic refutation of everything that seemed inconsistent from my standpoint, as it would only have interfered with the real objects of this paper. It is also well to recollect that the deductions I have made are based on the *rule* of behavior in explicative processes and their manifestations. Exceptions to these general rules in the clinical history of this disorder are many and various, yet, if thoroughly analyzed, will be found to have no confusing effect upon the proceeding argument. Even this, though, is only a rule, and also must have its exceptions, and exceptions, be it remembered, are often proof that rules exist.

I have been as general as possible in the treatment of this question instead of being more specific, so that it should have the widest application and be followed by the broadest and most profitable discussion. The failure to mention the names of authors, or relate interesting and important experiments and cases, must not be construed in any other sense than that the object was to avoid undue complexity and to save time. The great and only point at issue in the discussion of this question is, How soon after inoculation does systemic infection occur?

In the hope that the discussion of this question will be frank and constantly to the point at issue, I have the honor of submitting to your judgment this argument on the early and prompt eradication of syphilis for all that it is worth.

IMMUNITY IN DISEASE.

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The paper read by Dr. R. G. Eccles before the Brooklyn Pathological Society, and published in the "New York Medical Journal," May 23d, refers to a subject which must eventually be settled. People will never be contented with the phenomena of disease, in relation to the causes, without a generalization which will cover the whole group of phenomena. The hypothesis of gravitation and that of the existence of a light-ether explain the phenomena of the universe relating to the motions of the spheres, and also the phenomena of light. What gives immunity in disease, what causes disease, and how do the causes act? are leading questions that must all be grouped together under one generalization which can explain them all, and I take it that any contribution looking to this end will be welcome to the profession.

Before proceeding to actual work, it may be useful to examine the methods of doing this particular kind of work —to get the tools in good working order. I believe it is understood that whatever classes, orders, or varieties of things or phenomena we are studying—whether they be affairs of common life, or any special science, or whether the most complex questions that confront the philosophers—one of the objects of our study is to generalize laws from the things or phenomena, and the method or tool with which we work is hypothesis. It is a "cut-and-try" method. The hypothesis is designed to occupy the place of a general cause or antecedent to the whole group of questions under consideration. In selecting an hypothesis, care is required to be certain that the selection is a real cause in Nature, or else can be proved to be, and, when the selection is made, it appears that we have the question to settle next that the hypothesis is capable of causing such results as we are studying, and at the same time it must be proved that other supposed causes, or hypotheses, are not sufficient.

I think this is a fair conception of the method employed in the study of all things and phenomena, including disease; and now, before proceeding further, it is necessary to define what is meant by immunity from disease.

This inquiry being limited to the zymotic diseases, the meaning of immunity from disease must be that the organ-

ism can by some means resist the living agent of disease. The power of resistance, whatever it may be, is acquired, as we certainly know, by an attack of the disease; and it is known that this power is also acquired by heredity. A person may be exempt from the attacks of given species of parasites, by reason of a former battle with the same species, or a variety of the same species, or the person may have immunity from the successful attacks of these enemies which he obtained by heredity from a long line of parasite-pestered ancestry.

Unless it can be proved that people inherit the actual germs of disease, the law of heredity must impose the inference that, instead of inheriting a disease, persons inherit an immunity from disease, or else fail to inherit the immunity. The heredity of disease would appear to be negative—that is, a person inherits the disease simply because he fails to inherit an immunity. This view of the question of heredity will fully explain the fact that consumptives and syphilitics and the victims of other hereditary diseases are the victims of these diseases because their ancestors have not acquired, by natural selection or by actual combat with the infectious causes, an immunity from the diseases.

We know very well that immunity from such a disease as small-pox in an individual is acquired by an actual combat with the infectious cause of small-pox. The inference must follow, therefore, that the people who escape the zymotic diseases, by reason of personal immunity or by reason of a successful vital or physical resistance to the germs, do so not because they have failed to encounter the germs or failed to inherit them, but because they have inherited the physical resistance from ancestors who acquired the same by reason of having the disease.

But we find that immunity from disease has quite indefinite relations to time. In a certain ratio the immunity lasts a life-time, but in a far larger ratio it lasts for only a year or a few years. Probably, if an average could be known, it would be found that seven or eight years would express it. Now, whatever the immunity may be, it is evident that it is not lasting enough or forcible enough, in more than a small ratio of cases, to make much impression on hereditary transmission. Suppose one hundred people have small-pox; possibly out of this number there might be twenty instances where the immunity would be powerful enough to cause more or less impression on the forces of heredity.

The two great forces of the development of all organisms are atavism and variability. Development is a resultant of these two forces. Behind them both are the most complex antecedents pertaining to the struggle for existence; but these complex antecedents, grouped as they all are under two heads, all converge into the two forces which we understand as atavism and variability. The character of human development, from the mental and moral peculiarities to even the color of the skin and the stature of the man, must be referred to the interactions of these two forces for a solution, and we must look to these things also for a solution of the problem of immunity from disease.

From these data there is no better inference than the hypothesis that an actual attack of pathogenic organisms produces a variation of structure, the character of the variation and the structure subject to the variation being determined by the nature or method of onslaught and the tissues or cells that are attacked. Following up these special lines, we find that different pathogenic organisms attack different portions of the body, and that the method of warfare is by poisons.

To fortify this hypothesis it may be mentioned that living things which are adapted to each other as a food-supply must kill each other or catch each other first, and I think the two methods of causing death are by mechanical means and by poisons. Animals use stratagem, speed, tooth, beak, claw, muscles, and poisons, while the pathogenic bacteria use poisons. The micro-organisms, it is supposed, absorb their diet by osmosis, and it can not be imagined that this force of absorption can overcome the vital or physical integrity of a tissue-cell, and therefore the inference is that, if the cell resists the absorptive force of the micro-organism by its quality of life, it must resist the poison of the same agent by a variation of its vital or physical power of resistance, which is acquired by actual combat.

If the ancestor of the antelope was given an occasional chase by a personal enemy—for instance, a wolf—and succeeded in escaping, no one will dispute the fact that the antelope obtained its speed by such means, and transmitted this quality to its progeny. The difference in speed between the ancestor of the antelope and the modern species is the measure of the variation produced by actual combat with a personal enemy. The struggle for existence of this special character caused this variation. If a whole herd of wolves should now be turned into an inclosed lot with an antelope, it is quite likely that the antelope would fall a victim, but this would not disprove the fact that in a state of nature the speed of the antelope was developed in this manner, and that nature, or natural selection, by this means has preserved the antelope as a species. This bit of biology explains a special instance of the law of variability. But now, suppose the species of wolf is destroyed; the force behind this variation is removed; the antelope has no care to exercise its speed, and gradually loses its power, and, in time, by what is called atavism, it again resembles, in this respect, its ancestor.

The pathogenic bacteria are organisms of prey, and a disease is simply a combat between the cells and the organisms which are there after food. It is difficult or impossible to say how a poison may destroy a cell, but it is certain that the effect of the poison is to destroy life, and such is its object. If it is true that disease is thus caused by destroying the life of cells, then it is true that immunity may be acquired by a variation of the cell in structure or function, so that it may resist the poison. The question of drug-tolerance by cells is established by experiments with morphine, alcohol, etc. There is no scientific method of explaining this fact except by the inference that a variation in structure and function is produced in the cell as a consequence of actual combat with the poison. The cell may secrete an antidote to the poison of the enemy, or its molecular elements may be rearranged in such a manner that the poison is not effective. Either of these propositions may do as an hypothesis, and, though they may be difficult

to verify, they are true *veræ causæ* in nature, and they can explain the phenomena of the immunity from disease, singly and collectively.

Suppose, now, the cause of disease is removed; the cells which have acquired a variation of structure or function, by the law of atavism, lose this variation. In time the immunity ought to run out, and we find this to be true. The immunity from, or protection given by, one attack of disease varies, in time, in direct proportion to the severity of the disease, as a rule. There is no other method of explaining this phenomenon except by these laws of variability, atavism, and natural selection.

The artificial tests for the protection thus afforded against disease, which consist in injecting a large quantity of pathogenic bacteria into an animal which is sufficiently protected to resist the attacks of disease by natural invasion, resembles the method mentioned of testing the protection given the antelope through its speed by exposing it to a pack of wolves in an inclosure. The conditions of nature in these instances are not imitated, and, consequently, no information of value can be inferred from such experiments.

(To be concluded.)

Book Notices.

A Practical Treatise on Nasal Catarrh and Allied Diseases. By Beverley Robinson, A. M., M. D. (Paris), Clinical Professor of Medicine at the Bellevue Hospital Medical College, etc. Second Edition, Revised and Enlarged, with One Hundred and Fifty-two Wood Engravings. New York: William Wood & Co., 1885. Pp. xii–276.

Those who were so fortunate as to read the first edition of this excellent work will hardly recognize it in the elegant second edition now before us. To the book as it first appeared five chapters have been added. These are devoted to the study of: 1. Aural Complications of Catarrhal Affections of the Nose. 2. Deflections of the Nasal Septum and Bony Obstructions of the Nasal Passages. 3. Ulcerous Coryza. 4. Adenoid Vegetations at the Vault of the Pharynx. 5. Mucous Nasal Polypi.

The text of the original edition has also been carefully revised, and changes or additions made where required, while ninety-six illustrations have been added, and the work made complete up to the date of its issue. Want of space forbids the extensive review which should be given it. There is much in it which deserves commendation, and every evidence of experience in the use of the methods advised and of painstaking care in their presentation.

The main fault of the author is an undue redundancy of style, which adds unnecessarily to the length of his chapters without in any wise contributing to their clearness.

Among the cuts the reader will recognize the familiar face of many an old friend. Figs. 26 and 27 might well have been omitted.

Compared with the substantial merit of the work, however, these are trifling matters. It will be difficult to find in any language a more exhaustive and thorough treatise upon nasal catarrh, so that the book should, and we believe will, have a wide circulation.

Post-Nasal Catarrh and Diseases of the Nose causing Deafness. By Edward Woakes, M. D., Senior Aural Surgeon and Lecturer on Diseases of the Ear, London Hospital, etc. Illustrated with Wood Engravings. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 224. [Price, $1.50.]

This is an American reprint from the third English edition. The first chapter is devoted to some observations on the correlating and reflex functions of the sympathetic nervous system. Then follow two chapters on the Ætiology of Acute and Chronic Catarrh, in which are considered what Woakes calls the "pre-catarrhal state," and the mechanism of "taking cold." The chapter on the Hygienic Management of the "Catarrhally Predisposed" is full of useful hints and suggestions. The difficulties and importance of posterior rhinoscopy are well emphasized, and a most excellent account is given of the method of anterior rhinoscopy. There have been so many additions made to the original work that the English publishers thought it wise to issue the new matter in a volume by itself, and this is what is presented to the medical profession. It is a most clear and valuable contribution to our hitherto rather defective knowledge of diseases of the naso-pharynx. Some of the author's views will certainly not be accepted without careful consideration and repeated observations; but those on therapeutics will meet with cordial commendation.

A Hand-book of the Diseases of the Eye and their Treatment. By Henry R. Swanzy, A. M., M. B., F. R. C. S. I., Surgeon to the National Eye and Ear Infirmary, etc. With Illustrations. New York: D. Appleton & Co., 1884. Pp. xv–437.

Mr. Swanzy has here given to the medical student and general practitioner a most admirable hand-book upon what is perhaps the most important and extensive of the special departments of medicine. The author, who, as a former assistant to von Graefe, has been brought up in an admirable school and whose experience has been very large, treats his subject in a very thorough manner, while the style is readable and clear. There is a minuteness of detail in regard to treatment which will prove especially attractive to the student. The book consists of twenty-two chapters, the first three of which are devoted to elementary optics, anomalies of refraction and accommodation, and the theory and use of the ophthalmoscope. Under the latter head there is a full and excellent account of the method of determining the refraction by the ophthalmoscope known as "retinoscopy," now much employed in England. A special chapter is devoted to a consideration of the motions of the pupil in health and disease, which is a concise and admirable discussion of a subject of great importance to the general practitioner as well as to the ophthalmologist. Under this head we find both irritation- and paralytic-myosis, and irritation- and paralytic-mydriasis. This is prefaced by a consideration of the size of the pupil in health, and of the action of mydriatics and myotics on the pupil. A new feature in ophthalmic literature is to be found in the insertion upon the inner side of the cover of a set of Holmgren's wool-tests for the detection of color-blindness. The book is extremely well printed with clean, sharp type on tinted paper, and the illustrations are excellent. As a specimen of the book-maker's art, it is admirable.

A Hand-book of Ophthalmic Science and Practice. By Henry E. Juler, F. R. C. S., Junior Ophthalmic Surgeon to St. Mary's Hospital, etc. With One Hundred and Twenty-five Illustrations. Philadelphia: Henry C. Lea's Son and Co., 1884. Pp. 467.

Of the making of books on ophthalmic science there seems to be no end; but very little fault will be found by any one

with Mr. Juler's contribution to the library of ophthalmological text-books. It is a handsomely printed volume of about four hundred and fifty pages, well illustrated by plain and colored drawings and numerous colored lithographs of the fundus of the eye in health and disease. Some of the plates representing pathological processes in the cornea, iris, and ciliary body are particularly good. The book consists of sixteen chapters, to the arrangement of which in their order of sequence some exception may be taken. There seems no very good reason why the crystalline lens, the vitreous humor, and glaucoma should be considered after the subject of color-vision and its defects, nor why the chapter on Diseases of the Orbit should be placed last. It is much to be regretted that in the chapter on Conjunctival Diseases the author does not clearly distinguish between membranous and diphtheritic conjunctivitis, instead of classing them under the same head. They are two distinct diseases, and should not by any means be confounded. It may be said that ophthalmic surgeons, at least on this side of the Atlantic, are almost unanimous upon this subject. Due prominence is given to Mr. Wolfe's operation by transportation of a flap without pedicle for correcting certain cases of ectropium, or lid defect. The chapters on the Visual Field, Color-vision, and Color-blindness, Anomalies of Refraction and Accommodation, and the Ophthalmoscope are good, but it is necessary to state that they are all written from the English standpoint, which differs in some respects decidedly from that prevailing in this country. The pathological work is mainly represented by the colored drawings, there being very little in the text. The importance of the ophthalmoscope as a means of measuring the refraction is well stated, and there is a very good description of the method known as retinoscopy, or the shadow test, which, however, can be employed only by the practiced expert. In the chapter on Diseases of the Muscles the author prefers Anderson Critchett's operation for advancement of a muscle.

Notes on Operations on the Eye. By Ram Kishen, L. M. S., Lahore, Assistant Surgeon. Lahore: Printed at the "Tribune" Press, 1884. Pp. 2–ii–78–iii.

This little duodecimo volume of about eighty pages is by a native of the Punjab, and, as the author says in the preface, is an attempt to draw attention to the practical points in connection with the principal operations in ophthalmic surgery. There are no illustrations, and the English is awkward and at times verging on the ludicrous. The operations are, however, sufficiently well described.

A Guide to the Diseases of Children. By James Frederick Goodhart, M. D., F. R. C. P., Assistant Physician to Guy's Hospital, and Lecturer on Pathology in its Medical School, etc. Revised and edited by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 738. [Price, cloth, $3; sheep, $4.

The special design of this book, the author tells us in his preface, is to furnish to medical students a manual for ready use in this department. A careful examination of the book will convince any one of the fact that he has succeeded admirably. We predict that its use will not be limited to students, but that the practitioner will find it convenient, trustworthy, and extremely suggestive upon most of the practical questions which it discusses. It is pre-eminently a book written out of the author's personal experience. Every page bears witness to the fact that he has been a wide and careful observer. The book is written in a readable, forcible style, and the points are clearly stated. The author possesses the rare faculty of condensing minor details and bringing out salient points vividly. Being at the same time a teacher in pathology, he has not neglected that branch of his subject, although the size of the work has made it necessary to condense very much.

When there is so much to praise, it is not easy to say which parts of the book are the most valuable. The articles on whooping-cough, empyema, scarlatina, and diphtheria are especially good. The author holds that the last-mentioned is distinct from membranous croup, but states that this distinction must rest on clinical and not on histological grounds. His treatment of empyema is by early evacuation, preferably by incision, although he says other means may be tried in some cases. He reports twenty-six cases treated consecutively, with but a single death. We can not quite agree with him that there is no advantage in distinguishing between the two forms of acute pneumonia.

There are many minor matters in which the book might be improved, but its excellences are so many that they can be overlooked. On the whole, we consider the work one of the best of its kind that have appeared in a long time. It will undoubtedly demonstrate its right to existence.

The work of the American editor has been fairly done, but we should have been quite as well pleased with the book in its original form. He has avoided the error of too extensive additions. In the translation of the expressions of the British Pharmacopœia into those of the United States Pharmacopœia he has rendered a real service.

The Theory and Practice of Medicine. By Frederick T. Roberts, M. D., etc., Professor of Materia Medica and Therapeutics, and of Clinical Medicine, at University College, etc. With illustrations. Fifth American Edition. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 1008.

Dr. Roberts's book is sufficiently well known to need but little reference to it. This is the fifth edition—an evidence in itself of its favorable reception by the profession. It is the text-book used in many of the medical schools in this country.

Since the last edition the author has revised his work throughout, and has incorporated the results of discussions which have taken place since the appearance of the last edition in so far as they seemed of practical importance. He has paid special attention to diseases of the nervous system in this edition.

He discusses Koch's theories on the *Bacillus tuberculosis*, and gives a plate of illustrations of the bacillus. He does not commit himself to a positive opinion, but closes his discussion of this subject with the following significant remark: "It would be premature at present to come to any positive general conclusion on the subject; but there seems to be no doubt as to the possibility of tuberculosis being developed by infection from within and from without under certain circumstances." The discussion on the cholera bacillus had not taken place at the time this edition was issued. The author has here, as in previous editions, included skin diseases, which seems odd, at least to physicians in this country.

The work is an admirable one, and fully deserves the excellent reputation it has gained both as a text-book and as a safe and reliable book for the practitioner.

BOOKS AND PAMPHLETS RECEIVED

Bacterial Pathology. A Series of Papers on the Exhibits at the Biological Laboratory of the Health Exhibition. Under the Charge of Watson Cheyne. Reprinted from the "Lancet." New York: The Industrial Publication Co., 1885. [Price, 25c.]

Report of the New York Hospital Saturday and Sunday Collection of 1884.

Introductory. Fifth Annual Report of the [New York] State Board of Health.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JULY 11, 1885.

THE RUMP CONGRESS OF 1887.

It was scarcely to be expected that those eminent physicians of Philadelphia whose action in regard to the organization of the Ninth International Medical Congress we recorded last week would find themselves alone in the resolve to stand aloof from a gathering which, as is constantly growing more and more manifest, will be an international congress only in name. As will be seen by our news columns, Boston and Baltimore have promptly followed suit, and, like the Philadelphia resolutions, those passed in Boston and Baltimore are signed by men whose names are indissolubly connected with American medicine. Whether organized action of like significance will be taken in New York and elsewhere, it is impossible to say, but this much is certain, that some of the New York men whom the new committee of the American Medical Association placed among the officers of sections have no sympathy with the ostensible motives—far less with the real motives—which led a little band of malcontents to plot the destruction of the Washington meeting. Even if those gentlemen do not formally express their feelings in the matter, there can be no doubt that they will abstain from any participation in the Washington meeting.

It looks, indeed, very much as if the part of Hamlet would be left out at Washington in 1887, for our foreign colleagues will in all probability decide not to cross the Atlantic in any great numbers for the pleasure of meeting the rump of the American profession. And all this disgrace is the logical outcome of the false and artificial issues which for the past three years have enabled men in no way representative of the profession to masquerade as its leaders, through the medium of that degenerate and utterly ridiculous concern the American Medical Association. That organization long ago ceased to work for the benefit of the profession, and for a number of years past its annual meetings have been little more than scenes of the most shameless intrigue and demagogism. From the nature of its make-up, and from the character of the men who manipulate it year after year, the hope is exceedingly untenable that, within any reasonable period, the state of things will be mended. It has made itself as odious as any board of aldermen in the land, but, unfortunately, it is so intrenched in jugglery that to draw its fangs is almost as compromising a task as that of uprooting municipal misgovernment. Difficult as this task is, however, its accomplishment is only a question of time, and it is even now evident that, for at least five years past, the association has owed its continued semblance of life to the force of the familiar professional plea that, whatever its shortcomings might be, it was, after all, the only organization of a national character that professed to be in any way representative of the whole profession. If its hangers-on think that its steady degradation is for ever to be condoned on the strength of this plea, we would point them to what lately happened to one of the great political parties of the country. The plea amounts to this, that anything which the American Medical Association chooses to do is better than no concerted action at all. How long this specious cry is likely to prove potent may be judged of from the fate which, in the history of the world, has uniformly overtaken organized villainy sooner or later, no matter what its seeming power, and no matter how white its hypocritical cloak.

The crowning act of infamy in the downward career of the American Medical Association has been achieved in the wrecking of the American meeting of the International Medical Congress, a meeting which, but a year before, it had seemed to be doing its best to make creditable and successful. Doubtless it may be said with truth that the action it took at New Orleans is not in consonance with the deliberate convictions of the great mass of its members, but that consideration is in fact a most telling arraignment of its methods of dealing, for an organization which fails year after year to bring out the real sentiments of its members falls conspicuously short of the aims it ostensibly has at heart.

That the wreck of the Congress of 1887 has not been irretrievably wrought we can now see no reason to hope. It is, of course, not to be supposed that the Congress will formally reconsider its acceptance of the invitation extended to it by the American profession, but the conclusion can scarcely be avoided, nevertheless, that the European members who would add luster to the gathering will individually make up their minds not to attend the meeting, and it will simply go by default.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 7, 1885:

DISEASES.	Week ending June 30.		Week ending July 7	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	4	13	4
Scarlet fever	29	7	35	5
Cerebro-spinal meningitis	1	1	4	4
Measles	100	25	56	12
Diphtheria	63	35	41	21
Small pox	0	0	3	0

Yellow Fever.—A single case was reported to the New Orleans Board of Health by a physician last Saturday, and two inspectors confirmed his diagnosis. The patient was convalescent at the time, and we have no information of the spread of the disease.

Small-pox. An Astoria physician encountered a case of small pox at Hunter's Point last week, and at once notified the sanitary officials of Long Island City, who, however, seem to have been in no haste to adopt measures for the protection of the community. Early this week a case was discovered in New York, in the upper part of Fourth Avenue. The patient, a child, was removed to the Riverside Hospital.

The International Medical Congress and the Medical Profession of Boston.—At a meeting held in the Medical Library Building, in Boston, on July 2, 1885, the following resolutions were unanimously adopted;

Whereas, We had been led to believe that the authority to organize and control the Ninth International Medical Congress had been permanently delegated by the American Medical Association to its original committee, thus providing against any radical changes in its published programme; and

Whereas, The American Medical Association has revised the action and annulled appointments of that committee in a way which we regard as detrimental to the interests of the medical profession of America and fatal to the success of the Congress; therefore be it

Resolved, That we, the undersigned, members of the medical profession in Boston and vicinity, concerned in the organization of the Ninth International Medical Congress, decline to hold any office in said Congress as now organized.

Robert Amory,	R. H. Fitz,
G. M. Garland,	Thomas Dwight,
H. P. Bowditch,	C. J. Blake,
R. T. Edes,	J. C. Warren,
J. J. Putnam,	O. F. Wadsworth,
Francis Minot,	S. J. Mixter,
J. R. Chadwick,	F. I. Knight,
C. F. Folsom,	G. H. Lyman,
Hasket Derby,	Jacob L. Williams,
S. G. Webber,	H. W. Williams,
T. M. Rotch,	H. P. Walcott,
T. Fillebrown,	J. Orne Green,

E. Wigglesworth.

The International Medical Congress and the Medical Profession of Baltimore.—In consequence of the dissatisfaction caused by the recent action of the new Committee on the Organization of the Ninth International Medical Congress, the subjoined paper has been signed by those whose names are appended.

Whereas, The new Committee on the Organization of the Ninth International Medical Congress, at its recent meeting, held in Chicago, made such changes in the arrangements for the Congress as, in our opinion, will mar its success, and will prove injurious to the interests of the medical profession, it is therefore

Resolved, That we, the undersigned, disapprove of the action of the committee, and decline to accept the positions to which we have been appointed under it:

I. E. Atkinson,	Richard McSherry,
S. C. Chew,	F. T. Miles,
Julian J. Chisolm,	Alan P. Smith,
Christopher Johnston,	Samuel Theobald,
William Lee,	L. McLane Tiffany,
John N. Mackenzie,	H. P. C. Wilson.

The New York Post-Graduate Medical School and Hospital.—Dr. Horace T. Hanks has been elected professor of diseases of women, and Dr. Lewis S. Pilcher professor of clinical surgery.

The New York Polyclinic.—The "Journal of Comparative Medicine and Surgery" announces that the faculty of the Polyclinic, of which Dr. Frank S. Billings is a member, has consented to his teaching special classes of veterinarians in the pathological laboratory of the institution.

The Water Supply of Manhattan Beach having been made the subject of complaint, the local health officer, Dr. E. L. Van Kleek, has caused an examination of the water to be made, and reports that it is of good quality.

The New Hospital for Infectious Diseases, on North Brother Island, is nearly ready for occupation, and it is expected that the Riverside Hospital will soon be abandoned.

Cremation in Buffalo.—It is announced that a crematory is soon to be built near the cemetery in Buffalo, the incinerating apparatus for which is to be made in Milan, Italy.

The Glasgow Obstetrical and Gynæcological Society.—Our English exchanges announce the organization of a society with this title in Glasgow, with Professor Leishman for president.

The Royal Academy of Medicine, of Rome, according to the "Lancet," has admitted the British delegates to the recent International Sanitary Conference, Sir Guyer Hunter, Dr. Thorne Thorne, Sir Joseph Fayrer, and Dr. T. Lewis, as honorary fellows.

The Death of Dr. Joseph Estabrook, of Rockland, Me., took place last Sunday. The deceased was eighty-seven years of age, and is said to have been the oldest graduate of Williams College at the time of his death. He was an alumnus of the Harvard Medical School. Many years ago he was the demonstrator of anatomy in the Medical School of Maine, and had been president of the Maine Medical Association.

The Death of Dr. G. B. Soresina, the distinguished Italian syphilidologist, is announced in the "Gazzetta degli Ospitali." The deceased was eighty-three years of age.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 28, 1885, to July 3, 1885:*

Ainsworth, F. C., Captain and Assistant Surgeon. Relieved from duty at Headquarters Department of the Missouri. S. O. 93, Department of the Missouri, June 26, 1885.

Taylor, B. D., Captain and Assistant Surgeon. Assigned to duty at Little Rock Barracks, Arkansas. S. O. 139, Department of the East, July 1, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the two weeks ending July 4, 1885.*

Bransford, John F. Commissioned as surgeon on active list. June 16, 1885.

Ross, J. W., Surgeon. Detached from Naval Laboratory, and waiting orders. June 30, 1885.

Shafer, Joseph, Assistant Surgeon. For duty on board the U. S. Receiving Ship St. Louis, League Island, Pa. July 1st, 1885.

Society Meetings for the Coming Week:

Monday, *July 13th*: Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *July 14th*: Medical Societies of the Counties of Clinton (Plattsburg), Jefferson (Watertown), Madison, Oneida (Utica), Ontario (Canandaigua), Rensselaer, Schuyler, Tioga (Owego), and Wayne, N. Y.; Norfolk District, Mass., Medical Society (Hyde Park).

Wednesday, *July 15th*: New Jersey Academy of Medicine (Newark).

Thursday, *July 16th*: New Bedford, Mass., Society for Medical Improvement (private).

Letters to the Editor.

THE MEDICAL PROFESSION IN CINCINNATI.

Cincinnati, *July 3, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of May 30, 1885, page 608, appears a "Letter from Cincinnati," upon which I ask permission to make comment. Some of its statements are unjust to the medical societies and profession of Cincinnati. For the sake of brevity, I condense some paragraphs from the letter and place them in relation without special regard to their order in the letter.

"About ten years ago Dr. Reamy, then a new comer, made the declaration in debate in the Academy to the effect that there *were members of the Academy, in otherwise good standing, who were guilty of criminal abortion.* . . .

"Dr. R. was a member of the faculty of the Medical College of Ohio; his immediate antagonists were of the faculty of the Miami Medical College. The third party, the Cincinnati College of Medicine and Surgery, kept its hands off and watched the fun." . . . The vote came. Dr. R. was vindicated. "The Miami people said, No man can maintain his self-respect and remain a member of the Academy. They resigned and organized the Cincinnati Medical Society." . . . The feelings then engendered have succeeded in keeping many people from both the Academy and the Cincinnati Medical Society, for in that way alone was it possible to maintain friendship with both factions. The result has been a dearth of good matter presented at both societies, . . . "the generally meager attendance at the meetings particularly of the Academy and the Cincinnati Medical Society." . . . "The fact is that either animosity or apathy interferes with the popularity of both these societies." . . .

Comment.—1. Dr. Reamy's charge was in these words: "For we must not shut our eyes to the fact, known to us all, that there are members of the medical profession, in otherwise good standing, who sometimes commit abortions." The Academy of Medicine was not mentioned by the speaker.

2. Neither the gentlemen who introduced the resolution arraigning Dr. R. for his utterances, nor either of the three gentlemen composing the committee on ethics conducting the prosecution, were members of, or in any way connected with, the faculty of the Miami Medical College, nor have they since been so connected.

3. One of the most active members of that committee was for some time an able lecturer in the Cincinnati College of Medicine and Surgery. And the present professor of surgery in this same college was one of Dr. R.'s most earnest supporters during the controversy referred to. And one of the spiciest letters of the many received by Dr. R. during that controversy was written by the father of your Cincinnati correspondent, who was at that time one of the oldest and most active members of the Cincinnati College of Medicine and Surgery.

4. Though a new society was organized, and though many of those who participated in its organization had recently resigned from the Academy, there were many, and are now many, who are members of both societies.

5. The membership of the Academy is as large as before the organization of the new society. The average attendance at stated meetings is as great, the papers read, cases reported, and discussions thereof are as ably interesting, and instructive as at any period in its history. An examination of its recorded proceedings will prove the truth of the assertion. Many of the papers and discussions will compare favorably with the work of any similar society in the country.

6. Though the attendance at the meetings of the Cincinnati Medical Society is not quite so large as that of the Academy, as the membership is not so large, yet the attendance is good, and their papers and discussions merit the same commendation as above given to the Academy. Both of the societies are popular. Of neither can it be said that "there has been a dearth of good matter presented."

7. There is no bitter feeling held against the other by either of these societies. Nor is there any hatred between individual members thereof. Nor between the faculties of the Medical College of Ohio and the Miami Medical College.

8. The statement that "the active participants in the old fight are gradually retiring from the field of active practice, and are, fortunately, quite unable to leave their hatreds as a heritage to the new generation," demands the following reply: Two or three of the participants in the old fight have died. Of those remaining, every one is in active practice, some of them doing six times more professional work now than then. As to hatreds, they have none. Personal and professional friendships prevail between the leaders on both sides. It is true the fight was "acrimonious," but, as no personal issues were involved—only misunderstandings as to the application intended by Dr. R. in his original statement made in the Academy—it was quite natural that, after all was over, friendship should be restored; and it was. All this occurred without an apology or explanation being made by the former antagonists in any instance. The absolute obliteration of ill-feeling which has for years existed may be considered exceptional, and is certainly commendable to all parties.

It is the testimony of those who know best, that friendship, harmony, and good feeling never prevailed more supremely in the medical profession of Cincinnati than at present.

The impressions sought to be made by the letter of your correspondent are therefore unwarrantable, and demand contradiction.

But what prompted him? His intelligence is well known; that he wrote in malice toward any is not at all probable. That he would write what he knew to be untrue I do not believe. What then?

Residing and practicing in another town, he can not attend the meetings of the societies in Cincinnati nor mingle with the profession, and has therefore been misled as to his facts.

Very respectfully,

Thad. A. Reamy.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 27, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Epithelioma of the Tongue.—Dr. C. W. Knight presented a portion of the posterior part of the tongue, the seat of epithelioma, removed after ligation of the lingual artery.

Lipoma of the Back.—Dr. L. Waldstein presented the specimen, removed by Dr. Lange from a woman eighty-six years of age. The tumor was removed because of the presence of an ulcer of the skin which refused to heal. The specimen illustrated the fact that lipomas sometimes developed and did not become reduced in size in persons in whom there was marked emaciation.

Adeno-sarcoma of the Stomach.—Dr. Waldstein presented a second specimen of adeno-sarcoma of the stomach, of

the diffuse variety, located chiefly at the fundus and cardiac extremity. The patient, forty-six years of age, had suffered extremely during the last four months of life. There were large quantities of granular detritus from division of the nuclei which had sometimes been mistaken for micro-organisms. There had been marked jaundice, and a diagnosis of carcinoma of the liver was made, a tumor of the size of a pigeon's egg being mistaken for that disease. The autopsy showed the tumor to be the enlarged gall-bladder, the duct of which was partially obstructed by metastatic tumors of the lymphatic glands of the porta hepatis.

Diphtheritic Laryngitis.—Dr. JOSEPH E. WINTERS presented the lungs of a child nearly two years of age, which had died of exhaustion and asphyxia due to diphtheritic laryngitis. The disease had for some days been limited to the fauces, not involving the larynx for more than a week. When dyspnœa was present tracheotomy was proposed, but rejected by the father. The autopsy showed the presence of the exudate only for three fourths of an inch below the vocal bands. There were muco-pus and vascularization below that point. There was marked vascularization at the bases of the lungs, and in the anterior portion there was some degree of anæmia with unusual distension.

Dr. C. C. LEE asked Dr. Winters what had been his experience with Dr. O'Dwyer's laryngeal tube.

Dr. WINTERS said that, the tubes having been so generally discarded in France, he had not employed them.

Dr. LEE remarked that the tubes used in this city had arrested the progress of spasmodic disease and had saved lives where laryngotomy doubtless would have failed. He thought the tube might prove useful in cases of diphtheritic laryngitis by relieving dyspnœa when the parents would not consent to tracheotomy.

Dr. NORTHRUP remarked that at the New York Foundling Asylum the tube had relieved urgent laryngeal symptoms almost immediately. He asked Dr. Winters whether in his experience the past season the false membrane had shown a strong tendency to extend downward into the bronchi.

Dr. WINTERS said that most of the cases which he had seen were consultation cases, and he thought that when treated early the membrane had not extended much below the larynx. He thought the tendency of the exudate to spread would be greater in institutions than in private practice.

Dr. H. J. BOLDT said that, according to his experience during the past winter, the false membrane had shown a great tendency to extend below the larynx.

Dr. J. C. PETERS had employed frequent irrigation of the throat and used bichloride of mercury in cases of false membrane upon the top of the larynx, and the patients recovered without extension of the membrane downward.

Pott's Disease; Necrosis of all the Principal Long Bones.—Dr. W. P. WATSON, of Jersey City, presented the specimens, consisting of certain vertebræ, removed from the body of a child five years of age, which had died of pneumonia. The child had first developed a swelling over the right thigh, which was said to have entirely disappeared. Afterward there was curvature of the spine in the cervico dorsal region, reaching a right angle, but at no time was there paralysis. Abscesses also developed over the thigh and both wrists, and exsection of a considerable portion of the right radius and of the right knee-joint and lower portion of the femur was performed. At the autopsy there was found to be marked absorption of the fifth, sixth, and seventh cervical, and of the first and second dorsal vertebræ. It was remarkable that but very little compression of the cord had taken place.

Frequent Recurrence of Pregnancy.—Dr. WATSON also presented a fœtus of the sixth week which was aborted a few days after the repair of a bilateral laceration of the cervix uteri. The patient was an English woman of robust health, who had been pregnant seven times in six years, three being single and four twin pregnancies. Only two of the pregnancies went to full term. Menstruation had occurred less than a month before the cervix was repaired, and there was no reason to suspect pregnancy.

Multilocular Cystoma of the Right Ovary with Hydrosalpinx, and Cystic Degeneration of the Left Ovary with Simple Salpingitis.—Dr. R. W. WILCOX presented the specimens removed from a patient thirty-seven years of age, married, never pregnant. The enlargement of the abdomen had been observed for fifteen years, and during the last two years had been so great as to interfere considerably with locomotion. The patient was first seen by Dr. Wilcox in February last, when she was suffering from peritonitis pretty generally distributed, and from acute nephritis due to diuretics administered by her physician, who supposed her to be suffering from abdominal dropsy. There was no difficulty in making a diagnosis of tumor of the ovary. The nephritis subsided, and the peritonitis resulted in adhesions. Dr. Thomas performed ovariotomy. The larger tumor weighed a little more than forty-five pounds; the others were small. The tube was adherent to the tumor, elongated and atrophied, the uterine extremity occluded; there was distension with a clear yellow fluid. The left ovary had also undergone cystic degeneration, and the tube was adherent to it.

Thrombosis of the Left Coronary Artery; Interstitial Myocarditis and Dilatation of the Heart.—Dr. J. F. RIDLON presented the heart, very much enlarged, with thrombosis of the left coronary artery, of a man about fifty-five years of age, who had for some years suffered from dyspeptic symptoms with an interval of apparent good health extending over some months. About noon, April 30th, having been in his usual health, he felt distress in the stomach, and soon afterward became faint and vomited. He was seen by several physicians during the course of the afternoon and night, and at one time was supposed to be dead, but revived. The pain and restlessness were finally checked by a small hypodermic injection of Magendie's solution of morphine. The patient was able to walk to the fixed basin, which he insisted upon doing when compelled to vomit. At 7 A. M., May 1st, he seemed to be much better, but was found dead half an hour later. The most important lesions found post mortem were, as stated, thrombosis of the left coronary artery, completely obstructing its caliber, marked enlargement of the heart with dilatation, interstitial myocarditis, and fatty degeneration; there was also enlargement of the liver, spleen, and kidneys. The stomach appeared normal, but contained a few ounces of blood.

Intra-meningeal Hæmorrhage.—Dr. W. P. NORTHRUP presented a microscopical slide, illustrating this condition. He also presented a

Section of a Lung embedded in Celloidin.—After finding that the ordinary processes were inadequate for the preparation of the entire lung for section, he placed the lung in a weak mixture of alcohol and water for some days, afterward in celloidin for a number of days, and finally again in alcohol. By this process he was enabled to make a complete section of the base of the lung. The section presented showed interstitial emphysema and in places pneumonic consolidation and infiltrated and dilated bronchi.

Multiple Abdominal Tumor.—Dr. C. C. LEE presented the specimen, removed from a spinster, twenty-six years of age, of delicate frame, emaciated, who had observed an enlargement of the abdomen and by several physicians was found not to be due to pregnancy. Dr. Lee diagnosticated tumor of

the ovary, although he had never seen a pure ovarian cyst in the negro race. At the operation the growth was found to involve the uterus, which was also removed. The tumor had probably begun as a fibro-cyst of the uterus which had undergone colloid and partial cystic degeneration. At one point were found a few hairs and a slight osseous formation. The patient had shown no bad symptoms since the operation.

Exsection of the Hip Joint.—Dr. L. H. Sayre presented the remains of the necrosed upper portion of the femur and detritus of the acetabulum removed by exsection in the case of a girl eight years of age, who had for some years suffered from hip disease. The trouble began with pain in the knee. Different forms of apparatus had been applied by physicians in Illinois, Missouri, and Kansas, and with varying degrees of success so far as relief from the symptoms was concerned. There was a phthisical history in the family, and this child was born prematurely between the seventh and eighth months. The operation of exsection was done by Dr. Sayre the present month, and the child was doing well.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 19, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

Cholera Asiatica and Cholera Nostras; their Diagnosis and Treatment, with Special Reference to the Bacillus.—Dr. Arnold Stub read a paper with this title. [See page 32.]

Dr. Chase remarked that the author had stated that raising water to a high temperature would destroy cholera bacilli. Would the cooking of fruit, particularly apples, have the same effect?

Dr. Stub replied that he thought it certainly would, provided that after the apples had been cooked they were not allowed to stand exposed.

Dr. L. Barkan said that, having been deputed by the Austro-Hungarian Government to treat cholera patients, he had had some experience with the disease. He had seen no benefit result from the use of opiates, but had had excellent success with sulphate of quinine. From a theoretical standpoint, he would oppose the use of hot baths, because the increase of temperature might be followed by a marked decrease, in accordance with Traube's theory.

Dr. W. H. Thayer remarked that the paper covered so much ground that he was neither able nor inclined to examine it critically throughout. One or two points, however, in the treatment of cholera appeared to him to be worthy of notice. He could not agree with Dr. Stub in his statement as to the effect of hot baths in the algid state of cholera. It was the experience of many physicians in several epidemics that the use of the hot bath was injurious and fatal to the patient. Dr. Parkes, an East Indian surgeon, who had published a very admirable report on cholera, after five years' experience in India, said patients to whom a warm bath was given invariably came out of it colder than when they went in, and the disease was more rapidly fatal than if the bath had not been given. The speaker was confident that that had been the experience of physicians in other parts of the world and it had been his experience in the epidemics of 1849 and 1866. A similar statement was made in the report of the Boston Cholera Hospital, in which, in 1849, three hundred and fifty patients. Cold water had not only been more grateful to the patient but it had had no other effects. Another point he wished to speak of was the use of opium, which Dr. Stub had advocated. In the speaker's experience, and that of all others who had seen much of cholera, it had been found to be wholly inert after the establishment of the algid stage. It was universally employed in the management of the premonitory diarrhœa, and with great advantage; but it must not hence be inferred that it was applicable to the algid stage. It was possible that its inefficacy was due to the failure of the stomach to absorb it, and that administered hypodermically, as Dr. Stub had recommended, it would have a favorable effect—but that was hypothetical.

Dr. Stub replied that he had not mentioned opium in connection with any stages of the disease except as given hypodermically and in the algid stage, in combination with atropine. Opium internally would be of no use in any other form. With the exception of calomel, he would give no remedy by the mouth. As regarded the question of hot baths, he was not in the position to deny the statements of Dr. Thayer, in former epidemics, but he was of the opinion that, had he not given hot baths to the gentleman connected with the transatlantic steamship company, he would have died. The circulation was very low, and he could feel only the carotids. The radial pulse had ceased beating altogether. The baths instilled new life into him. The pulse became stronger, and he rallied. The speaker had not the least doubt that the experience at Boston, as mentioned by Dr. Thayer, was correct. He was aware and believed that different epidemics of cholera had different features. One epidemic could be managed by certain remedies, while another epidemic required different remedies. So it might be in the instances mentioned. He had had the same experience with yellow fever. In one epidemic a certain course of treatment would prove very efficient, but would fail, perhaps, in the next.

Dr. R. G. Eccles stated that in some late investigations into the literature of disinfectants he had come across an analysis of the results of treatment as compared with non-treatment in a number of cholera outbreaks. Of the patients under medical care, fifty per cent. survived, and, of those left entirely alone, fifty per cent. survived. Among the numerous remedies recommended, the best results had been reported as coming from aqueous solutions of glycerite of tannin, injected as far as possible up into the bowels. One French physician had reported extraordinary success in using this remedy. It was less likely to produce injury than any other. The tannin was decomposed into glucose in the system, so that its products were harmless. It was alleged for this remedy that it destroyed the comma bacilli wherever it came in contact with them, and, by reducing their numbers, necessarily reduced the quantity of poison to which the dangerous symptoms of the disease were due. If treatment had given no better results than non-treatment in the past, and this or any other remedy could save a larger percentage, it would be a blessing to the race. The reader of the paper had said he could see no reason for expecting benefit from inoculation in cholera, since the disease was primarily local. The speaker thought that on *a priori* grounds the experiments were not only justifiable, but commendatory. While the comma bacilli were probably primarily responsible for the disease, all the evil symptoms resulted from absorption into the blood of the ptomaines produced by the micro-organisms. Persons who survived an attack did so because they could resist the paralyzing effects of these toxic agents. Inoculation, perhaps, accustomed the system to these poisons, thus establishing a tolerance like that of the morphine and alcohol habits. Such tolerance might constitute immunity by giving the cells of the body an advantage over their foes, so that the germs could gain no *habitat*, and would fail to multiply. On the question of disinfectants he thought the essayist must have meant that chloride of calcium was almost useless, and not chloride of lime. The latest investigations had shown that good chloride of lime ranked next to corrosive sublimate, both in cheapness and in value as a disinfectant. For

some purposes it was superior to everything else. It not only destroyed the comma bacilli, but quickly and effectually rid us of the most persistent spores known. But it must be good, the tests of which were dryness and solubility in water. If moist, it had too much chloride of calcium; if insoluble, too much lime. Where corrosive sublimate failed, it must take its place. In the dejections of patients, and in sputa, where there was likely to be albumin, mercuric chloride was worse than useless. It coagulated the albumin, forming a protecting sheath, within which the germs were secure from harm. As to the connection between cholera asiatica and cholera nostras, he thought the weight of evidence pointed to their common origin. Continuity in disease would become pretty certain to such physicians as kept their mental eyes open. In scarlet fever it had been observed that exposure sometimes produced symptoms so mild that but few would be bold enough to make a diagnosis. So far as the comma bacillus itself was concerned, the part it played in the disease was not yet certain. A case had been reported of a regiment of soldiers being attacked by cholera in their barracks. After many deaths had occurred they were ordered to tent out a short distance away. They drank the same water, ate the same food, and attended to the same duties, but the mere change of a few perches arrested the outbreak. If their soiled linen, water, hands, or anything else likely to convey micro-organisms had been responsible for the disease, why did it cease on mere change of locality? If Koch was right, while it was advisable for us to disinfect sewers now, it would be a fatal policy to pursue during an epidemic of cholera. We should thus kill the *Bacterium termo*, the natural enemy of the comma bacillus, and give the latter a better chance to multiply.

Dr. Stub wished to mention that tannic acid as an injection had been mentioned by him in his paper as having been very efficient during the last epidemic in France, but he would object to the use of glycerin because it could do no possible good, and might do much harm, for it might deplete the mucous membrane, when our aim should be to add water to the system, and not to deplete the blood still more. He also thought that Dr. Eccles's objection to the bichloride as a disinfectant because it coagulated the albumin might be overcome by the fact that it would kill the bacilli before it coagulated the albumin, and besides, in the speaker's opinion, the bacilli were albuminoid bodies themselves.

(To be concluded.)

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of February 12, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Necrosis of the Femur.—Dr. Justus E. Gregory presented a small sequestrum removed from the inner side of the middle third of the left femur at a point where the femoral artery lies nearest to the shaft of the bone. February 15, 1883, the patient, a man aged forty-six years, consulted him in reference to a carbuncle situated over the left shoulder blade, which was treated by deep incisions. On the 20th of April he complained of a swelling on the front of the left thigh in its upper two thirds, which proved to be an abscess. This was freely laid open and search made for diseased bone or periostitis, neither of which was discovered. After thorough irrigation with bichloride solution (1 to 2,000), large drainage tubes were introduced and the wound was packed with bichloride gauze. It healed by granulation. In February, 1884, the speaker's attention was called to a sinus which had formed on the anterior surface of the thigh about its middle third and taken a course directly toward the femoral artery. From this sinus there was a slight discharge of pus, and, upon passing a probe, diseased bone was discovered. An operation for its removal was performed by Dr. Wackerhagen on February 5th. Esmarch's bandage having been applied, a large hand probe was introduced into the sinus and followed by incision up to the femoral artery. The opening was enlarged over the course of the vessel, and when the latter was reached it was separated from the bone by retractors, as it actually covered the cloaca. This was enlarged and several small sequestra were removed. The patient recovered, with a perfectly useful limb.

Dr. Kretzschmar desired to know how periostitis could be diagnosticated by simple incision of an abscess.

Dr. Wackerhagen said he had believed at the time that the abscess was due to bone disease, and if he was right it could be better ascertained by the opening of the cavity.

The President remarked that periosteal abscess of the femur was usually so deep that it was hard to find; the abscess in this case was superficial, and so out of the usual course.

Dr. Kretzschmar rejoined that he still failed to see how simply opening the cavity would enable one to make the diagnosis.

Dr. Wackerhagen replied that the abscess was diffuse and had to be opened to let out the pus, and he took advantage of that fact to probe for any of the bone that might be diseased.

Self-mutilation by Amputation of the Genitals.—Dr. H. D. Bliss gave the history of a case he had seen during the summer in the practice of his friend, Dr. J. H. Taylor, of Mount Holly, N. J. A farmer became affected mentally after the death of his wife. He grieved much at the loss of his wife, and, as the neighbors afterward said, acted somewhat queer at times, but continued his work as usual. One morning he was found with his scrotum and penis amputated. The reason, as he explained the next day, was that he had felt impelled to do it, for, as he had been the cause of his wife's death, he thought this would be a relief; so, taking a razor, he had taken the entire external genitals in the left hand, pulled them well out and up, and, with one cut of the razor, severed the entire organs. They were afterward found well connected together. He was not discovered for some time, and it was several hours before the medical attendant arrived. The hæmorrhage, which had not been very considerable, had nearly stopped, except a slight welling up around the urethra, probably from the dorsal arteries of the penis. This was slight, but continued troublesome for several days on account of the difficulty of securing the vessels which lay in close contact with the urethra. It could be stopped with *serre-fines*, but it would begin again every time a catheter was passed. It was finally stopped by applying compound tincture of benzoin. The cut with the razor had exposed the pyramidalis muscle and removed the skin over the pubes, making a wound that could scarcely be covered by the palm of the hand. It was at first intended to dress it with carbolized water, but the nurse allowed it to dry so often that a cloth dipped in carbolized oil was kept over the parts, and the man made a good recovery. The penis being put on the stretch at the time of the cut, the urethra retracted about three fourths of an inch below the surrounding tissue, and there was trouble in keeping it from closing. Catheters of various kinds were tried—silver, rubber, flexible, non-irritant, etc.—but all proved so irritating they had to be discontinued and some other means resorted to. On December 27th Dr. Taylor made a cut an inch and a half down the perineum, dissected up the skin, and loosened the tissues so that the integument could be stitched to the urethra. This was done, and all closed with silver wire, and in one week, as the doctor said, "he had a good working urethra."

Among the points of interest in the case were the recovery from the delirium, the speedy recovery of the patient, and the small amount of hæmorrhage from so vascular a structure.

The President related a similar case that had occurred in the Eastern District some years ago, in which the victim's paramour cut off his genitals with a razor, causing fatal hæmorrhage.

A Case of Hysterectomy for Cancer was then related by Dr. W. C. Burke, Jr., of South Norwalk, Conn. [It has already been published.]

Dr. A. H. P. Leuf remarked that he fully coincided with Dr. Burke in considering carcinoma at first local, and thought that thorough eradication of the disease *in loco*, with the extirpation of the first set of lymphatic glands and intermediate lymph-vessels in all cases, as an additional safeguard, would be followed by satisfactory results, if done in time. Many lives, he thought, were sacrificed because of a great lack of fearless and intelligent surgery.

Dr. R. G. Eccles desired to know if any embryologist was present to tell the society about the transition of embryonic cells into pathological cells.

Dr. C. N. D. Jones said that the case just brought before us was another one in favor of the operation.

The President remarked that many of these growths were at first local and benign, and afterward became malignant. This was especially true of the skin, for moles and other benign affections of the integument sometimes, and perhaps in the experience of many present, became malignant. A case had occurred in his experience about one year ago. The patient was a lady who had a "mother's mark" two inches below Poupart's ligament. He did not see it at the beginning, but believed it was a mole, and not a nævus. Subsequently, when she had been sewing with a machine, the irritation due to the friction of her clothing while at work was painful, and caused bleeding. When seen by him, the lesion looked like an excoriation, and it was not raised more above the general surface than was usual in moles. There was no perceptible involvement of the glands. He ordered an ointment. Six months later the patient returned with the sore much worse, painful, bleeding freely, and emitting a very offensive odor. He found a projecting mass about an inch and a half in diameter and fully half an inch high. It had the general appearance of a malignant growth. He removed the whole mass at St. Mary's Hospital. Everything was extirpated down to the cribriform fascia, and the fascia lata scraped for several inches around the original sore. Several affected glands were removed at the same time. A few days later one of the Sisters at the hospital called his attention to a lump over the patient's iliac crest. There seemed to be no connection between this lump and the wound. Two weeks later these nodules developed over the whole body, and a few months after the operation she died in horrible agony. It was hard to account for the malignancy of this case by the accepted views of cancer genesis. Paget's case of cancer at the outer side of the thigh was referred to. The same was true of the female breast. It was notoriously difficult to differentiate between benign and malignant growths. As regarded Dr. Eccles's question, he would say that it had been and by many was still maintained that all cancerous growths were developed from the cells of the intermediate layer of the embryo. Cohnheim had asserted that all tumors were connective. The whole being was abnormal from the start, and only required an irritation to start the malignant process. The outer and inner layers of the embryo had become developed cells which, by subsequent irritation, became developed into malignant tumors. These we met with in the stomach, in the uterus, gullet, etc. Cohnheim's views were opposed to those of Dr. Burke and others. These latter gentlemen make it local, while the former would have it general.

Dr. Eccles wished to know if Cohnheim's views could not be reconciled with those of the other gentlemen by supposing the irritation to extend after the local disease had existed for a sufficient length of time.

The President replied that Cohnheim supposed that some of the cells in many people had not properly developed, and that it was at such places that cancer began.

Dr. Eccles reiterated the question, whether these cells passed through several stages or at once became cancerous.

The President replied that in embryonic life they became differentiated by a comparatively immediate transition.

Dr. Andrew Otterson had seen a bad case of "cancer" which, after excision, turned out not to be cancer. It was not always easy to make a diagnosis, and more especially a prognosis. Of about twelve patients upon whom he had operated, only two had survived for five years. In one the tumor had been said to be certainly very malignant and in the other doubtful. A former librarian of the Brooklyn Library, fifty years of age, was on a step-ladder, and, while reaching up, fell and struck his breast. It troubled him a good deal. He was under the care of a good surgeon, and was advised to have a resulting lump cut out. Some told him not to have it done. Eventually the speaker cut it out. It came back again in the cicatrix within a year, also involving some of the neighboring parts. No glands appeared to be affected. It was again excised, and again returned in two years and involved the body generally, but more especially the spinal cord and other parts of the nervous system, as shown by post-mortem examination. Another case was that of an old woman in Fulton Market. A boy struck her in the breast with a stone. The resulting nodule remained for years. At last it began to suppurate, and all the neighboring glands were involved. Yet another case was that of a janitor with a nodule of the size of a walnut on the shin from a fall off a step-ladder. It became a suppurating and bleeding sore. The stench was as bad as it could possibly be. The part was very painful. The speaker removed the whole mass with a ligature, and there never had been any return. The man lived for many years, and died of a totally different trouble. He had been sure that this was a case of malignant disease. He believed every practitioner could relate similar cases. As to the indiscriminate removal of all nodules, he thought it impracticable because of the objections on the part of patients.

Dr. Burke said that, as to the justifiability of hysterectomy, he was sure that a large proportion of patients would be saved if surgically treated before it was too late. He had seen an operation two days after his, but the case was so far gone that the patient did not live. There was no peritonitis, but death was due to asthenia. In such advanced cases the operation was not justifiable, but it was if done early and when the disease is local. He thought the operation would become more popular.

Comminuted and Depressed Fracture of the Skull; Trephining; Fungus of the Dura Mater; Recovery.—Dr. Burke then read a paper with this title. [See page 36.]

Dr. R. G. Eccles asked if there had been other psychological effects noticed than those that had been mentioned, for the piece of bone driven into the brain must have entered at about the speech center.

Dr. Burke replied that there had been no such symptoms.

Dr. Eccles: "Has he lost any words?"

Dr. Burke: "No."

Dr. A. Ross Mathewson related a case. A piece of frontal and temporal bone about an inch and a half in diameter was driven into the brain by a horse's kick. Fissuring extended

completely across the frontal bone. The upper fragment overlapped the lower fragment. Considerable brain-substance was lost. The case was also seen by Dr. Daniel Ayres, Dr. George K. Smith, and Dr. H. Messenger Ayres. Those parts of the bone that had been driven into the brain were removed. Dr. Smith desired to correct the position of the overlapping fragments, but, Dr. Ayres and the speaker objecting, they remained. There was complete paralysis. Two weeks later a fungus duræ matris developed. It grew as large as the one in Dr. Burke's case. He could not get rid of it by shaving it off a number of times. At last it was sprinkled with sulphate of copper, and a rubber compress was applied. Then it soon healed. At present the patient was well and was an operator in a stock office in Wall Street, New York. The overlapping in the frontal region no longer existed, and in its place could be seen a line of pulsation, half an inch wide, extending all the way across the forehead. He continued a little aphasic for about six weeks after getting up. Now, however, he had no physical or mental symptoms whatever.

Dr. Eccles called attention to the fact that, according to phrenologists, the patient ought to have lost the sense of attention after losing so much cerebral substance from such a locality.

Dr. Matheson stated that the loss of brain substance had amounted to two or three ounces.

Dr. Joseph H. Hunt desired to know if the opening in the skull in Dr. Burke's case had been filled in by new bone.

Dr. Burke replied that it had not, and that at present it was only covered with membrane and skin. During quiescence the skin was sunken in, but when the patient became excited it bulged out.

Dr. Hunt said he had been unusually interested, as he had had a similar case some years ago. The skull was fractured at the vertex and the fragment depressed about an inch. It was removed by Dr. Jarvis S. Wight. The boy was quite well now. There was no fungus duræ matris. The scar looked almost like a fontanelle.

Dr. Leuf remarked that he had seen Dr. Hunt's patient not very long ago and had taken occasion to make some inquiries. He was now a vigorous, healthy, and active young man, engaged in rather hard work. Since the recovery from the injury he had become irascible and rather quick-tempered, qualities diametrically opposed to those he had exhibited previous to the receipt of the injury. The opening was now quite small and triangular in outline. Pressure upon this opening caused the patient to experience a sickish sensation, and, if it was increased, he felt a gradual onset of insensibility. Further than this, he was afraid to have the experiment tried.*

The President remarked that in Dr. Burke's case the motor regions had been involved according to Ferrier and Rolando. Brown-Séquard held that, if one side was injured and its functions were abolished, the other side would assume them in addition to its own. Dr. Burke's case seemed to be a demonstration of the latter view.

Dr. Burke replied that the case had struck him as being so unusual that he had closely observed it from the beginning, but could not say that he had noticed anything in addition to what had already been stated.

Dr. Otterson mentioned a case that he had had in which the brain oozed away for years. Afterward the patient became a conductor on a railway car. His intellect was not in the least impaired. He had never had any unpleasant symptoms of any kind.

* *Note by Dr. Leuf.*—Because of the interest attached to this case, I would mention another fact. Since the meeting of the society the opportunity presented itself to me to sail in a yacht (less than ten days previous to this writing), which was solely managed by Dr. Hunt's former patient. It was done with skill, after a whole morning and early afternoon's hard work of rigging up for the first trip of the season. The sail was such that it required no ordinary amount of skill, care, and ingenuity to get along without mishaps, of which latter we had no experience whatever. This in addition to the above-noted facts connected with the after-effects of loss of brain substance.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 4, 1885.

(*Continued from page 24.*)

Gestation in a Sarcomatous Uterus simulating Extra-uterine Pregnancy. — Dr. Bernardy related the following case: On the 3d of October, 1884, he was requested to visit Mrs. McG., a delicate woman, about thirty years old, whom he found suffering with double pneumonia. At the same time he was told that she was five months pregnant. The abdomen was rather large for that period. On the 5th she complained of a sharp pain in the right inguinal region, which required large doses of morphine before any relief was obtained. He found the right inguinal region filled by an immense growth reaching almost to the lower border of the liver. The uterus, or what appeared to be the uterus, was enlarged and pushed well toward the left side. The right side of the pelvis was filled by a growth. At first he thought he detected fluctuation, but closer examination showed the growth to be hard to the touch. The uterus was immovable, the neck being somewhat absorbed and the os tilted up behind the pubes. To reach it, the finger had to be passed well upward; it was closed and soft. The patient had never had any uterine trouble. The menses had never appeared after her marriage, which occurred one week after a period. Her health remained good for three months after marriage, when, while out walking, she was suddenly seized with a sharp lancinating pain in the right side of the abdomen. The pain was so great that she almost fainted, but finally reached home and went to bed. No physician was called in. The next day there were slight traces of blood on her night-dress. Under absolute rest the pain subsided, and at the end of a week she was about her household duties. The pain in the side returned if she exerted herself. Sexual intercourse was painful and was followed by traces of blood the next day. Believing that the symptoms pointed to either extra-uterine pregnancy or a tumor complicating pregnancy, he asked Dr. Goodell to meet him. By the time the consultation was held, on the 8th, a severe attack of peritonitis had begun. A close examination was therefore impossible. On account of the distended and painful condition of the abdomen, the outline of the growth or uterus could not be traced. It was decided that the symptoms and history pointed to extra-uterine pregnancy, but, whether the uterus contained a tumor or a child, in the present condition of the patient it was impossible to decide. By the 16th the peritonitis was under control, but the lungs were no better. On the 19th he was sent for, the messenger stating that there was a renewal of the pertonitis. He found the patient in active labor, the fœtus descending rapidly. In half an hour labor was completed. He readily detected the large growth filling the upper portion of the right side of the pelvis; the uterus was surrounded by a hard growth. The cervix was hard. From this time the lungs improved, but the patient remained extremely weak and there was a constant dribbling of blood from the vagina. Nevertheless, the growth was still present and the cervix hard, and he began to think of malignant disease in connection with the tumor. He had applied to the abdomen, night and morning, an ointment of mercurial ointment, belladonna, and iodine, which seemingly had

the effect of causing the absorption of the large growth, but the mass surrounding the uterus remained the same. On the 27th vomiting occurred and was arrested with difficulty; there was a bloody discharge from the vagina and a constant sore feeling over the region of the uterus, which was still toward the left side. The patient was extremely weak; the slightest exertion exhausted her and brought on bleeding from the uterus. December 26th he found her suffering from pleurisy, the left pleural cavity being full of fluid. January 1st abdominal dropsy had set in. A consultation with Dr. Goodell was held, and a positive diagnosis of malignant disease was made. It was thought that death might occur at any moment, and she died suddenly the same evening.

The post-mortem examination, by Dr. E. A. Russell, showed the entire abdominal cavity greatly distended with a dark fluid full of broken-down lymph. The intestines were forced upward. There were slight evidences of beginning peritonitis. A portion of the ileum on the right side presented a black, unhealthy appearance bordering on gangrene. The uterus was increased in size. The outer surface presented an irregular mottled appearance, and large veins covered its surface. At the fundus there appeared a spot, about one inch in diameter, of a bluish tinge. On pressure by the finger the surface readily broke, and underneath was a cavity, of about the size of a large hickory-nut, which did not communicate with the interior of the uterus. The cavity of the uterus was found to be almost obliterated; the tumor seemed to have entirely absorbed the true uterine tissue with the exception of the neck. In the body of the tumor were observed small masses or growths varying in size up to that of an egg. The ovaries were small and seemed to have participated in the general disease. Microscopic examination proved the tumor to be an adeno-sarcoma.

At first the speaker had been convinced that he had a case of extra-uterine pregnancy; but the peculiar hardness of the tumor made him doubtful. Here was a patient that had never had any uterine ailment, who married, became pregnant, at the end of the third month, without any premonition; while quietly walking, was seized with pain of an excruciating nature in the right side, went to bed and remained quiet, and the next day blood flowed from the vagina. She remained comparatively well for two months and a half more, when she was again suddenly seized with pain in the same side, followed by peritonitis. A tumor was found in the affected side; the uterus was enlarged, but not sufficiently so for a five and a half months' pregnancy, the os giving no signs of that softening which should accompany pregnancy. Could we have a group of symptoms more allied to those of extra-uterine pregnancy?

Infant Feeding.—Dr. J. M. Keating said that, at his request, Dr. Charles Potts had instituted a series of experiments which had a decided practical value, and they hoped to present them to the society at an early date. He desired to place on record a statement of the results so far reached, which appeared to be interesting and important. The question often arose, Was it of advantage or not for an infant to be partly nursed and partly bottle-fed? What action had milk upon starch, if any? To answer this the following tests were made: 1. A sample of milk composed of the milk of several women, contained, according to a quantitative estimation by Fehling's method, 6·84 per cent. of sugar. Ten c. cm. of this milk were then taken, ½ gramme of powdered starch was added, and the mixture was allowed to stand at a temperature of 99° F. for thirty minutes, after which 5 c. cm. diluted with 45 c. cm. of distilled water, were tested and showed 8·62 per cent. of sugar. The other 5 c. cm., after standing sixty minutes, gave 9·09 per cent. 2. Another sample found to contain 7·14 per cent. of sugar, had ½ gramme of powdered starch added as in No. 1. In thirty minutes it gave 9·803 per cent. of sugar in 5 c. cm. The other 5 c. cm., after remaining sixty minutes, gave 8·62 per cent. Possibly part of the sugar deposited was drawn off with the first 5 c. cm. 3. Another sample showed 6·32 per cent. of sugar, and, after the addition of starch as before, gave in the first 5 c. cm. 8·19 per cent., and in the next 5 c. cm. 7·93 per cent. These investigations showed that the women's milk gave an increase of sugar after digesting with starch. 4. A sample of cow's milk was tested and found to contain 3·87 per cent. of sugar. To this was added ½ gramme of starch to 10 c. cm. At the end of thirty minutes 5 c. cm., diluted with 45 c. cm. of distilled water, showed no increase of sugar. 5. A sample of cow's milk gave 4 per cent. of sugar, and was treated as before, but at the end of thirty minutes, and then sixty minutes, it gave the same result. 6. Another sample of cow's milk gave 3·703 per cent. of sugar. It was treated as before, with the same amount of starch. In thirty minutes 5 c. cm. gave the same result; in sixty minutes 5 c. cm. gave the same result. These investigations showed that cow's milk gave no increase of sugar after the addition of starch. Did the acidity of cow's milk prevent the sugar change? Did the sugar change continue in an acid medium? 7. Another sample of human milk—from one woman—yielded 6·25 per cent. of sugar. Starch was added as before. In thirty minutes 5 c. cm. gave 7·14, and in sixty minutes 5 c. cm. gave 7·6 per cent. of sugar. To 10 c. cm. of this milk (containing 6·25 per cent. of sugar) a few drops of dilute hydrochloric acid, enough to faintly acidulate it, were added, and then ½ gramme of starch, and it was allowed to stand as before. In thirty minutes 5 c. cm. gave 6·41 per cent., and in sixty minutes 5 c. cm. gave 7·35 per cent. of sugar. 8. Another sample of woman's milk without starch gave 6·17 per cent., with starch 7·24 per cent. Ten c. cm. of the same, acidulated with hydrochloric acid, diluted, gave in thirty minutes 7·35 per cent. In these tests 10 c. cm. of Fehling's solution were used with 40 c. cm. of distilled water. If future investigations proved the correctness of these statements, we might safely assert that the nursing woman might advantageously supplement her breast milk with some well-prepared digestible form of food containing a small quantity of starch, and also that the amylolytic ferment would remain active in the slightly acid stomach of the infant.

The Surgical Treatment of Infants.—By invitation, Dr. DeForrest Willard read the following paper:

Your committee having invited me to speak to you to-night upon the surgical treatment of infants, I purpose to confine my remarks chiefly to personal experiences in the means of relieving the principal surgical difficulties which are met with during the first two years of life. If the subject shall occasionally lead me to mention older children, it will be because the line between infancy and childhood is not a marked and well-defined one. As you are all active practitioners also, it will be unnecessary for me to dwell upon detail, and I shall only touch upon practical points in treatment.

The surgery of childhood, as compared with that of adult life, is, aside even from congenital defects, sufficiently marked and distinctive to entitle it to separate consideration. First of all must the children's surgeon acquaint himself with the anatomy of the child. This is rarely done, as the ordinary adult dissections during a college course give little idea of the size and position of the individual elements as seen in the infant. In consequence of ignorance upon this practical point many grievous failures have occurred. After unusually large opportunities for the study of both normal and abnormal tissues in the diminutive frame, I am still frequently surprised to note the exceeding smallness of different organs and canals.

Another essential element in the surgeon is tact in the management of the little ones, especially when dealing with those

between the ages of two and ten. In hospital cases but little history is attainable, and much depends upon quick perception. Naturally fearful of pain, the patient's mind must be diverted and engaged, or great difficulties in diagnosis will often occur from the fright and struggling. The operator not in sympathy with children can never secure their confidence. Much will often be gained by quiet observation. It is not a month since my opinion, which at the first few moments of the consultation had been favorable to tracheotomy, was changed by five minutes' close watching, and the result proved the correctness of the procedure. To the person, however, who will carefully study individuality as well as disease, no department of medicine offers so pleasant a return for his labors. My personal experience with children has perhaps made me more hopeful in regard to the power of such individuals to endure pain, shock, and disease, than would be indicated by the expressions of other authors, but to me there is no domain of surgery so attractive and gratifying as the treatment of children below the age of puberty. Their natural condition is that of hopefulness, and, as soon as the depressing influence of shock, pain, or fear is removed, the normal resiliency of mind and body asserts itself with such rapidity that the results are often surprising.

Again, a child has only inherited taints of constitution to contend against; his viscera are ordinarily in a healthy condition; an adult has not only hereditary but all the acquired vices occasioned by misuse or abuse of any organ or sets of organs, a circumstance which often turns the scale in the struggle between life and death. Take, for example, the single instance of the outraging of tissues by either the moderate or the excessive use of alcohol, and every surgeon will testify that even slight wounds may, in such an individual, quickly develop a fatal attack of *mania a potu*. Tetanus is not more frequent in infants than in adults, notwithstanding the tendency of the former to nerve excitability.

In regard to anæsthetics, my experience is that great benefit is obtained by the use of ether when pain can thereby be prevented. In the first weeks of existence I admit that a feeble vitality would contra-indicate its use, although I have successfully administered it to an infant three days old. After the first or second month, I see no reason why we should needlessly inflict pain upon an infant simply because we can control it by brute force. In the examination of fractures great suffering is often inflicted by careless and frequent manipulation, and, unless the diagnosis is easy and positive, unconsciousness should be produced. No case of bone injury should ever be passed by undiagnosticated when ether will solve the question. In the opening of abscesses the "primary quieting influence" of ether is so readily obtained that it should be brought into use whenever practicable, as keenness of pain can thereby be avoided.

Fear plays an important part, and may depress the child's system even more than pain; hence great caution should be observed that all knowledge of any operative procedure should be guarded against. When the day for action arrives, let the surgeon quietly and gently state to the little one, if it has arrived at years of reason, just what it is proposed to do, at the same time assuring him that no pain will be experienced, and, if such words are followed by firm, speedy, and judicious management, much agitation and fear will be avoided. All preparations should be made out of sight and hearing of the patient, and instruments need never be seen by him, except when a strong impression is intended to be made upon the mind of a masturbating boy requiring circumcision, in which case ether may also be omitted.

One word in regard to the method of anæsthetization. It is but natural that a child should be distrustful of any attempt to deprive him of consciousness, a fear which is greatly increased by the injudicious and greatly-to-be-condemned habit of many parents, who systematically threaten their offspring with the expression, "The doctor will come and cut your head off." A few kind words will often quiet the agitation, and simple directions as to the method of breathing will save many minutes of struggling resistance. With very young children, the first smell of ether may be masked by permitting them to see cologne poured upon the towel, after which ether may be quietly added, and they will feel that it is a perfume that they are breathing. This device has frequently served me a good purpose. I always allow a good admixture of fresh air for the first moment, but, when the child actually begins to cry, then quick action answers best. The towel should now be well saturated and held firmly over nose and mouth until two or three strong screams and inhalations yield a full primary impression, which can be gradually followed up to complete anæsthesia with safety.

Should any symptoms of ether narcosis occur, it is so easy to depress the head of a child, or to perform artificial respiration by acting upon the ribs, that serious accidents are infrequent. Subsequent vomiting is very common but is not persistent, and is easily quieted by a small hypodermic of morphine, a procedure which ordinarily brings quiet sleep to the patient. If the child is feeble, I always allow milk up to within two or three hours of the operation, and then administer wine or whisky in water immediately before giving the anæsthetic. Milk with lime-water and whisky is usually retained within ten minutes after the first vomiting on rousing. In tedious excisions, not only should preliminary precautions be taken to secure against prostration by shock, but hot-water bags should be ready for use, which, with hypodermics of brandy, may succeed in tiding over a temporary depression which would otherwise end in death. When the loss of blood has been great, especially in acute surgery, important assistance may be gained by transfusion, either of blood or of a warm saline solution.

Under the head of arrest of hæmorrhage I would strongly advocate the use of animal ligatures, since the pain often incident upon the removal of threads greatly disturbs the needed quietude of wound and mind.

Thorough asepsis and antisepsis are especially valuable since we not only secure the admirable results that are attainable by their use, but are also enabled to disturb the child with far less frequency. I am now treating a girl with a railroad crush of the leg which would thoroughly have justified amputation, yet which, under corrosive-sublimate dressings, has been touched but six times in as many weeks, even though extensive sloughing has occurred. Save upon one occasion, at the height of the process of tissue-death, the applications have been taken away perfectly sweet, and the child has the promise of a reasonably good limb. In my *septic* days I certainly was never able to carry a patient through such a process and keep the temperature, as has been done in this case, below 99·5° F. all the time, and usually but slightly above 98°. With infrequent dressings, the irritation of the child is but slight, and, if pain is also absent, contentment is the rule, under proper nursing.

I can not too strongly emphasize the importance of this latter condition. A kind, quiet, gentle nurse is one of the most valuable assistants in the real progress of the case, especially during the first week following an operation. Such care can not be delegated to untrained and careless people, hence it is absolutely necessary that children should be in separate hospitals, or in separate wards, under the best of care-takers. Even in private practice the mother is rarely the best nurse for a child past two or three years of age, and a skilled attendant answers best. In hospital practice I have often been surprised

to see how contented and patient the majority of children of even three years of age will become if the mother maintains a judicious absence and the nurse is efficient and kind.

Another point which I wish most emphatically to emphasize to-night is the fact that congenital defects are most inexcusably and persistently neglected by even good practitioners, under the mistaken opinion either that nothing can be done, or that a later period will be early enough. The consequence is that many unfortunates become helpless and hopeless cripples by their physicians' advice, since, passing out of his sight and mind, the neglect engendered by his direction, "wait," is fostered by parents, ever ready to postpone a dreaded day.

Turning to some of the special surgical diseases of infants, I would say that it is my intention to simply touch upon a few points of treatment without regard to definite arrangement or order, since to consider almost any one of the conditions in full would require an entire evening's discussion.

In a new-born child the first most probable trouble requiring surgical relief will be *imperforate anus* or *rectum*. Such a condition is not improbable when we remember that the intestine is formed as a closed tube. If the malformation is simply one of occlusion of the anus by a membrane, it would seem to be the easiest of procedures for any practitioner to make an opening, yet I have seen children permitted to die with the entire ischio-rectal fossa and perinæum bulging with retained fæces, when a simple puncture through a membrane closing an otherwise normal anus would have given immediate relief. This timidity may perhaps be explained by the fact that occluded anus and imperforate anus are confounded with imperforate rectum and the case is given up as hopeless. In imperforate anus the operation is still a simple one, since a crucial incision, together with stitching of the mucous membrane to the skin and subsequent dilatation with the finger or probe, is all that is required.

When the anus is normal and patulous, but the rectum is occluded by a membrane, or is actually absent, a much more serious condition presents itself, the difficulty increasing in proportion to the extent of the deficiency. Should no meconium be passed within the first twenty-four hours, a careful search should be instituted. The little finger or a catheter passed into the anus will detect the obstruction, or, if the anus is absent, the vagina, if present, may be explored for abnormal fistulæ. As soon as the presence of fæces can be discovered in the fossa, a careful dissection should be made, keeping well backward, so as to avoid the vagina, or the urethra and bladder. A catheter should always mark the position of the urethra. There is but little danger, even in deep incisions, if the region of the coccyx and sacrum is followed. The gut found, it should be drawn down as far as possible and secured, a channel being maintained through the lower rectal region, if necessary, by the finger or by bougies, the latter of which should not, however, be retained constantly in position. There is much less danger from subsequent hæmorrhage if the external incision is free, and no fear need be entertained about the ultimate retention of fæces, as, if the child escapes peritonitis and other inflammations, good control of the bowel is always secured; in fact, the chief subsequent danger lies in the formation of stricture. When the length of the bowel will not permit it to reach to the site of the anus, the new opening may be made nearer to the sacrum. Should no trace of the rectum be found within two inches of the anus, it is unsafe to further explore a region where the peritonæum would be liable to injury, either left inguinal or left lumbar colotomy should be performed. The right groin is to be selected if there are evidences of absence of the sigmoid flexure. The left inguinal portion gives a better subsequent opportunity of passing a bougie downward into the rectum and thus establishing a proper anus. If the colon is full, it will not be difficult to find. In cases of doubt, its distension by air or water through a hypodermic needle would determine its termination. Abnormal openings into the vagina, bladder, or urethra rarely require early operation, but, in non-retention of fæces at a later age, Rizzoli's plan of procedure is a good one.

Later in childhood, the surgeon is often compelled to treat another condition of the rectum, namely, prolapse. This, if excessive and non-yielding to replacement, astringent applications, hot water bathings, and general constitutional measures, must be cured by the production of linear eschars by nitric acid.

The genito-urinary organs may also require attention immediately after birth. A simple occluded urethra is easily relieved by the careful introduction of a sound or catheter. *Epispadias*, *hypospadias*, and *exstrophy of the bladder* should not be allowed to go on to adult life without relief. As soon as the child has passed its dentition period, a plastic operation should be attempted for relief, since the mental and moral effect of such a deformity has often a marked influence upon the lives of the unfortunates. *Adhesion of the vulva or nymphæ* should not be overlooked, since not only does the nervous system suffer, but the parts may be improperly developed. Separation can almost always be accomplished by the finger or by a probe. An absolutely *imperforate hymen* should never be allowed to exist if discovered, since, if permitted to impede the menstrual flow, at a later period, serious and even fatal results may follow its division, if the uterus and Fallopian tubes have become dilated by the imprisoned secretion. *Imperforate vagina* should receive at least careful diagnostic attention to detect the presence of a uterus, and, if this is not absent, fuller development will be secured if the passage can be opened during the first few years of life. With a catheter in the urethra and a finger in the rectum, a careful operator can explore safely. I have met with several cases in which the *penis* was preternaturally *short* and ill formed, the body of the organ, during flaccidity, being almost entirely concealed in the fatty tissues of the pubes. In such instances I have removed the prepuce during the first three months of life, and have cut away all restricting bands of skin and connective tissue, sometimes even drawing beneath the penis an extra flap of skin when the corpus spongiosum has been short and dwarfed. By such means the fullest amount of growth is encouraged.

Adherent and *contracted prepuce*, or *phimosis*, has been the subject of much discussion in regard to its causal influence upon certain nervous manifestations. My views upon this subject have been already published,* and, after two years of additional experience, during which time I have been brought daily in contact with this class of cases, I can reiterate what I then stated, namely, that, while more or less adhesion is an almost constant and normal condition, yet, when urinary, choreic, paretic, or any other nervous symptoms develop, a careful investigation should never be omitted, since a direct relation will in a certain number of cases be clearly evidenced, and removal of the cause will speedily cure the manifestation. The fact that even circumcision does not relieve the symptoms is undoubtedly true in many instances, and I have never maintained that preputial adhesion and narrowing was anything more than one of several factors which should be carefully scrutinized. I have only urged that its influence should not be overlooked, and, when so simple an operation as stripping the prepuce from the glans by the thumbs, or possibly by the use of a probe, is all-sufficient, there can certainly be no argument against removing this one factor. My opinion in regard to the feasibility of

* "Philadelphia Medical Times," June 30, 1883.

drawing back the prepuce in young children, even when the opening seems scarcely pin-hole in diameter, has been greatly strengthened, and circumcision is only necessary when the simpler method described fails to secure a prepuce freely movable over a normal glans. Dilatation even is but rarely required, a few minutes of continuous pressure soon revealing the mucous layer, adherent perhaps just about the meatus, which, when loosened, permits the head to pass through the opening, and the corona is freed with the thumbs. Should temporary paraphimosis occur, two probes or a hair-pin slipped beneath the constriction will easily permit replacement.

(*To be concluded.*)

Miscellany.

The American Medical Association and the International Medical Congress.—"The meeting of the American Medical Association, held at New Orleans during the past month," says the "Kansas City Medical Record," in its June issue, "did not prove to be as much of a success as was anticipated. We presume this may be accounted for on the ground of the location, the country in the vicinity of New Orleans being sparsely occupied by physicians, and the territory well occupied by the profession being at a great distance, rendering it a tedious journey at a great sacrifice of time. Hence the attendance from our large Eastern and Northern cities was very light.

"There were about five hundred physicians present, mostly from the South and West. The papers read, both in general session and sections, were quite practical as a rule, and full of interest, and received a pretty thorough discussion.

"Many of the leading representative men who usually attend the meetings being absent detracted from the general interest, and prevented the meeting reaching the average standard of American Medical Association meetings. . . .

"The second day of the meeting was ushered in by a somewhat verbose discussion regarding the action of the committee relative to the International Medical Congress. From our best information regarding the gentlemen who were instrumental in initiating this uncalled-for wind-storm, we fancy the trouble originated from disappointment. They are sore-heads of the 'rule or ruin' type. Some of these men have for years endeavored to supply the wind-power for the American Medical Association meetings.

"The International Medical Congress requires a more reliable power—a steadier power: hence these dress-parade sort of fellows were, of necessity to the welfare of the Congress, relegated to the rear.

"In order to conceal the true character of the charges, they hid behind the new-code prejudices charging that new-code men were put on the committees. However objectionable the new-code men may be, we hope they are governed by purer principles than men whom we know to be ostensibly sticklers for old-code theories, but are practically no-code practitioners, except such as will give them personal aggrandizement.

"We have carefully looked over the 'rules and preliminary organization,' and can see no reason to find fault with the action of the committee. We feel entirely satisfied that they have acted in the best interest of the American profession in general. Nearly all the States, the District of Columbia, and Canada have been represented by the appointment of prominent and distinguished physicians on the committees and sections. New York, having the largest number of widely known men, is justly entitled to a larger number of representatives, and therefore has 68 appointments; Pennsylvania, which might be expected to come next, has 48; Massachusetts, 32; Illinois, 18; Ohio, 15; District of Columbia, 18; Missouri, 8. A few States are left out, which can be the only tangible objection to the appointments.

"It must not be forgotten that the States so largely represented are those in which most of the medical teachers and authors reside, without whom, be they new- or old-code men, the American profession could not be represented in its best light, which, above everything of a technical nature, should be sought after."

The Use of Cocaine in Nervous Affections.—At the recent meeting of the American Neurological Association, Dr. J. K. Bauduy, of St. Louis, read a paper in which he recounted his experience with the use of cocaine in the treatment of certain forms of psychical disturbance. We expect to publish Dr. Bauduy's paper shortly. In the mean time, we would call attention to a letter which has been shown us, written by Dr. L. Bremer, of St. Louis, from which we make the following extracts: "Dr. Bauduy, of this city, has been using the cocaine in cases of melancholia with the happiest results. During a recent visit at St. Vincent's Hospital I was, by the kindness of the doctor, afforded an opportunity of witnessing the rapid and wonderful effect which the hypodermic injection of one grain of the drug produced in the affection named. W. H., aged seventeen, who was under my treatment before his admission to the hospital, for hebephrenia, and whose mental state I am thoroughly familiar with, was, on our visit, found in a condition of great depression. Although he knew me well, he refused to speak to or recognize me. The expression of his face was that of utter dejection, despair, and disgust. All efforts to elicit an answer to my questions failed; he remained wrapped up in a sullen silence. The injection of one grain of cocaine changed the scene as by magic. Four minutes after the introduction of the drug the patient began to talk; the spell was broken, and he conversed freely and intelligently on the nature of his trouble. The almost mathematical precision of the effect of the remedy could only be compared to that of morphine in certain nervous affections.

"The second case in which the cocaine was tried in my presence, and yielded a like brilliant result, was that of a young man suffering from a severe form of melancholia combined with a refusal to take nourishment. Five minutes after the administration of the drug he became quiet and partook readily of the nourishment offered to him. This patient would never eat except when under the influence of the drug; it was employed for the first time when he was approaching inanition, to avert which the feeding-tube was thought of as a last resort. . . . To my knowledge, Dr. Bauduy has been the first to try cocaine in melancholia."

Dr. Bauduy seems to have been the first also to suggest the use of cocaine for the morning sickness of pregnancy. An interesting account of Dr. Schenck's experience with the remedy for that distressing condition will be found in the report of the proceedings of the St. Louis Medico-Chirurgical Society, published in the "St. Louis Courier of Medicine" for May, where it is expressly stated that the cocaine was used at the suggestion of Dr. Bauduy.

The New York Polyclinic.—Dr. M. Allen Starr has been elected professor of diseases of the mind and nervous system in the New York Polyclinic.

The "International Journal of the Medical Sciences."—Beginning with the issue for January, 1886, according to the "British Medical Journal," this will be the title of the "American Journal of the Medical Sciences," Dr. Hays continuing as the American editor, and Mr. Malcolm Morris being the European editor.

The Health of the State of New York.—It appears, by the "Monthly Bulletin" issued by the State Board of Health for the month of May, that the total reported mortality was 6,542, the percentage of infant mortality being 32·23. In each thousand deaths there were 154·70 from zymotic diseases, including 26·83 from measles, 18·70 from scarlet fever, and 48·91 from croup and diphtheria.

The Health of Michigan.—From a statement issued by the secretary of the State Board of Health, Dr. Henry B. Baker, we find that, during the month of June, diphtheria was reported from forty-one places, scarlet fever from twenty-seven, measles from sixteen, and small pox from two.

The Missouri State Board of Health was lately reorganized by the choice of Mr. William Gentry as president, Dr. George Homes as secretary, and Mr. J. B. Prather as treasurer.

THERAPEUTICAL NOTES.

A New Species of Agaric.—Grossi, says the "Gazzetta degli ospitali" (quoting from "Rif. med."), has recently made a study of a gigantic species of agaric, the *Polyporus senex*, found on the coast of Chile, the absorbent properties of which are remarkable. Although it is insoluble in ether, in chloroform, and in alcohol, it effervesces in the presence of bicarbonate of sodium, becomes smooth and unctuous, breaks up, and dissolves. Grossi has made use of it as a styptic, and regards it as a specific in cases of hæmorrhage from wounded arteries that are too small to tie, and too large to be controlled by other styptics; also in the hæmorrhagic diathesis. He has employed it for night-sweats also, after the following formula:

Polyporus senex	3¼ grains;
Bicarbonate of sodium	15 "
Distilled water	3 ounces;
Gum arabic	75 grains.

A tablespoonful to be taken at night.

A New Basis for Ointments and Suppositories.—In the same publications it is stated that the seeds of the *Hopea splendida* and the *Hopea aspera*, if not those of some other species, furnish a fatty matter, known in the Islands of Sunda as *myniak-tangkawank* or *myniak-sangkawank*, which is used in the industrial arts, and seems likely to answer in the preparation of ointments and suppositories.

The Treatment of Goitre with Iodoform Injections.—Thiroux (Thèse de Paris, 1884; "Rev. méd.") records several cases in which interstitial injections of iodoform were followed by considerable improvement and even cure. At the military hospital at Bordeaux these injections have been found to give so much pain, due probably to the ether in which the iodoform was dissolved, that their use has been given up.

Parthenine in the Treatment of Facial Neuralgia.—Tovar has experimented with this alkaloid in cases of facial neuralgia ("Gazz. med. Ital.-Lombard."). Giving a tenth of a grain every hour for four hours, and then decreasing the size and frequency of the dose, he cured rather a severe case in a week. Parthenine is obtained from *Parthenium hysterophorus*, an herb growing in Jamaica, where it is much used for cutaneous affections.

Anisic Acid as an Antipyretic.—This substance (*Ibid.*), obtained by the oxidation of oil of anise, takes the form of colorless prismatic crystals soluble in alcohol and in ether. It has antiseptic properties, also an antipyretic action analogous to that of salicylic acid. It should be used with caution, as large doses injected into the veins of various animals have caused epileptoid convulsions.

A Ready Method of stopping Hiccough.—A Brazilian physician, Dr. Ramos ("Bull. gén. de thérap."), states that refrigeration of the lobe of the ear will stop hiccough, whatever its cause may be. Very slight refrigeration will answer—the application of cold water or even of saliva being sufficient.

The Fruit of the Calabash Tree as a Purgative.—According to Peckolt ("Neuveaux remèdes"), both the pulp and the expressed juice of this South American tree, the *Crescentia cujete* [Linnæus], have long been used as laxatives in Brazil. The alcoholic extract, in doses of a grain and a half, is a laxative, and acts as a drastic in doses of seven or eight grains. The fresh pulp is also employed as an application in cases of ecthyma. It is boiled with water until it forms a black paste, then vinegar is added, and the mixture is boiled again. It is applied spread on linen.

Hydrofluorate of Quinine.—According to Weddell (*Ibid.*), this salt is soluble in water and in alcohol. He has used it in the treatment of hepatic engorgement of malarial origin in which, he thinks, fluorine and the fluorids have a beneficial action. He has observed the same in rheumatic and other nutritive diseases of the bones.

Paraldehyde as a Hypnotic.—At a recent meeting of the North of Ireland Branch of the British Medical Association ("Brit. Med. Journ."), Mr. Hodgson, of Belfast, gave his experience with this drug in cases of insomnia accompanied by pain, especially in mania, hypochondriasis, delirium tremens, and [on the account illegible] migraine. As compared with chloral it had the advantage of not being a cardiac depressant. For gout, both acute and chronic, he strongly recommended it, finding that sleep was obtained, while the solid constituents of the urine were increased rather than diminished. When either the throat or the stomach was inflamed, it was unsuitable, owing to its pungency, and this quality rendered free dilution always necessary. As an anodyne, he considered it weak, but he had found that it heightened the effect of morphine.

Anagyrine.—This is the name given to an alkaloid extracted by Hardy and Gallois from *Anagyris fœtida* and *A. indica*. At a recent meeting of the *Société de biologie* ("Gaz. hebdom. de méd. et de chir."), M. Hardy reported that small doses had been found to act as a tonic, but that large doses, given to small animals, produced death by arresting the respiration.

Deelina Oil in the Treatment of Skin Diseases.—Dr. John Roberts, of Chester, England ("Practitioner"), gives brief notes of a number of cases of skin disease, chiefly of an eczematous character, in which he has used "oleum deelinæ" as a topical application. He considers it superior to all other fatty substances for the purpose. He never uses it during the acute stage. Before it is applied the parts are bathed with warm bran-water or oatmeal-water, and then carefully and gently dried. All that is said of the nature of the oil is that it is "another member of the hydro-carbon family," and that it is "manufactured on the banks of the Dee, by the Dee Oil Company, by a process of refining," etc. We find nothing in the article to indicate whether it is a fish-oil, a petroleum product, or of vegetable origin. It is said that it is clean and inodorous, does not become rancid, and leaves little or no greasiness after its application.

Iodoform in the Treatment of Syphilis.—Dr. H. Macnaughton Jones (*Ibid.*) states his experience of the value of iodoform administered internally in certain cases of syphilis in which the iodides appeared to have little effect. He does not generally give it in larger doses than a grain or a grain and a half, three times a day. He continues its use, unless it is contra-indicated by some sense of fullness in the head or headache. Especially when used in conjunction with the external application of iodide of starch, he has seen it prove of striking benefit in cases of ecthymatous ulceration. Like iodide of potassium, it is not borne in any quantity by some persons, while there are others who can safely persevere with it for a considerable time.

An Anæsthetic Mixture of Dimethylacetal and Chloroform, two volumes of the former to one of the latter, has been used at the Strassburg surgical clinic in a hundred and fifty cases. Fischer ("Dtsch. Ztschr. f. Chir."; "Ctrlbl. f. Chir.") says that its advantages are that psychical excitement and muscular agitation do not occur, but the patients pass gradually into a quiet sleep; that vomiting, and efforts at vomiting, are not observed during the anæsthesia, and occurred after consciousness was regained in only four cases (those of very anæmic patients who had been allowed to drink a good deal after the operation); and that the disappearance of the anæsthesia is very rapid, and leaves the patient feeling comfortable, without any headache. The mixture is recommended: 1. When gastric catarrh and vomiting are especially to be avoided. 2. For laparotomy. 3. In cases of heart disease. 4. In nephritis. 5. In diseases of the central nervous system, particularly infantile paralysis and epilepsy. 6. In cases in which untoward symptoms come on during chloroform anæsthesia and the operation can be completed only with the aid of an anæsthetic. The drawbacks are the slowness with which anæsthesia is induced in robust, muscular individuals, and the high price of dimethylacetal.

The External Use of Chloral for Night-Sweats.—Nicolai ("Wratsch"; "St. Petersb. med. Woch.") remarks that the usual remedies for night-sweats have the disadvantage that the system soon becomes accustomed to their action, and that, consequently, the dose has to be so increased that unpleasant collateral effects are produced. The external use of chloral, he says, is free from this objection. He uses a mixture of two drachms of chloral and two beerglassfuls of equal parts of brandy and water. With this mixture the patient is bathed at bedtime. If this is not enough, a clean night-shirt is put on which has been soaked in the solution and then dried. This treatment is said to be particularly successful with children when the trouble is not due to phthisis.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON.

BY AMBROSE L. RANNEY, M.D., NEW YORK.

(*Continued from page 32.*)

THE CARE OF A BATTERY.

THE best battery is liable to get out of order. It is an easy matter, as a rule, to correct the trouble if the construction of the apparatus is thoroughly understood. The following hints may aid the reader in obtaining a satisfactory current with a minimum expense:

1. *Keep your battery clean and bright in all its parts.* Close the case when the battery is not in use, and thus keep out dust, grease, and moisture. Emery-paper is useful to keep the metal connections free from rust. Remember that dirt, grease, or rust will often arrest the action of any battery.

2. When the battery fails to act properly, examine the cells first and see if *the fluid requires renewal.* The "red-acid fluid" is easily made by adding one part of commercial sulphuric acid to ten parts of cold water; when cooled, one part of finely pulverized bichromate of potassium should be added and mixed well. This is the fluid commonly employed in portable batteries with cells of the Grenet pattern.

3. If the fluid is found to be fresh, and if the zinc and carbon elements are in good order and the zinc well amalgamated, *examine carefully all the screws and other connections attached to the elements* and see if they have become oxidized. Sometimes they become rusted or so covered with accumulated dirt as to render the passage of the current impossible. Occasionally the carbons may be disconnected and baked in an oven to render a Grenet cell more active. Soaking the elements (*in situ*) in hot water which does not reach the connections will generally suffice to cleanse them.

4. If the *cell has become polarized* when in action (by bubbles of hydrogen which accumulate upon the carbon and of oxygen upon the zinc element), lifting the zinc out of the fluid and replacing it immediately will suffice to overcome this trouble if the cells are of the Grenet pattern. These bubbles of hydrogen and oxygen set up a counter-current in the cell which will weaken and may even neutralize the original current.

5. *Examine the interrupter*, the *buttons of the current-selector*, and *the commutator* for rust or dirt, and clean each thoroughly when the trouble appears not to be due to the elements or their immediate connections.

6. If a *dripcup is furnished* with a faradaic or galvanic battery, be careful to place the zinc element in it when the battery is not in use.

7. In portable galvanic batteries, be sure to *place the rubber-covered diaphragm over the cells* before closing the case and to screw it down tightly. This prevents the fumes rising and oxidizing the connections of the elements when not in use. This does not apply to a red-acid battery when not being transported.

8. Be sure that the *rheophores are perfect* before they are used upon a patient. The wire used in their manufacture is liable to become broken or oxidized by use. This is especially true of the flexible, cotton-covered cords generally furnished with batteries. The electrodes may be tested by employing a galvanometer, if an imperfection is suspected and can not be found.

9. The *wires* that run from the cups to the buttons of the current-selector or the commutator may be seen on the bottom side of the key-board of a battery. They can be examined for imperfections when the other parts of the apparatus appear to be perfect.

10. *Do not short-circuit a battery.* By this we mean, do not allow a battery to run down, or, more technically, "polarize," by the poles being brought into contact without an interposed body (such as animal tissue) for any length of time. For example, galvanic cells which have a low internal resistance (as a Grenet cell) become polarized in a few hours when the poles are connected by a short wire which affords little if any resistance to the current.

11. *Keep your electrodes clean.* It is well to cover them with fresh canton-flannel for every patient. This is an act of precaution which will impress people with your regard for their feelings and for their safety from contact with infectious matter. Sponges are too expensive to be renewed so often. Absorbent cotton may often be placed between the electrode and its covering with advantage.

PART II.

THE PRINCIPLES OF ELECTRO-DIAGNOSIS.*

The various electric tests that are employed as aids in the diagnosis of nervous affections are too complex to be fully described and explained without entering somewhat into the domain of physics and physiology. Erb† has lately written an excellent work upon the subject, and most of the later treatises upon physiology will afford you general information respecting the reactions of healthy muscle to the faradaic and galvanic currents. The few practical hints which are given here are offered with an apology for their incompleteness, although it is hoped that they will assist you in your studies in this field.

Having first moistened the electrodes and connected them with the battery in action, it is customary to hold them both in one hand (close together, but not in contact), and apply them to the ball of the thumb of the opposite hand or the cheek to see if the current is passing properly. If the current to be employed is a *very weak one*, touch the electrodes to the tip of the tongue before it is used upon the patient.

Next, sponge the part of the patient's body to be tested with a *weak solution of table salt* [illegible] *water*, in order to

* Portions of this lecture have already been published.

† "Handbook of Electro-Therapeutics," New York, 188[illegible]

render the skin a good conductor of the electric currents. If the wire-brush is to be used, this step is omitted.

The "*polar method*" is the one commonly used. Apply one electrode of large size, either over the breast-bone of the patient (at about its center) or over the back of the neck. The breast-bone is the preferable point on account of the absence of muscles in the median line.* The other electrode (of small size) is placed over some special nerve-trunk or the muscle to be tested; in case muscle is to be tested, the electrode is placed usually at the point where the motor nerve enters its substance—the so-called "motor-point" of the muscle. In this way the action of the two poles can be readily distinguished.

In my work, "The Applied Anatomy of the Nervous System," I have reproduced von Ziemssen's cuts, illustrating the situation of the motor-points of the various muscles. In case the interrupted or faradaic current is to be employed, the "polar method" need not be strictly adhered to, as it is decidedly more painful than when the electrodes are less widely separated.

Use both the *continuous or galvanic current* and the *interrupted or faradaic current* in testing muscular reactions. The former is of the greatest value in diagnosis.

In *studying the muscular reactions to the different currents* employed, remember (1) that the negative pole is called the cathode (C),† and the positive pole the anode (A); (2) that muscular contractions occur both when the current is altered in strength and when the circuit is closed or opened; (3) that the faradaic current produces an apparently continuous muscular contraction, because its interruptions are so very rapid; (4) that very weak currents do not produce contractions; (5) that alterations in the strength of the current cause proportionate variations in the contrac tions; (6) that the contractions are short, sharp, and sudden in health; (7) that the effects of applying the electrode over the substance of the muscle and over its motor-point are identical in health, but not in some diseased conditions; (8) that the galvanic current will not usually produce muscular contractions while it is constant, but only when its strength is modified or when the circuit is closed or broken; (9) that the direction of the current can be changed, without altering the position of the electrodes, by a simple apparatus that changes the cathode into the anode, and *vice versa* (the *commutator*).

The current passes always from the anode to the cathode. Hence, when the positive pole is placed on the breast or neck, and the other on the muscle to be tested, we have a *descending current*. An *ascending current* exists if the anode is on the same distant or neutral point.

An "automatic interrupter" on an "interrupting electrode" is necessary in employing the galvanic current in testing muscular reactions.

* This is known as the "indifferent point," when *polar effects* are being studied at the other electrode.

† German authors employ different symbols from those given. These are as follows: C. C. C. = Ka S. Z., C. O. C. = Ka O. Z., A. C. C. = An S. Z., A. O. C. = An O. Z. The symbols Ka = cathode, An = anode, S = closure (*Schliessung*), O = opening (*Oeffnung*), Z = contraction (*Zuckung*).

The *descending current*, when closed and again broken, can thus give us:

1. The cathodal closure contraction:
   C. C. C. or Ka S. Z. of the Germans.
2. The cathodal opening contraction:
   C. O. C. or Ka O. Z. of the Germans.

The *ascending current*, when closed and again broken, can give us:

1. The anodal closure contraction:
   A. C. C. or An S. Z. of the Germans.
2. The anodal opening contraction:
   A. O. C. or An O. Z. of the Germans.

These four forms of contraction require currents of different strengths to produce them. They are, therefore, induced by *gradually increasing the number of cells* employed. The following order is the one commonly observed in healthy muscle:

1. ..... C. C. C. = Ka S. Z.
2. ..... A. C. C. = An S. Z.
3. ..... A. O. C. = An O. Z.
4. ..... C. O. C. = Ka O. Z.

It will be observed that the *cathodal contractions* appear first and last in health, while the *anodal contractions* follow each other; also, that the *closure contractions* precede the *opening contractions* of both the cathode and anode. When a nerve-trunk is stimulated by electric currents the formula of the normal muscular contractions is altered. This will be spoken of hereafter.

As the strength of the current is gradually increased, the contractions which have successively appeared *become intensified proportionately* (as is shown below), and *new reactions* are added:

First stage (*moderate current*), C. C. C.
Second stage (*stronger current*), C.′ C.′ C.′ and A. C. C.
Third stage (*still stronger current*), C.″ C.″ C.″ and A.′ C.′ C.′ and A. O. C.
Fourth stage (*very strong current*), C.‴ C.‴ C.‴ and A.″ C.″ C.″ and A.′ O.′ C.′ and C. O. C.
C.‴ C.‴ C.‴ is called "*cathodal tetanus*," because the contraction is very violent. Sometimes the anodal contractions both occur with the same intensity of current, thus merging the second and third stages into one. Again, A. O. C. may in some cases appear before A. C. C.

Disease of the nerve-centers or of the nerves themselves may cause modifications of the normal formula of muscular contractions. This constitutes the key-note to the value of electric currents in diagnosis. Mechanical devices may be employed to trace the muscular contractions, as the sphygmograph does the pulse. (Fig. 32.)

If the destructive process is within the brain or spinal cord, and *situated above the* "*trophic centers*" of the nerves supplying the paralyzed muscles, the electrical reactions of the paralyzed muscles will be normal in respect to the sequence and character of the muscular contractions. Sometimes, however, a *much stronger current* (galvanic or faradaic) is required to produce them than over the healthy

muscles. This fact is due to atrophic changes in the muscles. It may be of decided value in diagnosis.

When disease processes in the brain or spinal cord cause contractions, irrespective of the strength of the current employed.

Finally, in unilateral paralysis the electrical reactions of the muscles of the paralyzed side should be contrasted with those of homologous muscles of the unaffected side. When both sides are impaired, the standard of comparison should be that of a healthy subject of about the same size, weight, and muscular development.

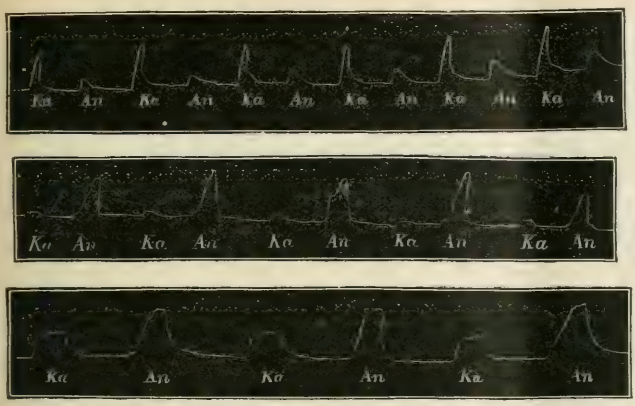


FIG. 32.—CURVES OF CLOSURE CONTRACTIONS IN DIRECT (UNIPOLAR) STIMULATION OF THE MUSCLES IN THE DISTRIBUTION OF THE PERONEAL NERVE IN THE LEG (Erb). Ka = C. C. C.; An = A. C. C. 1, Curve of health, thirty-three elements; C. C. C. is greater than A. C. C.; 2, case of chronic anterior poliomyelitis, showing reaction of degeneration with thirty-three elements; 3, same case, with forty elements. In 2 and 3, the excess of A. C. C. over C. C. C. is apparent; 3, in the slow character of the contractions is very marked.

Now let us suppose that we wish to test the reaction of some special nerve—the musculo-spiral, for example. We place the positive pole (An) of a galvanic battery over the breast-bone with a large flat electrode attached, and the negative pole (Ka) over the nerve (where it winds around the humerus below the deltoid muscle) with an "interrupting" small electrode attached to the negative rheophore. We then put into circuit a few cells at a time and press the button of the interrupting electrode at intervals till we get a contraction of muscles. When the current is sufficiently strong to excite the nerve-trunk, contraction of the extensor muscles of the forearm becomes apparent (the *cathodal closure contraction*). Thus we ascertain the number of cells required to produce C. C. C. (Ka S. Z. of the Germans). Now add a few more cells, and reverse the poles by means of the commutator. When the circuit is *broken*, by releasing the button of the interrupting electrode, we get the anodal opening contraction (A. O. C., or An O. Z.), and, with a few more cells, the anodal closure contraction (A. C. C., or An S. Z.). Again reverse the current, and add a few more cells. Now, on pressing the button of the interrupting electrode, we get a very intense cathodal closure contraction (C‴. C‴. C‴., or Ka S. Z‴.), and, on releasing it, the cathodal opening contraction (C. O. C., or Ka O. Z.) is developed, thus completing the chain of polar nerve-reactions.

You should bear in mind that the *polar nerve-reactions differ in their normal sequence from those of the muscles* when the electrode is placed over the "motor point" of the muscle tested.

NORMAL NERVE-REACTION.

C. C. C. > A. O. C. > A. C. C. > C. O. C.

NORMAL MUSCLE-REACTION.

C. C. C. > A. C. C. > A. O. C. > C. O. C.

The *final contraction* (C. O. C.) of each of these series is seldom seen, because the current required to produce it is too painful to be endured. *Fewer cells are required to cause muscular formula than those of a nerve-trunk.*

In recording the results of an electrical examination of nerve-trunks and muscles it is best to arrange the record page so that the two sides of the body may be easily contrasted. The number of galvanic cells employed or the number of milliampères of current (as shown by a galvanometer) should also be specified, and the faradaic reaction of

destruction of the trophic centers of the nerves that supply the paralyzed muscles, or when the *cerebro-spinal nerves themselves are seriously injured*, we encounter what Erb has described as the "REACTION OF DEGENERATION." This will require some explanation.

1. *Every nerve degenerates when separated from its trophic center;* hence, the electric excitability of the nerve, both to the faradaic and galvanic currents, gradually diminishes and ceases entirely at the end of about two weeks.

2. The *faradaic current ceases to cause muscular contractions* when applied directly over the substance of the muscle. This is explained by the fact that the so-called "nerve-plates" within the substance of the muscle are degenerated, and currents of momentary duration fail to affect the muscular fibers.

3. The muscular contractions produced by the *galvanic current are diminished for about ten days.* Subsequently the excitability of the muscles *to slowly interrupted galvanic currents becomes increased*, so that very weak currents may excite contractions. This may disappear in five or six months.

4. The *polar reactions become altered in their sequence.* The anode contractions appear before those of the cathode, as shown below:

1.....	A. C. C.	instead of	C. C. C.	as in health.
2.....	C. C. C.	"	A. C. C.	" "
3.....	C. O. C.	"	A. O. C.	" "
4.....	A. O. C.	"	C. O. C.	" "

5. The *character of the muscular contractions becomes altered.* In health, they are sharp, short, and sudden. When degeneration occurs, they are slow to appear; they are prolonged and continue even during the passage of the current; and, finally, they assume the character of "tetanic"

homologous nerves or muscle should be stated for the purpose of comparison and for clinical deduction. We may follow with advantage some such plan as the following:

Name, ... Date, ... Age, ...

History of Case. See page .... of Case-Book.

Faradaic Tests.

	Right side.	Left side.	Extent of secondary coil employed. (In centimetres.)	Nerve tested.
Nerve-reactions.....				Muscle tested.
Muscle-reactions....				

Galvanic Tests.

	Right side.	Contraction produced.	Left side.	Nerve or muscle tested.
	Cells.		Cells or milliampères	
Nerve-reactions..		C. C. C. A. O. C. A. C. C. C. O. C.		nerve.
Muscle-reactions.		C. C. C. A. C. C. A. O. C. C. O. C.		muscle.

Slips of this character may be printed and kept on hand. They can be pasted into the case-book of the physician when filled out. The tests made at different dates can thus be compared with each other and the progress of each case determined.



Fig. 33.—The Author's Spring Electrode.—*D*, the binding-post for attaching the rheophore which connects it with the battery, or with the diagnostic key-board when that instrument is employed. The motor point of the electrode is represented as enveloped in chamois-skin. It must be thoroughly dampened in salt-and-water before it is applied to the nerve or muscle to be tested. The other end of the electrode is designed to prevent slipping of the instrument after its proper adjustment.

For the purpose of demonstrating the special action of individual muscles and nerves before classes of students, as well as the study of muscle- and nerve-reactions in disease, I have devised small electrodes which may be made stationary upon any desired part of the head, limbs, or trunk, by means of straps, strips of adhesive-plaster, or insulated springs. By means of these I have been enabled to make many points clear to a large audience which would be extremely difficult to show by any other method. Furthermore, it is often desirable to refer from time to time during an examination of a patient to the effects of currents of known intensity upon certain nerves and muscles for the sake of accurate comparison, etc. Small electrodes of the type described may be accurately placed upon a patient and allowed to remain upon the spot selected during the entire examination. To each of these a separate rheophore may be attached and, by a simple device of my own, each may be controlled by touching a key upon a board, without movement of the operator. I can thus observe simultaneously the reactions of corresponding muscles or nerves upon the

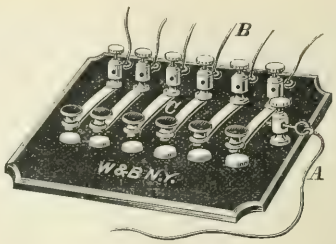


Fig. 34.—The Author's Diagnostic Key-board.—*A*, the rheophore which connects it with one of the binding-posts of a galvanic battery; *B*, rheophores connecting its binding-posts with spring electrodes previously placed upon the body of the patient so as to influence the nerves or muscles to be tested; *C*, buttons and springs which make a circuit to the body of the patient when the knob on the spring is pressed downward so as to impinge upon the button. The number of rheophores which may be employed depends upon the necessities of the case; the cut shows an instrument capable of six.

two sides, those of the leg and arm of the same side, and any other comparisons which may be required in diagnosis. The "motor-points" of the body are not always exactly where charts depict them; hence it is sometimes necessary to hunt for them within a radius of an inch or two of the normal point. When they are found with exactness, a small electrode may be fastened over the spot (with moistened absorbent cotton beneath it) and allowed to remain stationary during the entire sitting. Whenever it becomes necessary to refer to the reactions of that point, it can be called into action by touching the key connected with it by its individual rheophore. The cuts introduced show the arrangement of my device for this purpose. I have given a more complete description of the advantages of this method over others previously employed, in the "New York Medical Journal" of May 9, 1885.

Now, from such a table of record it is apparent that the *faradaic current should first be employed* upon the patient (the poles of the secondary coil being used). The extent of the overlap of this coil (in centimetres) necessary to produce muscular contractions when the nerve- and muscle-reactions are being separately tested should be recorded. In case no muscular contractions ensue, the extent of the overlap which produces an *unbearably painful current* should be ascertained and noted. This may be compared with that necessary to produce contractions upon the healthy side. The "polar method" should be employed in the tests thus made and recorded.

The next step in the examination consists in *changing the rheophores to the binding-posts of a galvanic battery.* We can now ascertain the number of cells or of milliampères (which is preferable) required to produce the different varieties of contractions (enumerated in the table designed for record) of muscles in homologous regions of the right and left sides. Each nerve which is impaired should be tested first; and the muscles supplied by it should be tested afterward. The strength of the current employed should be ascertained by throwing a galvanometer into the circuit

(when extreme accuracy is desired); by so doing, a comparison of the nerve- and muscle-reactions of the two sides can be based upon conditions which are exactly alike.

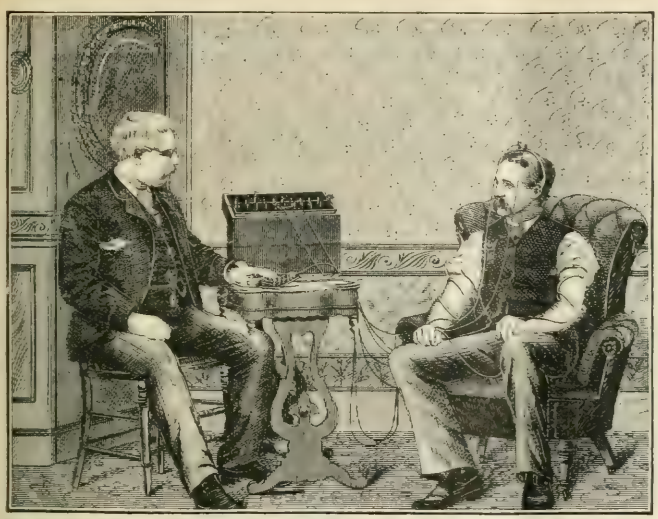


FIG. 35.—THE AUTHOR'S DIAGNOSTIC KEY-BOARD AS APPLIED IN ACTUAL USE. The spring electrodes are represented in the cut (for the purpose of illustration) as applied to the facial, ulnar, and musculo-spiral nerves of each side. If he chooses, the operator can have his ca-e-book on a stand at his right, for recording his observations as they are made.

When we have completed the steps indicated by the chart prepared for the assistance of the beginner we are in possession of certain facts which may be of great practical value as regards both diagnosis and prognosis:

1. Suppose a case of localized paralysis is examined, and the faradaic and galvanic reactions of both a nerve and its muscles are normal and exactly alike on the two sides. We have reason then to believe that the exciting cause is either hysteria, a lesion of a higher spinal segment than that from which the nerve arises, or a lesion within the brain, provided the possibility of deception on the part of the patient respecting his paralytic condition can be excluded.

2. If the *nerve-reactions* of the affected side to both currents *are exaggerated* (i. e., if the contractions occur in their proper sequence, but under a weaker current than in health), the *probability of an existing central lesion is heightened*, although hysteria may possibly still exist as the exciting cause of the paralysis.

3. If the faradaic current applied through the nerve *fails to produce contractions* of the affected muscles as readily as upon the healthy side (i. e., if a stronger current is demanded to call any one of the paralyzed muscles into action indirectly through the nerve which supplies it), then we know that the *nerve filaments within the spinal cord* or the *trunk of the nerve itself* are affected by a lesion which *has impaired but not entirely destroyed their usefulness*.

4. If *no current* from a faradaic machine (which can be endured by the patient) *causes muscular contractions*, we know positively that the *motor cells of the anterior horns* of that spinal segment which controls the paralyzed muscles are destroyed, or that the *nerve itself has been severed* from its connection with the spinal cord.

5. When the MUSCLE-REACTIONS to the faradaic current have been tested, the previous deductions (based on the nerve-reactions) still hold good. The electrode should, however, be placed over the "motor point" of each muscle thus tested.

6. If the *formulæ obtained by the galvanic current are normal*, all questions regarding the existence of degenerative changes in the nerve- or the muscle-plates can be excluded. When the *normal order is altered*, degenerative changes in the nerve- or the motor-cells of the spinal cord are present.

7. The history of a case in which motility is impaired is never complete without a record of an electrical examination of the nerve- and muscle-reactions to both the faradaic and galvanic current. When doubt exists respecting the existence of a cerebral lesion or hysteria, the facts obtained by other methods of examination (fully described by me in the "Medical Record," March, April, and June, 1884) will clear up all doubts.

8. Patients afflicted with *paralysis from a cerebral lesion* generally exhibit normal electro-nerve and electro-muscular reactions in the paralyzed parts. In some instances the reactions may even be exaggerated.

9. *Hysterical patients* afflicted with paralysis may exhibit either normal or exaggerated electro-muscular reactions to faradism or galvanism. The sensitiveness of the muscles to faradism is generally decreased; in some cases it may be totally wanting (Duchenne).

10. In *rheumatic paralysis* the electro-muscular contractility is, as a rule, markedly increased; this may be shown by a comparison of the reactions of the two sides of the body. In exceptional cases this is not found to be so, as I have seen the reactions follow only the strongest currents.

11. In *peripheral paralysis* the faradaic and galvanic reactions are altered after ten days have elapsed. The muscular contractility to the faradaic current is lost early to a greater or less extent; and the formula of degenerative changes is developed later by the employment of the galvanic current.

12. A decreased musculo-excitability to the faradaic current in the musculo-spiral nerve and the extensor muscles of the forearm on both sides—the flexors being normal and the lower extremities being unaffected—tells us of the approach of *lead-poisoning* before the actual symptoms are well marked.

13. In *progressive muscular atrophy* a response to the faradaic current can be obtained as long as any fibers in the muscle tested remain free from fatty metamorphosis.

14. *No alterations* in the electro-contractility of muscles is observed in any of the diseases confined to the *posterior part of the spinal cord.*

DETECTION OF FEIGNED DISEASES.

In addition to the uses of electricity for the purpose of determining the presence or absence of nerve- and muscle-degeneration, and the discrimination between cerebral and spinal paralysis and the various types of peripheral palsies, some other useful purposes in diagnosis have been published from time to time.

The Detection of Death.—It is stated that muscular contractions produced by the faradaic current can not be maintained over four hours in a dead subject.

Malingerers are not uncommon among the applicants for charitable aid, and they are occasionally encountered among the higher walks of life. Epilepsy and paralysis are the most common diseases which are feigned.

Feigned epilepsy can be distinguished by the application of a strong faradaic current to the forehead or tibia by means of a wire-brush. The intense pain so produced will not be appreciated by a true epileptic, but will bring the fit to a sudden close, if assumed in order to create sympathy or aid.

Feigned motor paralysis is usually exhibited in some of the various forms of peripheral paralysis. Few malingerers know enough to simulate hemiplegia or paraplegia without detection. If two weeks have elapsed since the attack, the presence of normal electrical reactions of nerve and muscle in the affected limb is strong ground for suspicion, provided a history of some cerebral lesion or of hysteria can not be elicited. There are various other tests which a skilled anatomist can employ in each case that will help to clear up all doubts upon this subject.

Feigned anæsthesia may be told by the use of the faradaic current with the wire-brush attached to the negative rheophore. The opposed limbs will quickly show how much actual anæsthesia exists.

Detection of Bullets or Buried Metal.—An ingenious application of electricity to surgery has been made which has utility in diagnosis.

The so-called "*electric probe*" consists of two wires which are perfectly insulated from each other by rubber or ivory. These wires terminate in metal tips which project slightly beyond the insulating medium, and at the other end of the wires a galvanic cell and an electro-magnet acting upon a bell are attached. When the probe is pushed into the tract made by a metallic missile, and the tips are brought into contact with it, the circuit is completed and the bell rings. The animal tissues are not sufficiently good conductors of electricity to form a circuit; hence the bell will not ring until the metal is touched by the tips of the probe.

Electro-diagnosis of Aural Diseases.—We owe to Brenner, of St. Petersburg, the first suggestions of this use for electric currents in diagnosis. From a somewhat limited experience in its use, I am led to believe that its utility can not longer be called into question. Brenner's formula seems, furthermore, to be in accord with all that has been proved in respect to nerve-trunks in health, in all parts of the body. The formula is simply that of the galvanic reactions of the auditory nerve in health.

1. In place of the C. C. C. observed in muscle, we get, when a galvanic current is sent through the auditory nerve, a *ringing noise* when the *cathodal closure* occurs. (C. C. S.)

2. The *cathodal opening* produces no effect.

3. The *anodal opening produces a ringing noise* when a current of high intensity is employed.

4. After the cathodal closure (*cathodal duration*—C. D.), the ringing noise produced at the closure *gradually diminishes.*

The formula which is indicative of health when a pole is connected with each ear may be expressed in symbols, as follows:

	Right Ear (Anode).	Left Ear (Cathode).
C. (closure)....	.....	S. (loud)
O. (opening)....	S. (weak)	.....
D. (duration)...	.....	S. >

Now, it is maintained by Brenner that any deviation from the normal reactions of the auditory nerve (shown in the preceding formula) indicates disease of the acoustic mechanism. The variations produced by the different diseased conditions encountered can not be given here from want of space.

In applying galvanic currents to the ear, it is best to place a medium-sized electrode over the entire tragus or to fill the external auditory canal of the ear to be tested with tepid water containing a little salt, and then to introduce an electrode of metal inclosed in an aural speculum of hard rubber into the ear until the metal touches the water. If each ear is to be tested separately, the other electrode should be placed at an indifferent point, preferably the mastoid region of the same side or the middle of the sternum.

Regarding this test, it is well to state that repeated sittings are often necessary. The patient has to become accustomed to the disagreeable effects of the current. It is desirable that you begin with very weak currents and increase the strength very gradually. As the reaction of *cathodal closure* (C. C.) is the most important, it can be intensified by previously allowing cathodal duration (C. D.) to act, or by rapidly following C. C. by A. O.

Examination of the Eye, Nose, and Mouth by Electricity.—Special effects are produced upon the organs of sight, smell, and taste by electric currents. Sparks or vivid flashes of light follow electric stimulation of the eye; and subjective odors and tastes are also produced when the olfactory and gustatory nerves are excited by this agent. The "polar method" of examination is employed when any of the special senses are thus tested. I would caution each of you against employing too strong currents about any of the organs of special sense. The examination of the optic, olfactory, and gustatory nerves requires experience and should not be attempted by novices.

When examining the *reactions of the eye*, the small electrode is placed upon the closed eyelid, temple, or forehead. The large electrode is placed upon the back of the neck. The room should be darkened and the patient should keep both eyes closed.

When *testing the sense of taste*, the poles should be in contact with the cheeks, and the sensations of taste experienced upon both sides by the patient should be ascertained. A fine electrode can also be placed upon the tongue, the pharynx, or the inside of the cheek, in case localized polar reactions are to be determined. A double electrode, with two metal tips which are not in contact, may be employed for this purpose (Neumann).

Electrical Examination of the Sensibility of the Skin.—The electrode devised by Erb is to my mind the best for this purpose. It consists of four hundred varnished wires in a tube of hard rubber. The ends of these wires make a perfectly smooth surface. This electrode is connected with the secondary coil of a faradaic machine and is then pressed upon the area of the body to be tested—the other pole being at the sternum. The *minimum* of the overlap of the secondary coil which can be felt and the *maximum* which can be endured are both recorded. Homologous parts of each side should be compared with each other.

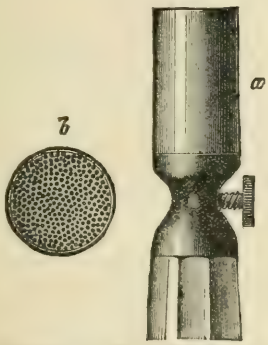


Fig. 36.—Erb's Electrode for the Examination of Farado-cutaneous Sensibility. *a*, a hard-rubber tube; *b*, the free surface of the electrode.

Regarding this test Erb wisely remarks: "The skin, regarded as a sensory organ, can not be tested with irritants other than those adequate to it—viz., touch, pressure, various temperatures, and the higher grades of those irritants which produce pain. It may be disputed whether electricity should be included among these 'adequate' irritants of the skin. The electric sensation is a specific, distinct quality of tegumentary sensibility, whose careful examination, however, is of value in many morbid conditions."

Original Communications.

ANTISEPTIC INHALATIONS.*

By BEVERLEY ROBINSON, M. D.

In a paper read before the Practitioners' Society of New York last winter, "On the Utility of Intra-pulmonary Injections in the Treatment of Pulmonary Phthisis," I said that I intended, at an early date to bring before my medical colleagues the subject of antiseptic inhalations. In the brief paper I now offer for your consideration I shall do this, but I shall not limit myself solely to the consideration of the advantages of these inhalations in pulmonary phthisis. Already I have made use of them in several affections of the respiratory tract—both acute and chronic. Although the cases treated by me in this manner are not yet numerous enough to afford a solid basis for final conclusions, they are at least sufficient to point distinctly to an extensive and beneficial trial of this method in a large class of respiratory diseases. The method is not new, it is old; but it is also a case of revival, with more precise data to establish its special indications and employment. To any one who has made frequent use of steam vapor inhalations, and hot or cold atomized fluids or sprays, the great advantages of the plan which forms the theme of this study, in the treatment of the affections referred to, is too real to be lightly considered or entirely ignored.

In its favor may be cited the following propositions:

1. The apparatus required costs but a trifle, and may be used, therefore, even by the poorest classes.

2. Medication thus applied may be employed under circumstances where the use of hot or cold sprays is impracticable.

3. There are no risks of future colds attendant upon its employment.

4. The relief afforded by dry vapor inhalations is, in my experience, frequently greater than that given by the other methods of inhalation.

5. This medication is well adapted to all forms of irritative disease of the respiratory passages.

I know of only one serious objection which can be properly urged against its very general adoption, and it is the statement that the vapors of volatile antiseptic substances, when they are employed in the ordinary oro-nasal inhaler, do not penetrate far enough to reach the pulmonary cells, and, therefore, can not possibly modify this structure in any sensible degree.

Upon experimental grounds, Arthur Hill Hassall ("Lancet," May 5, 1883) has endeavored to show that the agents most frequently employed hitherto—such as carbolic acid, creasote, thymol, etc.—are but feebly volatile at ordinary temperatures. He has also been unable, after prolonged inhalation, to recover any notable quantity of these substances in the sputa or secretions from the air-tract. In fact, he has not even remarked that the sputa, soon after they were expectorated, were penetrated with their odor. Indeed, after continuous inhalations of one or two hours' duration, he has succeeded in obtaining, by Chandelon's process, from the sponge or cotton in the inhaler, very nearly the whole quantity of the agent employed. A sufficient answer to these objections, it seems to me, may be found in the fact that the patients themselves, when questioned, after they have used the inhalations during a few days or weeks, as to their utility, almost invariably reply that their subjective symptoms have been notably relieved by them. Not only do they make this statement, but they add, furthe , that their sputa have di

* Read before the American Climatological Association, May 27, 1885.

minished in quantity, and at times have notably changed in appearance. Moreover, while I am willing to admit that dry vapors do not enter the lungs so deeply as we might presume, or indeed as, theoretically, we might desire, yet they certainly do go further than the sprays for which they have been substituted. I am of the opinion, also, that the small loss of substance which has not been recovered, and which *possibly* does penetrate the pulmonary air-cells, is sufficient to modify notably, after several days or weeks of more or less continuous inhalation, the inspired air in such a manner that it is made comparatively aseptic, and thus we have an influence for good that we can properly estimate only by the evident effects produced. In regard to the areas of cough in the bronchial tubes, as in the lung itself, I believe something may be learned by reference, first, to my own experiments with intra-pulmonary injections, and, second, to the well-known facts recorded by Hack and J. N. Mackenzie in their investigations upon the nasal passages. In my experiments I was led to believe that *pulmonary cough* was largely due to irritation produced at the apices. And surely this conviction need not be a matter of surprise, since we all know that the sensitive area for cough in another organ (the nose), physiologically allied to the lungs, is not general, but limited almost to the posterior extremities of the turbinated bodies.

Again, is it not true that, in many cases where there is notable effusion into the air-cells at the pulmonary bases, as in œdema following chronic Bright's disease or organic heart disorders, there is usually little or no cough? Whenever, on the contrary, as in commencing bronchitis or phthisical infiltration, there are obvious morbid changes at the apices, what more obstinate and constant symptom can be observed than the ceaseless racking cough? Finally, I have on more than one occasion, I am confident, punctured the lung deeply in searching for pleuritic fluid, either posteriorly or in the axillary line, as was evident by the blood and air withdrawn into the cylinder of the hypodermic syringe, or into the pump of the aspirator, and cough has not followed invariably. This fact is, however, also true in regard to punctures at the pulmonary apices; but here the intra-pulmonary alterations have been very different from what existed at the bases at the time punctures were there made. In the former cases the lungs were already infiltrated with tubercles which blocked up the bronchi and surrounded their periphery; in the latter cases the bronchial tubes were inflamed or compressed, it is true, but were not, as a rule, completely impervious to air. Mucus and serum, blood-streaked or not, they usually contained, no doubt, but even then their condition was such as to render them *a priori* more sensitive than they should be under wholly normal circumstances.

I will now place before you some of the results of my trials with dry vapor inhalations up to the present time, and if, by their analysis, I can prove the utility of this method clinically, I shall hope to stimulate further inquiry, and persuade many of you to give it the opportunity which, I believe, it merits. It is understood, I assume, that I do not claim any originality for the treatment of my cases. These dry inhalations were reintroduced to the profession, as you are all aware, some years ago by Dr. W. Roberts, of Manchester, England, and since that time have been more or less extensively employed by H. Curschmann, of Hamburg, and by several other able practitioners at home and abroad. Among these I would cite particularly William Pepper, in the "Transactions of the American Medical Association" for 1880; J. H. Tyndale, New York "Medical Record," March 18, 1882; J. Burney Yeo, in his "Lectures on Consumption," London, 1882; S. S. Cohen, in Philadelphia "Medical News," October 11, 1884; J. Ward Cousins, "Lancet," July 19, 1884; and A. Hill Hassall, "Lancet," August 16, 1884, and "Inhalation Treatment," London, 1885.

The following summary shows the number and nature of the cases of which I have preserved notes, but does not represent one half the number of patients for whom I have ordered oro-nasal inhalers. I regret to add that, even in those cases of which I possess a record, several were not studied with much care, and, consequently, my remembrance of the results obtained is very imperfect. A sufficient number remain, fortunately, in which I have watched carefully the effects of dry inhalations, and about whose condition, before and after their use, I can speak with more assurance.

My tabular statement includes twenty-two cases of phthisis pulmonalis, catarrhal or tubercular, at its first stage, or when already there were evident and characteristic signs of tissue infiltration.

In four of these cases there were marked local pleuritic adhesions. In the remaining cases no statement is made other than the fact that pulmonary consolidation at the apex or apices was present.

Nineteen cases of pulmonary phthisis, catarrhal or tubercular, at its second stage, were treated partly by means of oro-nasal inhalers. Of these nineteen cases, in eleven the softening was limited to one apex; in two cases both apices were thus affected, while in the other cases no reference is made to the limitations of the disease. There were six cases of fibroid phthisis treated by inhalers; three cases of laryngeal phthisis, in one of which there was commencing carious ulceration of the vocal cords. There were two cases of acute laryngitis, seven cases of subacute laryngitis, three cases of chronic laryngitis, two cases of subacute bronchitis, three cases of chronic bronchitis, five cases of chronic nasal catarrh, four of which were of the hypertrophic form, the remaining one being distinctly atrophic catarrh, with which were connected a condition of pharyngitis sicca and a notable degree of fœtid odor of the breath (ozæna). I also treated in this manner one case of chronic pharyngitis, two cases of localized pleuritis, and one of paralysis of the tensors of the vocal cords—the total making *seventy-six* cases which form the basis of the remarks I shall make before you to-day.

First, in regard to pulmonary phthisis at its first stage. Of this disease I have the records of twenty-two cases in which I used dry vapors. The inhalations consisted of, 1, creasote and alcohol equal parts; 2, creasote one part, ol. pini sylvestris two parts, and compound tincture of benzoin eight parts; 3, compound tincture of benzoin; 4, fir-wood oil; 5, fir-wood oil sixteen parts, creasote one part; 6, fir-wood oil six parts, chloroform two parts; 7, creasote one

part, fir-wood oil sixteen parts; 8, compound tincture of benzoin and fir-wood oil, equal parts; 9, spirits of turpentine; 10, volatile oil of eucalyptus; 11, carbolic acid and tincture of iodine, of each one part, compound tincture of benzoin eight parts; 12, fir-wood oil one part, succus conii and compound tincture of benzoin, of each two parts, carbonate of magnesium, q. s., water eight parts; 13, pine-needle oil; 14, terebene four parts, spirits of chloroform one part.

It will be remarked that I varied considerably the nature and composition of the substances employed for inhalations—and this is specially notable if the limited number of my cases be considered. I made these trials advisedly, as I was very desirous to find out not only if vapor inhalations were useful, but, indeed, if certain combinations were more effective than others under similar conditions.

The results of my observations would seem to show that the most generally useful inhalation in the beginning of pulmonary phthisis is creasote and alcohol, equal parts. Creasote by itself is a little too irritant, and is not so readily manipulated. Whether or not the mixture of alcohol increases its volatility I am not positive, although I believe it does, regard being paid to the statements of patients. The amount of inhaling fluid employed with best results varied from ten to twenty drops. It was also renewed most advantageously two or three times in twenty-four hours. The inhalations were employed at first about ten minutes every two, three, or four hours. After a week or two they could be continued, without unpleasant effects, one half or one hour at a time, and repeated three or four times in twenty-four hours. If a larger quantity of the inhaling fluid was used at first on the sponge of the inhaler, or if at first the time for each inhalation was extended beyond fifteen minutes, the patient suffered from irritation of the throat and increased painful cough on several occasions. The form of inhaler employed by me was usually one not dissimilar in outward conformation to that employed by Burney Yeo, of London, and S. S. Cohen, of Philadelphia. It may be of interest in this connection to give a short account of the different oro-nasal inhalers in use at the present time. Some of these are shaped so as to cover the mouth alone, some are adapted simply to inhalation through the nose, and some encircle both nose and mouth. They are made of metal, hard rubber, or celluloid, and are usually constructed from a single sheet of the material employed, their particular shape being made to suit the requirements of the majority of individuals. In Blake's and Tyndale's inhalers, which cover both nose and mouth, there is a circular valvular opening on either side, about one third of an inch in diameter, which closes by means of a soft rubber flap that rises or falls with each inspiration or expiration, and is intended to promote the facility of expiration and to avoid the passage of respired air through the sponge charged with the inhaling fluid. In Hassall's oro-nasal globe inhaler similar valvular openings on the sides have been provided, and this inhaler has the additional advantage, as stated by its inventor, of supplying a larger amount of medicated vapor to the patient for purposes of inhalation. This result is effected by reason of the considerable capacity of the globe itself for containing bits of lint moistened with a suitable amount of inhaling fluid, and owing to the wider orifice of communication between the globe and the oro-nasal piece, or shield, which allows plenty of medicated vapor to pass through and be inhaled with each inspiration. When an inhaler is fitted to the nose alone, it is better, as a rule, for the patient to expire through the mouth than through the nose, as in this way a more complete circuit of the nasal passages by the vapor is accomplished than if expiration took place through the nose. None of the inhalers described, although somewhat more elaborate and expensive, seem to me so useful as the cheap and simple one here shown. This one, as you perceive, is made of a thin sheet of perforated zinc; it is extremely light, and may be worn, therefore, a long time without causing the fatigue to the patient which the other inhalers often do. It also permits the air to pass freely in and out, and thus obviates almost entirely the sensation of oppression and stifling, which is apt to make the prolonged use of the other oro-nasal inhalers almost impossible.

One of the objections urged against the efficacy of most oro-nasal inhalers is the fact that too small a supply of vapor is given off from the small bit of sponge, cotton, or tow which comes with them to be of any benefit to the patient. In the globe inhaler Dr. Hassall has remedied this supposed defect. For my part, I have not usually found it a defect, and I have rarely found the slightest difficulty in supplying my patients, by means of the perforated zinc inhaler, with all the medicated vapor they could comfortably endure. Indeed, I have observed several times, as other observers have done before me, that the quantity of antiseptic liquid added to the sponge of the inhaler must be limited to a few drops (10 to 20) if the inhaler is worn more than a short time. If a relatively large quantity of antiseptic fluid be added to the sponge, the vapors proceeding from it are too concentrated and shortly become very irritating to the air-passages, and the inhaler must be abandoned. Instead of doing good, therefore, by adopting the latter manner of medicating the sponge of the inhaler, we actually do harm and render a very serviceable agent a decidedly objectionable one. I am therefore not of the opinion of Dr. Hassall as regards this point in inhalation—viz., that with the ordinary forms of oro-nasal inhalers we do not volatilize a sufficient quantity of antiseptic fluid to be of service as an inhalant; and even when we volatilize enough fluid not enough antiseptic vapor is inhaled to modify the air-cells to any notable degree.

(To be concluded.)

TWO VALUABLE AIDS TO ELECTRO-THERAPEUTICS.

By LANDON CARTER GRAY, M. D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASE, NEW YORK POLYCLINIC; ATTENDING PHYSICIAN TO ST. MARY'S HOSPITAL; ATTENDING PHYSICIAN TO THE HOSPITAL FOR NERVOUS AND MENTAL DISEASE.

One of the greatest of the difficulties that have been encountered by the electro-therapeutist has been the lack of a suitable galvanic battery. Of good faradic machines there has been no dearth, especially since the invention of the cheap and portable apparatus made by Gaiffe, of Paris,

But the galvanic batteries for general use have been unpleasantly heavy, and the Grenet cell, or some modification of it, which has been mostly employed in them, is a constant source of annoyance from the necessity of frequent renewal of the plates and still more frequent renewal of the fluid. I have therefore, for years, been on the search for some combination of elements that would be portable and durable in a far greater degree than the Grenet cell. My attention was called to the fact that Gaiffe was constructing a battery with the chloride-of-silver elements that seemed to answer the requirements; but the importation was costly and troublesome, and the cells had to be sent to Paris for renewal. Dr. De Watteville, of London, very kindly put me in communication with Mr. Schoth, an instrument-maker of London, who had been experimenting with the same cells at Dr. De Watteville's instance; but Mr. Schoth had not yet constructed a battery with them. Finally I ascertained that Mr. John A. Barrett, a New York electrician, was making a battery with these cells. This instrument I have now been using daily for some five months, and I am prepared to say that its general employment will mark a new era in galvano-therapy. The cut (Fig. 1) gives

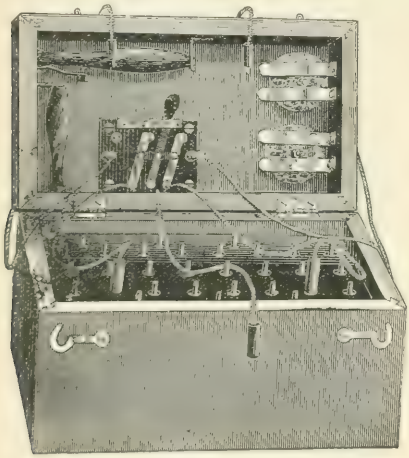


Fig. 1

some idea of the size of the battery, but a better one can be obtained from the statement that an instrument containing thirty-two cells will only measure ten inches in length and weigh only nine pounds, while a fifty-cell one will measure twelve and a half inches and weigh twelve pounds. As will be perceived by electro-therapeutists, such a battery is, all odds the lightest that has yet been constructed. As to its durability, it is calculated that each cell will stand two hours' steady work daily for nine months, or a proportionate length of time otherwise arranged, before the elements will need renewal. Practically, therefore, such a cell will last the general practitioner a year or more, and the cost of renewal will be about eight dollars.

The details of construction are as follows: The cells consist of cylindrical bottles of black rubber. These bottles are fitted with screw stoppers or caps of the same material, which are fastened permanently to the underside of a black rubber plate. The elements, zinc and chloride of silver, are fastened to silver wires which pass in pairs up through suitable perforations in the caps and plate, and are attached on the

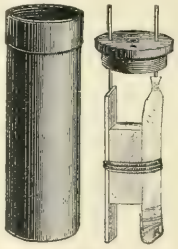


Fig. 2.

upper surface of the plate to fixed studs or pins so arranged that the zinc and silver poles of the successive cells are connected together through the entire battery. The bottles

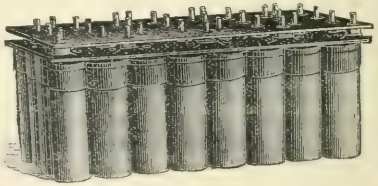


Fig. 3.

are partly filled with solution and are screwed from underneath to the caps, each bottle inclosing a pair of elements. The bottom of each bottle is provided with a slot, so that by a key the bottles may be screwed tightly to their caps. By this means the entire set of bottles is rigidly attached in an upright position to the plate, and at the same time any bottle may be removed independently of the others and its pair of elements examined, or removed and replaced, without inconvenience. Besides this, all the connections, being on the upper side of the plate, are easy of access and out of the reach of corrosion. The battery, thus prepared, is placed in a box, and a top-plate, perforated to fit the connecting studs, is laid over it. This top-plate is numbered for convenience in making connections. It is easily removable, and the whole battery may be readily lifted out of the box. In the lid of the box is placed a commutator or pole-changer, to which are attached short flexible cords terminating in hollow plugs. By these plugs any number of cells may be selected from any part of the battery. The pole-changer is also provided with two binding-posts, to which the conducting cords are to be attached. In the lid of the box are also springs for holding a pair of electrodes and handles. The strength of the battery is very nearly equal — within $\frac{1}{200}$ — to the same number of Daniell or blue-vitriol cells, and is maintained undiminished until the material is exhausted.

The instrument which, as I have already said, I have had in daily use for some five months, and which has many days been jolted about in my carriage over rough city streets

for five or six hours at a time, has maintained its current unimpaired in quantity or quality.

Another great need of the electro-therapeutist has been some means of measuring the quantity of electricity—something that will answer to the balance of the apothecary. It is quite usual to hear those using electricity speak of giving the patient so many cells for such a contingency and so many cells for another, which is just about as sensible as it would be to advise a man to wear so many coats in the Arctic zone and so many in the Antarctic, without specifying the texture that shall make up each individual coat. The sine and tangent galvanometers, which are used by those employing electricity in the arts, are too cumbrous and expensive for medical needs. Gaiffe, Böttcher, Stöhrer, Edelmann, and Hirschmann have each devised an absolute galvanometer. Of these, the ones constructed by Gaiffe and Hirschmann have been the best. Dr. De Watteville enthusiastically indorses the former, while others allege that it is faulty. Hirschmann's instrument has been well described by Dr. B. Sachs.* I have had no experience with it, but it appears to me to be complicated, and Dr. Sachs, after a year's use of it, states that "it does not bear transportation well, and the return of the needle to the zero point is slightly impeded by the action of friction." It seems, however, barring these disadvantages, to be a good instrument. The cost seems to me to be the main drawback to it. There has lately been constructed in this city an absolute galvanometer which is superior, in my opinion, to any other for the purposes of the electro-therapeutist. A cut is



Fig. 4.

herewith appended. The unit of measurement is the milliampère—a unit which has lately come into use for medical purposes. It was first suggested in 1878 by Dr. De Watteville, and was adopted by the special committee of the International Congress of Electricians. It represents the current given by three Daniell's cells through the average resistance of the human body, and medical currents range in strength from one to fifty of these units.

The scale is graduated from one to fifty of these new units. The working parts of the meter are inclosed in a case about four inches square at the base and six inches high, having a glass face, showing the pointer and scale. The pointer is attached to the movable magnetic needle, which is a steel disc suspended within a surrounding coil of wire on two knife-edges, so as to oscillate freely in a vertical plane. The movements of the magnet are indicated by the pointer on the scale. The magnet is counterbalanced and held in equilibrium, so that the pointer rests at zero, by means of a small weight fixed to it below the center of gravity. These are so arranged that the position of the instrument relatively to the earth's magnetic poles is of no account. The magnet, being so poised on frictionless knife-edges, would be subject to prolonged and troublesome oscillations; but a dampening device is provided which consists of a vane or fan of thin mica, extended upward from the magnet in the back part of the case by means of a light, rigid stem of aluminium. This vane moves broadside against the confined air and brings the needle quickly to rest in any position, without, in the smallest degree, interfering with its sensitiveness. A locking arrangement also forms a part of the instrument, by which the magnet may be lifted from its bearings and fixed in an immovable position. By this means the knife-edges and movable parts are protected from damage during transportation and when not in use. A leveling screw is placed on one side below, so that the instrument may readily be adjusted to a proper position.

In use, the meter is placed in the circuit with the body of the patient, so that all the current which flows through the body flows also through the meter. In this situation the pointer of the instrument gives a deflection which measures in absolute units the current actually passing and doing work in the body.

The luxury of such an instrument can hardly be overestimated by any one making daily applications of electricity and desiring to work rapidly and precisely. For example, a patient comes to you to-day, and you find that you can employ twelve cells of your battery with no unpleasant effect. To-morrow he comes to you again, and, to your surprise, you find that you need twenty-four cells to obtain the same effect. The third day he comes still again, and squirms with pain when you turn on more than six cells. Your milliampère-meter solves the mystery. It tells you that all the time your patient has borne about ten or fifteen milliampères of electricity, and that the daily differences have been due to variations in the conductivity of the skin, moisture in your sponges, heat of the moisture, etc.

* "Journ. of Nerv. and Ment. Dis.," vol. xii, No. 1, Jan., 1885.

IMMUNITY IN DISEASE.

By ROMAINE J. CURTISS, M. D., Joliet, Ill.,
Professor of Hygiene in the College of Physicians and Surgeons, Chicago.

(*Concluded from page 47.*)

One of the more important correlatives of the immunity from disease given by natural selection is the history of the great epidemics of plague, black-death, typhus, etc. These epidemics, during the dark ages, killed millions of people, and were prevalent more or less continually. These diseases were not conquered by sanitation. An epidemic nowadays makes just as violent a warfare in Europe as epidemics ever did, provided there is no acquired physical resistance of tissue-cells to the poison of the germ. But the old epidemics lost their power and declined, and finally became

practically extinct. Efforts have been made to attribute this extinction to sanitation. The London fire has been given the credit of conquering the sweating-sickness, and the suppression of typhus and scurvy as epidemics has been ascribed to the efforts of John Howard and Captain Cook; but if cleanliness, or alleged cleanliness, or prevention of putrefaction, has cleaned out leprosy, black-death, jail-fever, etc., why are not cholera, typhoid, diphtheria, scarlatina, and other zymotics also subdued by the same alleged cleanliness? I think the only method of explaining the cessation of the old epidemics is the method of natural selection. When the epidemics prevailed, the germs, by combat with tissue-cells, caused a variation in the cells. The persons who acquired and maintained this variation transmitted it to their children. In time there was built up a community of people who had the power of resisting the germs of these epidemics, and the epidemics died out.

I think we may apply this action of natural selection in the community, as it is seen to subdue epidemics, to the person, in order to explain the self-limitation of disease, both limitation in duration of time and the limitation of disease of different kinds to corresponding organs or tissues. Syphilis appears not to be limited to any definite time, nor to any particular tissue or organ. Probably, next to syphilis, tuberculosis meets with less resistance among cells, and has less evidence of being self-limited in time. There is evidence, however, that both of these diseases are subject to the general law of limitation in both time and successful antagonism from certain tissues. Syphilis is certainly less violent than formerly. Modern authors speak freely on this subject. This is not because treatment has improved, for the treatment is the same now as when syphilis was almost certain death. It is because the whole of Christendom is syphilized, and natural selection is bringing the races of men out of the bonds of this disease. The various tissues of the body are acquiring a power of resistance to the syphilis germ and its poison, and transmitting this power of resistance by heredity. If one tissue after another of the body acquires a resistance to the poison, it is a *sequitur* that in time the tissue which is the last to acquire the resistance will show the only signs and symptoms of the disease. Syphilis will then be more limited in point of diffusion throughout the body, and must necessarily be of shorter duration. It will then present, in this respect, the characters of those diseases which are limited to certain tissues, and to a more definite period of time, notably typhoid, scarlatina, measles, small-pox, etc.

But another feature of the question is that the development of organisms is a resultant of actions and interactions between them, so far as they are related to each other. When the struggle for life is limited to a struggle between organisms, the variation is not limited to one of the combatants alone. Each gets a share of the variation. If the animal attacked by a micro-organism acquires a variation giving it greater resistance, it is likely that the attacking organism by this means acquires greater virulence. The "survival" in each case bears direct relation to the organism which has the greater resistance. That the human species exists to-day is proof enough that humanity at large is able to survive in spite of the enemies which cause disease; and that the species survives by reason of natural selection would appear to be clear enough. The defense appears to be a variation of the cells in their power to resist a poison, while the variation in the disease organism is an increase in its virulence. The variation of the species of micro-organisms by natural selection is a verified fact, and upon it depend all the benefits derived from inoculation. If the pathogenic organism of hydrophobia is bred in the bodies of certain lower animals, it loses virulence. There can be no method of accounting for this fact except that the tissue-cells of the animal have less resistance than those of the other animals which have given the organism its greater virulence. The *Bacillus anthracis* is modified in the same manner by artificial cultivation. On the other hand, reliable experimenters have determined that *B. subtilis* (hay bacillus) can, by cultivation and inoculation, be changed to *B. anthracis*. This variation of the species produces corresponding varieties in disease, and is the fact that underlies the immunity to disease which is brought about by vaccination or inoculation. There are several methods of producing these varieties, such as cultivation, dilution, attenuation, washing, etc. If natural selection can not explain these various methods, I do not know what will or can. The organism, varied from the type of its species in this way, as a general thing, is unable to cause disease by entrance into the body in the usual way, but depends upon accident. The accident must include an injury to the tissues or cells such as obtains in inoculation. When a wound is made the cells are destroyed. Most organisms are proof against septic bacteria unless there is a wound. Human beings have outgrown, or rather out-developed, septic bacteria, unless their invasion is preceded by an accident which causes a wound. Wounded cells and tissues have lost their power of physical resistance.

Another feature of inoculation is that the artificial method of gaining a foothold inside the resistance of the organism subject to disease, by means of inoculation, has the effect of shortening the period of incubation. This is true of inoculations of all varieties of pathogenic organisms. It is, therefore, an inference and a verified truth that vaccination may prevent small-pox, even after exposure to the latter. To deny the proposition is to deny that the period of incubation is shorter in vaccination than in small-pox, and the denial is also, by antithesis, an assertion that kine-pox will not prevent small-pox.

Dr. Eccles's inference from his own data, as well as from the facts here expressed, that the treatment of small-pox by vaccination, or vaccination after exposure to small-pox, is like treating strychnine poisoning by another dose of strychnine, is one of the most stupendous instances of logical *non sequitur* to be found in medical literature. In order to draw a like inference from different propositions, the terms of the propositions must have some relations of likeness. In Dr. Eccles's inference and statements there is no shadow of likeness. He must first prove that the incubation of small-pox from exposure is equal in time to that of vaccination, and also that vaccination will not prevent small-pox. If he had said that infecting the blood of

a small-pox patient with more small-pox poison was like treating strychnine poisoning with more strychnine, the terms of his proposition would have had more analogy. Testimony shows that vaccination is good medical treatment for small-pox, and, while the fact remains that kine-pox can prevent small-pox, the inference will be unavoidable that the germs of each, in relation to the host and the disease, are antagonistic physiologically—as much so as atropine and morphine. Their antagonism may depend upon the priority of their invasion of tissues. Their difference is the degree of virulence of each, but in relation to the tissues either is the antagonist of the other.

But Dr. Eccles's hypothesis, or absurdity, can be used to good purpose. Suppose that on a future given day a person is condemned to swallow a given poisonous dose of strychnine, or arsenic, or morphine, and wishes to prepare for it. In such a case the best method for the person will be to accustom himself to the use of the poison. If Socrates had known the relations of natural selection to the action of poisons, he might have drank his hemlock with no less grandeur and have saved his life. Dr. Eccles simply inverts the terms of natural selection in relation to poisons. His proposition looks formidable and strange. It reminds one of the man who tried to frighten a bull by standing on his head with his feet in the air. The man's appearance was unique, if not frightful, but was no protection against penetrating horns, backed by the fury of the Durham.

I think the hypothesis that immunity from disease is acquired by the interactions of tissue-cells and the pathogenic organisms of disease is one that can explain all phenomena of disease in this relation. Natural selection is one of the *veræ causæ* in nature. To further establish this hypothesis, it is, of course, necessary to examine other hypotheses to find if they will stand the test.

The hypothesis that a chemical compound is formed by the micro-organisms, and left in the tissues, which prevents their further action—as alcohol kills yeast, or acetic acid kills *Mycoderma aceti*, and as the excremental products of all bacteria destroy the organisms which produce them—is certainly unable to explain anything. If it were true, nothing could be easier to find in the tissues, and no such thing has been found. That destruction of certain tissues for which the parasite has an affinity gives the immunity is destroyed as an hypothesis for the reason that such tissues are repaired by the recovery of the patient, in all cases.

The oxygen theory of Dr. Salmon is too narrow a conception for the occasion, and there are no verifications to sustain it. Who can imagine that tubercle bacilli in the lungs can consume the oxygen inhaled so rapidly that there is not a sufficient supply for the lungs? The inhalation of oxygen is found to do harm in consumption as well as many other diseases. If Dr. Salmon's hypothesis is true, the inhalation of oxygen ought to not only cure, but prevent all diseases of zymotic origin. Let us transfer the terms of Dr. Salmon's proposition to another case. The terms are these as quoted from Dr. Eccles's paper: "The poison of the microbes intoxicates the cells. Retarded function [of the cells] allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to resist the poison [this is true, and all there is of it in relation to recovery and also to immunity], use up their own oxygen, and so asphyxiate the microbes." Dr. Salmon has not made an estimate relating to the ventilation of the human body with oxygen and the relative amount consumed by microbes and cells, which is necessary as a factor of this problem. It is quite likely that oxygen cuts no figure in the problem except as a necessary antecedent to all phenomena of life—microbic and human. I will transfer the terms of this problem to another case like it. Suppose a man and dog are confined in a well-ventilated room, and the dog, being hungry, attempts to kill the man to eat him. It is necessary to kill him first. The dog attacks the man, and, getting him by the throat, chokes him. Now the retarded function [of the man] allows the oxygen in the room to accumulate or increase in the room, thus allowing the dog to maintain his position. Now, if the man recovers, it is due to his ability to overcome the dog's hold on his throat, and then to use up his own oxygen, and by so doing asphyxiate the dog—by using all the oxygen himself. Dr. Salmon admits the solution of the question by natural selection when he says the "recovery is due to the ability of the cells to resist the poison." Immunity is also due to the same fact. The oxygen theory is therefore only a rider to the true solution; very much such a rider, too, as Mazeppa was, in so far as ability to guide the horse is concerned. Dr. Salmon's theory assumes that the microbes are in the body by accident, and destroy the cells, not to consume them, but in order to rob them of oxygen. The position of the microbe is that of offense rather than of defense.

It is evident that we can substitute nitrogen or bile in place of the oxygen in this problem and do no violence to the sense or the results. What prompts the dog in the assault is the necessity for food. The same is true with the microbes. The dog does not poison his prey, because he kills it mechanically; but this does not change matters any. The man may have some knowledge of dog-combat, gained from former experience, or may not; but, if he saves his life, it is not because he uses the oxygen in a well-ventilated room himself at the expense of the dog, but because he knows or learns a method of successful physical resistance to the dog. If he learns a specific method of resistance to the dog from actual combat, as punching the dog's eyes, or choking him, in time, doubtless, he will tell his children the method, and so transmit the gift by heredity to them, and the dogs will all be obliged to take up with Mother Hubbard, who, by this time, should have a bone or two in her cupboard.

The cell and microbe and man and dog present problems of warfare the terms of which are parallel and alike. The combat in each case is due to that great biological law which underlies all the sin of this world, which is that living things are adapted to each other as a food supply, and the fittest will swallow the other. When Eve ate the apple, the probable extent of the sin was in the consumption of other living material. This would have been a guileless world if all living things had been created to take their diet from the inorganic world, and men "at meat" could sit

down to a table spread with samples from the inorganic world—nitrogen, ammonia, carbonic acid, salines, and water, instead of quail on toast, oysters, eggs, milk, lamb, chicken, etc.

In both these cases of man and dog, cell and microbe, we find corresponding and like general principles which explain all such cases. These combats result in variation of all organisms concerned. No case can be mentioned which can not be explained by this generalization. The variation consists in an organic change with corresponding functions in all organisms concerned. If the cells gain an immunity from further attacks of microbes, it is because variation, acquired by actual combat, has given them a power of physico-vital resistance to poison, which they maintain until the forces of atavism have taken this power away. The phenomena of immunity, in point of duration, correspond directly with the forces of variation and atavism. That we are unable to know the character of the variation and atavism which gives a cell the power to resist a poison, or makes it susceptible to poison, proves nothing against the hypothesis, but only proves that, for physical reasons, the verification is difficult.

But, while on the subject of immunity from disease, it is well to take a look at it from the standpoint of hygiene. The study of physically acquired immunity from disease is interesting only as a means or end of scientific accomplishment, and is of no great practical value. The science which can give a man immunity from disease only by subjecting him to an actual combat for life with his personal enemies is a science which is not worthy of being called hygienic. Why not destroy the microbe before it attacks the man, and gain the immunity by this means? Immunity gained through actual disease reminds one of the subject who went to his king and complained that his enemy had threatened to kill him. The King said: "Don't worry, my man; if he kills you I will have him beheaded within an hour." The man tried to appear comforted, but finally ventured to suggest that the best preventive would be to behead the enemy an hour before he made the threatened assault.

Immunity from disease, gained by costly combat with poisonous microbes, is the method of nature without intelligence. The method is not worth imitation except provisionally. The study of the microbe in this relation is useful only as it will give the knowledge of the methods which can compass its destruction while it is yet outside the body and before disease is produced.

Book Notices.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M. D. Lond., etc. Fifth American from the sixth revised and enlarged English edition. With one hundred and fifty engravings. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xv 17 to 481, inclusive.

An extended review of such a well known book is unnecessary. We had already regarded the work as a model of its kind and the author's assurance that he believes the present edition to be fully up to date will be received as sufficient proof that nothing of importance has been omitted. The reader will find several additions to the last edition. The introductory chapter has been remodeled, a new chapter on tumors appears, and the subjects of septicæmia and pyæmia are presented in an unusually clear and compact form. For these improvements the author expresses his obligations to his surgical colleague, Mr. Stanley Boyd. The closing chapter, upon "The Vegetable Parasites," appears beneath that gentleman's name, and is a thorough and exhaustive *résumé* of the subject. Appended to this section is a brief description of the different methods of cultivating and staining micro-organisms. In stating that the book is up to the time, we need not add that the bacilli of tuberculosis, cholera, and leprosy, and the micrococci found in erysipelas, pneumonia, scarlatina, typhus, and gonorrhœa, all receive due notice. The book has been most carefully revised, and bears upon every page the marks of that care and accuracy which have won for it an international reputation.

BOOKS AND PAMPHLETS RECEIVED.

A Text-Book of Medical Physics. For the Use of Students and Practitioners of Medicine. By John C. Draper, M. D., LL. D., Professor of Chemistry and Physics in the Medical Department of the University of New York, etc. With Three Hundred and Seventy-seven Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. 733.

A Manual of Human Physiology, including Histology and Microscopical Anatomy; with Special Reference to the Requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Translated from the Fourth German Edition, with Additions, by William Stirling, M. D., Sc. D., Regius Professor of the Institutes of Medicine, or Physiology, in the University of Aberdeen. With 318 Illustrations. Vol. II. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–515 to 1184, inclusive. [Price, $5.50.]

Berlin as a Medical Centre. A Guide for American Practitioners and Students. By Horatio R. Bigelow, M. D., Member of the American Medical Association, etc. [Reprinted from the "New-England Medical Monthly."]

On the Severe or so-called "Uncontrollable" Vomiting of Pregnancy. By Graily Hewitt, M. D., F. R. C. P., etc. [Reprinted from the "Transactions of the Obstetrical Society of London."]

Report of the Board of Managers of the Pennsylvania Hospital, 1885.

Correspondence.

LETTER FROM ST. LOUIS.

Railway Sanitation.—The Inspection of Meat.—The Closure of Wells.

St. Louis, *June 30, 1885.*

Among the matters of importance to the public in regard to general sanitation and of special interest to our profession as custodians of the public health are the questions, What can be done by our railroad companies, not only for the health of their employees, but to secure that their buildings and rolling-stock shall be kept in a thoroughly sanitary condition? and then, What are they doing?

For some time past the Missouri Pacific Railway System has made provision for the efficient and skillful treatment of em-

ployees, who are injured or become sick in its service, by the establishment and maintenance of a large hospital well situated and with abundant room, and with the greatest facilities for giving those who are entitled to it the very best care that is possible.

Similar arrangements have been made by the Wabash System, although that organization has not established a large hospital here. The surgeons of that company have formed a medical society and hold regular meetings, at which papers are read and discussed on such topics as are of special interest to them.

Another step has just been taken by the Missouri Pacific System. A circular has just been issued by Vice-President Hoxie in which is expressed the desire of the managers to place the property of the companies comprised in this system in good sanitary condition, and attention is called at the same time to the importance of such measures to the welfare and prosperity of the employees. The managers express their intention of hearty co-operation with all State and local boards of health with which they may come in contact, and enjoin similar hearty co-operation upon all concerned.

Dr. W. B. Outten, chief surgeon, is placed in charge of all matters pertaining to the sanitary interests of the roads, and all officers and employees are instructed to carry out any rules and directions that may be issued by him. Sanitarians in the East and West will await with interest the publication of Dr. Outten's rules and directions, as the subject of railway sanitation is almost a new one, and the chief surgeon of a system that operates over six thousand miles of track through such a country as that in which these roads lie has an opportunity and a responsibility such as fall to but few men.

Another matter of considerable local sanitary interest is attracting more or less attention in the papers now. For some years the citizens of all other leading cities of our country have been more or less effectively protected from the dangers attendant upon the use of diseased or tainted meats by systems of meat inspection which, in so far as they were faithfully administered, rendered it impracticable, or at least financially dangerous, to offer spoiled meats for sale for human food. Strange as it may seem, the city of St. Louis has had no such system of inspection, and, as a result, it has come to be the fact, as one of the daily papers said, that "St. Louis is the great dumping-ground for all the diseased and damaged meat raised in the West." Last winter an ordinance was passed and an appropriation was made by which a very rigid inspection was established and enforced to the great advantage of the citizens and to that of honest dealers as well, but to the cost and extreme discomfiture of those who had been wont to make money from the poor by selling them diseased or tainted meats. The provision for this, however, was only limited, and when the time came for making a new appropriation so that the same protection might be continued, to their shame be it said, a sufficient number of the House of Delegates were found to cast their votes against the appropriation to defeat it, and, consequently, during the summer weather we are without the needed protection, and unscrupulous butchers and dealers know that our city makes no provision for the protection of its citizens in this regard.

Of course, this danger is one to which the poor are in a peculiar degree exposed. The wealthier citizens purchase costlier meats from dealers who can not afford to risk their reputation by selling bad meat, while the poorer classes buy from those who have little or nothing at stake, and who too often care for naught except to make what gain they may, even at the peril of health or life to the unsuspecting victim. A bill has now passed the Council, and will come before the House of Delegates this week, which makes provision for the renewal of efficient meat inspection.

A good deal of time has been taken up at the meetings of the city Board of Health for some weeks past in considering the subject of closing wells. An ordinance was approved March 25th last, to which I have referred in a former letter, which made provision for the closing of wells that should be found on examination to contain more than six grains of chlorine to the gallon of water. The wells of the city are divided into two classes, viz., those which are in the public streets or sidewalks, and those on private premises. The first class, as a rule, are situated at street corners, and have been sunk by the owners or lessees of saloons or groceries where beer and liquors are sold, for the purpose of attracting custom from teamsters and others who, while securing a free drink for their horses, will step inside and spend five or ten cents for a drink of what may be a little more dangerous in its effects than the polluted water of the wells. Many of these wells were resorted to by neighboring families because the water was clear and cool.

By the ordinance referred to, all wells located in the public streets which should be found to contain six or more grains of chlorine to the gallon were abolished, and, on a certificate to that effect from the Board of Health, it was made the duty of the Street Commissioner to cause them to be filled at the public expense. At a meeting of the Disbursing Committee of the Sanitary Aid Association this week it was reported that, of one hundred and sixty-one wells on public streets which had been condemned, one hundred and fifty-two had been filled. There was a good deal of opposition to the enforcement of this section of the ordinance on the part of the saloon-men, who felt that the closing of their pumps would seriously interfere with their business. Besides, it was argued that it would cause much suffering to animals. One man was very anxious to be allowed to retain his well, with the stipulation that the handle should be removed from the pump and be kept within the saloon, and only be taken out to pump water for horses and stock; in no case to pump water for cooking or drinking by human beings. The Board of Health could see no way to insure its really being used only for cattle, and declined to make any such modification of the order. A case was made and carried to the Supreme Court, which last week rendered a decision sustaining the ordinance and the action of the Board of Health in enforcing it.

The action in regard to the wells on private property is by no means so simple as that in regard to those on the public streets. There are several complications which do not arise in dealing with the water question in Eastern cities. I shall speak of these directly. The ordinance declares all wells located on lots of land fronting on streets, avenues, or alleys, in which the public water-pipe is laid, to be nuisances, *except those which are used exclusively for manufacturing or stable purposes or for watering stock*, or which may be proved, to the satisfaction of the Board of Health, to contain pure water. [Italics mine.] "Any water in wells which shall contain six grains or more of chlorine to a gallon of water shall be deemed to be impure."

One of the first cases which came up before the Board of Health under the section relating to wells on private property was that of a woman who used the water for washing and rinsing clothes. The question at once arose whether such a well was to be excepted from condemnation under the plea that this was to be considered as using the water for manufacturing purposes.

After some discussion, inasmuch as the board were informed that a case had been made up so as to secure a ruling of the Supreme Court as to the whole scope of the law, it was resolved to hear the statements of the various well-owners as to

the use made of the water, and to delay making any final order until the decision of the Supreme Court should be rendered. It seems now that a good deal of time has been lost, as the case that was carried up and the decision of the Court consider only the wells in public streets.

Of course, in dealing with these cases, the Board of Health has encountered the usual prejudice against innovation which is always met with. There has been the usual number of old residents who "have drunk the water from that well for thirty years, and there has never been a case of sickness in the house the whole time." There have been parents whose sick children have been refreshed when fevered by the cool water from that well, and have got well, and who, therefore, can not be convinced that the water is unwholesome for well people.

There have been people who have lived in the same locality, and have drunk water from the same well during two cholera seasons, and who therefore refuse to take alarm at the statement that the water contains from twelve to twenty grains of chlorine to the gallon. All these cases are only repetitions of the experiences which occur wherever well-filling is taken up as a sanitary precaution.

But two difficulties exist here which, I think, are somewhat peculiar. First, as everybody knows who has ever visited St. Louis, our water is by no means clear. At its best it holds in suspension a sufficient quantity of fine impalpable matter, of a sort of yellow-ochre color, which characterizes the water of the Missouri River, from the point where the Yellowstone River empties into it, to give it the appearance of lemonade; at other times it contains enough earth to give it the color of *café au lait*. On allowing it to stand for some hours, all, or nearly all, of this solid matter will settle, and clear water can be obtained for washing and rinsing clothes. (For drinking purposes most people prefer it "in its rich natural state.") As a matter of fact, however, most of those who take in washing, and are dependent upon their laundry-work for their livelihood, have no facilities for settling the river water, though a good many of them have wells from which they have drawn water for rinsing. It certainly would be a hardship to deprive such people of the opportunity so to use the water, and yet in nine cases out of ten where they use the water for this they will also use it for drinking, as it is so much cooler than the hydrant water.

Another difficulty that has been encountered is the fact that, especially in German neighborhoods, there is a prevalent opinion that salting a well will purify the water and make it wholesome, as well as keep it free from various bugs. Therefore, in a good many cases, it has proved that wells which contained a very large amount of chlorine, and, consequently, were supposed to be badly polluted by sewage, really owed the chlorine to salt that had been thrown in by the owners for the purpose of preserving the water from contamination.

LETTER FROM WASHINGTON.

The District Medical Society.—The City's Water-Supply.—The International Medical Congress.—The Hospitals.—Political Appointments.

Washington, *July 12, 1887.*

There has been very little of general interest here since the adjournment of Congress, so far as medical matters are concerned.

The District Medical Society adjourned for the summer last Wednesday. The meetings have been well attended through the year, and interest has been maintained far into the hot term by the discussions on Asiatic cholera and the water-supply of the city. The water-supply question is not yet settled, and there has seemed to be a disposition to make it rather a political than a scientific matter, owing to the apparent criticism of the authorities involved in the discussion. Some points were settled: First, that there was a waste from the canal into the source of the conduit at the river, and, second, that the drainage-basin into the reservoir had included farmers' outhouses, privies, and pig-pen refuse. All this has been corrected, and there is now a sentiment of relief. As usual, those responsible for this not very cheerful state of affairs at first denied the existence of the evils as alleged, and later on abused those engaged in the discussion of them. The water-supply is still inadequate, and a new conduit and an additional reservoir are being constructed. This will furnish an abundance of water for a great many years to come. It is stated that a sewer-pipe from the hospital on the Soldiers' Home reservation passes directly under the new reservoir, and much apprehension is felt by those who know how easy it is for a sewer-pipe to become loose at its connections from the escape of gases and fluid through the cement. This prospective evil admits of a practical remedy by changing the direction of the sewer.

Before adjournment the society re-elected its former officers, Dr. W. W. Johnston, president, and Dr. Thomas McArdle, secretary. Those gentlemen who were originally appointed on the International Medical Congress, and retained by the new committee, have resigned. There was no local grievance.

Dr. J. F. Hartigan, of this city, now in London, is expected to return on the Germanic, which will sail about the 27th of August. The doctor has been hard at work, and has an appointment every day at the Soho Square Hospital and at the East London Children's Hospital.

The rage for incrimination and investigation reached Washington some time since, but seems to have about expended itself. The Children's Hospital imbroglio, that at the Columbia Hospital, and the Wales Court-Martial are the principal topics of medical gossip. In the former case one gentleman, long connected with the hospital, has resigned; at the Columbia Hospital, Dr. Murphy, the physician in charge, has been exonerated.

Dr. R. S. L. Walsh has resigned from the consulting board of the Providence Hospital, and has accepted a position as one of the attending physicians to the Garfield Hospital.

The scramble that took place between the hospitals last year for the appropriation of fifteen thousand dollars, set apart by Congress for hospital purposes, has been happily avoided this year by the appropriation of a specific sum for each.

Dr. T. I. Chew has been appointed physician to the almshouse hospital, vice Dr. T. P. C. Hazen, resigned.

With the coming in of the new administration a race began for the position of health officer of the district, now held by Dr. Smith Townshend. As the present commissioners were decidedly friendly to Dr. Townshend, and as he has had the support of his brother, a member of Congress from Illinois, the various applicants have not up to this time received much encouragement. With the forthcoming change in commissioners it is said a change will be made.

The Board of Pension Examiners has been reorganized to correspond to the views of the politicians by removing Dr. Robert Reyburn. The dissatisfaction at the new arrangement has been so great that two boards have been formed. It is sincerely to be hoped that America may be enlightened and patriotic enough some day to allow honest and efficient medical officers to remain without reference to changes of the administration. If the incumbent is unfitted or unworthy, that would be abundant reason for making a change. Such a reason would not be a political one, but the spoils system, with its outrageous abuses, seems now, as in the past, to be the most tenderly cherished tenet of political faith.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JULY 18, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

It was with expressions of anything but hopefulness that we wrote last week of the prospects of the Congress, and we were particularly emphatic in the view that we had insisted upon from the outset, that the entire responsibility for the threatened disaster rested upon the American Medical Association, and not upon its new committee. For a time it seemed as if we were almost alone in the advocacy of this view, but since our last issue was published several things have happened which we interpret as going to show that the responsibility of the American Medical Association is getting to be more and more recognized.

The comments of some of our contemporaries are indicative that they at least are beginning to recognize it, and it is specially noteworthy that the "Medical Bulletin," edited by Dr. Shoemaker, takes considerable pains to show that the committee acted under such instructions that it could not do otherwise than as it did. A most telling piece of testimony in the same direction comes to us in the shape of a letter from Dr. Howard, of Baltimore, which we publish elsewhere in this issue. Explaining why he declined to sign the Baltimore resolution, Dr. Howard puts himself squarely in accord with its signers on the real issue, and explicitly states that he concurs with the Boston resolution, which expressly fixes the responsibility upon the association. It is quite possible that there are others who are perfectly willing to express themselves to this effect, but hesitate to attach their names to anything which may seem like a reflection upon the members of the committee as individuals.

If the association can be made to feel that its action in this matter meets with very general condemnation, there is some hope of its being rescinded in St. Louis next year. If the *status quo* should then be restored, there would still be more than a year in which to prepare for the Congress, and the gentlemen whose further services in its organization have been lost for the time being, in consequence of their having resigned from the committee in disgust, might perhaps be induced to reconsider their determination. It seems now, therefore, that a break may be made in the impenetrable hopelessness of a week ago. But the only way to bring the American Medical Association to its senses is for those of the committee's nominees who have the success of the Congress more at heart than their own tenure of office to continue the good work which has been begun in Philadelphia, Boston, Baltimore, and Washington. These cities happen to be situated in the East, but it is assuredly by no sectional feeling that they have been led, and we think our friends in other quarters of the country make a great mistake if they so interpret the action taken. It has unquestionably become the duty of every well-wisher of the Congress, no matter where he may live, to decline any participation in the emasculated affair which its present organization must necessarily lead to. The impression thus made upon the American Medical Association, together with the unusual care which we hope to see taken in the choice of delegates to its next meeting, may result in the regeneration of that body. This is a matter of even greater importance than the success of the International Medical Congress.

BROOKLYN AND THE INTERNATIONAL MEDICAL CONGRESS.

We have heretofore given the new committee on the International Medical Congress the credit of having done as good work as seemed to be possible under the stringent restrictions imposed upon it by the New Orleans meeting. Our attention has lately been called to the fact of the very few appointments that fell to the city of Brooklyn—only three in number, while Philadelphia has forty-seven, Boston thirty, Baltimore twenty, and Washington (exclusive of army and navy surgeons) fourteen. In view of the stress that the New Orleans meeting laid on the principle of geographical representation, and bearing in mind that Brooklyn has a population of nearly three quarters of a million—larger, therefore, than that of either of the other cities mentioned, except Philadelphia—it is difficult to avoid the thought that the committee lost sight of the geographical principle in this particular instance. The principle is one which we consider it absurd to proceed upon in such a matter, and we should favor the best possible list of officers, even if every one of them lived in an obscure village; but, if it was to be carried out, it should have been done equably. Especially should such a glaring exception not have been made with regard to a city where so much is done to advance medicine as in Brooklyn. To be sure, the three appointees from that city, Dr. Hutchison, Dr. Squibb, and Dr. Raymond, are quite capable of making an excellent showing for Brooklyn, in case they attend the Congress, but they might appropriately have been reenforced by such men as Armor, Bell, Butler, Byrne, Fowler, French, Gray, Hutchins, Jewett, Mathewson, Pilcher, Rockwell, Segur, Sherwell, Skene, Speir, Thayer, Westbrook, and Wight—men whose names are known wherever current medical literature is read, and who are recognized leaders in the several branches of medicine to which they have devoted themselves.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 14, 1885:

DISEASES	Week ending July 7		Week ending July 14	
	Cases	Deaths	Cases	Deaths
Typhus	0	0	1	0
Typhoid fever	13	4	9	2
Scarlet fever	35	5	31	9
Cerebro-spinal meningitis	4	4	4	
Measles	56	12	55	10
Diphtheria	41	21	55	24
Small-pox	3	0	2	1

Small-pox.—A ship which arrived at this port last week from Liverpool had lost two of her crew with small-pox during the voyage. The vessel was quarantined and fumigated. Press dispatches allude to an epidemic near Creston in Iowa. It is stated that during the three weeks ending on Monday, the 13th inst., thirty-two deaths occurred from the disease in Montreal, fifteen of which took place during the last week of the three, and that six new cases were reported on the 13th. As will be seen by the report of infectious diseases, five cases were discovered in New York during the fortnight ending on Tuesday, one of which proved fatal.

New York State Medical Association, Fifth District Branch.—The first *annual* meeting of the Fifth District Branch will be held in Brooklyn, on Tuesday, October 13, 1885. There will be a morning and afternoon session. All fellows desiring to contribute to the meeting, either by reading papers, notes, or communications, or by exhibiting specimens, are respectfully invited to notify the secretary to that effect at their earliest convenience.

J. C. Hutchison, M. D., *President.*
E. H. Squibb, M. D., *Secretary*, 36 Doughty Street, Brooklyn.

The International Medical Congress and the Medical Profession of Washington.—At a meeting of medical gentlemen held in Washington, D. C., July 11, 1885, the following preamble and resolution were adopted:

Whereas, Certain changes have been made in the constitution and organization of the Ninth International Medical Congress which seem to us unwise, injurious, calculated to bring the profession into disrepute, and to endanger the success of the Congress, therefore

Resolved, That we, the undersigned, decline to hold any position under the said Congress as now organized.

Joseph Taber Johnson, M. D.	S. C. Busey, M. D.
W. W. Johnston, M. D.	H. C. Yarrow, M. D.
Swan M. Burnett, M. D.	A. F. A. King, M. D.
B. F. Pope, M. D., U. S. Army.	Frank Baker, M. D.
E. Carroll Morgan, M. D.	D. Webster Prentiss, M. D.
J. Ford Thompson, M. D.	S. O. Richey, M. D.

D. L. Huntington, M. D., U. S. Army.

The International Medical Congress and the Council of the New York State Medical Association.—The following resolution, recently adopted, reached us too late for insertion in last week's issue:

Resolved, That the Council of the New York State Medical Association respectfully recommend to the Committee of Arrangements for the International Medical Congress the following modification of the rule by which the American membership of the Congress is to be constituted, to wit: That the American membership of the Congress be constituted of delegates who shall be entitled to participate in the business and scientific proceedings, and of members who shall be entitled to participate only in the scientific proceedings of the Congress; that the delegates may be appointed by the American Medical Association and by State and local organizations in affiliation therewith in the proportion of one delegate for every ten or fraction of ten members of the organizations thus represented; that members of the regular medical profession of the United States may become members of the Congress by registering their names as such and by taking out tickets of admission.

The University of Vermont.—It gives us pleasure to insert the following deserved tribute to Dr. Wright:

"The Medical Faculty of the University of Vermont, having been unable to retain permanently the services of Professor J. W. Wright, of New York, as professor of clinical surgery, beg leave, in accepting his declination of the position, to extend to him, both personally and officially, their grateful appreciation of the eminent service he has already rendered the University of Vermont by his course of Lectures on Surgery, just concluded.

"As a skillful operator and a scholarly lecturer, both didactic and clinical, Professor Wright has given universal satisfaction. In leaving the Medical Department of the University of Vermont, Dr. Wright carries with him the best wishes of the Medical Faculty and of the corporate authorities of the University."

M. H. Buckham, *President, University of Vermont.*

[Signed.] A. F. A. King, A. P. Grinnell, R. A. Witthaus, J. Henry Jackson, Henry D. Holton, } *Medical Faculty.*

A New Hospital, endowed by the late Mr. Robert A. Packer and named after him, was opened at Sayre, Pa., on Monday of this week. The building was formerly Mr. Packer's residence.

The late M. Gueneau de Mussy.—According to the "Union médicale," a subscription has been started to obtain funds for a bust of the late M. Noël Guéneau de Mussy, to be placed in the Hôtel-Dieu.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 4, 1885, to July 11, 1885:*

Havard, Valery, Captain and Assistant Surgeon. Assigned to duty at Fort Wadsworth, New York Harbor. S. O. 140, Department of the East, July 2, 1885.

Wyeth, M. C., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Wayne, Michigan. S. O. 140, Department of the East, July 2, 1885.

Powell, Junius L., Captain and Assistant Surgeon. Ordered from Department of the East to Department of the Missouri. S. O. 155, A. G. O., July 9, 1885.

Birmingham, Henry P., First Lieutenant and Assistant Surgeon. Ordered from Department of the Missouri to Department of the East. S. O. 155, A. G. O., July 9, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending July 11, 1885.*

Byrnes, J. C., Passed Assistant Surgeon. Detached from the Powhatan for duty at Navy-Yard, Norfolk, Va.

Cordeiro, F. J. B., Assistant Surgeon. To the Powhatan as relief of Passed Assistant Surgeon Byrnes.

Curtis, L. W., Assistant Surgeon. To Philadelphia for examination preliminary to promotion.

Drennan, M. C., Surgeon. Placed on waiting orders.

Fitzsimmons, P., Surgeon. Duty on Receiving Ship Franklin, Norfolk Navy-Yard, continued until July 1, 1886.

Society Meetings for the Coming Week:

Monday, *July 20th:* Chicago Medical Society; Hartford, Conn., City Medical Association.

Tuesday, *July 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Societies of the Counties of Kings and Otsego (Cooperstown), N. Y.; Ogdensburg, N. Y., Medical Association.

Thursday, *July 23d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society.

Letters to the Editor.

THE RESPONSIBILITY FOR THE INTERNATIONAL MEDICAL CONGRESS MUDDLE.

BALTIMORE, *July 13, 1885.*

To the Editor of the New York Medical Journal:

SIR: I ask leave to say that I declined signing the resolutions in regard to the International Medical Congress that were forwarded from this city, and published in your journal of the 11th inst. (page 45), because they place the blame for the lamentable state of affairs entirely on the action of the new committee at Chicago, while, as it seems to me, that committee acted simply in accordance with the stringent restrictions imposed upon it by the unwise and revolutionary conduct of the American Medical Association at New Orleans in nullifying the action of the first committee, and thus opening the Pandora's box of the countless evils now agitating the American medical profession.

The resolutions passed at the meeting of the medical men of *Boston*, and published on the same page of your journal, meet with my cordial concurrence.

With great respect,

W. T. HOWARD.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 4, 1885.

The President, Dr. A. JACOBI, in the Chair.

Contagious Ophthalmia in some of the Orphan Asylums and Residential Schools of New York City.—Dr. RICHARD H. DERBY, the author of the paper, said it appealed to the hearer on the threefold ground of philanthropy, medicine, and social science. He referred to the report made to the County Medical Society in 1884 concerning the condition of the eyes of the inmates of three institutions in this city, and stated that since then twenty-four other institutions had been visited, containing in all 7,440 inmates. After describing the appearances of the eyes of one suffering from contagious ophthalmia, Dr. Derby said that in the first institution visited 24·5 per cent. of all the inmates had contagious conjunctivitis; in the second, 488 out of 1,586; in the third, 111 out of 782; in the fourth, 93 out of 188. The number of cases in this institution had decreased since his first visit, after which each of the inmates had been given his own towel and brush, etc., and the general hygienic state had been improved. The proportion of cases in several other institutions was then mentioned.

It was not the object of the paper to consider in detail the various conditions which led to the development of contagious eye diseases in the asylums visited. The part played by imperfect quarantine, bad lavatories, overcrowding, bad hygiene—all these had been discussed elsewhere. His purpose would have been attained if he drew attention to the fact that in the asylums of our cities, where children in large numbers were housed, being taken from unhealthy homes, there existed to an alarming extent a disease fraught with danger to the eyes of all assembled there. It would be noticed that in the institutions visited the larger number of cases of contagious ophthalmia existed where the inmates used the towels indiscriminately, washed in the same basin or trough, and slept together, and also where there was general bad hygiene. The disease might be present without attracting the attention of the attendants. In too many instances it went on insidiously, undermining the health of the eyes, until finally an acute attack took place, and gave rise to an epidemic of contagious ophthalmia. We had just seen that of the 7,440 inmates of institutions visited, 1,428, or 19·19 per cent., had contagious conjunctivitis, or nearly one in every five. Besides, in several of the institutions it was the custom to send the worst patients to their homes, where they might seek treatment outside, thus rendering probable the further spread of the disease among the neighbors. The parents of such children were not properly situated for carrying out effectual treatment, and were unable to care for them in a suitable manner. In many cases it was to the advantage of the institution to receive as many inmates as possible, and thus overcrowding was encouraged.

The Board of Health should be notified of every case of contagious ophthalmia in any of the institutions, and accommodations should be provided for isolating the patient until he was no longer capable of communicating the disease. There were enough cases of contagious ophthalmia in the institutions at present to fill a hospital devoted to their isolation and treatment. It behooved the members of the Academy of Medicine to make emphatic protest against the continuance of the present state of things.

Dr. H. KNAPP said the statements of the speaker ought in no way be underrated. He had been connected with a number of institutions as ophthalmic surgeon, and knew that in a number of them, and perhaps at certain periods in all of them, contagious ophthalmia existed. Sometimes the spread of the disease had been so great that the authorities of the institutions were forced to close them and to farm the inmates out. But he could, on the other hand, state that in many of the institutions the greatest care was taken to stamp out the disease. He mentioned the Catholic Protectory in particular, where, when an epidemic broke out, they called physicians and sought in every way possible to stamp out the disease, and the spread of the blennorrhœa was largely controlled. But, where an institution was once invaded, a number of cases were liable to continue for a long time. Two institutions never admitted a patient with eye disease until they had received a certificate from him that the disease was not contagious; the patients were sent to an ophthalmic institution until they were cured of the contagious affection. These institutions were remarkably free from eye diseases. He thought the suggestion of the author of the paper regarding competent inspection of all cases of eye disease in these institutions a good one, and believed that, if a physician were engaged to make a monthly report of the condition of the eyes of the inmates, at least large epidemics would be avoided. In this seemed to be the nucleus of the paper, and he knew of nothing more philanthropic which could engage attention.

Dr. D. B. ST. JOHN ROOSA said that that afternoon, at the request of the physician of an asylum, he had examined the eyes of 242 inmates and found 67 cases of conjunctivitis. These children were under as good care as they could have, thanks to the labors of the author of the paper, except that there was not isolation. But the authorities of the institutions were not altogether to be blamed for the existing condition of things. If there was any power in the Board of Health to correct such matters, it was its urgent duty to do so. Children suffering from eye disease were often forced upon the managers of asylums in a manner that they could scarcely resist. The writer had observed with great propriety how very wrong it was to send these children back to their already overworked parents or

guardians with the hope that they might remedy the matter. The remedy was easy. The tax-payers should pay for a hospital where patients suffering from contagious ophthalmia could be sent and retained until cured and then be returned to the institution without danger of spreading the disease. The subject was one deserving the consideration of political philanthropists, and the Board of Health should insist upon the erection of a suitable hospital, and it would be found, as it had always been found in like cases, that the people of New York were ready to give their money for deserving charities.

Dr. Oakman, of Nyack, said that during the winter the authorities of the institution at that place, where about one hundred inmates were admitted, failed to isolate certain cases of eye trouble which he advised should be done, they maintaining that the disease was the result of cold. In order to keep the inmates warm they were huddled together in an ill-ventilated room, and the result was that in the spring there were forty-four cases of catarrhal trouble of the eyes, seven of acute granular trachoma, and one of purulent ophthalmia.

Dr. C. R. Agnew said his interest in this matter had begun nearly thirty years before, when he saw a great many cases of contagious conjunctivitis during a famine in Ireland, and to this day that disease was quite common there, having started from overcrowding in poor-houses and other public institutions. He referred to a school in this city where contagious ophthalmia was communicated to eight tenths of the inmates, probably largely by the habit of washing together in one trough. They were also insufficiently fed, and several slept in the same bed. A remarkable change for the better had taken place when they were placed in tents and given four hundred quarts of milk a day instead of fifteen quarts. Dr. Agnew had great faith in the effect of agitation in bringing about a reform of abuses. It was not always wise to seek legislation, but in this case he thought something should be done by way of legislation. It should be required of those who were about to found an institution to lodge a certificate showing that they had made proper provision for air-space, shelter, food, and medical attendance for a certain number of inmates, and it should be made impossible for such institutions to receive more persons than the number for which they had the lawful accommodations. This was quite as possible as to regulate the number of passengers which a ship of given measurements should carry. The large majority of children in these institutions having chronic conjunctivitis never recovered, and they went to make up that large body of drifting, despairing creatures who infested our towns and cities.

Mr. Gerry, of the Society for the Prevention of Cruelty to Children, explained the manner in which commitments were made to these institutions, and said that, with certain exceptions, many of the institutions where the children were sent were entirely under the control of persons who had no knowledge of medicine, or even of nursing, and there was no provision in the law which required them even to seek the advice of a physician. Unless they were required to submit to the judgment either of a medical board or of some competent medical man, they would always have in their institutions cases of contagious ophthalmia. He was entirely in accord with the views expressed by Dr. Agnew, and thought that something should be done by law to provide for an oversight of these institutions by medical authorities. He thought, so far as an ophthalmic hospital was concerned, that the remedy was simple. Let the State pay liberally for the care of such cases, and they would find proper isolation and treatment. The difficulty with regard to the Board of Health was that it was a quasi political body: it already had its hands too full of work, it had not the means, and, when money was asked for, it was put off with the reply that it was always calling for money. One objection to an ophthalmic hospital was that the people would feel that as soon as a child was sent there its condition was hopeless.

Mr. Milhau, of the State Board of Charities, explained the duties of that board with regard to recommending the establishment of institutions organized by private individuals, and said that, while such institutions usually started under favorable conditions, it was only a short time before they began to receive children faster than they were able to provide accommodations for them. Then there were institutions which were considered absolutely safe, being under the highest medical supervision, and yet ophthalmia would break out.

The President said it was apparent, from the remarks which had been made, that it was almost impossible to keep contagious ophthalmia out of institutions. The same was true of every other contagious disease; they all made their appearance at times in institutions crowded with inmates. All of these institutions were meant to do good, and all did at the same time a great deal of harm. Where there were many children there were many opportunities for danger. Measles usually was a very mild disease, but when it broke out in public institutions it became very dangerous, and the same was true of all contagious diseases; they were more fatal when present among the inmates of crowded institutions. In an eye hospital a mild case of ophthalmia would become a very severe one, and he was not sure that much good would come from a hospital devoted specially to those cases. The question would finally arise, whether public institutions where large numbers of persons were congregated should be allowed to exist at all. If the children gathered in those which at present existed were farmed out it would be much better for them; there would be fewer cases of ophthalmia and of blindness.

Dr. W. F. Mittendorf said it was difficult to make the public understand two points with regard to contagious ophthalmia: first, its great danger to the eyes, and, second, the length of time it required to cure it. He had had much to do with asylums, and he thought, with the president, that the crowding of children together in institutions was a great source of danger. In certain institutions where the inmates lived in cottages he had seen little of eye disease. Another point which was too often overlooked was the extreme contagiousness of the affection. It was because of its great liability to spread that the eye institutions in the city did not like to accept cases of contagious ophthalmia. The suggestion of the president was, it seemed to him, the best that could be adopted—namely, to put as few inmates into one building as possible.

Dr. Agnew offered the following resolutions, which were unanimously adopted:

Resolved, That it is necessary and expedient that steps be taken to prevent the occurrence of communicable eye diseases in the schools and asylums of New York and vicinity.

Resolved, That the Council of the Academy be requested to take the matter of the paper into its immediate consideration, to obtain the co-operation of the writer of the paper, of the Society for the Prevention of Cruelty to Children, of the State Board of Charities, of the State Charities Aid Association, and others interested in the subject, for the purpose of lessening the prevalence of communicable eye disease.

Dr. Roosa wished to say one word more in favor of an ophthalmic hospital. It had been shown in the discussion that contagious ophthalmia, although easily spread, was also amenable to treatment, and, so long as institutions existed where it was liable to occur, there should be a hospital where patients could be sent for isolation and treatment. Of course, this would not be necessary when things were in New York as they were in Utopia, and children were all farmed out instead of being put into institutions.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 4, 1885.

(*Concluded from page 55.*)

The Surgical Treatment of Infants.—Dr. WILLARD's paper was concluded as follows:

Congenital hydrocele rarely requires much surgical interference beyond an evaporating lotion of chloride of ammonium or alcohol, as a few weeks will often close the canal, if hernia does not co-exist—a fact which can be determined by non-translucency and capability of reduction. Should the connection with the peritonæum fail to close, puncture, with the application of a truss, will usually complete the cure. A hydrocele with closed canal is better treated by tapping and injection than by seton. The diagnosis between *encysted hydrocele* of the cord, *hernia*, and *undescended testicle* is sometimes difficult, but, if the surgeon remembers that the former is simply a cyst in some unobliterated portion of the peritoneal coat of the cord, that its rounded shape can be detected if it is pulled well down into the scrotum, that it is usually translucent, that the impulse is not so decided as in the case of hernia, that it returns to the abdomen only by being pressed upward and not with a slip and gurgle, he will rarely be led astray. A hernia may co-exist with either of the above-mentioned conditions, but, if non-adherent, careful isolation will settle the diagnosis. Should the hernia become strangulated or the non-descended testicle become inflamed and infiltrated, the most careful examination will be necessary. In retained testicle, its absence from the scrotum will be the first point in arriving at a decision, but even in such a condition the organ might be within the abdomen and an encysted hydrocele present, or the testis might, as has recently fallen under my notice, slip into the tissues of the perinæum and be exceedingly difficult to discover. In the case just mentioned it sometimes requires numerous manipulations to cause the missing organ to return to its place in the pouch. Should hernia and retained testicle both exist, a double purpose can be gained by drawing the latter down, and pushing the former up and then applying a truss. The successful retention of the organ within the scrotum is a matter of great difficulty, and removal is scarcely justifiable in young persons unless pain or inflammation ensues. Extirpation, if required in later youth, will probably not interfere with the procreative power of the individual, since one gland will supply all requisite material, and the affected one is practically useless from atrophy, even if it is not devoid of tubular structure. Traction is of little service, as manipulation tends to increase the sensitiveness of the organ.

Simple *umbilical* and *inguinal hernia* should receive early attention, as, contrary to the rule in adults, a cure can often be effected during the first year of life by the persistent use of a truss. In young infants I prefer the hard-rubber variety as more cleanly. The instrument should be applied during the first few weeks of life and continued for one or more years. The treatment of strangulated hernia does not differ from that in the adult, but, in obstruction of the bowels, *intussusception* is so commonly the cause of the blockade that, unless violent peritonitis is present, laparotomy, with careful search for the invagination, offers the best hope of relief, and, I am glad to say, is rapidly growing in favor.

Meningocele, *encephalocele*, and *spina bifida* are complaints that will early require the surgeon's attention, or at least his expression of opinion and his prognosis. If attached by means of a narrow pedicle, constriction with an elastic band is feasible, but, unfortunately, this pedicle is but seldom found. Injection of iodine, following tapping, is rarely successful, yet is worthy of trial in so hopeless a task. In a large hydrorrhachis of the lumbar region, lately under my care, which resisted pressure, tapping, injection, and constriction, I was strongly inclined to excise the thin sac and attempt a plastic operation by drawing in toward the median line two flaps of skin from the lumbar region, leaving the vacancies to granulate. Soon after a consultation, in which I was dissuaded from my attempt, the tumor ruptured spontaneously and death occurred in two days, although frequent tappings had never produced any nervous symptoms. I had then never seen a record of such a plan of procedure, but only last week I noticed in the "Journal of the American Medical Association," vol. iv, No. 17, p. 466, that Mr. Robson had performed this operation with successful results in two out of four cases. Strict antisepsis was enforced.

Cephalhæmatomata are usually easily distinguished from encephalocele or meningocele, and also from the simpler tumor, caput succedaneum, the latter being exterior to the periosteum and more doughy. The blood in a cephalhæmatoma is always confined between the pericranium and the bone substance, and increases until the second or third day. The hardened ridge around the border of the tumor may give the sensation of an opening in the bone, but the orifice in meningocele is rarely as large as the base of the swelling mentioned. The peculiar crackling feeling upon pressure at a later period is due to the new bone deposits beneath the periosteum. Absorption so generally takes place in three or four weeks that aspiration or incision is unwise, even though antisepsis be thoroughly practiced, unless in exceptional cases when suppuration is certainly present.

Hare-lip will early require the careful study of the surgeon, situated as it is upon the portion of the body that is most regarded from the cosmetic point of view. Its proper relief therefore becomes not only a matter of surgical skill, but of surgico-artistic skill. The time for the performance of the operation is a point upon which there is a wide diversity of opinion. My rule is to relieve the deformity within three or four days if it interferes with the proper nursing of the child. Practically I must confess, however, that by the end of the operation the milk has left the mother's breast, unless there is some other baby to maintain the flow. My preference is to wait about three months, until a full, vigorous activity of growth and cell action is at work, and before the process of dentition has commenced. This period is selected not only for the reason mentioned, but also because the child can not use its hands so freely as at a late period of infancy, thus avoiding risk of injury. In one patient a year old, diphtheria appeared on the day following operation, and in his convulsions all the pins were twice torn entirely from their fastenings and the fresh wound became implicated. In spite of such complication, an excellent result was obtained by holding the parts in position for days with adhesive plaster cut in the form of a triangle, sufficiently large to cover at its base the area from in front of the ear to the corner of the hyoid bone, with its apex prolonged at the width of the upper lip to meet a similarly shaped piece from the opposite side. These sections were united by a small elastic ring which maintained a constant pull upon the tissues of the cheek and controlled spasmodic muscular action. In fractious children I have now discarded pins and have substituted catgut sutures for the mucous surfaces, which, if of small size and tied in three knots, will remain in position until union occurs. For the skin edges I use carbolized interrupted silk sutures, my reason for stitching the surfaces separately being that there is less linear depression of the cicatrix, and less constriction of tissues is thereby exercised than by pins and the figure-of-eight, which, if each set penetrates half-way through the lip antero-posteriorly, the sphincter is thoroughly controlled. One of the stitches should pierce the coronary arteries. To prevent pouching of the flaps or separation of the deeper parts by oozing, horse-hair drainage

for a few hours answers the best purpose. Additional control of muscles should be given by adhesive plaster prepared as above indicated or by strips, which should not only be applied transversely, but, in order to prevent strain, should commence upon the neck on either side, in front of the sterno-mastoid, near the cornu of the hyoid, and run thence just above the angle of the mouth across the opposite malar to the front of the ear. If these are all put in position while the surgeon pinches the cheeks well together, he will find, upon releasing his grasp, that the minimum of tension is exerted upon the stitches. A still better plan is to have the nurse regulate this muscular action for the first few days by pressure whenever the child cries or eats. Only by securing union by the first intention can we hope to have a narrow cicatrix; hence I do not allow the child to suck, as is the practice with some surgeons, but prefer spoon-feeding, as producing less disturbance. For the same reason, anodynes should be employed to control pain and keep the little one for a few days in a quiescent state. The child should be in the best possible condition physically, as quick union is desirable. To avoid the marginal depression so commonly seen, and which is inevitable if the simple inverted V-incision is used, I never sacrifice any portion of the paring, but, commencing the incision at the apex of the cleft, stop it just before it reaches the border of the lip, thus leaving a base of supply to nourish the flap which remains on either side. These two flaps, when the parts are brought together, project downward and form a fleshy prominence; but, if stitched nicely together, will unite and, from subsequent absorption during the next year, give a slight projection. Even should this be larger than desirable, it is far preferable to the ugly notch which can not be corrected, since a simple scissor-cut will remove all redundancy and give a nearly normal lip. The same rule in regard to utilization of tissue holds good in complicated cases of hare-lip when it becomes necessary to save as much of the alveolus as possible. Broken or cut, it can often be worked to advantage in bridging the chasm or supporting a fallen nasal septum.

If *cleft palate* co-exists with hare-lip, an additional necessity for early treatment is present, since the closure of the lip will tend greatly to lessen the gap in the hard palate. Dentists realize more fully than surgeons how slight is the pressure required to act upon a tooth or upon the alveolar process, but a moment's reflection will convince any practical man that such narrowing can be accomplished even if he has never witnessed it. In these instances, as in hare-lip and many other deformities, neglect is often as much the fault of the physician as of the family. An early operation upon the lip, strong pressure upon the maxillary bones, followed by the use of a Hainsby's compressor, will in a few years bring the cleft so close together that a single operation will unite the edges.

These are the considerations which influence me in advising that, while the lip should be closed early, the cleft-palate operation be deferred until the plan has been tested. Few children from five to ten are tractable enough to endure the pain of a staphylorrhaphy without ether, which is desirable, and I see no particular harm in delaying the procedure until the latter period, save that the unused or malused muscles will require a longer period of education after closure. In a recent staphylorrhaphy upon a boy of sixteen the letters of the alphabet could, however, all be correctly pronounced in three weeks except the *l* and hard *c* sounds. If a good velum and uvula can be secured by union, the hard palate can be admirably assisted by an obturator. Only last week, by preliminary touching and the use of cocaine, I was able, in a child of five years, to make the paring without pain, and thus avoided anæsthesia until all hæmorrhage had ceased, ether being employed for stitching only.

Tongue-tie is a condition that exists more frequently in imagination than in reality, yet the operation for its relief need be no more than the most trifling nick of the frænum, the finger completing the work. If the organ can be protruded to the red border of the lip, no operation is necessary.

Club-foot is a deformity which is frequently neglected, not alone from the apathy of parents, but, as is shown by the cases which come under my notice, far more frequently from the incomprehensible advice of the family physician, who has counseled that "nothing shall be done for the present." Weeks slip away into months and months into years, during which time one set of muscular fibers and one set of ligaments have become elongated, while the opposite ones are atrophied, condensed, and shortened. Bones, too, have become distorted and wedge-shaped, and the difficulties have, of course, increased fourfold with each advancing year. I have never been able to see any reason why delay should be countenanced a single day after birth, since manipulation and subsequent fixation can easily be accomplished at the first dressing of the child. I know of no words sufficiently strong to characterize such neglect of duty as is seen in numerous instances. Twice in the last three days have I had this matter brought before me by parents who have come to the office and who have given as the reason of their inaction that the physician had directed them to wait. Even before the age for walking, great condensation of tissue will take place and increase of deformity will occur from simple pressure of clothing, but, as soon as the weight of the body is brought to bear upon these misshapen members, the change will be rapid. The secret of the cure of club-foot lies not in operation, but in careful attention to all the means of relief. At the first hour of birth, as I have said, manipulation should be commenced by bringing the foot from the abnormal into a normal position, or as near it as possible, and confining it there by wood, felt, binder's board, or leather splints rightly adapted. At the next visit, leather, gutta-percha, or, preferably, printer's-blanket cinctures, should be laced upon the foot and leg, and connected by an elastic strap. The two-ply printer's blanket, with its rubber face, does not slip, even when applied with only moderate tightness, thus being superior to other materials. Hook-eyelets are easily inserted by any shoemaker, and the lacing need not impede circulation. Manipulation can be practiced twenty times a day without taking off the apparatus, while removal at night gives opportunities for massage, frictions, etc. If co-operation of parents is wanting, plaster of Paris can be employed with excellent advantage for fixation, a gain being effected with each month's renewal of the dressing. Leather, felt, sheet-lead, and silicate of sodium are of use, but do not permit removal for manipulation, and are, therefore, inferior to the bands already mentioned. These bands, which permit of constant elastic traction day and night, are very inexpensive if remnants are bought. Their use puts the successful early treatment of any case of talipes into the hands of the ordinary practitioner for the first few months of life. In cases which are of a severe type, a subsequent operation is usually necessary, but the manipulation which has been practiced up to the time for tenotomy stretches condensed tissues and increases nutrition so that relapse after division of the tendons will not occur, if the same measures are continued subsequently. Failure after tenotomy is nearly always due to the neglect of manipulation. The special form of apparatus is far less important than a strict attention to details. The chief advantage of the shoe which I employ lies in the fact that it permits manipulation and stretching without removal, owing to its flexible sole-shank of upper-leathers, which acts perfectly as a ball-and-socket joint, the force being exerted by an elastic strap operating upon the foot

through a catgut cord passing through an eye attached to the upright. The eye-bearing arm is ordinarily constructed with too little an outward bend. If I can control the patient I rarely operate until I have the tissues thoroughly stretched, but if the foot can not be placed upon its plantar surface at eight or nine months—that is, when the age of walking arrives—tenotomy should be delayed no longer, since each step will increase the deformity. In operating, I divide every tissue that interferes with perfect straightening, whether it is tendinous or fascial. The tendon of the posterior tibial is an exceedingly difficult one to sever in a fat infant with a poorly developed heel. The puncture should be made just below the malleolus, and, having placed the back of a tenotome toward the artery, division can be safely made. Tenotomes, as found in the shops, have too long a cutting surface for infantile work, as the sharp edge will frequently enlarge the external wound unnecessarily. It is my practice to leave the tendo Achillis until the end of the operation, in order to gain its fixation power in the leverage required for stretching the parts into position, a procedure which is best accomplished at the time of operation. The amount of power which should be employed in this process is governed by the degree of resistance and the caution of the surgeon, special care being taken that the force is expended only on the resistant tissues. In the class of cases with which this paper deals—namely, those of young infants—it is scarcely possible that tarsectomy could be called for, although an English surgeon has thus operated upon a sixteen-months-old babe. I now use the gypsum dressing entirely after tenotomy, not only since it is less expensive, but chiefly because it holds the foot and heel in much better position than is possible by any apparatus, and is less liable to produce sloughing, because the pressure is exerted over the entire surface. The instances where plaster produces a slough are always due to faulty application, mainly caused by some indentation produced during the setting process. If the bandages are smoothly and rapidly applied (salt having been added to the water in which they are immersed), the surgeon can, by grasping the knee, hold it steadily in place, while, with the palm of his other hand placed against the plantar surface of the child's foot, complete rectification can be maintained until the plaster hardens without danger of depressing any region of the cast. A dossil of curled hair or cotton placed over the ball of the great toe and the prominence of the cuboid or astragalus, and confined in position by the flannel bandage enveloping the foot, will also assist in averting any harmful pressure.

I can not too strongly emphasize my appreciation of plaster of Paris in the treatment of *fractures* in infants, giving, as it does, a perfectly adaptable material, and yet, when hardened, securing an immobility of the injured part that permits free handling, provided the articulation both above and below the injury is included in the dressing. This is feasible even in fractures near the hip, since the splint can be made to encircle the thorax, and thus prevent the great motion that is always present if only the pelvis is fixed. No risk of injurious swelling need be feared if a flannel bandage or a thin layer of cotton is first applied to the limb. It is better to saw open a dressing at the end of two weeks, and either tighten it or apply a new one. Silicate and other rigid dressings harden so slowly that displacement may occur during the process. The fractures occurring during birth are often overlooked for several days, and the fact that the child moves a particular portion of its body freely is not proof that lesion of bone has not occurred. I have seen several instances of fractured clavicle in which the child indulged in most vigorous movements of the arm. These collar-bone breaks are quite common, either from falling out of bed, from careless handling, or from the playful jerking of other children. The under-waist of an older child, placed in proper position over the sound arm and pinned tightly around the body so as to include the injured member, often keeps in place better in fat babies than a Velpeau bandage, especially if the hand is secured with a loop. Borated cotton should be placed in the axilla.

Green-stick fractures are best treated by etherizing the child and slowly straightening the bone by hand-pressure. Even should complete solution occur, the result will be good. A slight curve can be reduced by a splint and bandage. Separations of epiphyses are practically fractures, and should be treated as such.

Dislocations do not differ from similar injuries in adults, save that they are even more readily replaced by manipulation.

The resultant deformities of *infantile paralysis* are numerous, and are frequently passed over by both physician and parents, under the erroneous impression that nothing can be done for the relief of these poor weakened members. Recognizing that restoration is best accomplished by massage, electricity, etc., and particularly by action, it is my rule never to assist a muscle if it is capable of permitting locomotion, or unless deformity is being produced by non-support. The following are the considerations that determine the necessity for apparatus: If a bone is bending, an articular surface becoming distorted, a ligament yielding, or muscles becoming atrophied from excessive stretching, or if, by applying a support, the child can be made to walk, then I always order an apparatus which shall not take the place of the enfeebled muscles, or put them in splints at rest, but which shall render just enough resistance to enable them by contraction to accomplish the desired purpose. If rigid steel is used, they will soon relinquish their attempts at assertion of power, and enfeeblement will increase. By a judicious adaptation of mechanical appliances, many who are now condemned to chairs and beds can be placed upon their feet. The advisability of tenotomy will depend upon the benefit to be gained by such a procedure. In many cases it will assist greatly in placing limbs in proper position for locomotion, and for this reason its mechanical effect should be thoroughly studied. My observation leads me to believe that it is employed too seldom. The excision and shortening of tendons by suturing is often of advantage. Any irregularity in the length of limbs should be counteracted, lest lateral curvature result.

Nævi, if situated upon exposed portions of the body, must be cured early in life if rapidly increasing in size, and in the majority of cases should be attended to before six months is reached. The question of excision, ligature, subcutaneous ligature, injection, electrolysis, or sun-heat, will depend upon situation, size, etc.

Webbed fingers and *supernumerary toes and fingers* will yield smaller resultant scars if operated on during the first half-year of life.

Wry-neck may follow injury to the spinal accessory nerve during labor, or it may be found as a result of some of the exanthemata. If resistant to local and constitutional remedies, myotomy should be performed at the end of a year.

Spinal caries in young children can be retarded by placing the sufferer upon its back between two sand-bags, while passive motion is employed to develop muscular power. A jacket or cuirass may be added if bone-death is rapid, or if difficulty of retention is experienced. Horizontal extension is rarely necessary. I have occasionally seen *lateral curvature* in weak infants caused by the mother's habit of always holding them in one position, the reversal of which custom has, together with constitutional remedies, completed a cure. It may also be the result of a rhachitic tendency, which will necessitate the appropriate medicinal and hygienic management. Simple posterior

curvature, and also lordosis, are sometimes found, and should be closely watched, as other symptoms of that disease of malnutrition, rickets, may soon present themselves. Dorsal decubitus should be maintained until the proper treatment has had time to strengthen the child. *Rickets*, fortunately, is seen upon this side of the Atlantic far less frequently than on the eastern shores, and, I am thankful to say, is seldom found in Philadelphia, even as compared with New York. In fifty thousand cases in our hospitals, I find that fewer than fifty are enumerated under rickets and its results, including knock-knee, bow-legs, etc. Its onset is usually within the first six months of life, but, unfortunately, many cases are not brought to the notice of the surgeon until one or two years have elapsed and great deformity has already resulted. When pronounced, the most rigid care should be taken to prevent the distortions, from which no bone in the body seems exempt. The effects upon the female pelvis are most disastrous, as life is thereby endangered. The recumbent position is the only safe one, and must be maintained until the general remedies have time to act, passive motion meanwhile taking the place of active. The *tibial curves* are the most common of defects. Very slight bowing is sometimes corrected in the growth of the individual, but we have no more right to expect that such a result will spontaneously occur than that a crooked tree will be blown into the upright position by chance winds. The proper means should always be used to compel rectification. If the bones are spongy, much can be expected from manipulation, pressure, and apparatus properly constructed. During the first two years of life we may confidently hope to accomplish a good result by such means, but in later childhood or adult life, if the deflections are great and the bones rigid, and especially if the curve is anterior, but little can be gained by these means, and osteotomy is the more certain and speedy means of relief. The risks of this operation, if done antiseptically, are but very slight, as the case, if sealed, becomes one of simple fracture. Plaster of Paris, again, gives us the best means of fixation after operation, and is very comfortable to the patient.

I approve of instruments in lateral bow-legs, but, when they fail to secure straight limbs in the class of cases above mentioned, I firmly advocate operation. The deformity, if allowed to continue, is not only unsightly, but also interferes greatly with the locomotive powers. It is not true that a bow-legged man is strong. He has, on the contrary, to use his limbs at a disadvantage, and, if he is vigorous, it is in spite of his complaint.

The question of *tracheotomy in young infants*, with whom our present discussion chiefly deals, is one demanding the gravest consideration, whether the dyspnœa originates from diphtheria or from true croup. So fatal are the results that the mortality in babes below the age of six months is placed by some writers as high as ninety-five per cent., and, even taking all under two years, we can not expect to save more than from ten to fifteen per cent. When we consider, however, that some English writers place the mortality of croup without operation at ninety per cent., we can not believe that the operation has increased the number of deaths. Moreover, when cases are taken at the most favorable age and the most favorable conditions, we can scarcely hope to save more than twenty-five per cent. of all patients operated on. I have spoken thus in regard to prognosis since some surgeons absolutely condemn the employment of tracheotomy for these young patients. I can not feel, however, that they are absolutely hopeless, and, if surgery can rescue them from the horrid death by suffocation, we should not hesitate to give them the aid of science, although a true tracheotomy is well-nigh impossible in a young, fat infant, owing to the exceeding shortness of the trachea and the great size of the thyroid body. It is usually best to do an inferior laryngotomy (or crico-thyro-laryngotomy), making the opening through the crico-thyroid membrane, and also through the cricoid if necessary. The risk of hæmorrhage is thereby greatly diminished, since, while the crico-thyroid arteries may be cut, they will be far less troublesome to secure than the vessels about the thyroid body or the middle thyroid artery, which often lies in front of the trachea. Again, the innominate artery may rise high in the neck, or a wound of a vein near the innominate may speedily kill the little one, as has happened in a number of instances, even when the operator has been experienced. The fact that surgeons who have opened the windpipe several hundred times look upon this operation as an exceedingly difficult one is proof that the utmost care is necessary. The danger of wandering from the median line may be partially obviated by having the child's head kept perfectly straight and by placing the body in exact line with the table. The trachea is sometimes missed because it has not been thoroughly cleared of everything before attempting to open it. The puncture should be made firmly but guardedly. The size of an infant's trachea will surprise one who has never studied it. Although I have given large and special study to the anatomy of childhood, both from the cadaver and clinically, my first tracheotomy patient died on the table before I could insert the tube, my error being in trying to push the cannula too far back. Unless the urgency is great, ether should be given in moderate amount and the operation carefully performed. A plunge into the trachea is never good surgery; in infants it would be worse than folly. If a circular piece is taken from the crico-thyroid membrane and the cricoid, and a pilot used, introduction will be rendered more easy. In fat necks, the windpipe may be brought nearer the surface by extending the head far backward and by grasping the tube on either side and dragging it forward. If fixed thus in the median line and retained continuously by an assistant, much time will be gained. In a recent case I found it wiser to go above a large thyroid body, even in a five-year-old child, and insert the cannula in the crico-thyroid space. There was afterward a slight burying of the upper edge of the plate, owing to its high position, but a strip of sheet-lead obviated this difficulty. To arrest the venous hæmorrhage, just before puncture, hot-water sponges answer admirably. After operation, the temperature of the room should be kept above 80°. I have never opened the larynx to remove a foreign body in a very young child, but the universal habit of making the mouth the general receptacle of everything makes the introduction of such substances exceedingly probable at from one to two years.

Foreign bodies in the nose, which can not be seized, if not removed by sternutatories, should always be sought for with the aid of anæsthetics. In the ear the opposite mode holds good, since consciousness of pain will often prevent an unskilled practitioner from doing great injury to the membrana tympani.

Joint diseases are best treated by recumbency, with fixation or extension.

Excisions are rarely performed at this early age, and need not therefore be discussed.

I omit strumous and syphilitic diseases and a score of other conditions, which might well detain us for hours, since time forbids.

I have thus, gentlemen, hastily touched upon only the more frequent of the surgical maladies met with in daily practice among infants. Many of the suggestions may be already familiar to you, but even the brief mention which I have been allowed to bestow upon each subject may possibly have served to revive in your minds old and forgotten experiences, and thus be helpful. You will, at least, see that the field is a wide one, and that results are most encouraging.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 19, 1885.

(Concluded from page 49.)

The Eradication of Syphilis during the First Stage by Surgical Means.—Dr. A. H. P. Leuf read a paper on this subject. [See page 36.]

Dr. F. N. Otis, of New York, said that the treatment of syphilis was a subject in which he was very much interested, and especially as to the point which was announced for discussion this evening, namely, the eradication by surgical means. It was a subject which had interested the surgical world for a number of years. Auspitz and Kölliker, of Vienna, he believed, were among the first who had claimed success in eradicating syphilis by excision of the initial lesion, and reported a large number of cases—something less than half a hundred. Others had supported the claims of Auspitz by citation of similar success both in this country and abroad, but it was still a mooted question whether or not syphilis could be eradicated by excision of the initial lesion. It was well understood and had been ably expressed by the author of the paper that the invasion of syphilis was a gradual process, that the chancre, or initial lesion, was the first manifestation, and the second observable manifestation was the enlargement of the glands in connection with it, wherever situated. There were, however, a number of points about which mistakes might arise in taking the paper exactly in the terms in which it had been read. For instance, in describing the chancre as an "ulcer" we had to recognize that the chancre was not an ulcer primarily, and was not necessarily an ulcer at all, and that the processes of syphilis were not destructive. There was always destruction in chancroid, and this was one of the differences between chancre and chancroid. Chancre might be acquired without any recognized abrasion or breach of the surface. The virus might enter through a ruptured hair follicle. Syphilis might enter through some unobserved wound, which healed promptly, no destruction taking place, and yet the person would have syphilis just as certainly and as severely as if the introduction of the syphilitic principle was followed by a typical Hunterian chancre. It was not a process of destruction, but of *proliferation*, from the very beginning. Proliferation and aggregation of cells, wherever it commenced, were always its characteristic, whether great or small. Now, excision of these cells had been asserted to relieve the system of danger of syphilis, they being assumed to be the starting-point. It had been demonstrated by histologists beyond cavil that this difficulty, instead of being the result of a general instantaneous infection, always commenced at a given point, and that there was a contagium introduced through a lesion of the skin, or mucous membrane, which traversed the system slowly through the lymphatic spaces and vessels. Having, then, its beginning at a certain point, if it could be determined that it had not gone much farther, we might hope for its eradication by surgical procedure. But the syphilitic principle, so far as we know anything about it, was a cell which possessed the power of motion, the power of traversing tissue, and it had also the power of generating other cells having equally the power of traversing tissues. They were not quiescent, but were always moving to a greater or less extent, and in a short time—a few days or, perhaps, weeks—they would have traveled along the lymphatic vessels and have established local points of proliferation in neighboring lymphatic glands, thus accumulating, so that the glands became emphatically identical with the chancre—the initial lesion of syphilis. They contained the same vitiated cell material. Inoculations with the cell material from these glands would produce syphilis in a healthy person as certainly as with the secretion of the typical chancre. We had, then, these cells traversing lymph-spaces and vessels; and it had been maintained, on examination, that they often clung to the sides of the lymph channels on their passage through them, and in this way often blocked up such channels completely for the time being. It was not unusual to see a line of lymphatic vessels extending from the initial lesion to the glands in the groin distinctly marked by an induration caused by accumulation of newly generated cells, and, if this be the case, it seemed impossible, then, that by excision of the initial lesion alone syphilis could be cured. In order to prevent its passage into the system, we must eradicate every infected cell, not alone the initial lesion, but those which had passed from it into the lymph-spaces, vessels, and glands in connection with it. This, of course, would necessitate an amount of surgical interference which would hardly be justifiable under the circumstances. The facts were, so far as he knew anything about them, that as yet no case had ever been cured by a simple excision of the initial lesion, for the reason that the cells had got beyond the reach of the surgeon's knife before he had ascertained the presence of this accumulation. He had himself excised perhaps twenty or thirty chancres, and carefully kept track of the patients afterward. In some of these cases no positive secondary symptoms had followed, but there was always a doubt about such cases whether the diagnosis had been correct or not. In these cases he had traced the source from whence the disease had been acquired; but he assumed, from their history and appearances, that they were genuine cases of syphilis.

It would not surprise him very much to see some of these cases of excision, in which no secondary manifestations had followed, develop what was called tertiary lesions ten, fifteen, or twenty years hence. We saw so many cases where there had been no secondary lesions apparently, and yet the sequelæ showed that the disease did exist. We must recognize this fact, then, that there were a great many patients who had the secondary stage so slight that it escaped observation, and this was a source of a great deal of mistaken diagnosis, and assertions of success in treatment which had no real foundation in fact. Among other points of special interest alluded to in the paper just read had been that of hereditary syphilis. It was a question of great interest. He would like to say a few words in regard to this subject, and especially to look at it from the point of view which was taken by that most distinguished syphilographer, Mr. Jonathan Hutchinson, of London. He said that *syphilis was not an hereditary disease;* and he said distinctly that *syphilis was no more hereditary than small-pox, and was hereditary in the same way as small-pox.* It was the *disease*, and not a *diathesis*, that was communicated. This would be found in his article on syphilis, etc., published in London, in 1884, in a little work entitled "The Pedigree of Disease." This position was certainly a very startling one in view of the doctrine heretofore held by the profession at large. For his own part the speaker was quite willing to accept it. In point of fact, the views which he had held and advocated, first in his "Physiology and Pathology of Syphilis," published in 1880, made such a conclusion the logical sequence of the position assumed in that work. Afterward, in his work on "Genito-urinary Diseases and Syphilis," published in 1883, there occurred a chapter on the syphilis of infants and the so-called hereditary syphilis in which the question was considered from the standpoint of a gradual material syphilitic infection through a diseased cell or germ as opposed to the mysterious instantaneous doctrine held by most authorities, and the only logical deductions from these premises fully warranted the statement (first made by Mr. Hutchinson in 1859) that syphilis was never the result of hereditary transmission. It seemed to him that there were

many things that hitherto had not been understood which pointed to the truth of this teaching. For instance, syphilis was said to be communicated by the male parent to the child by heredity. This was accepted by almost all authorities. Now, it was likewise asserted by all authorities that the physiological secretions—sweat, milk, saliva, mucus, urine, tears, and *semen*—did not contain the contagium. The latter was particularly mentioned. They all mentioned it. If we referred to any of the transatlantic authorities, we should find this statement confirmed. Our own authorities—Bumsted, Taylor, Van Buren, and Keyes—all stated distinctly that it was well ascertained and accepted that *the semen did not contain the contagium* of syphilis. If that was the case, it would be interesting to know how they would answer the question as to how the male had access to the ovum—how the male could communicate syphilis to an embryo or to an unborn child. This was a question which it might be well to think of. The facts probably could be shown to be that whenever the ovum, or fœtus, or child had syphilis—syphilis that had been acquired *in utero—the mother had first been infected;* that, if due to the male parent, he must necessarily have given the disease first to the mother, and she in turn to the child. Now, there was a curious fact spoken of by Diday. He said it was a well-known *law* that no woman could communicate to her infant a syphilis which she had acquired not to exceed two months previously to the birth of the child. So certain was Diday's belief in this law that he said he was willing to give to a healthy woman to nurse a child of a woman who had acquired her disease *not more than two months previous to her delivery.* Now, there were two months during which it was accepted as a clinical fact the child is safe. If the mother acquired her initial lesion only two months previous to the birth of the child, that child could not acquire syphilis *in utero.* The question at once arose, Why was this? It was because the syphilitic poison was not yet in the blood of the mother, that it required *two months* at least for it to get into the blood of the mother, and then only could she communicate it to the embryo or to the child. This also proved what had been stated in the paper of the evening in regard to the gradual infection of syphilis. Before this was understood, this rule of Diday could hardly be comprehended.

Dr. Bartlett, of Flatbush, remarked that all physicians having a large experience with the criminal classes knew but too well the moral, intellectual, and physical misery and degradation entailed by syphilis. In view of this, he thought that, in certain cases, both for the good of the criminal and the protection of society, a more radical and serious surgical operation would be justifiable than the one proposed. The principle of heredity was so strong that society had the right to protect itself in these cases by preventing the possibility of procreation.

Dr. George R. Fowler took exception to the statement made by the essayist that tertiary symptoms of syphilis almost always occurred. The speaker was of the opinion that syphilographers of the present day maintained that tertiary symptoms, and particularly those of a severe type, were rather rarely met with. He further believed that it was a growing impression that syphilis in its protean form was, so to speak, "running out." The syphilis of to-day was not the syphilis of one hundred years ago, and many of the cases which were supposed to have escaped syphilis because of excision of the initial lesion were cases in which possibly no manifestation of the disease would have occurred at all. He alluded to the fact that in Auspitz's experiments, in three cases in which the characteristic sclerosis reappeared at the point where the chancre had been excised, constitutional syphilis occurred irrespective of the existence or non-existence of indurated glands prior to the excision. This must make it appear that there was a stage of the disease during which the condition of the glands, so far as we were able to determine it, had very little, if anything, to do with the development of the sequelæ, if the subsequent stages in their development might be so denominated. Dr. Leuf had said it was well proved, although not generally known, that self-inoculation was possible prior to systemic infection; and that brought us at once to the important point in the discussion of the question of the excision of the initial chancre together with the indurated glands. The cases cited by Auspitz, in which constitutional syphilis occurred in spite of the fact that no induration of the inguinal glands took place prior to such development, suggested the possibility of channels of infection other than these lymphatics. He recalled a case in which a surgeon removed a tumor of the testicle, and, while excising some indurated glands in the groin, accidentally pricked his thumb. In due course of time a syphilitic chancre made its appearance at the site of the little wound, and this in its turn was followed by constitutional syphilis. Although the patient had denied venereal disease when admitted to the hospital, yet he acknowledged to the surgeon subsequently that ten years before he had had a sore upon his penis, for which he did not seek advice, and that the indurated glands in the groin had existed since that time. No other manifestation of the disease had ever occurred. If it could be supposed that this patient had kept the virus stored up in these indurated glands for ten years, then we could see our way clear, in a certain proportion of cases, to a hope of benefit to be derived from excising such glands as early as practicable.

Dr. Leuf, in concluding the debate, saw, in reference to the remarks of Dr. Otis, that that gentlemen had entirely misunderstood him. He had expressly stated that the primary lesion was not an ulcer. With reference to the implication of the lymphatic vessels, if they were at all involved, perhaps whether they appeared to be involved or not, it might be most proper to excise them. As to the justifiability of the operation, he would say, if it was justifiable to extirpate a whole breast, to dissect away all the fat and superficial fascia down to the pectoralis major, and clean out the whole axilla because there was a little nodule in the breast, it certainly ought to be justifiable to remove from the end of the penis a small sore, and even a few glands and lymphatic vessels running therefrom. With reference to Dr. Fowler's observation that syphilis was not so bad as it was one hundred years ago and was "running out," the speaker thought if that were so the operation might be justifiable on the ground that by its means it might be made to "run out" so much the quicker, and he thought it was not wise to excise the lesion without scooping out the glands also. If these lymphatic vessels and everything in their immediate vicinity were excised, "cleaned out," he thought an additional safeguard would be effected, and he did not think the operation very dangerous. A surgeon of the enthusiasm of Dr. Fowler ought not to see any particular danger in it. Dr. Fowler had also referred to the possibility of there being some other channel of absorption on account of the non-infection of the glands, apparently. There seemed to be no other channel except the blood, and the speaker thought that idea had been refuted in the paper. If it was not through the blood, it must be through the lymphatic or other channels that he knew not of.

Miscellany.

The Ninth International Medical Congress.—Speaking of the action of the enlarged committee, the "Boston Medical and Surgical Journal" says:

"The committee did the work expected of it, and with less malice than would have been possible, but with sufficient thoroughness, we fear, to put an end to the prospects of a successful and creditable *international* congress, and adjourned to meet in St. Louis on the first Monday in May, 1886. The rules were amended so as to confine membership to the constituency of the American Medical Association. The American members, it is decreed, shall consist of delegates from the American Medical Association, and from medical societies in affiliation with it, each of these societies being entitled to one delegate for every ten members. The number of sections was reduced from nineteen to sixteen, and the presidents of sections are no longer *ex-officio* members of the General Committee.

"Dr. H. I. Bowditch, of Boston, was dropped from the list of vice-presidents, Dr. A. Jacobi from the presidency of the Section of Diseases of Children, Dr. Lefferts from that of Laryngology, Dr. H. P. Bowditch from that of Medical Education, and Dr. H. D. Noyes from that of Ophthalmology. Numerous changes and additions were made in the vice-presidents and members of council of the different sections. These honors are issued as plentifully as fiat money after a *coup d'état*, and the various geographical divisions of the country are impartially besprinkled with them. A publication of the full list would require much space; and, as this is already the second long list made public within a few months, as the refusal by many prominent men to serve as officers under existing conditions makes certain the appearance of other revised lists, which may eventually end in no list at all, we content ourselves with referring our readers to our news columns for the present organization of the Congress and for changes in the presidents and vice-presidents of sections. In the same columns will also be found a report of the action of prominent physicians in Philadelphia and Boston connected with the organization of the Congress. These refusals to accept office in the present organization will doubtless be followed by others.

"These gentlemen proposed to aid and participate in the discussion of questions of medical science, not of medical ethics, medical politics, or of square miles of territory. There will, however, be more offices, although less congress, for those who prefer such discussions and such distinctions to a harmonious gathering of scientific men searching for truth; and we hope somebody may be happy, if it be only for a short time."

In a very temperate article on the same subject, the "Maryland Medical Journal" says:

"Looking at the work of the General Committee, it seems to us that it has endeavored to make but few changes, and that it has performed the disagreeable duty assigned to it by the association in an extremely mild way. It has managed to make a few alterations in the chairmanship of the sections and to add a few college professors, formerly overlooked by the original committee, to the sections. It has, however, performed, in our judgment, the most stupendous work of supererogation ever exacted from a body of intelligent men. We are totally unable to see how the fortunes of the Congress have been a tithe benefited by the changes made. On the contrary, it has suffered immensely in the eyes of all unbiased thinkers by this unnecessary controversy about representation on sections and 'New Code' principles. As the Congress now stands organized, we much doubt its ability to attract that attention as a scientific body it was entitled to. How can those men interested in pure science feel that same interest in the fortunes of an organization handicapped with contentions for offices and ethics and weighted down with that ponderous body, the American Medical Association? It is truly an unfortunate circumstance which has happened to impair the usefulness of the International Medical Congress. While we still trust that wise counsels will prevail, that bitter differences will subside, that men will consent to work together in harmony for the success of the Congress, it seems quite clear to us that the Ninth International Medical Congress can not take the position it would have assumed under its first organization. It is an apt saying, Two wrongs can never make a right. The mistakes of the first committee—if such were made—have not been corrected by the present committee. We fail to see how the few changes which have been made in the officers of the Congress can do otherwise than impair its usefulness and drag it down to the level of a promiscuous social and semi-scientific gathering. It is a sad commentary upon the status of the profession in America that a petty squabble for a few positions should have marred what had promised to be one of the most noted scientific meetings ever held on American soil. What view our transatlantic brethren will take of this status of the Congress it is not difficult to surmise. We presume that the American Medical Association will enjoy the banquet it has prepared to its own eminent satisfaction, while the rest of the profession will look on from a distance. We can not but deplore the present outlook, and profoundly trust that the final result will be more satisfactory than present indications would seem to warrant."

The "Peoria Medical Monthly" says:

"We believe the whole trouble has arisen from personal grounds on the part of a few who were overlooked when the places of honor were distributed. It was purely a fight of the 'outs' against the 'ins,' and, now that the 'outs' have gained the field, the existence of the Congress is jeopardized.

"It can not be claimed that the American Medical Association at New Orleans represented the medical profession of this country, or if the claim be made it is a laughable one. And it can not be denied that the American Medical Association, with every similar body in the country, is more or less ruled by coteries and cliques.

"The situation is a deplorable one for the good name of the medical profession in America. Our European brethren will hesitate to attend the Congress at Washington in very large numbers, for they will have reason to fear that the factional feeling and jealousies of certain members of the 'rule or ruin' party in the American Medical Association will carry their fight into the Congress itself.

"What is to be done to remedy the trouble and preserve the good name of the profession of America? We do not know; perhaps the best thing that could be done would be to notify the Executive Committee of the last Congress that, owing to the war raging in the United States, the next Congress should be held elsewhere, either in Europe or Canada."

Science and Modern Discovery.—The present occupant of Sir Isaac Newton's professorial chair at Cambridge University, Professor G. G. Stokes, F. R. S., who is also secretary of the Royal Society of London, delivered a remarkable address at the annual meeting of the Victoria Institute, in London, toward the end of June. Professor Stokes gave an important account of the progress of physical science during the past quarter of a century, and, reviewing the results, specially noted that as scientific truth developed, so had men to give up the idea that there was any opposition between the Book of Nature and the Book of Revelation. He said that for the last twenty years or so one of the most striking advances in science had been made in the application of the spectroscope, and in the information obtained with regard to the constitution of the heavenly bodies. The discovery that there were in these particular chemical elements which were also present in our earth exalted our idea of the universality of the laws of Nature, and there was nothing in that contrary to what he had learned in Revelation, unless we were to say, as the heathen did, that the God of the Hebrews was the God of the hills and not of the valleys. Entering with some particularity into the composition of the sun, he said this gave an idea of an enormous temperature, since iron existed there in a state of vapor. This was utterly inconsistent with the possibility of the existence there of living beings at all approaching in character to those we had here. Were we, then, to regard this as a waste of materials? Might we not rather argue that as in animals we ascended by greater specialization, so we could consider the differentiation of office in different members of the solar system as marks of superiority, and could regard the sun as performing most important functions for that system? In fact, all life on our earth was ultimately derived from the radiation of solar heat. Referring to the doctrines of conservation of energy and of dissipation of energy, he pointed out at some length how the sun, so far as we could see, was not calculated for an eternal duration in the same state and performing the same functions as now. We must regard the universe on a grand scale, and then there was progress. If we contemplated nothing but periodicity, perhaps we might rest content and think things

would go on for ever as at present; but, looking on the state of the universe on a grand scale as one of progress, this idea obliged us to refer to a first cause. He concluded with recommending that the Annual Report of the society, read by Captain Frank Petrie, the honorary secretary, be adopted. It showed that the number of home, American, and colonial members had increased to upward of eleven hundred, and that the Institute's object, in which scientific men whether in its ranks or not aided, was to promote scientific inquiry, and especially in cases where questions of science were held by those who advanced them to be subversive of religion. All its members and one-guinea associates received its Transactions free, and twelve of its papers were now published in a People's Edition, which was to be had in many of the colonies and in America. The address was delivered by Dr. J. Leslie Porter, president of Queen's College, Belfast, the subject being "Egypt: Historical and Geographical," a country with which he had been thirty years intimately acquainted. Having referred to the antiquity of Egyptian records, which in so many instances bore on the history of other ancient countries, he proceeded to describe the various changes through which that country had passed since its first colonization; and, touching on its physical geography, concluded by giving the main results of recent exploration. He said: "Were the Nile, by some convulsion of Nature, or by some gigantic work of engineering skill—neither of which is impossible—turned out of its present channel away up to Khartoum, or any other point above Wady Halfa, Egypt would speedily become a desert." No tributary enters the Nile below Berber—that is to say, for the last thousand miles of its course. "The arable land of Egypt is about equal in extent to Yorkshire." The White Nile, issuing from Lakes Albert and Victoria Nyanza, is broad and deep, never rises above a few feet, and supplies the permanent source of the river of Egypt. "The other tributaries produce the inundation." Of these the *Atbara*, from the mountains of Abyssinia, is the most fertilizing, as it brings down with it a quantity of soil. The deposit of this soil is slowly raising the bed of the river as well as extending on each side; for example, on the plain of Thebes the soil formed by deposits has in thirty-five hundred years encroached upon the desert a third of a mile, "while the ruins of Hierapolis in the Delta, which once stood above reach of the inundation, are now buried in a mud deposit to a depth of nearly seven feet." In conclusion, he referred to Egypt and its present condition, saying: "The commerce from the upper tributaries of the Nile, and from the wide region of the Soudan, forms an essential factor in the prosperity and progress of Egypt."

How to avoid Night Calls.—A story is going the rounds (who started it we do not know) at the expense of the young physician who is always so busy that he doesn't know what to do. "I have got more business than I can attend to," boasted he to an old practitioner who knew he lied. "I had to get out of bed five times last night." "Why don't you buy some insect powder?" quietly asked the old doctor.—*Medical Age.*

Prizes for Electrical Appliances.—We learn from the "Chicago Tribune" that the McIntosh Company, of that city, received the first medal for fine displays of electrical goods at the New Orleans Exposition.

THERAPEUTICAL NOTES.

Glycerin as a Preventive of Trichiniasis.—Merkel ("Dtsch. Arch. f. klin. Med." "Cordel. f. klin. Med.") relates the case of a man who ate a portion, as long as one's finger, of a sausage in which living trichinæ abounded. Twenty hours after the ingestion of the sausage he had [illegible] thoroughly with senna, and several specimens of the trichinæ [illegible] together with fragments of the parasite, were found in the deposits. The next day he was given a table-spoonful of pure glycerin, and hourly until fifteen doses had been taken. This caused no appreciable symptoms beyond thirst and a feeling of dryness in the throat, and the man escaped trichiniasis, while others who had eaten of the sausage were attacked with the disease.

Naphthol.—M. W. J. Ruppel, of New York, in medical chemist, [illegible] "The extraordinary power of naphthol as an antiseptic and disinfecting agent has been known for a long time, but its disagreeable smell and the difficulty of preparing it in a pure state, with the occasional toxical action of the crude naphthol, have been a bar to its use as a remedial and antiseptic agent. Justus Wolff, a chemist interested in coal-tar products, has recently succeeded in producing it in a pure and odorless state, in well-defined crystals, and states that its antiseptic action is much greater than that of carbolic acid. Recent research has demonstrated that the toxic effects of crude naphthol are due to the impurities it contains. Dr. Shoemaker, of Philadelphia, as he stated in a paper read before the Philadelphia County Medical Society, has conclusively proved the non-poisonous character of the purified or odorless naphthol by taking large doses internally. It has no corrosive action on the skin, and will not injure textile fabrics. As a remedial agent, it acts with greater efficiency than carbolic acid, over which it has many advantages, and the fact of its being absolutely odorless will make it a desirable substitute. It is expected that it will shortly be produced on a manufacturing scale as a substitute for carbolic acid."

A Gargle for Chronic Pharyngitis.—The "Union médicale" attributes the following formula to Bamberger:

Chloride of ammonium	75 grains;
Honey of roses	750 "
Water	12½ ounces.

To be used several times a day, together with mustard foot-baths, the use of tobacco being prohibited.

Belladonna in the Treatment of Intestinal Obstruction.—Dr. T. J. Hudson ("Med. Times and Gaz.") thinks that in these cases the best way to use belladonna is to apply the extract to the abdomen with very hot poultices, and to give one or two grains of the extract as a suppository every hour, or inject $\frac{1}{120}$ of a grain of atropine every two hours until slight dilatation of the pupil is maintained. If the pain continues, and is serious, an injection of $\frac{1}{80}$ of a grain of atropine, with $\frac{1}{3}$ of a grain of morphine, is the best, as it combats depression and nausea. Morphine alone often increases the obstruction by causing or increasing nausea and, in the early stage of intussusception, preventing the bowel from righting itself by its own muscular power. He adds the caution that lime-water should not be given, as it decomposes atropine.

The Treatment of Seasickness.—"In our own person," says a reviewer in the "American Practitioner," "the bromide availed not, nor would the Seidlitz stay down, but the Mellin's food was acceptable and useful, while a good article of kumys was most grateful to the palate and did much to allay nausea."

Hydrobromate of Quinine and Valerianate of Caffeine in the Treatment of Malarial Poisoning.—Cerededo ("Gazz. degli Ospit."; "Rev. méd.") concludes from numerous experiments that the hydrobromate of quinine is preferable to the sulphate for the following reasons: 1. Its activity is greater in moderate doses. 2. It acts as a nervous sedative. 3. It stops vomiting, a matter of special importance in certain countries. 4. It readily brings about a favorable change in the type of the fever. 5. Its bitterness is less marked. 6. It does not irritate the intestinal mucous membrane, and produces neither constipation nor diarrhœa. 7. It allows of the avoidance of too frequent subcutaneous injections. 8. It diminishes the probability of relapse. 9. When once the paroxysm has come on, if it can not reduce its intensity and duration, it should be administered in capsules, combined with valerianate of caffeine. 10. Given in that way half an hour before the paroxysm, it is capable of arresting the latter. 11. By combining the two salts (fifteen grains of the hydrobromate and seven or eight grains of the valerianate), we may check certain quotidian forms which are rebellious to much larger doses of the sulphate. 12. The action of this combination of the two drugs, given in comparatively small doses, is more powerful than that of any other salt of quinine in much larger doses.

The Treatment of Epistaxis.—Introduce into the nostril, to a considerable distance upward, a piece of fine sponge, cut to the size and shape necessary to enable it to enter without difficulty, previously soaked in lemon juice or vinegar and water. The patient is to be kept lying on the face for a length of time, with the sponge in place. This, says "Le Bon medical," is the procedure employed by M. Siredey for controlling epistaxis in typhoid-fever patients.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 63.*)

PART III.

ELECTRO-THERAPEUTICS.

WE have now discussed the essential points pertaining to electro-physics and electro-diagnosis, and there remains now for us to consider the uses of electricity in the treatment of diseased conditions of various organs and tissues.

Before we pass to details of the practical part it may be well for us to review in a general way some of the laws which should govern us in applying electric currents to the different tissues, and the objects to be attained by the employment of faradaism, galvanism, and static electricity.

GENERAL ELECTRO-THERAPEUTICS.

The rapidity and completeness of reported cures by the use of electric currents upon living tissues during the last quarter of a century leave no room for doubt that this agent is particularly valuable in the treatment of paralysis, neuralgia, spasmodic diseases, disturbances in the sensibility of the skin, and many disordered states of the brain, spinal cord, and peripheral nerves themselves. We have undisputed facts which prove also that blood may be coagulated with safety within some aneurysmal sacs by the galvanic current, that the life of the ovum may be destroyed in extra-uterine pregnancy, that animal tissues may be disintegrated by chemical changes induced within them by this agent, and that neoplasms may be removed without hæmorrhage by the cautery loop.

Our present ignorance of the molecular and nutritive changes in tissues (as the cause or result of disease) renders it impossible to do more than speculate upon the theory of the therapeutical action of electricity in many cases; but, on the other hand, our empirical knowledge of these effects is none the less valuable because we are unable to explain them. The same criticisms would otherwise hold good in reference to almost all of the drugs employed in medicine. None of us know exactly *how* they produce their specific effects.

Concerning speculation upon electrical effects on living tissues, Erb remarks as follows: "What appears more natural than that neuralgia and spasms could be relieved by the sedative action of the anode, with production of anelectrotonus, and that anæsthesia and paralysis could be cured by the exciting action of the cathode, with production of catelectrotonus? But, apart from the fact that we are not certain that an increase of irritability really occurs in one group of cases and a diminution in the other, it must be remembered that electrotonic action disappears very rapidly after the cessation of the current, while the curative effects of the current are more or less permanent."

Now, we may summarize the general principles which regulate the use of electric currents as follows:

1. They may exert, under certain circumstances, a *stimulating* or *irritating effect*. This is, perhaps, the basis of the most varied applications of electricity to disease.

2. They may exert, when properly applied, a *sedative action* on nerves or nerve-centers.

3. They may be made to exert a *catalytic action* upon neoplasms, enlarged glands, etc.

4. They are capable of causing *electrolysis*. This action is one which has lately come into prominence.

5. They create *heat* under certain conditions. The galvano-cautery is to-day assuming a very prominent place in some of the departments of surgery.

Let us now discuss each of these special actions separately, noting the general points of interest pertaining to each which will aid us in properly treating our patients. Electrolysis and the galvano-cautery have been treated of in previous lectures.

STIMULATING OR IRRITATING EFFECT OF ELECTRICITY.—This is indicated in many diseased conditions. Among these the following may be prominently mentioned:

Some of the various forms of cerebral and spinal diseases.

Depressed irritability of some special nerve-trunks.

Abnormal resistance to conduction of electric currents, exhibited by the motor or sensory nerve-filaments of some part.

As a counter-irritant to some pathological conditions.

Trophic disturbances of special regions (skin, nails, hair, etc.).

Vaso-motor depression.

Atrophic changes in muscles.

As a means of indirectly affecting the nerve-centers through the sensory nerves, thus influencing respiration, circulation, phonation, vaso-motor paths, peripheral organs, the muscles, etc.

The methods of application which are best adapted to accomplish irritating or stimulating effects are differently stated by authors. Personally, I do not confine myself exclusively to faradaism or galvanism.

The *faradaic current* is more commonly employed for this purpose than the galvanic. The electrodes should be selected, as to their size and shape, in accordance with the parts to be acted upon; they should be well moistened with salt water, and kept closely in contact with the skin. The wire-brush is the best electrode to stimulate the nerves or other tissues of the skin. It should be used dry. I prefer the secondary faradaic current to that of the primary coil for stimulating effects.

If galvanism is employed as a stimulant, Remak's plan, of moving the well-moistened cathode rapidly over the nerve-trunk or muscle to be stimulated, with a current sufficiently strong to cause strong wave-like contractions, is a good one. Another method, termed by this author "terminal labile stimulation," consists in stroking the tendinous

end of a muscle with the cathode so as to affect the entire length of the muscle. In both of these methods the anode is kept stationary upon some indifferent or neutral point—the center of the sternum by preference, or the nape of the neck.

One of the most vigorous methods of stimulation consists in rapidly changing the polarity by means of a commutator, when the galvanic battery is employed.

The Combined Current.—Another method which I employ (not generally mentioned in text-books) consists in connecting a galvanic battery, by means of a rheophore, with a faradaic instrument, thus bringing *both a constant and induced current* to bear upon the tissues at once. The rheophore which connects the batteries joins the positive binding-post of the galvanic instrument with the secondary coil of the faradaic; the two rheophores connected with the electrodes run from the negative binding-post of the galvanic and from the secondary coil of the faradaic instrument. The two instruments (faradaic and galvanic) are thrown into action simultaneously, and the strength of the current employed is graduated by the number of cells used in the galvanic battery and by the extent of the overlap of the secondary coil of the faradaic instrument. I have obtained some remarkable results by the stimulation thus produced in various forms of trophic disturbances of the skin and muscles.

The stimulation of nerve-fibers (when obstacles exist to their conduction) should be performed peripherally from the site of the lesion in sensory nerves, and as centrally as possible in motor nerves (Erb). Degenerated and atrophied nerves and muscles require a direct effect of the currents employed. For these reasons, the site of stimulating electrical applications depends upon the situation and character of the lesion and the object to be attained.

Modifying Effects of Electric Currents.—The *irritability of nerves and muscles* may be influenced by electric currents.

In certain diseased conditions we may expect a favorable result from such an action. Thus, for example, in some types of paralysis, in anæsthesia, in certain vaso-motor disturbances, and in depressed states of cerebral and spinal activity, the irritability of nerves or of muscular fibers is diminished; hence we resort to the so-called "catelectrotonic action" of electricity as a means of stimulating and restoring the normal irritability of the tissues affected.

It is now generally accepted as proved that *feeble faradaic currents* will accomplish this end. Galvanic currents, when applied for this purpose, give more positive results, however, than faradaic.

In order to *increase irritability* by galvanism, the negative electrode should be applied in a stabile manner (*i. e.*, without being moved) to the part upon which this effect is to be produced; and the strength and duration of the current should be steadily increased. When the muscles or motor nerves have been exhausted by over-exertion, excessive fatigue, etc., this action (termed by Heidenhain the "refreshing action" of galvanism) is particularly indicated.

These conditions in which the *normal irritability of nerves or muscles is intensified* demand the so-called "anelectrotonic action" of electricity. These conditions comprise all irritative states of the sensory, motor, and vaso-motor tracts within or without the brain and spinal cord; hence we employ this action in neuralgias, spasmodic affections, hyperæsthesia of any of the cerebro-spinal nerves, headache, excitation of any of the special senses, cerebral and spinal irritation, etc.

In order to *decrease the irritability of nerves or muscles*, we may employ very powerful faradaic currents. We may also begin by employing a feeble faradaic current and gradually increasing its strength to the highest point of endurance; then maintaining it at this point for some time; and subsequently reducing it gradually to the feeblest current perceptible to the patient. This method is known as the "*increasing induction method.*" Electrodes well-moistened and of large size should be employed and kept immovable upon the same points during the application. It is often advisable to repeat this procedure several times at one sitting (Erb).

When the galvanic current is employed for the purpose of decreasing irritability, the positive pole is made fast at the point to be influenced. The current is increased in strength and maintained at its maximum for some time, after which it should be decreased gradually until it can not be perceived by the patient. The gradual decrease of the current-strength prevents the marked temporary increase of irritability which is liable to follow this method when this step is omitted.

Static electricity exerts in many cases an immediate beneficial effect upon neuralgic pains (especially upon sciatica) and upon the various spasmodic affections, as, for example, chorea, paralysis agitans, tremor, contracture, etc. These effects are obtained, in some cases, when galvanism and faradaism have proved of no benefit. I should never regard a case as incapable of benefit by electric treatment until static electricity, in the form of insulation, the electric wind, or the spark, had been thoroughly tested. I have had better results with this form of current in tremor than with galvanism or faradaism.

Some forms of pain (as, for example, the pains of ataxia, sciatica, trigeminal neuralgia, muscular rheumatism, etc.) are oftentimes relieved by a few applications of static electricity. My experience with this agent has convinced me that its effects are often satisfactory in cases where pain is a prominent symptom, when galvanism has been tried without benefit. I have found that insulation and the abstraction of heavy sparks from the seat of pain give the best results.

Catalytic Action of Electrical Currents.—Under this heading we include (1) an increase of absorption produced by dilatation of the capillary blood-vessels and lymphatics; (2) an increased capability of tissues for imbibition of fluids, through an increase of osmotic processes; (3) changes in the disassimilation and nutrition of nerves, on account of their stimulation or "refreshing effects; (4) changes in the molecular arrangement of tissues, caused by electrolytic processes; and (5) the results of the transportation of fluids from one pole to the other (Remak and Erb).

Remak has shown that muscles become congested and greatly swollen when subjected to galvanism. They are rendered tense, and (according to this observer) absorb water more freely than muscle which has not been galvanized.

Changes of a marked character may be induced in the skin by galvanism. These have been studied by Erb, Remak, Bollinger, and others.

The vaso-motor nerves may be influenced by electrical currents. This is shown by many of the later investigations—prominently those of Lowenfeld, which demonstrate that contraction and dilatation of the vessels of the brain result, respectively, from antero-posterior and transverse currents through the head from a galvanic battery.

Although we are, as yet, unable to speak with positiveness regarding the certainty of the catalytic effects of electrical currents, or to map out the forms of disease which are to be regarded as specially indicating these catalytic effects, still it may be said that the following states have been successfully treated by electrical currents, and that the cures are probably to be attributed to a catalytic action: (1) Inflammatory affections of the nervous system, including sclerosis, myelitis, neuritis, etc.; (2) arthritis and chronic exudations into joints; (3) glandular enlargements; (4) hard cicatrices, periosteal swellings, and fibrous adhesions; (5) contusions, sprains, extravasations of blood, and other results of traumatisms.

The *galvanic current* is the one that is generally employed when catalytic effects are desired. In diseased conditions of the brain, spinal cord, or any of the deeply seated organs, the faradaic currents are not usually productive of benefit.

The "stabile method" of application of the galvanic current is preferable, to my mind, when catalytic action is to be attained. The strength of the current should be sufficient to easily overcome the resistance offered, and the duration should be sufficiently prolonged to accomplish changes in the tissues subjected to its influence. One pole is placed, as a rule, at an indifferent point (the sternum by preference), and the other over the tissue diseased. Sometimes, as in the case of the brain, for example, the poles are placed upon either side of the diseased part. Although there are exceptions to the rule, it is well to use the anode or positive pole over the diseased part when pain is present, when symptoms of active irritation exist, or when the morbid processes are very active. The cathode or negative pole is best adapted to influence chronic morbid processes, such as sclerosis, indurations, etc. Erb recommends that the polarity of the current be changed several times in either case; he doubts the infallibility of the rule given, although it is theoretically sound. Chvostek urges the use of short and moderate currents for a few minutes (three to ten) when catalytic action is desired. In this way, he believes, the vaso-motor and trophic nerves are more impressed than by any other method.

Respecting the catalytic action of *faradaic currents*, a difference of opinion exists between authors of note. One thing is certain—viz., that strong currents are required, and that the currents must be passed directly through the diseased part to accomplish marked results. Glandular tumors have been resolved by this method with great rapidity in some recorded instances.

(To be continued.)

Original Communications.

LEUCOPLAKIA BUCCALIS ET LINGUALIS, OR ICHTHYOSIS LINGUÆ;

SUCCESSFUL TREATMENT WITH THE GALVANO-CAUTERY.*

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During the past year it has been my good fortune to cure a case of the rare and intractable disease which forms the subject of this paper.

This disease has been recognized but a short time, and very little can be found upon the subject in general medical literature, but, by a thorough search in the library of the Surgeon-General's Office in Washington, I found about fifty papers, mostly reports of cases, which, with the single exception of one by Bazin, which I take second-hand, seem to embrace all that has been written concerning the disease.

The literature is involved in what at first seemed inextricable confusion, for the reason that several different affections have been confounded and described under the same name. Thus, "smokers' patches," the peculiar condition of the mucous membrane of the mouth found in old glass-blowers, termed by Guinaud † "professional patches," psoriasis linguæ, and various manifestations of syphilis, have been considered by different authors as true leucoplakia, or as one of its phases.

The term leucoplakia, which, of the names proposed for this affection, seems open to least objection, was suggested by Professor Schwimmer,‡ who gives a lengthy and exhaustive description of the disease. Ullmann # employed the term tylosis, which is strongly advocated by W. Fairlie Clarke.‖ The affection was first brought prominently before the profession by J. W. Hulke,△ under the title ichthyosis linguæ, a name which has been quite generally accepted save by Debove ◊ and some other French writers, who have described it, together with other affections, as a manifestation of psoriasis.

Definition.—Leucoplakia buccalis is a chronic affection of the buccal mucous membrane, characterized by thickening of the epithelium, and the formation of white, opaline, elevated patches, which usually become fissured and painful, and, after continuing for a long time, are likely to terminate in epithelioma.

* Read before the American Laryngological Association, June 24, 1885.

† "Syphilis des reniers," "Lyon méd.," xxxv, 1880.

‡ "Vierteljahresschrift für Dermatologie," iv, 1877.

"Aerztlich Intelligenzblatt," Munich, v, 1858.

‖ "British Med. Jour.," 1874, vol. i.

△ "Med. Times and Gazette," London, 1865, vol. i.

◊ Paris thesis, 1873.

History.—The first mention that I can find of ichthyosis linguæ is in a paper under the title of "Maladies de la peau," 1822, by Alibert, who records a case, reported in some of the journals, of a young woman in Naples who had extensive ichthyosis of the skin, which finally involved the tongue and lips. In 1837 Samuel Plumbe* described a case of enlargement of the papillæ of the tongue which he regarded as precisely similar in its nature to local ichthyosis of the skin. In 1858 Ullmann† described a case of leucoplakia under the name of tylosis. In the same year J. J. Buzenet‡ reported two cases of undoubted leucoplakia, and, in 1861, J. W. Hulke# recorded a case under the title of "Wart and Corn of the Mucous Membrane of the Tongue." The following year Sir William Fergusson‖ presented a somewhat similar case in a clinic at the King's College Hospital, and in the same year, in the report of a clinic by Dr. Andrew Clark,△ we find a case described under the name of aphtha figurata, which is supposed by some to have been true leucoplakia, but which seems to have been psoriasis of the tongue. The same year J. Moore Neligan◊ notes a case of true leucoplakia which finally terminated in epithelioma. February 28, 1865, J. W. Hulke,‡ of London, presented what is generally credited as the first paper on the subject to the Royal Medical and Chirurgical Society. Subsequently brief articles appeared on the subject by S. James A. Salter,‡‡ 1866; Bazin,‡‡ 1868; M. Lailler,** 1869; Sir James Paget,†† 1870; C. Saison,‡‡ 1871; and W. Fairlie Clarke,## 1872. Finally, in 1873, Charles Mauriac‖‖ published an exhaustive article on the subject under the title of "Du psoriasis de la langue et de la muqueuse buccale." Since Mauriac's article numerous papers have appeared, the most important of which are by M. G. Debove,△△ 1873; Henry Morris,◊◊ 1874; W. Fairlie Clarke,‡‡ the same year; Robert F. Weir,‡‡ 1875; Professor Ernst Schwimmer,‡‡ 1877 and 1881; and E. Vidal,*** 1883.

The disease is very rare, but its frequency can not be accurately determined, on account of the diversity of opinion which has been entertained by different writers with reference to its ætiology and diagnosis—a diversity which has caused many cases to be placed in this class which do not properly belong in it. Professor Schwimmer saw only twenty examples out of five thousand cases of diseases of the skin and syphilis, and many others have not seen so large a proportion as this; but doubtless many cases are not recognized, and pass for constitutional syphilis.

Most of the cases have been reported from Germany, France, and England, but some have been recorded in this country. So far the records show that the disease seldom affects any excepting males over forty years of age, though it has been observed as early as the thirty-second year, and a very few examples have been seen in women.

Anatomical Characters.—The patches are generally found on the dorsum of the tongue or the inner surface of the cheek and lips, but seldom, if ever, on the lower surface of the tongue or behind the anterior pillars of the fauces, and they are limited to the buccal cavity.

They may be seen in one or more small, irregular, or oval patches, or these may have become confluent. A considerable portion of the tongue alone may be involved, or the dorsum of the tongue, the buccal mucosa, and the surface of the jaw may one or all be affected.

The first appearance of the white patch is preceded by hyperæmia, and in the early stages a hyperæmic areola is found about its borders. Afterward the patch itself is more or less thickened, sometimes to the extent of six or eight mm., and the epithelium, which has become hard and dry, may be easily removed, or in spots it may have been spontaneously exfoliated, leaving the appearance of an ulcer.

The surface of the patch is marked by numerous fine lines or furrows, which intersect each other, dividing it into small polygonal spaces. Some of these may extend as deep fissures down through the thickened epithelium, and involve the mucosa in painful ulceration. In cases of long standing the papillæ may be much enlarged, giving the surface a warty appearance.

Under the microscope the epithelium is found greatly thickened, the papillæ enlarged and flattened, the blood-vessels dilated, with an accumulation of leucocytes about their walls. The superficial layer of the mucous corium is infiltrated with embryonic cells, and the deep layer is involved in vascular alterations.

According to Hulke,* there is hypertrophy of the epithelial and papillary layer of the mucous membrane, similar to the condition of the skin termed ichthyosis.

In 1874, W. Fairlie Clarke† spoke of the disease as a chronic inflammation and papillary growth, but in later writings he does not strictly adhere to these views.

Mauriac‡ says "it is certain that it is a chronic inflammation of the parts involved."

In the first stage of the affection, hyperæmia of the deeper layers of the epithelium exists, which is soon followed by exudation, and this consolidating causes induration.

The epithelial cells are increased and the papillæ enlarged, but later, when the affection merges into epithelioma, there is, according to Clarke,# an enormous increase of the rete mucosum at the expense of the papillæ, which are then reduced to mere threads.

Causation.—Excessive tobacco-smoking is ranked as one of the most frequent causes of the disease, but it is barely

* "Diseases of the Skin," Philadelphia, 1837.

† *Loc. cit.* ‡ Paris thesis, 1858.

* "Med. Times and Gazette," London, 1861, vol. ii.

‖ "Lancet," London, 1862.

△ "Med. Times and Gazette," London, 1862, vol. ii.

◊ "Notes of an Unusual Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks considered in Connection with Life Assurance," 1862.

‡ *Loc. cit.* ‡ "Papillary Tumors of the Gums," 1866.

‡ Paris thesis, 1873.

** "Dict. encycl. des sci. méd.," Paris, 1869.

†† "Case of Cancer following Ichthyosis of the Tongue," 1870.

‡‡ Paris thesis, xlvi, 1871. ## "Lancet," London, 1872, vol. i.

‖‖ "L'Union médicale," xxi, 1873. Paris thesis, 1873.

◊◊ British Med. Jour.," 1874, vol. vi. ‡‡ *Loc. cit.*

‡‡ "N. Y. Med. Jour.," vol. xxi, 1875.

‡‡ *Loc. cit.*, and "Transactions of the International Med. Cong.," London, vol. iii, 1881.

*** "L'Union méd.," xxxv, 1883.

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* # *Loc. cit.*

possible that prolonged irritation of any character may have a similar effect on those predisposed to it.

Thus, Mauriac * and Vidal † mention highly spiced foods and alcoholic stimulants as irritants which must be avoided.

Schwimmer ‡ calls the affection idiopathic, but both he and Mauriac think there must be some peculiar predisposition toward it in order that it may be developed.

Bazin,* who has seen the affection in several members of the same family, believes that it is often, if not usually, the result of constitutional syphilis.

Mauriac believes that all psoriasis of the mouth and tongue supervening in syphilis is not necessarily syphilitic, and may not take part in the syphilitic disease.

Debove, Bazin, and Mauriac attribute it frequently to the arthritic or dartrous diathesis. Thus it will be seen that the cause of the affection is not definitely known, though it is commonly believed to be induced by smoking in most instances. It must not be forgotten, however, that several cases have been recorded in persons not addicted to the use of tobacco. In those who use tobacco to excess it is not necessarily the irritant effects of the smoke or heat that cause the disease, but, as in the case here appended, the noxious influence of the tobacco itself.

Clinical History.—It is also difficult to determine exactly the duration of the disease, for it has generally been discovered accidentally; but usually it will be found to have existed for months or years when the patient first presents himself. This is due to the fact that at first the affection causes no inconvenience. Usually the small patch first observed gradually increases in size until at length stiffness of the part occurs or painful fissures form, which cause the patient to seek advice.

In some cases the epithelial cells gradually pile up until a thick, horny mass is formed, which may then be thrown off spontaneously or pared off by the patient as he would cut off a corn or wart. After a time, varying from a few months to many years, the formation of fissures and ulcers causes pain, and finally, in a large percentage of cases, epithelioma results and runs its usual course. Sometimes the affection will remain stationary for months, or, under the influence of some irritant, it may rapidly progress, but may again become dormant if the irritant is removed. Occasionally unchanging erythematous patches remain in the surrounding mucous membrane for years.

In the cases associated with syphilis and in those that have developed into epithelioma the parts become greatly swollen, and deep, fungous ulcers occur which may erode vessels and cause serious haemorrhage. In these same cases the lymphatic glands are involved, but this does not occur in the earlier stages of idiopathic leucoplakia.

Often the first symptom noticed by the patient is simply an uneasy sensation; but this may not appear until the disease has existed for years. In other cases the mucous membrane early becomes sensitive, so that spices, hot food or drinks, alcoholics, tobacco, etc., cause more or less pain. When deep fissures occur, the pain may become intense and almost constant, though in some cases it is present only at intervals. There are no constitutional symptoms until epithelioma is developed. Late in the disease, speaking, mastication, and swallowing sometimes become difficult, especially when epithelioma occurs. In such cases there is also profuse and very troublesome salivation, which continues both night and day.

Upon examining the mouth in the early stages, several more or less oval red or white patches are usually found which are apt to be mistaken for secondary syphilis. These in time become bluish, and finally, with increase in their epithelial covering, grayish or of a milky white color—like mucous membrane touched with nitrate of silver. These spots may remain distinct for a long time, but with the progress of the disease they become confluent, and at length form large, irregular patches. At first the surface of the patch is usually smooth, marked only by fine intersecting fissures, and is but slightly elevated above the surrounding mucous membrane. At this time the papillæ are often prominent and large, but, as the epithelial cells accumulate, they atrophy and are buried out of sight, and the surface may become raised several millimetres above the healthy mucous membrane. In some instances we find that a portion of the horny mass has been thrown off, and has left a central depression which may be ulcerated. These latter changes take place only in those cases which have been exposed to great irritation or which are approaching the stage of epithelioma. About the younger and growing patches we find an erythematous border, but this finally disappears. In cases associated with syphilis, cicatrices and nodosities or deep fissures of the tongue are usually found, and, in those which have passed into epithelioma, induration and thickening of the subjacent tissues, with deep, unhealthy ulcers, are likely to be present.

Diagnosis.—Leucoplakia is liable to be mistaken for what Guinaud * has termed the "professional patches," found in glass-blowers, for "smokers' patches," mercurial patches, psoriasis linguæ, syphilitic patches, and epithelioma unconnected with leucoplakia. The "professional patches" occur only in old glass-blowers, particularly in bottle-makers, and are found symmetrically upon both sides of the mouth, on the lateral surface of the jaw, and around Stenson's duct. "Smokers' patches" are more irregular in seat than those of leucoplakia, and are commonly located near the commissures of the lips, but not upon the dorsum of the tongue or inner side of the cheek. Again, the epithelium covering their surfaces is thin and closely adherent, so that it can not be removed, as in the disease under discussion. Mercurial patches are not so thick as those of leucoplakia, are never quite white, and are found on all parts of the tongue, but particularly where it is pressed against the teeth. According to W. Fairlie Clarke,† psoriasis is an affection in which circumscribed patches of epithelium assume a white, opaque appearance, which, after a day or two, are thrown off, when the epithelium is speedily restored; but soon other patches appear and go through the same course, until, after a time, the whole surface of the tongue becomes denuded and of a uniform red color.

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* * *Loc. cit.* * *Loc. cit.* † *Loc. cit.*

with crescentic markings or depressions, which, it will be observed, is very unlike the course of leucoplakia. Syphilitic patches are not so white as those of leucoplakia; they are usually round or oval, and more regular in form, and they seldom occur on the cheek, but are found principally on the tip or margins of the tongue, and often on its lower surface, which is never invaded by leucoplakia. Syphilitic patches do not become so thick as those of leucoplakia, and in syphilis the lymphatic glands are soon involved, which is not the case in the latter unless it has become cancerous. The pain is more severe in leucoplakia than in the syphilitic disease, and anti-syphilitic treatment causes no improvement, but may aggravate the affection. When syphilis and leucoplakia co-exist, the diagnosis is difficult, and sometimes can only be cleared up by specific treatment. Cancer arising without previous leucoplakia is distinguished from the latter by its history. In cancer, the induration of tissues and the final ulceration are not preceded by the chronic white patch, and are attended by more constant pain, with profuse salivation and a very offensive odor.

Prognosis.—The duration of the disease is uncertain One authority mentions two cases in which cancer supervened in less than six months. Sir James Paget * mentions one case which terminated in cancer at the end of eighteen months, several of Mauriac's † were of eleven to thirteen years' duration, while of the two cases seen by Hulke, ‡ which terminated in this way, one had existed twenty years. Others have mentioned cases of thirty to forty-five years' duration. Debove # and Bazin, ‖ who make no clear distinction between leucoplakia and syphilis, and Kaposi, △ who speaks of leucoplakia as a universal product of syphilis, very naturally believe that the affection is frequent, that it does not terminate in cancer so often as we should suppose from the writings of others, and that it is very amenable to treatment. Schwimmer ◊ says that the disease is frequently transformed into malignant formations and ends fatally, and the general belief is that it is very likely to end in epithelioma. Vidal ‡ believes that one half the cases terminate in this way. On this point Mauriac ‡ says that "transformation into epithelioma has often been noted, therefore it is important to cure the superficial affection, or it may pass into a deep, destructive, mortal disease."

The same author thinks that there are three varieties of leucoplakia (or, as he terms it, psoriasis linguæ). One, which he says is curable (due to syphilis), we do not think belongs to this class of diseases. The others he considers incurable. The variety which he attributes to the arthritic or dartrous diathesis he terms innocuous, while the third variety—the epitheliomatous—is incurable and malignant.

Among the indications that leucoplakia is passing into epithelioma are: non-inflammatory enlargement of the lymphatic glands, with exfoliation of the thicker portion of the patch, the formation of an ulcer, the supervention of sharp pain, salivation, and at length induration of the subjacent tissues. Finally, great swelling in the region of the jaw is likely to occur, and death takes place from exhaustion.

Treatment.—In cases of leucoplakia all sources of irritation, particularly those resulting from the use of tobacco and alcoholic stimulants, should be at once removed, and if the digestive organs are deranged, as is frequently the case, they should receive proper attention. Aside from these measures, most authorities believe treatment of little or no avail. Schwimmer * says that local treatment is not rational; that alkaline washes and the waters of Vichy and St. Christan, and other alkaline waters, though highly recommended by Bazin † and other French writers, are not satisfactory in their effects; and that, even if improvement does occur under their use, it is not likely to be enduring. Debove ‡ and Bazin state that many cases of buccal psoriasis may be cured, but their favorable results may be due to the fact that they included many syphilitic cases in this class. By an examination of Debove's recorded cases, I find that, exclusive of the syphilitics, none of the patients seem to have been entirely cured, though many were treated by both Bazin and Debove, and a number are reported as "something better" after several months of treatment. Mauriac, * who believes that there are three varieties of leucoplakia—viz.: 1, the dartrous and arthritic; 2, the syphilitic; 3, the epitheliomatous—recommends arsenic and alkalies for the first, mercury and iodides for the second, and surgical measures for the third; however, he urges great prudence in using any of these measures, and states that the internal remedies have been found almost useless, and that mercury and the iodides are dangerous in the absence of syphilis.

For local application, the caustics which have commonly been employed are nitrate of silver, chloride of zinc, tincture of iodine, and acid nitrate of mercury; but none of them seem to do any good excepting in syphilitic cases, which I do not include under the term leucoplakia. Soothing applications seem to have been most beneficial, but they give only temporary relief.

E. Vidal ‖ says that "mercury and iodide of potassium aggravate the disease the more advanced it is," and that in the papillomatous state they precipitate epithelioma. When the affection has passed into epithelioma nothing can be of much benefit excepting thorough excision, but even this has not often been followed by happy results.

Henry Morris △ advises that, after other measures have been fairly tried, if the epithelium is constantly thrown off, leaving abrasions or ulcerations which are painful, the tongue should be excised without delay. He states that "the prospect of curing, or even much improving, ichthyosis by treatment is most unfavorable."

S. James A. Salter ◊ reported a case, which seemed to have been leucoplakia, which was cured by extirpation and cauterization of the wound with the actual cautery. In the case which I report it will be observed that internal remedies did no good, and that local applications of tincture of iodine, nitrate of silver, and the acid nitrate of mercury greatly increased the patient's sufferings, and would doubtless have aggravated the disease had they been persisted in;

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* # *Loc. cit.* ‖ *Loc. cit.*
"Syphilis der Haut." Wien, 1875, vol. iii.
◊ *Loc. cit.* ‡ *Loc. cit.* ‡ *Loc. cit.*

but, as soon as the actual (galvanic) cautery was employed, relief from all pain was obtained, and by a persistent, careful use of it the disease was eradicated.

In considering this favorable result, of course we must not overlook the reported tendency of the disease to recur; but the fact remains that the belief in this tendency is based on a study of cases in the majority of which the diseased patch was never entirely removed. In my case the mucous membrane is perfectly healthy after a lapse of four months; therefore I believe the treatment adopted for it will prove curative in many cases if applied before epithelioma has developed.

From a study of the literature of this subject, and from my own small experience, I arrive at the following conclusions:

1. Leucoplakia buccalis is an idiopathic disease, distinct from psoriasis, "smokers' patches," and syphilis. It is largely confined to men past middle life, but it occasionally occurs in women.

2. The disease is so commonly found in inveterate smokers that the abuse of tobacco may fairly be considered as an exciting cause, though cases occur where tobacco has never been used.

3. The affection is chronic and, finally, in a majority of cases, terminates in epithelioma.

4. Internal treatment and the local application of sedative, stimulant, or caustic drugs are, in nearly all cases, either useless or injurious, and the latter are sometimes disastrous by hastening the development of epithelioma.

5. The actual cautery or the galvano-cautery will probably enable us to cure many cases if they are treated sufficiently early, provided it is applied to only a small spot at each sitting, and carefully, so as not to destroy the healthy tissues beneath the changed epithelium.

A Typical Case.—L. C., aged forty-three, printer, came to me in September, 1884, complaining of a sharp pain in the left side of the mouth, particularly when eating. This, he said, began two years before, when he had a tooth drawn. Two months later he first noticed a small white patch on the buccal mucous membrane. Upon examining the mouth, I found a large, irregular, milk-white patch, extending from the border of the gums down through the gingivo-buccal groove, upward along the left cheek, and from the first bicuspid tooth, in front, to the last molar, behind. Altogether this was as large as a silver dollar; its surface was marked by fine intersecting lines, which divided it into numerous polygonal spaces.

At the center of the patch, on the buccal surface, was a depression about 3 mm. in depth and 1 cm. in diameter, surrounded by elevated, hard margins, which gradually became thinner toward the edge of the patch. This margin was deeply fissured in two or three places. About half an inch in front of the anterior portion of this patch, on the under lip, was a small, white, warty growth, about 4 mm. in height by 3 mm. in diameter.

A critical investigation of the case failed to discover any history or signs of syphilis or hereditary disease. The patient chewed tobacco to excess and had smoked occasionally. He stated that previous to the removal of the tooth, and until the pain became troublesome, he had been accustomed to carry a quid of tobacco in the left side of the mouth, at the location of the patch. His general health was perfect, and he had never suffered from rheumatism or eruptive diseases, and did not use alcoholic stimulants. During the first few months of the affection pain came on about once in two weeks and would last several hours, but the attacks gradually became more frequent, until seven or eight weeks before I saw him, during which time the pain had been constant and often severe. The patch had been cauterized occasionally with nitrate of silver, but was never benefited.

When I first saw the case, suspecting that it might be syphilitic, I ordered iodide of potassium in large doses and directed that tobacco be discontinued. I cauterized the patch with tincture of iodine, but the application caused such severe and protracted smarting that I began at once to be doubtful about the character of the disease. Three days later I applied the solid nitrate of silver to a small portion of the patch, with similar results, and four days later the acid nitrate of mercury. This last application caused intense pain that lasted about seven hours, which, he said, drove him nearly crazy. I was now convinced that the disease was not syphilitic, and had the patient see Professor Hyde, who pronounced it leucoplakia. I next cauterized the central depressed portion of the patch with the galvano-cautery, which caused momentary smarting, but perfectly relieved the severe pains from which he had suffered for weeks, and they never returned. Two days later I destroyed the small, wart-like projection in front of the large patch, and subsequently, about every fifth or sixth day, I cauterized a small spot, nearly a centimetre in diameter, at the edge of the patch. These cauterizations were so superficial that only the epithelium was destroyed, the membrane beneath being but slightly burned; indeed, so light were they that a few times I was obliged to again cauterize the same spot before all the epithelium was destroyed. I found that as these cauterized places healed the mucous membrane appeared natural, and finally, after about thirty applications of the cautery, the entire surface presented the appearance of healthy mucous membrane, showing only two or three small cicatrices, where the cauterizations had been unusually deep. The iodide of potassium, which did no good, was discontinued soon after I began the use of the galvano-cautery. Now, at the end of four months after the last cauterization, the mucous membrane remains perfectly healthy.

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NOTE ON THE USE OF ANTIPYRINE IN SUNSTROKE.

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My object in publishing this note is to call attention to the use of antipyrine in two cases of sunstroke, so that others may, if they think proper, test it and contribute the results of their experience.

It occurred to me that the prompt introduction of an antipyretic dose of this substance into the subcutaneous tissues might be of great service in reducing the temperature, and so give time for attention to the treatment of the other pathological conditions. The ambulance surgeon, Dr. Folker, was therefore requested to provide himself with a fifty-per-cent. solution, and, in the event of his being called to a case of the apoplectic form of the disease, to administer a drachm of the solution hypodermically at once, and to repeat it in an hour, if the temperature was not markedly reduced. Other measures for the relief of the patient were, of course, not to be neglected.

On Saturday, the 18th, when the thermometer registered 99° F. in the shade, he was called to attend a young Englishman, twenty-two years old, of very robust habit, who, after working out of doors all the forenoon, became comatose and convulsed after reaching his home at midday. The head was congested, eyes suffused, pulse rapid and strong, skin dry, and the coma profound. The bowels had moved spontaneously, and he had vomited freely. The rectal temperature was 109° F. The doctor administered a drachm of the fifty-per-cent. solution of antipyrine hypodermically, applied ice to the head, and removed him to the hospital.

In the confusion attending his admission the exact time was not noted, but in about three quarters of an hour after the first dose the rectal temperature was 107·50° F. Cold was applied to the body and head by means of towels wrung out of ice-water and frequently changed; and another drachm of the solution was introduced under the skin. In thirty minutes the rectal temperature was again taken and found to be 99° F. The cold applications were at once discontinued and dry heat was applied to the surface, while whisky was injected subcutaneously.

When I arrived shortly afterward the surface of the body was cool, the pulse 120, the coma profound, and all the limbs were twitching convulsively. The head was still congested, the conjunctivæ injected, the pupils contracted but responding feebly to light, and the respiration was irregular and accompanied by a loud expiratory groan, such as is heard in severe cerebral disturbance. I gave two ounces of whisky and forty grains of chloral hydrate by enema, but they were not retained. About half an ounce of whisky was then given hypodermically. In half an hour the temperature began to rise slowly, so that the surface was warm. The twitching of the voluntary muscles became more marked, and he was seized with a most violent tetanic convulsion, which was controlled by chloroform. As the convulsions succeeded each other with increasing rapidity and intensity, I opened the median basilic vein and withdrew thirteen ounces of blood. The bleeding was terminated sooner than was desirable by the onset of a terrific convulsion, during which the arm was twisted violently and the opening in the vein occluded. After this there were no more severe convulsions: the patient became more quiet, and the rectum retained forty grains of chloral hydrate. This was followed by a

period of rest, during which the axillary temperature was taken and found to be 103·75° F.

One drachm of Lente's solution was thrown under the skin, and repeated about once in two hours till four doses were administered. At 8.15 P. M., as slight convulsions had occurred from time to time, six leeches were applied to the temporal regions, twenty grains of antipyrine given hypodermically, and forty grains of chloral hydrate by the rectum. From this time on he slept quietly, the temperature slowly declining until Sunday morning, when it was 99° F.

At about ten o'clock on Saturday evening the patient first became sufficiently conscious to partially respond when spoken to, and from this he passed into a condition of hebetude, which, by Monday forenoon, had given place to complete consciousness. The temperature has been normal since Sunday afternoon, though the pulse is still somewhat rapid. He takes nourishment well. From Sunday morning to Monday morning he had forty grains of sodium bromide every two hours, and five grains of the sulphate of quinine every four hours. The doses were then reduced to twenty grains and two grains.

This case represented the severest type of sunstroke. I have never before seen so bad a one recover. The temperature was high, the coma very profound, and the convulsions the most terrible that I have ever witnessed, except in one case of tetanus, the subject of which died within twenty-four hours after the diagnosis was made. The rapid and permanent reduction of temperature, which must have been mainly due to the antipyrine—inasmuch as the cold applications were only continued for half an hour—undoubtedly contributed toward the favorable result by giving time and removing at once the injurious effect of the hyperpyretic blood upon the higher nervous centers. The beneficial effect of the abstraction of blood was evident.

The second case was brought in an hour or two after the first, and while I was in the hospital:

The patient, an Italian laborer, had been engaged in some laborious work upon the new building of the St. John's Orphan Asylum, which was destroyed by fire last winter. He became suddenly unconscious, had well-marked convulsions, and voided his excrement involuntarily. When Dr. Folker, our very competent ambulance surgeon, arrived he was comatose, breathing irregularly, with rapid and tense pulse, suffused conjunctivæ, dry skin, and continual convulsive twitchings of all the voluntary muscles. The rectal temperature was 110° F. The doctor gave him a hypodermic injection of one drachm of the fifty-per-cent. solution of antipyrine, applied ice to the head, and brought him to the hospital. On his admission he was comatose. The surface, to my surprise, was cool. The pulse was 120, as nearly as it could be counted, with marked tension and a laboring stroke of the heart. The respiration was rendered irregular by the continued spasmodic movements of the voluntary muscles.

The convulsive movements of the limbs were very peculiar, differing from any that I had seen before, in that they were rhythmic in character, and most readily likened to those of a man pulling upon a rope. The rectal temperature, thirty-five minutes after the administration of the hypodermic injection containing one half drachm of antipyrine, was 101° F.

No cold applications were used in this case, with the exception of ice to the head. He was given, by enema, four ounces of whisky and thirty grains of the hydrate of chloral, and retained it.

After a time he became quiet, the convulsive movements almost entirely ceased, and consciousness became dimly percep-

tible. But, upon changing him to another bed, the peripheral irritation threw him into an active tetanic convulsion, which, however, soon subsided spontaneously. It was noted afterward that any pronounced peripheral irritation would produce convulsive movement. After an hour he received another half-drachm dose of chloral hydrate, with two ounces of whisky, *per rectum*.

He also received a drachm of Lente's solution of quinine about once in two hours. On Sunday morning he was quite conscious. The temperature was 99° F. He was ordered twenty grains of the bromide of sodium every two hours and three grains of quinine every four hours. On Monday his condition was still better, his mind, apparently, quite lucid, and his desire to move about and partake of food very decided. The bromide and quinine were continued.

The favorable termination in both of these cases is significant, as they were both accompanied by great hyperpyrexia and signs of a most profound vital disturbance. The first case was, probably, slightly injured by the use of cold applications too long continued, but this was quite excusable on the part of the house staff, as they were dealing with a new remedy, and had been advised not to neglect the old ones. The result in the second case would seem to strongly indicate that, where antipyrine is used, the external application of cold is not necessary. Another interesting observation was that, when the temperature declined, the cerebral symptoms still continued. This might indicate that even a short period of such intense heat and arterial excitement may so benumb the vaso-motor apparatus that several hours are required for recuperation.

If this is the correct inference, an agent like antipyrine, which is capable of reducing the temperature quickly, may be of the utmost importance.

But, of course, further observation is necessary before any positive conclusion can be drawn. From our experience so far, I should say that half a drachm of the drug would be sufficient to accomplish the purpose. A fifty-per-cent. solution is easily made, and, when injected beneath the skin, produces very little irritation.

CHOLERA ASIATICA AND CHOLERA NOSTRAS;

THEIR DIAGNOSIS AND TREATMENT.

WITH SPECIAL REFERENCE TO THE BACILLUS

By ARNOLD STUB, M. D.,
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(*Concluded from page 56.*)

Those spirilla discovered by Deneke in cheese, and by Lewis found in the mucous covering of the teeth, I have nothing to do with in this paper; it will be sufficient, I think, to mention that they also present different appearances on cultivation, and that Dr. Lewis's bacillus does not grow at all in alkaline or neutral nutritive gelatin. If a small particle is taken, with a previously well-sterilized platinum wire, from one of the colonies recognized as Asiatic-cholera bacilli, and gelatin kept in a test-tube inoculated with the same, we shall find that within forty-eight hours, at 68° F., from the time of inoculation, a whitish turbidity

will start, in the immediate neighborhood of which the gelatin will become liquefied; but this process is so slight that only a very fine capillary tube will be the result, which becomes a little wider toward the surface. The top of this tube is generally below the level of the solid gelatin, and upon the top of the tube we generally see an air-bubble. The liquefied gelatin remains clear, and only upon a few places do a few whitish masses appear. After four to six days the gelatin will be sufficiently liquefied to reach the walls of the test-tube. The spirillum of cholera nostras, however, is characterized by its very energetic liquefying action upon gelatin.

Within twenty-four hours it has formed a wide tube filled with a diffuse opalescent fluid, and the surface of this tube extends to the walls of the test-tube. The lower end of the tube is widened out sack-like. I may add also that the cholera spirillum does not grow upon potatoes at a temperature less than 86° to 88° F., and from 98½° to 99½° F. it forms a dark-brown paste upon the surface. The spirillum of cholera nostras grows beautifully upon potatoes at 64·5° F., and forms a yellowish-gray covering.

However, before I proceed to make a cultivation of the bacilli to be found in the alvine evacuations, I first make an attempt to relieve the patient by a hypodermic injection of sulphate of morphine and atropine. I order frictions with soap liniment, chloroform, and laudanum to the body; also sinapisms alternately applied to the extremities and epigastrium, hot flat-irons or bottles filled with hot water to the soles of the feet, and try to administer a good dose of 10 to 15 grains of calomel internally, and order the same to be continued in small doses of about two grains every two hours.

I certainly shall not give bismuth, either the subcarbonate or the subnitrate, because I wish to avoid everything which tends to make the contents of the stomach and alimentary canal more alkaline. I do not expect anything from the calomel except from its property as a mercurial to destroy the cholera germ by acting as a poison directly upon the latter; and perfectly agree with the views of Dr. Pallen, of New York, who published the same in the "Medical Record" of March 7th, and who contended that during cholera the stomach and alimentary canal were not capable of assimilating any medicine whatsoever. For this very reason I shall also continue the hypodermic injections at proper intervals, and in accordance with the urgency of the case. Later on, when the condition of the patient requires it, I shall also administer brandy hypodermically.

But, gentlemen, I shall also remember the results of the treatment of Professor Cantani, of Naples, who, during the last epidemic, resorted to acidulated enteroclysmata of a temperature from 103° to 104° F. According to Koch, one part of carbolic acid to 100 parts of water is sufficient to prevent the increase of the cholera bacilli, and, although we should not be justified in administering such a clysma to a healthy person, I believe that, in case of cholera where all the powers of absorption by the intestinal canal were suspended, we might perhaps be able to resort to this proportion with benefit to the patient. Although Professor Armanni, of Italy, has found the microbes principally in the colon and cæcum, and a number of cases have been treated with simple medicated enemas with benefit, in severe cases, where the inroad of the microbe extends higher up, it will be necessary to resort to an enteroclysma which will reach beyond the ileo-cæcal valve.

Of all substances, however, which prevent the reproduction of the cholera bacillus, the bichloride of mercury stands foremost. Oil of peppermint has this property in the proportion of 1 to 2,000, sulphate of copper 1 to 2,500, quinine 1 to 5,000, and the bichloride of mercury 1 to 100,000. For this reason I would try the sublimate in combination with hydrochloric acid: first as an ordinary enema, and later on, if I found the disease make progress and the case become desperate, as an enteroclysma. If, however, I were able to dust the whole of the alimentary canal over with calomel in the same manner as we sprinkle iodoform over an ulcerated surface, I think I should prefer the latter method to kill the microbe.

I am not aware that the sublimate has been tried in the manner proposed by me, and I certainly would abstain from its use in the beginning of the disease and before the faculty of absorption had ceased. The algid stage, I think, would be the proper time to begin with, and previous to it I should confine myself simply to copious enemas of hot water acidulated with hydrochloric acid, and administer the latter also by the mouth in the form of an iced lemonade to relieve thirst.

Whether an occasional enema or an enteroclysma of hydrochlorate of quinine, dissolved in hot water and acidulated with hydrochloric acid, would be desirable, I think a matter worthy of consideration.

Gentlemen, we put a typhus-fever patient into an iced bath with the view of reducing his temperature. Would it be unscientific and unpractical to put a cholera patient into a *permanent* hot bath with a temperature, say, of 104° or over to increase his temperature? Koch considers the manner in which the cholera bacillus produces certain changes in the system a poisoning process, and states that in his opinion the poisonous properties of the bacillus act with paralyzing influence upon the circulatory apparatus, and, although this seems to be only theoretical so far, it would explain the fact that hot baths have proved of benefit in cholera. I must also allude to the transfusion of salt water into the venous system as advocated by Dr. Kronecker, who also gives a description of an apparatus to be used for the purpose, and who condemns the practice of intra-abdominal and subcutaneous injections, frequently resorted to during the last epidemic in Italy, on account of the impossibility of regulating the time when the injected fluids may enter the circulation.

During the same epidemic the following treatment was adopted. Cantani, Paoluzi, and particularly Dr. Vitone, speak of the excellent results of a clysma composed of

Inf. flor. camomill (38° C.)	2 litres;	
Acid. tannic	3,0–6,0 grammes;	
Gumm. arab	30,0–50,0	"
Laudanum	30,0–50,0	"

which, freely administered, caused intermissions of from six to twelve hours. With all internal remedies for the pur-

pose of disinfecting no result has been obtained. But all Italian authorities agree that subcutaneous injections of morphine have been of benefit. Of special benefit, however, have been irrigations *per rectum* of carbolic acid, sublimat, iron sulphate, and quinine.

In the algid stage Cantani has resorted, with considerable benefit, to subcutaneous injections of salt water of the temperature of about 100° F. and in the proportion of thirty-four ounces of water, sixty grains of table-salt, and forty-five grains of carbonate of sodium.

He observed in the severest cases an abatement of all the urgent symptoms within a few minutes after this enema had been given. During the stage of asphyxia, subcutaneous injections of ethereal tincture of valerian, ether, and sulphate of caffeine were used.

The Italians also speak highly of hot baths and of the inhalations of oxygen. Cantani especially mentions that during convalescence we must be careful to avoid milk and beef-tea or meat broths of any kind, because the comma bacillus is apt to grow in those media and a relapse may be the consequence. But between the two he would prefer meat broths, because he found that milk never did agree with his patients. His meat broths he acidulated with hydrochloric or lactic acid. In case, after the strength of the patient has returned, vomiting persists in consequence of hyperæsthesia of the stomach, he recommends ether and chlorodyne, or cherry-laurel water with morphine or belladonna.

Dr. Dornbluth, of Rostock, recommends calomel to be given as I have recommended before, and particularly in the typhoid stage he calls attention to resorcin and cotoin. He speaks highly also of subcutaneous or intravenous injections of salt water, to overcome the thickening of the blood. During the epidemic in Toulon the treatment of the so-called cholera diarrhœa consisted of

℞	Ether	1,0;
	Tinct. opii	gtt. xv–xx;
	Ext. krameriæ	1,0;
	Syr. cort. aurant	30,0;
	Aq. melissæ	120,0.

Against the vomiting, every quarter of an hour a teaspoonful of Chartreuse, sometimes bismuth and opium.

In more serious cases this treatment is combined with injections of warm wine and laudanum, carbonic-acid water cooled on ice, and, against profuse diarrhœa, water saturated with oxygen gas, to which I personally beg leave to object, as the cholera bacillus belongs to the species of aërobe bacteria and requires oxygen to develop. Frictions with ol. terebinthinæ, opodeldoc, and chloroform are used. Hypodermic injections of morphine in the epigastric region are particularly mentioned by Dr. Cuneo, physician-in-chief of the navy of France, who has found great benefit from the hypodermic injection of half a centigramme of hydrochlorate of morphine with one quarter of a milligramme of atropine. Spasm of the muscles of the lower extremities he has treated successfully with hypodermic injections of ether.

During the stage of asphyxia, injections of ether prolonged life for a few hours in a few cases, but subcutaneous injections of atropine sulphate, first one half a milligramme and afterward one milligramme, from four to five times in twenty-four hours, caused a rise of temperature of 2° in one case.

He also professes to have saved six patients with inhalations of pure oxygen by means of a mask and a tube, the latter introduced into the nares. In those cases where coldness and cyanosis did *not* form the prominent symptoms, this treatment, which he, by the way, repeated every half-hour, and continued for two minutes each time, gave no results.

The question of prophylaxis requires consideration in this paper, and I would like to call attention to the remarks made at the meeting of the Imperial Board at Berlin, July 24, 1884, by Dr. Leyden, that a certain immunity exists against a second attack of cholera, although this immunity does not seem to be absolute, and it is well authenticated that persons have been attacked by cholera in one epidemic and died during a second attack in another epidemic. More rare, however, is the fact that a person has been attacked more than once during one epidemic, although Dr. Wieviorœvski quotes the case of a patient who was taken sick August 13th, left the hospital well on the 20th, and was taken sick again with cholera on the 5th of September, and died. Dr. Koch, however, thinks that such cases must be very rare, and seems to be of the opinion that one attack secures the person against a second attack during the same epidemic in most cases. Perhaps being impressed with the same views, a Spanish physician inoculates his clients with the comma bacillus, as I have read in a daily paper. It is remarkable, however, that the medical papers are silent upon the subject, or that they only give short notices of Dr. Ferrán's investigations.* If Dr. Ferrán's microbes are identical with Koch's bacillus, it would appear impossible to inoculate them into the blood with any chance of success, because the circulatory system does not seem to be the home of this parasite. In none of the post-mortem examinations Koch has made could he detect this parasite outside of the alimentary canal, and only very rarely in the contents of the stomach. If found in the latter, it has been only in cases where a process of regurgitation had caused fæces to enter the stomach. The blood and other fluids of the body are not invaded by the bacillus, and not a single case is on record where infection has taken place from a post-mortem examination. Whether Koch's comma bacillus assumes different properties if cultivated and recultivated upon different nutritive media, is a question which later investigations will certainly solve. If I may venture upon an opinion at all in this matter, it is that, if artificially cultivated bacilli have the property of causing immunity from a severe attack of cholera, they should be introduced into the intestine and not into the circulation. The question naturally forces itself upon me, Is this microbe of Dr. Ferrán's actually identical with Dr. Koch's bacillus, or is it the same Dr. Emmerich, of Munich, has discovered in the blood and in the tissues of the whole body of persons who died of cholera?

* Only the "Deutsche medicinische Wochenschrift," of Berlin, April 30, 1885, speaks of the fantastic views of Dr. Ferrán in reference to his inoculation of the bacillus.

Dr. Emmerich also cultivated his bacterium, and inoculated various animals with the same. They all died, but post-mortem examinations seem to have revealed the fact that Peyer's patches were ulcerated, which led critics to assume that those animals did not die of cholera but of a septic poison. Koch has made about one hundred post-mortem examinations in Egypt, India, and France, and in all cases the result has been the following. He divides the results of his investigations into three different varieties. First, he mentions cases where the lower part of the ileum and cæcum, and particularly above the ileo-cæcal valve, had assumed a dark-brown, reddish color, the mucous membrane being studded upon the surface with hæmorrhagic exudation. In a few cases he found diphtheritic patches, and the membrane almost necrotic. In accordance with this, the contents of the bowels were not of rice-water appearance, but a bloody, stinking fluid. In the second class of cases the redness was less marked, being only by spots, and in some cases only the edges of the follicles and Peyer's patches were reddened. The last form he considers to be particularly characteristic; it does not appear in any other affection of the alimentary canal, and seems to be peculiar to cholera.

In comparatively few cases did he find the mucous membrane little changed; it looked swollen and less transparent in the upper layers, the solitary follicles and Peyer's patches were more prominent, the whole of the mucous membrane was of a light rose color, but in no case was there capillary bleeding.

In those cases which constitute the third class the contents of the bowels were colorless—not always like rice-water, but more like water which had been mixed with flour. Only a few cases came to his notice where the contents of the bowel were a watery mucus; the reddened edges surrounding Peyer's patches contained the most of the comma bacilli. All the animals which died after being injected with the virus presented the same symptoms and the same post-mortem appearances. Numerous experiments to this effect have recently been made by Koch, Klob, Nicati and Rietsch, Cantani, and others, and all to the same effect. In addition to the foregoing, I may state that the spleen in cholera cases, and in animals which died after being injected with the cholera bacillus of Koch, has always been found atrophied. It seems that the spleen of animals inoculated with the bacterium of Emmerich was found to be the reverse. In my opinion, all the experiments made upon animals must be accepted with caution as regards their bearing upon the cholera-germ question, because no cases are on record in which an animal ever has taken the cholera during any of the great epidemics in India and in Europe. They seem to enjoy an immunity from this disease, and whether we are able to produce it artificially or not is a question not yet solved to my satisfaction.

After this digression, I beg leave to mention one prophylactic which enjoys a reputation with some medical men up to the present time. It is the sulphate of copper, to be taken daily in very minute doses, during the whole course of an epidemic. The French particularly seem to have been impressed with this belief, and Burq, the father of metallotherapy, recommended it in 1857. French medical papers also quoted instances where large bodies of troops marched through cholera districts and enjoyed immunity from the disease, which was explained by the fact that they had been constantly dosed with the copper during the time they traveled through the infected locality. Dr. Garrigues, formerly of this city, stated to me that he attended a hospital with six hundred cholera patients, during the year 1864, at Copenhagen; that he took daily small doses of the copper, and did not get the cholera, but, as he remarked, other physicians in the same hospital, who also did not get the cholera, did not take the copper.

Gentlemen, I think the best prophylactic will be to avoid everything that tends to derange our digestive organs, and which may give rise to an intestinal or gastric catarrh. The healthy gastric juice will certainly kill the cholera germ; but an alkaline condition of the contents of the stomach will be the means of its passing into the intestinal canal, and then the mischief begins. I would, perhaps, recommend taking small quantities of hydrochloric acid every time we drink water. I should certainly prefer distilled or, at least, boiled water to the ordinary drinking-water. Although the bacillus can not live longer than two days and can not reproduce itself in pure water, the ordinary drinking-water may contain enough of the germ to infect us. The same with milk; it should never be used unless it has been boiled first; then milk in particular forms a good nutritive medium for the microbe.

In the rooms of the sick I would strictly enforce the rule that nobody should be allowed to eat or drink except the patient, and I would urge upon the attendants to wash their hands with a solution of bichloride before taking food. I would not trust to any other disinfectants in the rooms of the sick, unless later researches should give us practical proof that some of the articles of commerce now in the market, and highly extolled as disinfectants, will stand the scientific test against cholera germs. It seems that all acids are not destructive to the cholera germ, as is proved by the fact that it will grow upon freshly cut potatoes, and such a fresh cut has an acid reaction. For this reason I would advise to abstain from the use of fruits, apples in particular, because, besides that they have the faculty of rendering the contents of the stomach alkaline, they may also be the direct means of introducing the bacillus into the stomach. In using disinfectants we should strictly avoid those which retard putrefaction, for it has been amply proved that the bacillus of putrefaction is the deadliest enemy of the comma bacillus, and that wherever the former appears the latter disappears. To put sulphate of iron into a cesspool containing excrements of human beings during a cholera epidemic would prepare a good nutritive element for the germ. I would like to call the special attention of our Board of Health to the cesspools of our public resorts, particularly to those of Coney Island. If no proper care is exercised in disinfecting the same, they may be the cause of much suffering. Bichloride in liberal quantities, often applied, will be the only means, in my opinion. Not those means which only deodorize come into consideration in this momentous question, but those disinfectants which kill the germs of the

disease. The best of all means of killing the cholera bacillus is dry heat. If it is subjected to a drying process, it will die within a few hours. For this reason I mentioned before that I did not think the importation of rags from Europe could import the disease also, because all rags, before they are shipped for commerce, are subjected to a drying process. For the reason that dry heat kills the germ, I would recommend stopping the sprinkling of the streets during an epidemic of cholera, and I would also recommend that all the bed-clothing of cholera patients, and all the personal wearing apparel used during their illness, be subjected to a process of dry heat. If all the excrements could be destroyed by fire, it would be better still; but, as such a process would be difficult or impossible to accomplish, let us boil, at least, the clothes in a solution of bichloride, and then subject them to a process of drying in a hot stove, and, if they burn, it will be all the better. No wet clothing of cholera patients should be allowed to hang out in the yards or upon the roofs of houses to dry, there is such a possibility of a strong draught of air taking up the germ and carrying it to a soil where it may grow and increase. Gentlemen, you will remember the appropriate remarks made by the medical officer of the navy who visited our last meeting. You will remember that he told us that during a time when cholera was raging in India a United States man-of-war was lying in the Ganges in midstream, and none of the officers or crew took the cholera. Why did that happen? First, the proverbial cleanliness on board of a United States man-of-war, and, second—and may be, perhaps, first—because they drank only distilled water.

Although I told you that the comma bacillus could live only a few hours in water, and did not multiply there, it may grow upon the soil of the banks of a river, provided the soil happens to have some of the elements necessary for its reproduction. The stream of water may carry the germ along, and by that means become the cause of the disease —one reason more why we should drink only distilled or boiled water during those times, and why we should not sprinkle the streets. I beg leave to mention that Dr. Koch spoke to the Medical Society of Marseilles, and stated that, in his opinion, chloride of lime must not be relied upon as a means for disinfection. He advises keeping a five-per-cent. solution of carbolic acid in all vessels used in the room of a cholera patient. The best means of destroying the germ he considers hot steam, which must be used with an apparatus from which a jet of steam issues of a temperature of 100° C. Such a system may well be carried out in hospitals, etc., but in private dwellings, tenement-houses, etc., it will be impracticable, and I think boiling with a strong solution of bichloride, and afterward drying in a hot stove, will answer our purpose in private practice. The solution of sublimate which he recommends as wash-water for the hands of nurses and physicians who attend cholera patients should be of the strength of 1 to 1,000. Koch also urges to avoid drinking water unless it has been previously boiled, and he himself, during his stay at Marseilles, drank only mineral waters, and always washed his hands in a solution of sublimate before he took his meals. He strongly urges the washing of all cooking utensils, glasses, etc., with boiling water, and is of the opinion that, although beer in all probability does not contain the microbes, the water in which the glasses have been washed may do so, and thus cause infection. Gentlemen, I am of the opinion that our system of sewerage, our water supplies, etc., and the general sanitary condition of this city, thanks to the efforts of the Board of Health, are such that we may consider ourselves well prepared to meet the enemy if he attempts an invasion.

We hear of unclean streets, and in some parts of the city an improvement would be desirable, but, on the whole, we may compare well with such cities as Naples, Toulon, or Marseilles. Although it may be comfortable to contemplate this condition of affairs, vigilance in sanitary matters must not cease, and we, as physicians, should be willing to lend a helping hand to the efforts of the Board of Health to suppress an epidemic by reporting every suspected case as soon as it occurs. I contend that private interest must not be taken into consideration as long as the public welfare is at stake.

I have not mentioned in this paper the report of the English commission which was sent to India to investigate the cholera. The exact words which Dr. Klein used in his report, March 24th, before the Royal Medical and Chirurgical Society of London, copied from the London "Lancet" into the "Deutsche medicinische Wochenschrift," April 16, 1885, are the following: "Comma bacilli of various species have been discovered in other diseases of the alimentary canal, in the fluid of the mouth of normal persons (Lewis), and in old cheese (Deneke). The comma bacilli found by Finkler and Prior in cholera nostras differ in mode of growth from Koch's comma bacilli of cholera; so do those found in diarrhœa due to other causes; but those of the fluid of the mouth are identical with Koch's comma bacilli in *many* respects."

He admits, consequently, that they are not identical in *all* respects, and I may refer you to my former remarks that Dr. Lewis's bacilli do not grow upon alkaline nutritive gelatin. I would recommend to all those of you gentlemen who wish to be informed upon the subject of the cholera bacillus to read the reports to the Scientific Grants Committee of the British Medical Association, by W. Watson Cheyne, Assistant Surgeon to King's College Hospital, etc., and Research Scholar of the British Medical Association, as published in the "British Medical Journal." One of the articles published in the "Journal" of May 2, 1882, I have seen through the kindness of Dr. Hunt, and I found it to be such a lucid and true *exposé* of Koch's discoveries that I beg leave to mention it here. It gives all the illustrations, partly after Koch, and in a great measure after Mr. Cheyne's own investigations, and mentions also the later highly interesting researches of a Mr. E. M. Nelson in reference to the discovery of the flagella of the bacillus, before unknown to me. I would not have mentioned Dr. Klein's report in this paper, because I considered the matter as settled, had not an allusion to it been made at our last meeting, and if the president of the Medical and Chirurgical Faculty of Maryland, at the annual session, May 12th, as reported by

the "Medical Record," May 16th, had not stated in his opening address, "Origin and Diffusion of Cholera," that he "did not consider the parasitic origin of the disease proved, because Koch had not succeeded in producing the disease by injecting the comma bacilli, and Lewis had demonstrated the presence of bacilli in the human system under other circumstances." But not alone Koch, but Klob, Rietsch, Nicati, and others have successfully injected the comma bacillus into the intestines of animals, as already stated before, and Lewis's bacillus is certainly not identical with Koch's. Gentlemen, if a physician has a suspected case of kidney disease, he is expected to test the urine for albumin, and examine into the percentage of urea and look for casts, etc.; but, when it is necessary to make a quantitative analysis of the urine, he will be obliged to get a specialist to attend to the matter; for, even if he has the necessary knowledge and apparatus to do so, he has not the time. If a hospital surgeon removes a tumor from a patient he turns the specimen over to a pathologist for microscopical examination, and I think it will be the same with the examinations of the excrements of suspected cholera cases. We, as practical physicians, will be able to make the primary examinations by cultivation and with the microscope; but when it comes to further scientific researches into the matter, there our duty ends, and also our ability. A constant, untiring observation, together with the minutest attention to details, is necessary to carry out the investigations, and those of us who undertake to work further upon this field, with the hope of adding something new to the general knowledge, will be sorry to find that they worked in vain because they have no time for such researches. We have to content ourselves with utilizing the discoveries made by those who make it their sole study. If the German Government, however, thinks the matter of sufficient practical importance to detail by turns all the medical officers of the army to take a course in the laboratories of the board of health at Berlin, to enable the army physicians to make the necessary investigations for diagnostic purposes, I think it will not be out of the way if I herewith respectfully suggest that our Board of Health detail one of its members to take a course at the lately established laboratory of the Bellevue Hospital Medical College, for the purpose of familiarizing himself with the technical methods of making such investigations, and if, with a little financial aid from the city, the Board of Health could afterward establish a laboratory for biological researches, it would materially further rational sanitary purposes.

RIGGS'S DISEASE.

By G. A. MILLS.

At a meeting of the Connecticut Valley Dental Association, about eighteen years ago, at Northampton, Mass., John M. Riggs, M. D., of Hartford, Conn., was invited to make a proclamation (associated with a clinic) of his views concerning a diseased condition of the gums and the sockets of the teeth which often causes the loosening and falling out of the same. Up to this time nothing had appeared in the literature of dentistry except that which classed this disorder among the incurables, and it was spoken of as the result of senility; hence the common remark among people, "My father's and mother's teeth all dropped out, and it is only a matter of time with me." The removal of tartar as an external deposit upon the teeth was classed simply as an operation of scaling. This operation only recognized the foreign matter that could be seen. Dr. Riggs, in announcing his original views—while he gave it as his opinion that the deposits of tartar were the cause of the disorder under consideration—stated that his observation and experience matured the knowledge that there was a decided progressive inflammation existing under the gums and wasting both the hard and soft tissues, so that their attachments with the roots were gradually being destroyed. His knowledge of surgical principles suggested a practical application to these diseased localities, and he proceeded to the removal of all foreign substances from the roots of teeth, and the trimming of the necrosed edge of the alveolus to the life-line, leaving nature to restore to a normal condition. Dr. Riggs's view naturally excited a variety of comment—some expressing disbelief, and others accepting his novel ideas and statements. Not a few denied the existence of a necrosed edge of the alveolus. Dr. Riggs had devised a set of instruments well adapted for the treatment of this disorder—and these were unique and new, yet there was an effort on the part of a very few to dispute his claim to this invention; this did not prove a success. This body (the Connecticut Valley Dental Association) subsequently passed a resolution giving credit to Dr. Riggs for originality relative to the new pathology of the disorder now termed Riggs's disease, and so named at about that time in honor of Dr. Riggs. I have previously remarked that nothing of the doctor's views had ever been published so far as known. But—having become personally much interested in this disease, and in the discussion of it, and also finding my position regarding it misunderstood by several dentists—I was led to prepare a series of articles (six), which were published in the "Dental Cosmos" during the years 1876 and 1877, under the title of "What I know about Riggs's Disease," in one of which articles I challenged the record of views corresponding to Dr. Riggs's. Since then not a word has come from any source to show that he is antedated in the matter. I may add that a confirmation of his views and their acceptance by many members of the dental profession have gradually taken place. I am glad to say that to-day it is the most prominent subject for consideration before dentists generally. Only a limited number, however, have come to a correct understanding of what is required and how to meet the requirements. These few are demonstrating a successful treatment of the disorder. At this point of my article it seems advisable to introduce a feature which I shall elaborate later on; it is in reference to the technical term by which this disorder is now known—viz., *pericementitis*, substituted for the term well known by medical men—dental periostitis—meaning inflammation of the dental periosteum. This term (pericementitis) originated in the laboratory of Charles Heitzman, M. D., of New York city, during the late investigations made there by dentists under his instruction. The general subject of perice-

mentitis it is not my design to discuss here, but it is necessary to make the distinction clear between Riggs's disease and general pericementitis. Riggs's disease is a peculiar phase of pericementitis; it may exist to the final loss of all the teeth, without a sign of any other phase of this disorder.

As the nature of this disease is so plainly embodied in my brief history of the matter which includes its pathology, it would seem that my readers need not be ignorant of its main features; therefore I pass to consider the diagnosis.

To diagnosticate an incipient case, or first manifestation, as it is often seen in the mouths of children (even at a very early age): The simplest form of the disease may often be seen at the peripheral part of the festoon of the gum-tissue indicated by a congested appearance; by lifting this gum with a delicate instrument, there will be seen a little seed-like granule of calcific substance. Another case might show a deep red and raw-looking, elongated appearance of the gum-tissue about the necks of the teeth, and with or without any deposit; there may be also a looseness of the gum about the teeth, which causes quite a pocket. This latter condition is often a sequela of exanthematous disorders. The gums are often extremely sensitive to the touch. In the various cases we find general congestion, easy hæmorrhage, pale and bloodless gums, a decidedly anæmic and frequently pimpled surface of the gums—the latter appearance in adults. Not uncommonly a first warning to the patient (adult) will be pain or tenderness about the tooth or teeth, and an examination will not reveal any decay, death of pulp (commonly called nerve), or evidence of inflammation of pulp. This is what I shall term a subtle manifestation, for it has been believed there could be no inflammation of the dental membrane without a disturbance of the pulp. This is now proved to be untrue, for abscesses do occur while the pulp remains normal. In a large proportion of cases there will be, on light pressure, a flow of pus from under the gums, and oftentimes it is a copious discharge. This may be general, or it may be confined to a single tooth. Looseness of one or more of the teeth may be observed; also malposition, and this commonly after an occluding tooth is lost. I have given in detail enough of the manifestations to lead one even superficially familiar with unhealthy conditions to the diagnosis. It will be observed that I have omitted other conditions of disease that are manifested in the mouth, associated with the teeth and allied structures—viz.: syphilis, salivation, and scurvy. While in some instances these may be separated from the disorder in question, yet they are sometimes complications. I will mention another marked diagnostic feature associated always with an active stage of the disorder, and that is the odor which is distinctly noticeable to one familiar with Riggs's disease. There are other local manifestations that are, without doubt, largely influenced by the disease, but are commonly classed as expressions of constitutional debility, and still they may be wholly the result of the disorder under definition. This is proved by the arresting of the disease when the disabilities referred to are removed. Recession of gum-tissue is often seen, and no apparent inflammatory condition. While this is a peculiar phase, I maintain it is the same disorder. My term for it is atrophy of the gum-tissue—erosion of the tooth-structure, causing grooves across and around the necks of the teeth, not infrequently taking a serpentine direction. This also is a manifestation of the same disorder, as it is arrested by the treatment which will now be described.

Treatment.—As the nature of the disorder has proved to be novel, so will the treatment appear, as Dr. Riggs was the inventor of a set of instruments with which to perform the operations required in treating the disease. Each one is six inches in length, including the handle, which is of ebony and steel, octagonal and tapered; the blades are seven eighths of an inch long, bent at an obtuse angle. The instruments are in two pairs, and there are two single ones. One pair has a knife edge and a safe edge; the other pair has the same, but these are reversed in their bevels—made so for the purpose of working at a different angle of the mouth, and from the operator instead of toward him. The single ones are double knife-edged, and differing in thickness of blade. Perhaps no better idea can be given of the general form of the blades than to say they resemble the half of a snipe's bill, the long, ovoid point being particularly adapted to ferreting out the intricate and deep-seated disordered parts of the hard and soft tissues about the roots of the teeth. In their dimensions they may seem ponderous to a novice, but in the hands of an expert no instrument can be more efficiently and delicately used. It must now be seen, by the description and location of Riggs's disease, that most of the operation is under the gum-tissue and out of sight, so that necessarily to know when the operation is complete at a given point can only be accomplished by an acquired and acute sense of touch. It may be said that the Riggs treatment has instituted a distinct and systematic mode of arresting the disease. Rightly understood and rightly practiced, I regard this treatment as the most efficient in dental surgery. The severity of the cases differs according to constitutional conditions, and, if the dentist is the doctor, he will know whether the patient can be wisely aided by constitutional treatment. The prognosis must be based upon the conditions as they appear in each case.

From an extensive experience within the last ten years in the treatment of a large number of cases, and the success attained, I am justified in saying that Riggs's disease can no longer be classed among the incurable ones.

It is perfectly plain that this disease is not confined to any one period in life. Under the age of forty I have had numerous cases in the most active stages of progress—so noticeable that there was almost spontaneous hæmorrhage of the gums, and such an excessive flow of pus that the service of napkins for absorbing was required in sleeping hours. These facts can be testified to by well-known physicians. As one impressed with the prevalence of Riggs's disease, and its destructive effect on the general health, I should be remiss in duty if I were silent, or neglected to call the earnest attention of medical men and the public to the grave facts, for they have had too little consideration. I would say emphatically that the most serious complications may arise, and the worst septic conditions may be threatened

and encountered, from pure neglect. That one disorder not arrested calls others of a more serious nature into existence is a well-known fact among medical men.

Book Notices.

A Text-Book of the Principles of Physics. By Alfred Daniell, M. A., Lecturer on Physics in the School of Medicine, Edinburgh. London: Macmillan & Co., 1884. Pp. xx–653. [Price, $5.]

This book is intended to be used in the preliminary medical course. The author justly lays stress in the preface upon the importance of the study of physics, and the close relation between that branch and the department of experimental physiology. He states that it is his express purpose to avoid the introduction of "anything of the nature of an unsolved riddle" into his work. But the reader will find himself greatly in error if he regards this as an elementary treatise; a mere glance at the table of contents will assure him that he has not entered upon a course of light reading. The subject-matter is arranged in an ascending series. Beginning with introductory sections upon matter and its properties, we soon reach a solid chapter on "Kinematics," under which are included wave-motions and their demonstration by the aid of the higher mathematics. We prophesy that this will prove a tough morsel for the student, especially if he approaches it without a previous knowledge of the subject.

Under "Kinetics" are included the familiar problems of the lever, inclined plane, screw, and wedge, with a paragraph on friction. "Attraction and Potential" and "Gravitation and the Pendulum" form the subjects of Chapters VII and VIII. Chapters IX, X, XI, and XII include "Matter," "Solids," "Liquids," and "Gases." With Chapter XIII we begin an exhaustive consideration of "Heat," which is fully up to the latest theories. This is followed by "Sound," "Ether-waves" (as the author calls his chapter upon light), and a concluding dissertation upon "Electricity and Magnetism." An exhaustive bibliography and an excellent index conclude one of the most scholarly works on physics that we have ever had the pleasure of perusing. We regret that we can not give a more extended notice of the book, but this is hardly permissible in a strictly medical journal. The reader who is prepared to give his close attention to every page is advised to look it over for himself. A superficial reading is worse than useless, for, as we before stated, this is not light literature. The criticism which we venture to offer upon the volume as a whole is that it is entirely too advanced for the class for whom it is written. When we remember that the average medical student has not enjoyed a university education, we are compelled to believe that many of the pages of formulæ and mathematical demonstrations will be quite beyond his grasp. As for the "general reader," whom the author also includes among his audience, it will be a very intelligent general reader indeed who profits by some of the more abstruse paragraphs.

Some of the familiar illustrations of physical apparatus have been introduced (we think unwisely), but their places have been supplied by numerous geometrical figures, often quite complicated. We do not wish to underrate the ability of our American medical students, but we must confess that few of them would take pleasure in physics with such a text book. A little less of mathematics and a little more of the practical application of theories would be highly desirable.

The volume is a model of neatness and accuracy. The clear type, systematic arrangement—in fact, the *tout ensemble*—reflect great credit upon both author and publishers.

Resoconto clinico del comparto speciale per le malattie cutanee dell' Ospedale Maggiore di Milano, nel seiennio 1879–1884. Memoria del D. Ambrogio Bertarelli, medico aiutante. Milano: Tipografia Bortolotti di Dal Bono e C., 1885. Pp. vii–159.

As its title indicates, this book is a clinical report of the dermatological wards of the Ospedale Maggiore, of Milan, for the six years from 1879 to 1884 inclusive. We welcome it as another evidence of the intellectual activity of Italy, and as a voice from one of the largest hospitals in the world—one that was in operation before this country was discovered.

Unlike many hospital reports, it is not a mere collection of statistics, but resembles rather a series of clinical lectures upon selected and more or less uncommon cases that have come under the writer's notice. About thirty diseases of the skin are treated of, illustrated by cases, and discussed in regard to their ætiology, pathology, diagnosis, and treatment. The histories of many of the cases will well repay perusal, notably one of acute gangrene of the skin from softening of the brain. Much space is devoted to the consideration of eczema, lupus, and the parasitic diseases.

The author is an enthusiastic disciple of Hebra. His views are, nevertheless, not limited by the horizon of the Vienna school, but are catholic in scope. We notice that in his therapeutics he has given fair trial to the methods of the representative men of all nations, and his deductions from these trials enhance the value of the work. The book is of value as an exposition of the state of dermatology in Italy at the present time, and we can only regret that Dr. Bertarelli has stopped short of giving us a complete treatise upon the diseases of the skin as seen in his country.

BOOKS AND PAMPHLETS RECEIVED.

Gout, and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M. D., Fellow of the Royal College of Physicians in Edinburgh. London: H. K. Lewis, 1885. Pp. xii–158.

Manual of the Antiseptic Treatment of Wounds. For Students and Practitioners. By W. Watson Cheyne, M. B., F. R. C. S., Assistant Surgeon to King's College Hospital, etc. With Illustrations. New York: J. H. Vail & Co., 1885. Pp. xiii–151.

L'Année médicale (septième année), 1884. Résumé des progrès réalisés dans les sciences médicales. Publié sous la direction du Dr. Bourneville, Médicin de l'hospice de Bicêtre, Rédacteur en chef du "Progrès médical." Paris: E. Plon, Nourrit et Cie., 1885. Pp. viii–409.

Resoconto clinico del comparto speciale per le malattie cutanee dell' Ospedale Maggiore di Milano, nel seiennio 1879–1884. Memoria del D. Ambrogio Bertarelli, medico aiutante. Milano: Tipografia Bortolotti di Dal Bono e C., 1885. Pp. vii–159.

A Manual for Hospital Nurses and Others engaged in attending on the Sick. By Edward J. Domville, L. R. C. P. Lond., etc. Fifth Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 96. [Price, 75c.]

The Pre-albuminuric Stage of Chronic Bright's Disease. By Charles W. Purdy, M. D., etc. Chicago: Clark & Longley, 1885. Pp. 35.

Poliambulanza delle specialità medico-chirurgiche, premiata con medaglia d' argento all' Esposizione di Torino. Il primo anno di vita (1 Ottobre, 1883–30 Settembre, 1884).

THE
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A Weekly Review of Medicine.
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THE INTERNATIONAL MEDICAL CONGRESS.

So far as our information goes at the time we go to press, the week has been comparatively barren of striking incidents growing out of the International Medical Congress difficulty. We have no knowledge of further concerted action in the way of resolutions of disapproval and withdrawal, but individuals have in a number of instances publicly declared themselves in accord with the action taken in Philadelphia, Boston, Baltimore, and Washington, and at the same time expressed their intention not to take part in the Congress as at present sought to be organized. It is worthy of note that not a few of these gentlemen are residents of the West.

The inglorious part played by the New Orleans meeting of the American Medical Association continues to be the subject of comment. We have received a number of private communications approving of the position we took in our issue of the 11th inst., in which we explicitly fixed the responsibility for the present disgraceful state of affairs upon the association—not merely finding fault with the fortuitous indiscretion of the New Orleans meeting, but tracing the possibility of that action to the debased condition of the association itself. Many of our contemporaries are taking the same view of the matter, and some of them contain very pointed expressions. The "Medical Record" says that we have shown the association to be "a useless and mischief-making body." It precedes this statement with the remark that we were "at first a little non-committal, not to say strabismic," in our views; but this we take in the Pickwickian sense which is occasionally to be discerned between the "Record's" lines, and are content with its thorough approval of the position that it finally discovers us to hold.

The "Medical News" says: "The men who are engaged in original research, and who are best known as those who are contributing to the honor and dignity of American medicine by their writings and teachings, are not usually active in medical politics or in the supervision of their medical brethren, nor are they given to log-rolling and striving for office. For the past ten years these men have been becoming dissatisfied with the tone of the American Medical Association, and, while many of them have not formally severed their connection with it, they have nevertheless ceased to attend its meetings."

The "Maryland Medical Journal" uses the most forcible language to express its condemnation of the American Medical Association, as will be seen by its editorial of last week, which we reproduce elsewhere in this issue. The "Canada Medical and Surgical Journal" alludes to the withdrawals, and adds: "When we ask why they take this serious step, we learn that they have, in the first place, a deep distrust of the American Medical Association as an organization which could satisfactorily carry out such an undertaking."

Speaking of the general subject, the "Medical Times and Gazette," of London, says: "There is a very unfortunate discussion going on at present in professional circles in America, which, it is quite possible, may turn out disastrously for the International Medical Congress which it has been decided to hold at Washington in 1887. It will be remembered that a small Committee of the American Medical Association was nominated by the executive of the Copenhagen Congress, with full power to add to their number, and to act on behalf of their professional brethren. Carrying out their mission, they chose as colleagues twenty-eight leading American practitioners, especially selected on account of their standing in the profession, and drew up the programme which has already been published. Subsequently, when the Committee reported to the meeting of the American Medical Association at New Orleans, exception was taken to their proceedings on the plea that they had exceeded their powers, and had no commission to act on behalf of the association. The jealousies that had been roused among those who had been passed over in the co-optative selection were worked upon by two or three pushing wire-pullers, and, in the end, resolutions were passed, revising the work of the Committee, and substituting a Committee of thirty-eight men selected from the different States and Territories for those added to their number by the original Committee. At a subsequent meeting, the results of which we are daily expecting to hear, the subject was again to come under consideration, and we learn that it was the intention of all the leading practitioners in the States to withdraw from the Congress, if the decisions of the original Committee were not treated with more respect. We sincerely hope that the profession in America will strenuously support their recognized leaders; otherwise they will make an exhibition of themselves to the world, and, besides imperiling the future success of those international gatherings which have hitherto been conducted with so much harmony, will distinctly lower the respect in which the profession is held throughout the world."

MINOR PARAGRAPHS.

"DANIEL'S TEXAS MEDICAL JOURNAL."

"DANIEL'S TEXAS MEDICAL JOURNAL" is now, to use its own expression, launched. We lately took occasion to commend Dr. Daniel's undertaking, and he now reciprocates by mentioning this journal a number of times in his first issue. To be sure, much of what he puts forward as quotations from our columns never appeared in them, but we have grown quite accustomed to being misquoted and to having our meaning perverted. It seems that this journal was not the only one to notice Dr. Daniel's journal in advance of its appearance, for he quotes the following—and we envy the state of mind that enables him to reproduce it with apparent satisfaction—from the "Denver Medical Journal": "Dr. E. E. Daniel, of Austin, Texas, sends us the prospectus of 'Daniel's Texas Medical Journal.' To those of our readers who were lovers of the editorial writings of the much lamented Gaillard we commend Dr. Daniel as the coming

'Mephistopheles of medical journalism.' At least we will venture to so christen the baby." We wonder if Dr. Daniel has ever read Faust, and we wonder also if the "Denver Medical Journal" realized with what sort of character it coupled the name of a man who was utterly free from guile.

VIVISECTION IN ENGLAND.

We regret to learn that Mr. Lawson Tait has again thought fit to cast the weight of his influence publicly in aid of the anti-vivisection mania in England. We do not question his entire conscientiousness in the matter, and it is even conceivable that he might make a good argument in favor of the proposition "that vivisection is not only useless in solving riddles such as we have to deal with, but that it is absolutely misleading." A forcible argument could perhaps be made in support of that position, but certainly not one that would prove convincing to the present generation of medical men, who owe almost all that they possess of real physiological knowledge to the practice which Mr. Tait condemns.

THE PROPOSED TEACHING OF HYGIENE AT WEST POINT.

It seems to us that a most excellent suggestion has been made in the recent report of the Board of Visitors of the Military Academy, namely, that the officers of the medical corps on duty at the post should give lectures on hygiene to the senior class of cadets. Not only is it indisputable that a knowledge of the principles of hygiene by the line officers of the army is in the highest degree desirable, but it is also scarcely less certain that for the medical officers in question to devote a portion of their time to teaching those principles would be both agreeable and profitable to them as individuals and as officers. Moreover, in the course of a very few years the whole medical corps would find its routine duties much facilitated by the increased readiness with which officers in command of posts would grasp the purport and appreciate the importance of the hygienic measures recommended by the medical officers from time to time. We trust, therefore, that the board's suggestion will meet with favor at Washington.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 21, 1885:

DISEASES.	Week ending July 14.		Week ending July 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	1	0
Typhoid fever	9	2	10	2
Scarlet fever	31	9	40	14
Cerebro-spinal meningitis	4	3	4	3
Measles	55	10	48	8
Diphtheria	55	24	59	23
Small pox	2	1	2	0

Small-pox is reported as prevailing in the town of Scotland, in Dakota, twenty-five cases having been discovered last Sunday.

Anthrax in Louisiana.—Anthrax is reported to be prevailing extensively among cattle in the region of New Iberia, La.

The International Sanitary Conference and the Disinfection of Rags. One of the incidents in a controversy that has been going on for some months between certain sanitary officers and the importers of rags was the suggestion that a report of the proceedings of the recent International Sanitary Conference held in Rome, which appeared in a Philadelphia medical journal, contained an interpolation by the correspondent of the journal in question, in the following clause: "Disinfection of merchandise and of the mails is unnecessary (steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros*)." This suggestion having been urged in the "New York Times," the American delegate to the Conference, Dr. George M. Sternberg, of the army, wrote to that paper denying the truth of the charge and affirming the accuracy of the account given in the Philadelphia journal. The "Times" now returns to the matter and publishes the following remarkable statement: "A gentleman of this city, who is interested in the importation of paper stock, wrote to Dr. Koch, at Berlin, for definite information on this point, and yesterday he received a cablegram stating that no such words as those quoted in parentheses appear in the report of the committee."

The American Laryngological Association.—At the recent annual meeting, held in Detroit, Dr. Wilhelm Meyer, the distinguished professor of laryngology in the University of Copenhagen, and president of the combined laryngological and otological sections of the last International Medical Congress, was unanimously elected a corresponding fellow of the association. Dr. H. Clinton McSherry, of Baltimore, and Dr. Charles H. Knight, of New York, were elected to active fellowship.

Professor Tyndall's Gift to American Colleges.—The "British Medical Journal" states that the proceeds of Professor Tyndall's lectures in the United States in 1872, which, with the accumulated interest, now amount to $32,400, are to be divided equally between Columbia College, Harvard University, and the University of Pennsylvania.

The Medico-Chirurgical College of Philadelphia.—We learn that Dr. F. Le Sieur Weir has severed his connection with the college.

The Death of Dr. Thomas E. Burtsell, of New York, took place on Thursday of last week. The deceased was a graduate of the Medical Department of the University of the City of New York, in the class of 1844.

The Death of Surgeon Joseph H. Bill, of the Army, took place in Yonkers on Tuesday last. He was a native of Pennsylvania, and was appointed first lieutenant and assistant surgeon April 13, 1860. March 13, 1865, he received the brevet ranks of major and of lieutenant-colonel for faithful and meritorious service during the war. April 13, 1865, he was commissioned captain and assistant surgeon, and July 28, 1866, major and surgeon. His death is said to have been due to Bright's disease.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 12, 1885, to July 18, 1885:*

Vollum, E. P., Lieutenant Colonel and Surgeon. To be relieved from duty in Department of the East on the expiration of his present leave of absence and to report to commanding general, Department of the Platte, for assignment to duty as attending surgeon at the headquarters of that department. S. O. 159, A. G. O., July 14, 1885.

Middleton, J. V. D., Major and Surgeon. Leave of absence extended fifteen days. S. O. 159, A. G. O., July 14, 1885.

Brown, J. M., Major and Surgeon, Captain Clarence Ewen, Assistant Surgeon, Captain A. W. Taylor, Assistant Surgeon, and First Lieutenant W. C. Borden, Assistant Surgeon. Ordered to prepare for field service. S. O. 64, Department of the Platte, July 9, 1885.

GRAY, W. W., Captain and Assistant Surgeon. Relieved from duty at Fort Barrancas, Fla., and ordered for duty at Fort Columbus, New York Harbor. S. O. 147, Department of the East, July 13, 1885.

EVERTS, EDWARD, First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort McDermit, Nevada. S. O. 68, Department of California, July 11, 1885.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Benicia Barracks, California. S. O. 68, Department of California, July 11, 1885.

WINNE, C. K., Captain and Assistant Surgeon. Ordered for duty at Benicia Arsenal, California. S. O. 68, Department of California, July 11, 1885.

EDIE, G. L., and C. S. BLACK, First Lieutenants and Assistant Surgeons. Ordered for duty with troops en route to Department of Missouri. S. O. 78, Department of Texas, July 10, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending July 18, 1885.*

OWENS, THOMAS, Assistant Surgeon. Granted sick leave for one month. July 14, 1885.

Society Meetings for the Coming Week:

MONDAY, *July 27th:* Boston Society for Medical Improvement.

TUESDAY, *July 28th:* Medical Society of the County of Putnam, N. Y. (annual).

WEDNESDAY, *July 29th:* Auburn, N. Y., City Medical Association; Gloucester County, N. J., Medical Society (quarterly); Berkshire District (Pittsfield) and Middlesex North District (Lowell), Mass., Medical Societies.

THURSDAY, *July 30th:* Cumberland County, Me., Medical Society (Portland).

Proceedings of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-first Annual Session, held at the Pequot House, New London, Conn., Wednesday and Thursday, July 15 and 16, 1885.

Wednesday's Proceedings.—Morning Session.

THE meeting was called to order by the president, Dr. WILLIAM F. NORRIS, of Philadelphia.

Operation for the Removal of a Dislocated Crystalline Lens.—Dr. C. R. AGNEW, of New York, related the steps of the operation as follows: The pupil was dilated, and the patient was then etherized and cocaine was applied. The eye was secured with fixation forceps. An instrument resembling a two-pronged fork, which was termed a bident, was introduced into the vitreous chamber behind the dislocated lens, pressing it forward. Section was then made and the lens removed. The eye was dressed with absorbent cotton and a black silk bandage. Antiseptic solutions were used, and a four per cent. solution of cocaine was applied twice a day. The eye recovered without any unpleasant symptoms. The speaker did not claim that all dislocated lenses should be removed, but this instrument facilitated the operation when it was required.

Extraction of a Dislocated Lens.—Dr. DAVID WEBSTER, of New York, reported the case of a patient who received a blow on the right eye. This was immediately followed by loss of sight. Examination showed that the lens was dislocated. No treatment was recommended at that time. Some months later, pain suddenly appeared in the injured eye. The lens was found to be cataractous and incarcerated in the pupil. Cocaine was applied, but did not relieve the pain. Atropine relieved the pain. Later the lens became loose and was found in the vitreous. The tension was normal. It was decided to remove the lens. The bident was passed back of the lens, pressing it forward. The incision in the cornea was then made and the lens removed with a spoon. The eye was dressed with absorbent cotton, and recovered without complication.

Dr. H. KNAPP thought that in these cases there was not much difficulty in removing the lens, which could often be accomplished with the loss of very little vitreous, but the danger came in afterward from inflammatory complications; and where the sight was lost he thought it better to enucleate the eye at once and thus lessen the dangers of inflammation.

Dr. WILLIAMS, of Cincinnati, agreed with Dr. Knapp that enucleation was the best procedure.

Dr. AGNEW thought that the bident might also be useful in the removal of foreign bodies from the interior of the eye. He did not acquiesce in the view that enucleation was a simple operation. He regarded it as a serious mutilation.

Dr. C. H. WILLIAMS, of Boston, thought that there was another alternative than those mentioned, and that was evisceration of the eye, and closure of the anterior opening with sutures. He thought this better than enucleation, and it gave a better stump for the artificial eye.

Extraction of the Lens in its Capsule.—Dr. D. B. ST. JOHN ROOSA, of New York, said that for the past three years he had been in the habit of removing the lens in its capsule, in a large proportion of cases without iridectomy. The section was made as usual, but large. After puncture and counter-puncture were made, the knife was turned on its back so that it rested on the iris. It was then moved up and down two or three times until the lens was seen to move; then the section was completed, and the lens could usually be removed without loss of vitreous. Sometimes after the operation the iris was rolled under, but in many cases the pupil was circular. Dr. Roosa had performed the operation between thirty and forty times, and was satisfied with his success.

Sub-conjunctival Luxation of the Lens.—Dr. GEORGE C. HARLAN, of Philadelphia, reported two cases. In the first case no operation was recommended, as vision was good. In the second case the lens was removed. In those exceptional cases in which vision remained, the operator should think twice before resorting to removal.

Dislocation of the Lens under Tenon's Capsule.—Dr. O. F. WADSWORTH, of Boston, reported a case in which the eye had been injured two weeks before the patient came under observation. There was loss of sight, pain about the eye and irritation of the other eye, the cornea was hazy, and there was blood in the anterior chamber. The eye was enucleated, and it was found that the lens was beneath Tenon's capsule, and that it was held in this position by inflammatory tissue.

The Treatment of Purulent Conjunctivitis.—Dr. J. A. ANDREWS, of New York, read a paper on this subject in which he said that the treatment was based upon the belief that the contagious element was of the micrococcus variety. He related a case in which he had secured an inoculation of the seventh generation of a pure cultivation of a gonococcus. This was the first case inoculated with the gonococcus. He exhibited an instrument which he had devised to wash out the conjunctival *cul-de-sac*. It consisted of an eye speculum with hollow arms through which fluid might be passed. He had found [illegible] of mercury solution (1 to 10,000) serviceable, but agt[illegible] A six-per-cent. solution of boric acid was also found efficient.

A two-per-cent. solution of carbolic acid was useful, as it inhibited the movements of the white corpuscles. Irrigation should be maintained for ten minutes in order to remove all secretion. Nitrate-of-silver solution (two to twelve per cent.) was then used, and an antiseptic dressing was next applied. This consisted of vaseline and boric acid or carbolic acid; but he laid especial stress upon the importance of maintaining irrigation of the conjunctiva by means of the instrument referred to.

Abscess of both Frontal Sinuses.—Dr. Charles S. Bull, of New York, related a case in which the patient had been hit on the forehead fourteen years previously with a piece of wood. This produced a fracture of both nasal bones and deviation of the septum. In seven weeks the wound had closed. Ten years after the accident a swelling was noted at the upper inner angle of the right orbit which could be made to disappear by pressure. There was complete ptosis. An incision was made into the swelling just beneath the orbital margin and a large quantity of pus escaped (two or three ounces). The cavity was washed with a five-per-cent. solution of carbolic acid. The septum between the two frontal sinuses was absorbed and both sinuses were converted into large cavities. The entire ethmoid bone was an immense cavity, the bony suture being absorbed. A number of osteophites were removed and a drainage-tube was introduced. The patient was discharged six weeks after the operation and recovered completely. The ptosis disappeared and the eye was restored to the normal plane.

Dr. Knapp recommended the substitution of a silver tube for the rubber drainage-tube usually employed.

Bony Tumor of the Orbit.—Dr. B. E. Fryer, of Kansas City, Mo., related the case of a boy six years of age who came under observation in April, 1885. There was swelling of the left orbit, which included the whole line of the superciliary ridge. It was quite hard. The boy had been struck with a piece of wood. It was decided to remove the tumor. This was done, and, on examination, it proved to be a cyst within which was a small piece of wood. This was inclosed in bone on all sides. The edges of the wound were brought together and healing resulted without complication.

Sarcoma of the Orbit in a Child.—Dr. W. H. Carmalt, of New Haven, Conn., reported the case of a child of ten years of age from whom he removed a small growth from the upper lid. Six weeks later the growth had returned. An exploratory operation was done, and it was found that the growth extended into the orbit, and that it was impossible to remove it entirely. It was therefore decided not to complete the operation. The child had since died, and the tumor proved to be a rapidly growing sarcoma. He thought that, if in young children the tumor appeared to be quickly recurrent and not easily isolated, no operative interference should be attempted.

Dr. Kipp, of Newark, thought that in many cases these tumors of the orbit were not primary, but secondary, and that the primary tumor might be in such a position as not to attract attention.

Dr. Harlan, of Philadelphia, reported several instances of inflammatory exudations in the orbit simulating tumors, and illustrating the importance of exercising great care in diagnosis.

Some of the Results obtained in the Compilation of 1,000 Cases of Refraction.—Dr. E. E. Holt, of Portland, Me., had been in the habit of recording all the measurements connected with the prescribing of glasses. As a result, he had found in 1,000 cases thus recorded, the average distance between the centers of the pupils of the human eye to be about 60 mm. The average of other measurements was given, and the importance of the physician determining and designating them, and then seeing that they were carried out, was dwelt upon.

Rapidly Progressive Myopia checked by Section of the External Rectus.—Dr. Harlan related the case of a boy of sixteen in whom myopia was progressing rapidly. The external rectus was divided seven years ago. The internal rectus was also excised by the use of prisms. Since then there has been no increase of the myopia.

Progressive Astigmatism.—Dr. Samuel Theobald, of Baltimore, related three cases of this affection.

Afternoon Session.

Hypermetropic Refraction passing into Myopic Refraction.—Dr. S. D. Risley, of Philadelphia, had on previous occasions called attention to five cases of a similar kind, and the object of his paper was simply to report six additional cases seen within the past year.

The Demonstration of Refraction and Accommodation.—An apparatus for this purpose was exhibited by Dr. Lucien Howe, of Buffalo, N. Y. It consisted of two bands of thin metal bent in such a manner as to represent the outlines of a double convex lens, and passing through it were two jointed rods representing the rays of light ordinarily figured as passing through such a lens and joining at its focus. The flexible bands were attached to each other above and below, so that, by approaching or separating the sides, they could be made to show less or greater convexity. The rods representing the rays of light were jointed near the center in such a way that while the two halves could be placed in such a direction as to show the light as entering parallel to the axis of the lens, the other two portions could be bent to a point to show the convergence of rays at the focus. By alteration in the position of these rods, and also in the forms of the bands representing the lens, all the different variations of the laws of refraction and the changes in accommodation could be demonstrated to a class.

Two Cases of Unilateral Temporal Hemianopsia.—Dr. C. S. Bull read a paper with this title. [It will be published in full in a future number of the journal.]

Penetration of the Eyeball with Scissors in the Operation for Strabismus.—Dr. H. Derby, of Boston, reported two cases, the first of which was that of a young man on whom an operation for strabismus had been attempted. The surgeon inadvertently picked up a pair of sharp-pointed scissors. The point of the scissors suddenly penetrated the eyeball, and a portion of vitreous, equal in size to a cherry-stone, escaped. The operation was abandoned, and Dr. Derby was called to see the case. The eye was bandaged and the patient put to bed. Several attacks of inflammation supervened, but the patient was discharged on the forty-first day with $V = \frac{7}{10}$.

In the second case the scissors also entered the sclerotic, but, after a somewhat tedious convalescence, the wound was found closed on the twenty-first day with vision as good as before the operation.

Dr. Knapp stated that he had done three thousand squint operations, and in three cases he had punctured the sclerotic. He, however, completed the division of the muscle, and the patients recovered as readily as from an uncomplicated operation.

Dr. Mittendorf thought that in case the accident happened the division of the muscle should be completed.

Dr. E. Williams reported a case in which he had punctured the eye. The patient recovered without difficulty.

Strabismus; its Correction when Excessive and in High Degrees of Amblyopia.—Dr. E. E. Holt read a paper with this title, in which he said that he had employed advancement of the weakened, attenuated muscle in connection with tenotomy in certain cases of squint, and after tenotomy alone had failed to correct the deviation. He also exhibited an apparatus that he had devised for showing the associated and accommoda-

tive movements of the eyes and the effects of tenotomy and advancement of the muscle in correcting squint.

Dr. Kipp had at one time employed advancement, but he had given it up because it was difficult to graduate the result.

The Treatment of Strabismus Internus.—Dr. W. W. Seely, of Cincinnati, read a paper with this title, and from which he made the following deductions: 1. That, with our present knowledge, routine operative interference is wrong. 2. That to thoroughly correct the deviation in young children by operative interference is extremely liable to subject them in after life to insufficiency or external squint. 3. That a later period of life, if anything, favors better results from operative interference.

Dr. Knapp considered advancement a dangerous operation. He had always been able to correct the deviation by two or three tenotomies, and, if necessary, by stitching the eye to the commisure.

Dr. Theobald indorsed Dr. Knapp's views in reference to advancement. He was surprised at the conclusions of Dr. Seely. Squint operations in his hands had been very satisfactory. If postponed, they were likely to prove unsatisfactory on account of the amblyopia which was liable to develop.

Dr. O. F. Wadsworth had convinced himself that amblyopia from squint did not occur. The ability of the patient to use the vision which he had seemed to be lost by a continuance of the squint, but it might be recovered by practice.

Ectropion of Both Lids; Blepharoplasty by the Italian Method.—Dr. R. H. Derby, of New York, reported a case in which the displacement of the lids was the result of cicatricial tissue from a severe and extensive burn of the face. The lids were loosened from their attachments, and the new lids were formed from flaps raised from the arm. The arm was bound to the head with water-glass plaster, and the pedicle was not divided until union had taken place.

Plastic Operations without Pedicles.—Dr. B. Joy Jeffries, of Boston, read a paper with this title, in which he suggested the use of the prepuce from the circumcision of Jewish children for operations about the eyes. He also suggested that in plastic operations the desired result might be obtained without the use of a flap by employing carbolized-oil dressings to retard healing.

(To be concluded.)

AMERICAN OTOLOGICAL SOCIETY.

Eighteenth Annual Meeting, held in New London, Conn., Tuesday, July 14, 1885.

The President, Dr. C. H. Burnett, of Philadelphia, in the Chair.

Dr. Charles J. Kipp, of Newark, showed a copy of Retzius's work on the "Anatomy of the Organ of Hearing in Vertebrate Animals."

The President reported the deaths of two members during the year—Dr. John H. Dix, of Boston, and Dr. Edward T. Ely, of New York.

Inflammation of the Attic of the Tympanum.—Dr. Samuel Sexton, of New York, read a paper in which he first referred to the importance of inflammation arising in the attic as compared with that arising in the atrium. The atticus tympanicus was described as that portion of the tympanum lying above a plane extending transversely from the prominence on the inner wall, formed by the external semicircular and facial canals, to the auditory plate on the outside. Beneath this plane lay the atrium tympanicum. Over the attic arches were the tegmen, which also covered the antrum, the petro-mastoid canal, a varying number of cellules, and the Eustachian tube. The attic communicated freely with the antrum by means of the petro-mastoid canal of Sappey. The mastoid antrum lay behind and to the outer side of the attic, in the spongy substance of the mastoid. It was usually larger than the attic, and, as a rule, extended downward among the cellules of the mastoid process, giving off frequently a small passage, communicating with the cellules overlying the external auditory meatus. The attic was divided below into two compartments, the inner being the larger, by the incus and malleus, the cord, ligaments, etc., which formed a partial antero-posterior partition. These compartments communicated freely with each other above, with the atrium below, with the Eustachian tube in front, and with the antrum behind. The outer compartment was wedge-shaped, larger above, and shut in below by the close approximation of the large ossicles to the auditory plate, except anteriorly and posteriorly, where two small openings allowed of drainage into the atrium below. The inner compartment also communicated with the atrium by an elliptical opening surrounded on the inner side by the facial canal and on the outer by the large ossicles, the cord, ligaments, etc. All these cavities were lined throughout with mucous membrane. Acute inflammation of the attic might result from catarrh of the head, the exanthemata, or the entrance of fluids propelled along the Eustachian tube in bathing or from the use of the nasal douche. Irritating fluids seemed always to be better borne in the lower than in the upper part of the tympanum. Inflammation of the attic might occur in connection with, or be independent of, inflammation of the atrium. It was the more serious from the fact that swelling of the mucous membrane clogged the outlets and prevented drainage. In such cases the membrana flaccida was red, the vascular turgescence extending above into the external auditory canal and sometimes downward about the short process of the mallet. Should the disease progress further, the inflammation might extend beneath the margo tympanicus of the auditory plate, and be followed by effusion of serum and blood, which pressed away the membrana flaccida and the integument of the canal, producing a bulging sac so great sometimes as to entirely conceal the membrana tympani, and it might entirely fill the canal and present at the lumen as a purplish tumor. Periostitis of the surrounding parts might occur and extend along the surfaces of the canal, and inflammation might spread to the atrium; but, so long as this did not occur and the membrana tympani was unaffected, there might be little deafness, though autophonia might be present. In nearly all these cases inflammation in some degree extended into the antrum and mastoid cellules, or those overlying the external auditory canal, or those situated in the tegmen. If the escape of secretions into the atrium or Eustachian tube was prevented, the case was more severe and extension to the cranial cavity more to be feared.

The proper treatment was to effect drainage and employ such constitutional remedies as tended to check the inflammation and prevent the formation of pus, such as aconite, calx sulphurata, etc. It was impossible to make an accurate differential diagnosis between the pains of pachymeningitis and the neuralgic pains of otitis media. The surgeon should therefore be cautious about trephining the mastoid where pain was the only symptom. After pachymeningitis had set in, it was manifestly useless to perform this operation.

Dr. D. B. St. John Roosa, of New York, thought that the remedies mentioned, mercury and calcium sulphide, were not in common use in the way recommended by the author. He had used them without any favorable effect. A warm room, a good nurse, taking care of the bowels, and local measures were the most important. The internal treatment should be expectant. He would like Dr. Sexton to describe a case indicating the manner in which he would use these remedies.

Dr. Sexton stated that the particular point of his paper was

in regard to the inflammation of the attic, and not the use of remedies. The moment there were symptoms of purulency he administered the calcium sulphide.

Dr. J. A. Andrews, of New York, referred to a case in which the inflammation was most intense in the upper part of the tympanic cavity, and a perforation was established between the mastoid antrum and the external auditory canal. There was a great deal of swelling of the external auditory canal. Examination under ether showed a fluctuating swelling in the superior-posterior part of the canal, which was incised, and considerable blood and pus escaped.

Dr. O. D. Pomeroy, of New York, asked if Dr. Sexton believed that mercury relieved the pain.

Dr. Sexton had never used it exclusively to relieve pain, and had not recommended it for that purpose. For the relief of pain he would recommend the use of aconite and pulsatilla, the latter especially.

Dr. C. R. Agnew, of New York, said that when there was acute otitis media it was desirable to cut it short as soon as possible. If a patient came to him with the symptoms of beginning otitis media he would give him fifteen grains of calomel and order a Turkish bath if that was accessible. With children there was always a certain amount of indefiniteness in the symptoms. He asked Dr. Sexton what he would do in a case of acute otitis media catarrhalis in an infant six months old.

Dr. Sexton would examine the history. If there was an accumulation he would let it out. In the majority of cases at this age the membrane had already ruptured when the case came under observation. If there was suppuration, he would give calcium sulphide. If there was simply catarrh, he would give mercury.

Dr. Kipp spoke of the value of inflation of the middle ear. This relieved the pain. Where there was protrusion in front of the membrane, incision gave relief.

Dr. Theobald, of Baltimore, had found the instillation of a warm solution of atropine of great service, a solution of the strength of four grains to the ounce. He had used pyrophosphate of sodium in fifteen-grain doses in inflammation of the middle ear with threatened mastoid implication, and was convinced that it was of real value.

Dr. C. J. Blake, of Boston, referred to a reduplication of the mucous membrane in the upper portion of the tympanic cavity, which he had found in fifteen or twenty per cent. of two hundred specimens examined. This served to separate the upper portion of the tympanic cavity from the lower. It became an important element in inflammation of this part, and might tend to retain secretions.

Dr. Sexton had used mercury and sulphide of calcium for the last ten years in many cases, and was convinced that they were beneficial in a certain number.

The Treatment of Chronic Otitis Media.—Dr. W. W. Seely, of Cincinnati, read a paper with this title, which closed with the following conclusions: 1. Only long observation (often lasting over months) in each case could determine whether treatment should be continuous (daily) or interrupted—*i. e.*, perhaps daily for a week, followed by an interruption of some weeks or months. 2. Only experience in each case could inform us whether treatment was to be entirely directed to the middle ear, or entirely to the naso-pharynx, or combined against both. 3. Only experience in each case could inform us whether injections into the cavities tympani were called for. Under this head it was stated that direct medication, either of the middle ear or the naso-pharynx, as routine treatment, was unwise till simple methods had failed. 4. Mechanical dilatation of the tubes was rarely necessary or advisable, only in extremely dry states of the tube was dilatation followed by much success. 5. Hearing-tests were not reliable, and hence patients with great deafness, great loss of bone conduction, etc., should not be sent away till the test by trial had been gone through with. 6. Simple inflation failing, the greatest attention should be given to the naso-pharynx, even though it was apparently in a fair condition. 7. Syringing, douching, and swabbing the naso-pharynx should be abandoned.

The Relations between Chronic Catarrhal Otitis Media and Chronic Rhinitis.—The President read a paper in which he stated that he had found a constant causal relation between chronic catarrh of the middle ear and chronic rhinitis and rhinopharyngitis. The latter was chiefly of the hypertrophic form. The atrophic form constituted about fourteen and a half per cent. The appearances of the membrana tympani in the first class were very diversified—so much so as to preclude a determination of the state of the middle ear and hearing from them alone. In the atrophic class, the symptoms presented by the membrana tympani were more uniform and consistent, and the surgeon was able to determine from them more precisely concerning the aural disease. Yet, on the whole, the appearances of the drum, taken by themselves, could not aid greatly in the diagnosis of chronic aural catarrh. Tinnitus aurium was, as a rule, more marked in the atrophic class than in the hypertrophic. There was also a greater patency of the Eustachian tube in the atrophic forms than in the hypertrophic. It was most relieved by treatment of the nares and naso-pharynx. The treatment in the first class should be by cleansing and astringent sprays, with applications of preparations of iodine never stronger than half-and-half. Nitrate of silver was not to be used at all in hypertrophic rhinitis. In the atrophic form, the treatment was cleansing, the removal of inspissations if they occurred, and the application of stimulant sprays, preferably of nitrate of silver, not stronger than four grains to the ounce of water. Where the hypertrophies had become dense and large, requiring surgical removal, the case should pass into the hands of the rhinologist. A word of caution was given in regard to the use of the galvanic cautery in the nares, since, like the nasal douche, it might lead to inflammation in the naso-pharynx and middle ear.

Dr. Agnew thought there was an anatomical objection to the use of salves, and that was the impossibility of applying them to the whole of the diseased surface by means of Bowman's probe. He was not prepared to accept the law that the nasal syringe should be abandoned. He thought more stress should have been laid on hygiene, which was the most important element in the treatment.

Dr. Roosa also considered that the principal and only benefit to be obtained in the majority of these cases was from proper hygiene; it was not necessary to continue examinations very long or repeat them very often to determine whether or not relief might be expected. If there was diminished bone conduction, it was useless to go on and treat the patient.

Dr. H. Knapp, of New York, had employed in his own person a salve of iodoform with vaseline with considerable advantage.

Dr. Seely had had more satisfaction from salves than from any other treatment. They remained longer in contact with the affected part than solutions, thus giving a more decided effect.

Afternoon Session.

Dr. Sexton presented a conversation tube for the aural instruction of deaf-mutes. By means of this tube the patient was able to hear his own voice and compare it with the voice of his teacher.

Professor Graham Bell called attention to the great number of children classed as deaf-mutes who, under proper education, could be made simply hard-hearing members of society.

A Case of Fatal Ear Disease beginning as a Circumscribed Inflammation of the External Auditory Canal.—Dr. KIPP read the history of the case of a married woman, aged twenty-eight years, who was first seen nine months before her death. Since a confinement, four months before, she had suffered occasionally with severe pain in and about the left ear. There were swelling and redness of the posterior upper wall of the external canal. There was no perforation and no otorrhœa. Under the use of leeches, instillations of morphine, and inflation of the middle ear, there was decided improvement in the course of a month, when she passed from under observation. Eight or nine months later the pain again appeared, shortly after a confinement. Examination of the ear showed great swelling of the external canal, but the tympanic membrane and the middle ear appeared to be normal, and there was no tenderness over the mastoid. The patient recovered from this attack, but the pain in the head continued, and she finally died. At the autopsy there was found evidence of intense inflammation over the entire extent of the arachnoid and pia mater. There was a collection of pus immediately over the posterior surface of the petrous portion of the temporal bone. Pus was also found on the pons Varolii. A small abscess was found in the anterior part of the left lobe of the cerebellum, near its junction with the pons. The mastoid cells were filled with pus. There was only a thin exudation in the middle ear.

The PRESIDENT reported a case similar in many respects, in which the patient died from what was diagnosticated as cerebral abscess, but no autopsy could be obtained.

Dr. E. E. HOLT, of Portland, Me., reported the present condition of a patient from whom teratoid tumors had been removed two years ago, and in whom the disease had returned in one year.

The Local Use of Cocaine and Brucine in Diseases of the Ear.—The PRESIDENT read a paper in which he said that he had used the sulphate and the hydrochlorate of cocaine to produce anæsthesia in painful affections of the ear. Neither was efficient when the pain was due to inflammation of the dense tissues of the external auditory canal, nor when acute inflammation occurred in chronically thickened periosteal and mucous tissues in the tympanic cavity. A four-per-cent. solution of the hydrochlorate induced anæsthesia in congestion of the skin of the fundus of the auditory canal and in the membrana flaccida where the pain was not too intense and continuous. The solution was applied directly to the affected part, while the canal was illuminated by the head-mirror. The anæsthesia of the external auditory canal produced by cocaine was not profound enough to permit of painless incision into it. He had also used brucine in a five-per-cent. solution with success in producing local anæsthesia.

Does Cocaine Hydrochlorate, while relieving the Pain in Acute Otitis Media, prolong the Congestion?—Dr. HOLT read a paper with this title. This question had occurred to him several times where he had used the remedy for the relief of pain in the middle ear. He was satisfied that, while cocaine relieved the pain, and for the time held the inflammation in check, yet, after the effect of the remedy passed off, the inflammation went on unaffected.

On the Desirability of adopting a Uniform Method of expressing the Results of testing the Acuteness of Hearing was the title of a paper read by Dr. KNAPP, in which the following method of record was suggested:

H = $\frac{60}{60}$, normal hearing for a watch.

H = $\frac{20}{20}$, normal hearing for the whispered voice.

H = $\frac{20}{20}$, normal hearing for conversational speech.

H = $\frac{0}{\infty}$, whisper or speech heard, but not understood (qualitative perception of sound).

H 60′ = O, voice not heard at all.

H = O, complete deafness for all sounds.

H = $\frac{C}{24}$, a watch of 24″ hearing distance heard on contact with ear.

H = $\frac{Pr.}{24}$, a watch of 24″ hearing distance heard when pressed on ear.

H = $\frac{M}{24}$, a watch of 24″ hearing distance heard when applied to mastoid.

H = $\frac{T}{24}$, a watch of 24″ hearing distance heard when applied to temple.

H = $\frac{O}{24}$, a watch of 24″ hearing distance heard when applied to teeth.

H = $\frac{Gl.}{24}$, a watch of 24″ hearing distance heard when applied to forehead (*glabella*).

H = $\frac{V}{24}$, a watch of 24″ hearing distance heard when applied to vertex.

H = $\frac{Ub.}{24}$, a watch of 24″ hearing distance heard when applied anywhere (*ubique*).

To indicate that the watch was not heard at the places enumerated, the following were used: H $\frac{C}{24}$ = O, H $\frac{M}{24}$ = O, etc. H $\frac{Ub.}{24}$ = O would mean that bone-conduction for the watch was lost.

Presbykusis.—In a paper with this title, Dr. ROOSA applied the term to the failure of hearing incident to old age and not dependent upon inflammatory affections. It came on after the age of forty or fifty years. Such persons heard badly in a noisy room. They heard the watch badly, but in a quiet room they could hear quite well. This was characteristic of the affection. In inflammatory troubles with the ear, the person often could hear pretty well in a noise, while in a quiet room he heard badly. These three symptoms went together: diminished bone-conduction, difficulty of hearing in a noise, and disproportion between ability to hear the voice and ability to hear the watch. The conditions on which presbykusis depended had not been determined, for as yet there had been no opportunities for post-mortem examinations.

Dr. SEXTON exhibited a glass ear-syringe and an ear-forceps with several attachments.

Dr. E. DYER, of Newport, R. I., reported on a case of fistula of the helix, in a girl of fourteen, which he had greatly benefited by the application of the galvanic cautery.

The following papers were read by title: "A Case of Chronic Otitis Media Suppurativa, resulting in Cerebellar Abscess, with the Autopsy," by Dr. O. D. POMEROY, of New York; "Otitis Media Suppurativa, Mastoid Disease, Pyæmia, Mastoid Operation, Recovery," by Dr. G. BACON, of New York.

Officers for the Ensuing Year were then elected as follows: President, Dr. J. S. Prout; Vice-president, Dr. S. Sexton; Secretary and Treasurer, Dr. J. J. B. Vermyne. Publication Committee, Dr. Vermyne, Dr. Blake, and Dr. J. O. Green; Committee on Membership, Dr. Carmalt, Dr. Kipp, and Dr. Theobald.

Dr. F. L. Capron, of Providence, R. I., was elected to membership.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of February 3, 1885.

The President, Dr. William M. Polk, in the Chair.

Placenta Prævia and Twin Pregnancy.—Dr. H. T. Hanks had recently been requested by Dr. Bull to see a patient with placenta prævia, who, after the seventh month, had lost so much blood that it was decided to effect an early delivery. After giving ether, Dr. Bull introduced his hand into the uterus, seized the foot of the child, and extracted it, not waiting, on account of the amount of blood which had been lost, for uterine contractions. The placenta did not come away at once, and it was found that there was a second child, which also was extracted by the feet. The placenta was double. Very little blood was lost after the extraction of the first child. Both children were living, but one, being quite weakly, died within a few days.

Dr. R. A. Murray inquired whether there had been repeated hæmorrhages, or only a single severe one.

Dr. Hanks replied that there had been slight attacks of hæmorrhage for a few weeks before delivery.

Dr. Murray had made the inquiry because, in his experience, cases of placenta prævia, so far as hæmorrhage was concerned, fell into two classes; those in which there was a slight dribbling of blood for some time before term, and those in which there was but a single attack of hæmorrhage, which was severe and occurred at the onset of labor. In the latter class the hæmorrhage would almost certainly prove fatal to the child. He referred to two instances which could be attested by certain members of the society. In one the woman was in perfect health, and had been out driving the day before an extremely severe hæmorrhage took place, which rendered her pulseless at the wrist and in the femorals, and caused the death of the child.

Sarcoma of the Abdominal Wall and Peritonæum.—Dr. J. B. Hunter related the case of a woman of stout build, forty-five years of age, who, about a year ago, noticed what she called a small lump, just above the umbilicus, which was increasing in size. A month ago the tumor appeared to be about four inches in length and two and a half in breadth, irregular in outline, and situated just above the umbilicus. At the latter point there was an ulceration, which gave forth an offensive discharge. The diagnosis lay between sarcoma and fibroma. An incision having been made across the tumor and the finger introduced, the growth began to shell out like a fibroid from its capsule, but at its lower border, while scarcely any effort was being made, the finger entered the peritoneal cavity, and it was found that the growth was attached to the omentum. It was removed with very little difficulty. The peritonæum was then found to have on its surface little masses of epithelioma which bled easily. Further exploration revealed a second tumor, similar to the one removed, extending from the umbilicus nearly down to the pubes, and apparently covering the greater part of the interior of the abdomen with its flattened surface. It had had no connection with the first tumor. The peritoneal opening made during the removal of the upper growth was two inches and a half in length, and was closed with difficulty on account of the degenerated condition of the membrane. A drainage-tube was inserted into the wound and an iodoform dressing applied. Unexpectedly the patient survived, and had no bad symptoms whatever. The drainage-tube was still *in situ*, and from it some offensive pus had been withdrawn by aspiration. The patient would be able to return to her home, although the malignant disease would remain uncured. Dr. Hunter was disposed to think the growth originated in the abdominal wall.

Ovulation in One Ovary at a Time.—Dr. H. C. Coe referred to an idea which had been termed rather fanciful, viz., that ovulation took place in but one ovary at a time. He had recently observed a few cases which seemed to confirm that view. In three or four instances the patients suffered no pain at one menstrual period, while at the next there was always severe dysmenorrhœa, and in all but one of the patients the ovary on the side to which the pain was referred, the left, was enlarged and prolapsed.

Dr. Hanks asked Dr. Coe if he had observed whether the corpora lutea in the two ovaries were apparently of the same or of different dates.

Dr. Coe replied in the negative.

Dr. Hunter said that in one case of intense dysmenorrhœa, referred to the right ovary, which was enlarged, he removed the ovary and the symptoms disappeared for a year. The left ovary was closely adherent, and was not removed. With the return of the symptoms he attempted to remove the other ovary, but gave up the operation on account of the extent of the adhesions. This case seemed to support the theory mentioned by Dr. Coe.

Dr. Hanks had two patients under observation whose sufferings were much more severe at alternate menstrual periods.

Vaginal Hysterectomy.—Dr. P. F. Mundé presented a uterus and related the following history: About two months ago the woman was sent from the out-door department of Mt. Sinai Hospital to his clinic, and her case was found to be a typical one of epithelioma confined to the lips of a lacerated cervix. Apparently the disease did not extend a line beyond the lips, and, as the case seemed to be a very favorable one for hysterectomy, he advised the patient to have the operation done without delay. But she did not return for two months, and at that time desired to have the operation performed. The lips of the cervix were then much more infiltrated, but the disease had not extended into the parametrium. The uterus was still perfectly movable. The greatest obstacle in the operation was the narrowness of the vagina; it was difficult to expose the cervix in the vaginal vault. The operation was performed on the afternoon of the fourth day before the meeting. As in two former cases he had experienced some difficulty in reaching the broad ligaments and introducing ligatures with the patient upon the side, in the present instance he undertook Martin's method, with the patient upon the back. In this position, however, he found it almost impossible to reach Douglas's pouch, and, on account of the presence of the specula, it was with the greatest difficulty that he was enabled to lift the peritonæum with the finger. In the other cases, with the patient on the side, and using Sims's speculum, this step in the operation was attended by no difficulty whatever. Having finally brought the fundus of the uterus outside the vulva, he was able to pass the ligatures and separate the side attachments with ease. The elastic ligature having broken, he was obliged to use silk upon the left side. Each vessel was ligated separately and little blood was lost—perhaps as much as twelve ounces in all. There was a slight amount of oozing from the posterior incision, between the peritonæum and the vaginal wall, which might have been avoided had he been able to pass sutures as he had tried to do. The operation consumed about an hour and a half. It would have been shortened had the first part been performed with the patient upon the side, turning her upon the back to evert the uterus and ligate the ligaments. The patient remained pulseless at the wrist, and died thirty hours after the operation.

The lessons which the case taught were, first, those concerning the technicalities of the operation, and, second, those relat-

ing to its justifiability. As bearing on the indications of the operation, he referred to a paper which he read at the last meeting of the American Gynæcological Society. The oftener we performed an operation the more dexterous would we become, and the more successful would be the results. In the paper referred to he had maintained that hysterectomy ought to be performed in suitable cases of cancer of the uterus, and he was of the same opinion still, although he might hesitate longer before undertaking it.

Dr. HANKS said he had never removed the uterus, but he had often used the galvanic or Paquelin's cautery in cancerous cases, and he would ask Dr. Mundé whether he would not have been justified in first giving the patient the benefit of a trial of that method of treatment. Was it not just one of those cases in which this form of treatment would have been indicated? If the cautery did not cure the disease, it certainly arrested its progress, and afterward, if necessary, removal of the entire uterus might be resorted to. He had witnessed the hysterectomy in several cases, and he believed that in the majority of instances in this city the result had been unsatisfactory. If, then, we could prolong life six months or a year, or even a longer time, by the old method of partial removal of the uterus, should it not be preferred to entire removal of the organ? He doubted if we were justified in removing the uterus in cases in which the cervix alone was involved; the risk was too great.

Dr. MUNDÉ asked Dr. Hanks in what manner he would operate.

Dr. HANKS replied that he would destroy the diseased tissue by means of the galvanic tip.

Dr. MUNDÉ said he might have done too much, but he thought Dr. Hanks would have done too little. If the patient had declined to have hysterectomy performed, he would then have drawn the cervix down to the vulva, made a circular incision through the vaginal vault all round, and amputated the cervix with the galvanic cautery as high as possible without touching the peritonæum or bladder. He thought this method better than Schröder's, in which the cervix was amputated with the knife and the raw surfaces were united with sutures.

Dr. HANKS had no particular choice as to the manner in which the cervical tissue was removed by the cautery, but the point was that partial removal of the uterus was preferable to hysterectomy. He knew of at least six women who had lived a year, eighteen months, or two years after the use of the cautery.

Dr. MUNDÉ said, in reply to a question, that in thirty-nine per cent. of the cases of removal of the uterus the women had remained well two years after the operation. Seventy-two per cent. recovered from the operation. Those were better figures than could be shown for any palliative treatment.

Dr. HUNTER had a patient who had lived nine or ten years after the removal of undoubted epithelioma of the cervix. He thought hysterectomy would ultimately be limited to sarcoma of the fundus.

Dr. COE had seen Braun undertake to remove the uterus with the patient upon the back, and fail because of the want of room within the vagina.

A Large Hæmatoma.—Dr. MUNDÉ said that two weeks ago a woman came to Mt. Sinai Hospital with the history that six weeks before she had had a miscarriage, and afterward had had fever and a great deal of abdominal pain, and she gave an indistinct history of diffuse cellulitis. By gaslight her complexion was waxy yellow or cachectic. A tumor was found occupying the whole of the posterior portion of the pelvic cavity, the cervix being pushed against the pubic symphysis. It apparently contained fluid, and was supposed to be a pelvic abscess of very large size. The next morning the patient was seen by daylight, and her complexion was less yellow, and this fact, with that of the withdrawal of only blood by aspiration, led to the diagnosis of hæmatoma. The patient's condition was not favorable, but it was believed that absorption of so large a quantity of blood would not take place, and he therefore proceeded at once to make an incision, two inches in length, at the point of greatest tension in the posterior vaginal wall. Eighteen ounces of coagulated blood escaped. A tumor was then recognized within the cavity, of the size, form, and consistence of the human heart. The patient's condition did not seem to justify him in manipulating the tumor to discover its exact nature, but it was thought it might be a sarcoma. The cavity was washed out with a solution of corrosive sublimate, 1 to 5,000, a drainage-tube was introduced, and also iodoform gauze. Within a day or two frequent irrigations with the disinfectant were begun, but the temperature rose to 103° to 104° F., falling after each irrigation. As it was evident that the rise of temperature was of septic origin, the cavity of the hæmatoma was explored, and the tumor referred to, composed of coagulated blood, was found to be breaking down. It was scraped out, and weighed eight ounces; the cavity from which it came measured five inches in diameter. The irrigations had been kept up, the temperature had fallen, and the patient was doing well. He did not think absorption of the fluid would have taken place had it been allowed to remain; the largest hæmatocele which he had known to be absorbed was not larger than his two fists. In this case it was extra-peritoneal.

Perforation of the Cervix Uteri by a Laminaria Tent.—Dr. C. C. LEE related a case which suggested the advisability of caution in using laminaria tents for dilating the cervix uteri. The patient, a middle-aged single woman, entered his service at the Woman's Hospital with what was believed to be a submucous fibroid attached to the anterior wall of the uterus a short distance above the internal os. The vagina was narrow and the cervix long, making it difficult to outline the growth with the finger, and, as frequent hæmorrhages pointed to the necessity of adopting some efficient mode of treatment, it was decided to dilate the cervical canal. Laminaria tents were introduced, carefully watched, and changed sufficiently often. They were held in position by carefully adjusted vaginal tampons, which were never very tightly packed. The uterus was slightly anteverted. On the removal of the tents on the last occasion—they had not been put in by himself, but by a careful and experienced house surgeon—he was astonished to find a large perforation on the anterior surface of the cervix at the internal os. It was evident that these tents, of which two were then in the canal, had, by their expansion and by the pressure of the tampon, perforated the anterior side of the cervix at the vaginal junction. This was the first time he had known the accident to occur, but, on inquiry among his friends, he had learned of two other similar cases, the tents used being of laminaria. In his case, instead of making the usual incision, he divided the cervix posteriorly up to the internal os, and anteriorly up to the perforation, and was then able to reach the greater portion of the tumor. Carbolized cotton was applied to the cervix, and the patient, notwithstanding her reduced condition, recovered. The result of the granulating surfaces was such as to call for trachelorrhaphy, after which the cervix was left in a pretty fair condition.

Dr. MUNDÉ had met with cases in which an ulcer in the wall of a long cervix had been formed by stem pessaries and tents which the physician had failed to introduce through the internal os. In some cases a little force was required to push the instrument through the internal os, and he had no doubt that inexperienced or careless persons might make a mistake and cause an injury of the cervical wall. A laminaria tent would be more likely to cause ulceration than one of tupelo.

Dr. Lee remarked that it was possible the tent used in this case was a tupelo instead of laminaria, but he thought it was the latter. The accident could not have arisen from the cause spoken of by Dr. Mundé, because the internal os was well dilated when the last tent was removed. He could readily understand, however, that, if a tent was not made to pass the internal os, it might press against the solid tissue of the wall and cause ulceration.

Exfoliation of the Mucous Membrane of the Rectum.—Dr. Mundé had recently performed Emmet's operation upon the prolapsed vagina in two cases, the immediate result in both being perfectly satisfactory. In one there was a temperature of from 101° to 102° F., which was not regarded as having any special significance. On the tenth day, when he was about to remove some of the stitches, the house surgeon called his attention to a slough protruding from the rectum. He then examined the patient, and removed fully six inches of the mucous membrane of the rectum, which was gangrenous and very offensive. He supposed there would finally be stricture of the rectum. Was it possible that narrowing of the posterior vaginal wall could have interfered with the rectal circulation and produced the result? In reply to a question, he said rectal etherization had not been employed.

Dr. Hanks referred to a case in which there was discharge of a part of the mucous membrane of the rectum every few weeks, and asked what the treatment should be. This patient had retroversion, and formerly casts of the lining membrane of the uterus were discharged.

Dr. Mundé further remarked that he believed this condition was called exfoliative colitis. About ten years ago Dr. Peaslee presented long casts of the mucous membrane of the bowel. Dr. Mundé had seen two instances, in one of which there was retroversion of the uterus, and in the other chronic oöphoritis. He did not have an opportunity to institute treatment for the rectal trouble.

Dr. C. Mackenzie inquired whether any of the patients had suffered from diarrhœa. He had seen a case in which there was morning diarrhœa, with marked retroversion of the uterus, and more recently a fissure of the anus had been discovered.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The Failure of the American Medical Association to organize the Ninth International Medical Congress.—The following appeared in the editorial columns of the "Maryland Medical Journal" for July 18th: "Those members of the medical profession who have an earnest and abiding interest in the growth of scientific medicine and in the development of the highest aims of the profession in this country can not but feel the need of a national organization thoroughly capable of meeting the highest purposes of a scientific body. The American Medical Association has undertaken for some years past to represent the real wants of the American profession. It is, however, a delegated body, and in the very nature of its structure contains such inherent weakness that it has not been able to grapple with the serious questions which have been propounded to it. The membership of the association is as fluctuating as its actions, and it has so controlled the interests of the profession as to forfeit the right of respect to which the organization is entitled from the leading minds in the profession. The association has never been able to do the highest order of scientific work, and from year to year has so constructed its offices and committees in the interests of its floating membership that it was not capable of drawing into its ranks the full force and strength of the profession in this country. The association has shown itself totally incapable of dealing with serious and important scientific interests, as has been most conspicuously demonstrated by its recent action at New Orleans in reference to the Ninth International Medical Congress, which it proposed to hold under its auspices. It was shown at New Orleans that a few determined and bold men were capable of capturing its membership and of upturning all of the work delegated to an important committee at its previous meeting in Washington. The result of this action of the association has cast a shame and a blot upon the good name of the entire profession in this country, and it has forfeited all the reputation the association may have had as a fair, liberal, and high-toned scientific body. Under the leadership of a few malcontents the association has degenerated to the level of a ridiculous and pharisaical institution, utterly unworthy of confidence and respect. So far as the fortunes of the International Medical Congress are concerned, it is now evident that the association is wholly incapable of conducting the Congress under its auspices. The withdrawal of the leading members of the profession from all connection with the present organization tells its own story, and very plainly says the Congress must be re-organized on some other basis than the one proposed by the American Medical Association, if it is to be a success. In other words, the association has so seriously blundered in this affair that it must resign its authority as a leading spirit in the re-organization of the Congress. Indeed, it seems to us that the only course now left open to the association is to abstain from further participation in the arrangements for the Congress, and that it leave this matter in the hands of the medical profession at large, which can be depended upon to re-organize the Congress on a successful basis. We have no doubt that the profession at large can move intelligently in this matter. If representative men from all sections of the country can be brought together to confer upon the present outlook of the Congress, arrangements can be made which will bring order out of chaos, and set the affairs of the Congress on a sure and influential footing."

The Missouri State Board of Health announces the appointment of committees to make special investigations as follows:

Prevailing diseases among live stock in Missouri; also condition and care of stock-yards, cars, etc., at points of concentration or distribution—Committee: Mr. Gentry and Mr. Prather. The influential factors in the causation of endemic or local epidemic diseases—Committee: Dr. Griffith and Dr. Homan. The sources, quality, means of distribution, etc., of public water supplies in Missouri—Committee: Dr. Merrell and Dr. Cox. The sanitary care of railway and river transportation lines, including depots, landings, stations, wharf-boats, round-houses, and passenger and sleeping coaches—Committee: Dr. Homan and Mr. Gentry. Domestic and general sanitation in towns, villages, and country-homes—Committee: Dr. Goben and Dr. Griffith. The condition of asylums, poorhouses, jails, workhouses, and other charitable or penal institutions with reference to the health of the inmates—Committee: Mr. Prather and Dr. Merrell. The hygienic care of the school population and of public-school buildings and premises—Committee: Dr. Cox and Dr. Goben.

The Western Society for Psychical Research has been organized in Chicago, the purpose of which is to be commended, since it proposes to investigate certain matters most of which are usually left to enthusiasts and charlatans. From an excellent address by the president, Dr. A. Reeves Jackson, we learn that the work of the society has been divided among five sections: 1. Thought-transference. 2. Hypnotism, clairvoyance, and somnambulism. 3. Apparitions and haunted houses. 4. Physical phenomena. 5. Psychopathy (including what is popularly known as mind-cure, faith-cure, metaphysical treatment, magnetic healing, etc.).

The Nomenclature of Auscultation and Percussion Signs.—The "Glasgow Medical Journal" publishes the following tabular list of terms proposed by the British members and the American member of the committee appointed at the meeting of the International Congress

in 1881 to report on a uniform nomenclature of physical signs which occur in connection with the respiratory system:

PALPATION.

BRITISH LIST. *Dr. Powell and Dr. Mahomed.*	AMERICAN LIST. *Dr. Austin Flint.*
1. Vocal fremitus.	Vocal fremitus.
2. Rhonchal fremitus.	Rhonchal fremitus.
3. Fremitus.	Friction fremitus.

PERCUSSION.

1. Tympanitic resonance.	Tympanitic resonance.
2. Amphoric resonance.	Amphoric resonance.
3. Diminished resonance. Dullness.	Diminished resonance. Dullness.
4. Absence of resonance. Flatness.	Absence of resonance. Flatness.
5. Increased resonance.	Increased or vesiculo-tympanitic resonance.
6. Bell sound. ["This term," says the reporter, "is applied, by some English writers, to a sound produced by percussion, a coin being used as a pleximeter, and the ear applied to the chest. It is supposed to be characteristic of pneumothorax."]	Not included.

AUSCULTATION.

First Group. Varieties of Breath Sounds.	
1. Exaggerated. Syn. Puerile. Compensatory. Supplementary.	Exaggerated, etc.
2. Diminished. Syn. Feeble. Weakened vesicular murmur.	Diminished, etc.
3. Suppressed. Syn. Absence of breath sound.	Suppressed, etc.
4. Prolonged expiration. General or local.	Prolonged expiration. High or low in pitch.
5. Interrupted respiration. Syn. Jerking, wavy, cog-wheeled.	Interrupted inspiration, etc.
6. Tubular. Syn. Bronchial. High-pitched blowing.	Tubular. Bronchial.
7. Vesiculo-tubular. Syn. Broncho-vesicular. Harsh, coarse, sub-tubular.	Broncho-vesicular. Syn. Vesiculo-tubular.
8. Amphoric.	Amphoric.
9. Cavernous.	Cavernous.
Second Group. Adventitious Sounds.	
1. Rhonchi. Dry musical sounds, (*a*) Sonorous, (*b*) Sibilant.	Rhonchi, or dry bronchial râles. (*a*) Sonorous, (*b*) Sibilant.
2. Stridor.	Stridor.
3. Râles. Syn. Bubbling râles, etc. (*a*) Medium, (*b*) Large. High or low in pitch.	Moist or bubbling râles. (*a*) Medium, (*b*) Large, (*c*) Small. High or low in pitch.
4. Gurgling.	Gurgling.
5. Clicking.	Clicking.
6. Crepitation. Syn. Crepitant râle.	Crepitant râle, or crepitation.
7. Metallic tinkling.	Metallic tinkling.
8. Splash.	Splash.
9. Friction. (*a*) Dry, (*b*) Moist.	Friction.
Third Group. Varieties of Voice Sounds.	
1. Increase of vocal resonance.	Increase of vocal resonance.
2. Diminution or absence of vocal resonance.	Diminution or absence of vocal resonance.
3. Bronchophony.	Bronchophony.
4. Pectoriloquy.	Pectoriloquy.
5. Ægophony.	Ægophony.

The Sanitary Convention at Ypsilanti, Michigan, held June 30th and July 1st, was attended by about twenty physicians and health officers from other places, besides the physicians of Ypsilanti, the officers of the State board of health, and a number of prominent citizens. Among the physicians who took part in the proceedings were Dr. Avery, of Greenville; Dr. Vaughan, of Ann Arbor; Dr. Whelan, of Hillsdale, Dr. Kellogg, of Battle Creek; Dr. Palmer, of Ann Arbor; Dr. Kinne, Dr. Wight, and Dr. Lyster, of Detroit; and Dr. French, of Ypsilanti. Much interest was manifested in the proceedings by the citizens of Ypsilanti. These periodical semi-popular conferences seem to be a happy device of the State board of health.

The Editor of the "British Medical Journal," Mr. Ernest Hart, is reported to be a candidate for a seat in Parliament, and to have promised that, in case he is elected, he will vote for the unconditional repeal of the Contagious Diseases Acts (referring to venereal diseases). The "Medical Times and Gazette" remarks that "there is a great excuse for medical men, worried by the everlasting opposition to their benevolent intentions, throwing up the sponge and saying, as Mr. Hart practically does, 'Well, have your own way, but don't blame me if it turns out badly.'"

Boston and the International Medical Congress.—The "Medical News" learns that the following-named gentlemen have asked to have their names added to the list of signers of the resolutions adopted in Boston declining to hold office in the proposed Congress as now organized: O. W. Holmes, William H. Baker, David W. Cheever, James C. White, and William F. Whitney, of Boston; G. P. Conn, of Concord, N. H.; F. H. Gerrish and S. C. Gordon, of Portland, Me.; E. P. Hurd, of Newburyport, Mass.; and Nathan Allen, of Lowell, Mass.

The New York Polyclinic.—We congratulate the faculty of the Polyclinic upon the continued prosperity of the institution. It appears by the annual announcement for the session of 1885 to 1886 that the session which opened September 22, 1884, was attended by two hundred and twenty-nine practitioners. From the beginning the Polyclinic has been under excellent management, and there can be no doubt of its enduring success.

The International Medical Congress.—Dr. W. A. Hardaway, of St. Louis, asks us to state that he has sent in his resignation as president of the Section in Dermatology and Syphilis of the Ninth International Medical Congress. We learn that Dr. Thomas T. Sabine, of New York, and Dr. Thad. A. Reamy, of Cincinnati, have declined to serve in the positions to which they were appointed by the new committee. The "Medical News" announces that Dr. George J. Engelmann, of St. Louis, has resigned from the committee.

The Capias served on Dr. Shoemaker in Chicago has, as we learn from the "Philadelphia Press," been quashed. It was in an action brought against him by a Mr. Merritt, of Troy, N. Y.

THERAPEUTICAL NOTES.

An Untoward Effect of Arsenic on the Skin in Children.—Guaita ("Arch. di Patol. Infantil."; "Dtsch. Med.-Ztg."), who seems to use Fowler's solution freely in the treatment of children's diseases, continuing its administration for four or five months, and increasing the daily amount given from two drops to eighteen or twenty, reports that, in fourteen out of eighty cases, he has observed a peculiar blackish discoloration of the skin as a consequence. It appears either toward the close of the arsenical course or, more rarely, about a month after its completion. It shows itself at first on the neck, and then on the breast, the abdomen, and the hands, while it either spares the face, the lower limbs, and the back altogether or is less pronounced on those parts. It is never accompanied by other disturbances, and it disappears in at least a month, with marked desquamation. It appears from citations in the same journal that a dusky discoloration of the skin was long ago noticed as one of the effects of the prolonged use of arsenic, even in the form of baths of arsenical mineral waters.

Old and New Methods of treating Congenital Syphilis. Professor Monti, of Vienna, contributes to the "Archiv für Kinderheil

kunde" an article which the "Deutsche Medizinal-Zeitung" thus summarizes: In the inunction treatment, use has been made of mercurial ointment, oleate of mercury, Beyersdorf and Unna's mercurial-plaster preparation, and mercurial soap. All these substances are very prompt in their action, and, used in proper quantities, never give rise to salivation or signs of irritation of the mucous membrane of the mouth, but they are not suitable for sucklings, for, besides their irritating the skin and producing erythema, eczema, and boils, the too rapid and extensive absorption of the mercury may lead to a quickly developed anæmia, often resulting in cerebral or pulmonary œdema and putting a stop to the child's increase in weight, in spite of judicious feeding. Since the inunction treatment, moreover, neither shortens the duration of the disease nor diminishes the frequency of relapses and sequelæ, the use of calomel associated with iron is much more to be recommended, for instance after this formula:

Calomel	1½ grain;
Lactate of iron	3 grains;
White sugar	45 "

Divide into ten powders.

From one to four are to be given daily, according to the weight of the child.

Calomel may be given continuously, without deranging the digestive apparatus, until all the syphilitic manifestations have disappeared. If, however, in spite of the minuteness of the dose, anæmia shows itself, the treatment must be interrupted at once, and lactate of iron given, or, in case of cerebral anæmia, the ethereal tincture of chloride of iron. After every course of treatment with calomel, Monti uses the following:

Saccharated iodide of iron	15 grains;
White sugar	30 "

Divide into ten powders, from one to three of which are to be given daily, according to the child's age, their use being kept up until there is no longer any enlargement of the spleen and the skin has regained its healthy tint. Monti has observed that, under this method of treatment, relapses are less common and less severe, sequelæ, especially rickets, are lighter, and the children gain in weight.

If intestinal disturbances contra-indicate the internal administration of calomel, or if threatening symptoms seem to call for more energetic treatment, the drug may be used subcutaneously, after this formula:

Calomel	8 to 15 grains;
Gum mixture, } each	75 minims.
Glycerin, }	

From half a syringeful to a syringeful to be injected every second or third day, preferably over the chest-wall. Abscesses will often form, in spite of the utmost care in the use of the injections.

Van Swieten's solution (a one-to-one-thousand solution of corrosive sublimate) was used by that author in doses of ten drops, in milk, three times a day, the dose being gradually increased until a hundred drops were taken daily; or he prescribed:

Corrosive sublimate	¼ grain;
Distilled water	10 drachms;
Syrup	2½ "

From two to four teaspoonfuls to be taken daily, after eating.

In the form of baths, corrosive sublimate is very slow in its action, and is employed only when the internal administration of mercury is inadmissible. The following formula is given:

Corrosive sublimate	15 grains;
Chloride of ammonium	2½ drachms;
Distilled water	6 ounces.

To be added to two baths.

Corrosive sublimate is most adapted to injections. [The formula which follows this statement seems to contain a dangerous error; we therefore do not reproduce it.] The injections are generally well borne, although not so well as by adults, and they do their work more speedily than other methods of treatment. Abscesses and indurations of the subcutaneous cellular tissue occur. The duration of the disease and the occurrence of relapses and sequelæ are not affected by the injections; within the first two years of life the treatment should be repeated from four to eight times (being continued from five to twenty days each time), in order to effect a radical cure.

Albuminate of mercury is equally efficient in the form of injections, but the solution does not keep well; it is apt to become turbid, and then it causes abscesses, etc. Peptonate of mercury keeps better, but it has no advantages, and the same is true of formamide of mercury, injections of which are very painful.

Protiodide of mercury is very serviceable, especially in affections of the bones:

Protiodide of mercury	1½ grain;
Lactate of iron	3 grains;
White sugar	45 "

Divide into ten powders; from one to three to be taken daily.

Severe colic and intestinal catarrh are commonly produced by this drug, even when opium is used with it.

Henoch often employs black oxide of mercury, in the form of powders, carrying the dose up to a seventh of a grain, twice a day; but Monti has found that it frequently causes vomiting.

Tannate of mercury, from one seventh to half a grain, from two to four times a day, is very well borne and is quite as rapid and favorable in its action as calomel.

As regards the iodine treatment, Monti gives from three to six pap-spoonfuls [? daily] of a one-per-cent. solution of iodide of potassium, and adds from three to eight drachms of the iodide to the bath. The tardy action of the drug and its interference with the nutrition when its use is long continued have led the author to prefer the saccharated iodide of iron, which is especially well borne by children, never causes iodism, and corrects anæmia; but it is suitable only in cases where energetic treatment is not indicated. For children between three and twelve months old, it is sufficient to give from a third to half a grain, in milk, three or four times a day; children from a year to two years of age may take from four grains and a half to six grains daily.

Silk-worm Gut as a Material for Ligatures.—Guermonprez and Bigo lately submitted a communication to the Paris *Société de thérapeutique* ("Gaz. hebdom. de méd. et de chir.") on the use of *crin de Florence* in surgery. They conclude that, if its ends are cut off and it is macerated for at least a month in a watery antiseptic solution (it must not be boiled), it is the best thread for sutures. It is tenacious, pliable, and better borne by the tissues than either hemp, linen, or silk. For ligatures applied to small vessels it is not so good as catgut, but for large vessels and the pedicles of tumors it is to be preferred.

The Paradoxical Action of Quinine.—Merkel ("Dtsch. Arch. f. klin. Med."; "Ctrlbl. f. klin. Med.") relates the case of a woman who had fever which was taken to be malarial. She was given three grains of hydrochlorate of quinine, and in an hour she showed faintness, weakness, and stupor. She then had a chill, and her rectal temperature rose to 104·6° F. The temperature fell gradually without the occurrence of sweating. The same effects were produced whenever a small dose of quinine was given.

A Dressing for Phagedenic Chancre.—The "Union médicale" attributes the following formula to Terrillon:

Pyrogallic acid	1 part;
Powdered starch	4 parts.

Mix carefully. In cases of ragged phagedenic chancres, with multiple prolongations, the powder is to be blown into the deep parts with a bellows. The application should be repeated twice a day. The preparation should be freshly made and preserved against moisture in a well-corked bottle.

A Diuretic Mixture.—The same journal credits Billroth with the following formula:

Acetate of potassium, } each	5 parts;
Nitrate of potassium, }	
Distilled water	200 "
Syrup of raspberry	20 "

A teaspoonful to be given night and morning in cases of acute articular rheumatism. The affected joints are to be painted with tincture of iodine, covered with cotton, and kept absolutely motionless. If pericarditis occurs, a blister is to be applied over the precordial region.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 87.*)

GALVANIZATION OF THE CERVICAL SYMPATHETIC.—This method has afforded relief, according to published cases, in vaso-motor and trophic disturbances of the nerve-centers, the eye, viscera, muscles, joints, and skin. Thus, for example, cases of cure of epilepsy, atrophy of the optic nerve, Basedow's disease, progressive muscular atrophy, lead-palsy, scleroderma, chronic rheumatic arthritis, bulbar paralysis, neuralgias of various types, and many other conditions have been reported by means of this method. Respecting this step, Erb wisely remarks as follows: "There can probably be no doubt of the correctness of a part of these observations, but this does not by any means imply that the cervical sympathetic is responsible for such results."

When we review the structures which compose the neck and recall the numerous connections which exist between the sympathetic cords, the pneumogastric nerve, the brain and cervical segments of the cord, the medulla oblongata, the brachial and cervical plexuses of nerves, etc., it becomes clear why De Watteville applies the term "sub-aural galvanization" and Erb the term "galvanization of the neck" to this special procedure.

The steps required to influence these parts by Meyer's method consist in the application of a small electrode (cathode) under the angle of the jaw and adjacent to the hyoid bone, and then crowding it backward and upward against the vertebral column, the positive electrode (of larger size) being placed over the seventh cervical spine. The current may be stabile, labile, or interrupted; or the polarity may be changed from time to time during the sitting of from one to three minutes. Six to ten galvanic cells of the Grenet variety are sufficient. The application may be unilateral or bilateral, according to the demands of the case.

Corning has devised an instrument which insures carotid compression with galvanization of the neck for the treatment of cerebral hyperæmia and some other morbid conditions.

Benedict places the positive pole in the jugular fossa, and the negative pole upon the superior cervical ganglion.

GENERAL FARADIZATION.—This method of administering electricity was first employed by Beard and Rockwell. By this procedure the entire body is subjected to secondary faradaic currents of varying intensity. It is applicable chiefly to those forms of nervous disturbance which are associated with general debility, poverty of the blood, special diatheses and cachexiæ, hysterical affections, skin diseases, persistent chronic inflammations, and other results of low vitality or functional derangements of the organs.

To apply this method, the patient must be undressed or very loosely clothed. The feet are immersed in a bowl of tepid water with a little salt added, in which the cathode is also placed after being connected by means of a rheophore to the binding-post of the secondary coil of a faradaic machine. The anode is held in one hand of the physician, and his other hand (well moistened in salt water) is applied to all parts of the surface of the patient's body. If the subject can bear it, a large electrode covered with absorbent cotton and flannel, or with a soft sponge, is employed in place of the hand. The application should begin at the head and terminate at the feet—the strength of the current being modified from time to time as the feelings of the patient may demand. The extremities and back should have vigorous stimulation, the nerves of the neck should be influenced by a much weaker current, and the cœliac plexus should be influenced by a stabile application of a few minutes over the epigastrium. The entire duration of the application occupies from ten to twenty-five minutes. It may be applied as often as three times a week if necessary.

Personally, I can attest the efficacy of this treatment as a general tonic. I have witnessed immediate effects from it in a large number of my cases, and I employ it constantly in a modified form.

In case the hand of the attendant is to be employed as an electrode, I would advise you to use the instrument which I now show you as a great improvement over the way described by the inventors of this method. It is called the electric bracelet. It is placed upon the right wrist of the attendant over a pad of wet absorbent cotton, and the rheophore is screwed into the binding-post upon it. The right hand is then wet in salt water and used as previously described. By this instrument the hand of the attendant is alone subjected to the current, and the fingers can detect muscular contraction in the patient even when too feeble to be seen easily. As an adjunct to massage, I employ this useful instrument with decided benefit.

GENERAL GALVANIZATION.—The steps required by this method are similar to those previously described, except that the constant-current battery is employed in place of a faradaic machine.

CENTRAL GALVANIZATION.—The cathode is placed over the epigastrium. This electrode should be of large size. The anode is stroked over the forehead, with a current of about two milliampères, for two minutes; then made stabile over the cranium for about two minutes; then moved up and down the neck on each side for the same duration; finally it should be moved along the length of the spine for about five minutes. This method was a favorite one with the late Dr. Beard, who reported cures of gastralgia, hysteria, hypochondriasis, nervous dyspepsia, and many of the symptoms of cerebral and spinal neurasthenia by its continued use. In two cases of gastralgia in which I personally employed it for some time I obtained an absolute recovery.

THE ELECTRICAL BATH.—This method of administration of electricity to a patient may be accomplished by using a metal tub, or one which is composed of a non conductor. If a metal tub is employed, the patient must be protected

from actual contact with it. This is usually accomplished by means of wooden slats or some other medium of support for the patient when immersed. If the bath-tub is of metal, one rheophore of the battery employed is attached to the tub, while the other is attached to an electrode held by the patient or placed in contact with his body. If the tub is of a non-conducting material, both electrodes may be placed in the water. The electrodes employed should be very large (often running the entire length of the tub), in order to allow of as great a diffusion of the electricity as possible. The fluid in the tub may be simple water, or, preferable, a solution of salt, soda, or an acid.

Personally, I am not a strong advocate of this method of treatment. It violates one of the fundamental principles of electrical treatment of localized affections in that it does not confine the polar action to the part or parts diseased. In the second place, I have not found its tonic action to equal that of general faradization or general galvanization.

Strong claims have been made in its favor as a remedy for tremor (especially of the alcoholic and mercurial varieties) and for chronic articular rheumatism, but I am not yet convinced that they are to be regarded as well-established.

If you desire to try this method of treatment in any case, it is well to know that the temperature of the bath, as well as the strength of the current employed, should be modified by the condition of your patient. The duration of the bath should never exceed thirty minutes, and ten minutes will generally suffice. The current should be strong enough to be perceived by the patient in all cases.

The Relief of Painful Points.—One of the most generally useful effects of electricity is the relief which it affords in many cases to pain. Of all the methods of treatment of neuralgia now employed, I consider electricity, in some of its various forms of application, by far the most efficacious. Personally, I have almost discarded internal medication for the relief of this class of sufferers. You have personally witnessed in one or two cases brought before you the immediate relief which follows the application of electricity to painful points, and you have seen neuralgia cured at one sitting by the same agent. Do not understand me, however, as maintaining that this can be accomplished in all cases. Repeated applications are demanded, as a rule, and, in some instances, months of treatment are required to insure a cure of this distressing malady.

In the majority of subjects afflicted with neuralgia, painful points may be detected along the course of the affected nerve or its branches. These are situated, as a rule, where the nerve gives off a branch or bifurcates, and also where it passes through a foramen. Sometimes it is necessary to make pressure along the course of the nerve to detect the existence and seat of these points.

Now, it should be remembered by each of you that the successful treatment of neuralgia depends largely in some cases upon the *direct treatment of these painful points*. They seem in some way to have a relationship with both the production and cure of neuralgia, as well as spasm of the muscles, ataxic symptoms, and other forms of nervous diseases. These points may be the seat of a localized periostitis, a circumscribed inflammatory exudation, a neuritis, an enlarged gland, and many other conditions which create nervous phenomena. In a few instances the symptoms even of ataxia have been relieved, by the electrical treatment of painful points in the region of the spinous and transverse processes of the vertebræ, by men of note, among whom may be mentioned Brenner, Remak, Meyer, Legros, and others.

The steps which you should employ in the treatment of painful points are as follows: 1. Use the galvanic current, employing from three to eight Grenet cells. 2. Apply the anode to the painful spot, and keep it stationary at that point. 3. Place the cathode at some indifferent point, preferably the sternum. 4. Do not use a current which will be excessively painful to the patient, nor exceed five minutes in the application. I frequently do not allow the duration of the current to exceed two minutes at a sitting. It is advisable, in persistent cases, to make the applications daily.

Of late some experiments have been made, with apparent benefit, by having patients of this class wear over the painful points *a piece of metal*, connected with another piece of metal (which is also in contact with the skin) by an insulated wire. The best metals are zinc and copper. They should be brightly polished before the application, and should have a piece of dampened linen between them and the skin. They may be worn continuously for weeks, or changed each day on retiring and rising.

Some authors recommend the employment of *very feeble galvanic currents for an hour or two at each sitting*, the anode being placed over the painful point. Le Fort goes so far as to suggest the propriety of applying such currents continuously for weeks, by means of ordinary rheophores and electrodes, when fatty changes, contractures, or reflex paralyses are to be combated.

(To be continued.)

Original Communications.

OBSERVATIONS ON PHTHISIS AND PNEUMONIA IN THEIR RELATION TO SYPHILIS.

A STUDY OF ONE HUNDRED CASES IN WHICH THESE AFFECTIONS WERE ASSOCIATED.

By WILLIAM H. PORTER, M. D.,

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Most of the clinical data used in the preparation of this paper have been taken from the records of one hundred unselected cases recorded at the author's medical clinic at the New York Post-Graduate Medical School and Hospital; the pathological data from the post-mortem records of the Presbyterian Hospital.

Syphilitic pneumonia in children has long been recognized as a distinct and common lesion, but in adults it is

either entirely ignored or given but a passing notice by the writers on clinical medicine.*

Latent syphilis, both of the acquired and congenital variety, as an ætiological factor in disease, has occupied the attention of the author for a number of years past, and he has collected much pathological material bearing not alone upon its influence upon the pulmonary tissue, but upon every organ and tissue of the body. Pulmonary syphilis is best defined as a condition of the lungs in which there is a progressive thickening of the walls of the vesicles; this change is often associated with inflammatory deposits, gummy formations, which, degenerated into cheesy masses, become encapsulated or liquefy, and give rise to cavities. The first is best classified as syphilitic pneumonia, the second as syphilitic phthisis.

The primary origin can only be settled by accepting the terms syphilitic pneumonia and phthisis.

The first necropsy in connection with a typical clinical history was made in 1878, and in this instance there was no question of the existence of acquired syphilis, and the exemption from inherited phthisis was equally positive. The clinical history and the results of the autopsy evidenced a syphilitic instead of a tubercular origin for the pulmonary lesion, and since this time a number of similar instances have been noted.

The lungs removed from a diabetic subject † are interesting, as illustrating several important points:

1. Pulmonary consolidation and softening, with the formation of cavities, may occur in diabetic patients independently of any tubercular phthisical process, which strongly suggests a similar development under other circumstances.

2. Consolidation, softening, and the formation of cavities may occur without the formation of tubercles, as shown by the fact that no tubercle tissue, in the instance quoted, could be made out by the microscope, as well as by the fact of the absence of the *Bacillus tuberculosis*, which corresponds to Koch's theory.

3. Taken together with a number of other necropsies, this one establishes, from a pathological standpoint, the existence of a syphilitic lesion with the formation of cavities at the apex of the lung.

4. It substantiates the clinical observation that syphilitic lesions of the lungs frequently commence and are most marked at the apex, and diminish from apex to base.

5. Both lungs are involved, one usually more than the other. The base and anterior portions of the lungs are rarely involved at first.‡

Every day cases present themselves at the clinic which might be diagnosticated as an ordinary disease and passed by, but a careful investigation invariably reveals a hidden syphilitic taint, which has evidently excited and has served to keep the disease in motion. This assertion may appear dogmatic, but careful investigation leads to but one result. If the rules for diagnosis to be laid down are found sufficiently strong to warrant an inflexible opinion, the main question is settled. From the histories of the first thousand cases treated at my clinic, one hundred, or ten per cent., were taken as the basis of this paper. Of the remaining nine hundred, many had pulmonary lesions and diseases of the various organs, which, in my opinion, were of syphilitic origin, and which, as a rule, responded to a certain line of treatment. This ten per cent. of all the cases is a large proportion; but, if the pulmonary cases alone be taken, fifty per cent. or more would be traceable to the same cause. These facts are sufficient to attract attention, and to indicate how frequently syphilis may figure as a cause of disease.

Of the one hundred patients, fifty-two were males and forty-eight females; but, while these figures are true of this particular one hundred, they do not give the relative frequency among patients at large, for, when the whole number treated was taken into consideration, it was found to be more frequent in females.

The youngest recorded was sixteen years, the oldest sixty-six. The cases taken as a basis for this paper were arranged in ten decades, beginning at ten years, and it was found that six and twenty-two hundredths per cent. occurred in the first, eleven and thirty-three hundredths in the second, twelve and ten hundredths in the third, eleven and twenty-five hundredths in the fourth, seven and seventy-seven hundredths in the fifth, and three and sixty-eight hundredths in the sixth, which shows that its greatest frequency is between the ages of twenty and fifty, with a slight liability of the maximum occurring between thirty and forty.

The question of the disease being an acquired or an inherited vice is one of unquestionable importance. A careful study of this point, for a number of years, has led the writer to believe that pulmonary syphilis in adults is a very common disease, and that it is due to either an acquired or inherited taint, the latter being nearly, if not quite, as frequent as the former. The ground for the belief that the disease is frequently inherited is shown by the number of cases in which it appears in young persons under ten or twenty years of age, whose chastity can not be doubted, and in whom no primary symptoms have ever appeared. In opposition to this view may be urged a primary contagion, passing unnoticed, or a direct transmission by kissing some

* "Dictionary of Medicine," Quain, American Edition, New York, 1883, p. 909.

† "New York Medical Journal," January 31, 1885, p. 139; Ibid., April 11, 1885.

‡ This form of pulmonary lesion has been quite extensively described by:

Greenfield, W. S.—On Visceral Syphilis. London "Pathological Transactions," pp. 249, 208. London, 1877.

Goodhard, J. F.—Phthisis of Fibroid Forms; History of Syphilis. *Op. citat.*, p. 313.

Green, T. Henry.—Syphilitic Disease of the Lung. *Op. citat.*, p. 331.

Pye-Smith.—Tertiary Syphilis affecting Lung, p. 334.

Mohamed, F. A.—Two Cases of Syphilitic Disease of the Lung (early fibroid). *Op. citat.*, p. 339.

Godhart, J. F.—Syphilitic Disease of the Lung. London, 1874.

Fromenier.—"Gaz. hebd. de med. et de chir.," 18, 49, 51. Paris, 1875.

Thompson, E. Reginald.—Pulmonary Syphilis. "British Medical Journal," Aug. 28, 1880.

This disease has been recognized and described from Morgagni's time to the present. A much more extended bibliography could be appended, but this is sufficient to show that the lesion has been recognized by eminent pathologists.

older infected person; these are outweighed, however, by the absence of primary and secondary symptoms.

Dr. John Ferguson, of Toronto, reported a number of cases * where the disease occurred in young children, and where, all other treatment having failed, the symptoms yielded to an anti-syphilitic *régime*, and where the father, at a later period, inquired if his children's condition could have been influenced by his having had syphilis.

This is proof positive of the transmission of syphilis during its latent period from a father to his offspring without the mother showing any signs of the disease. The latent period of syphilis, which lasts from ten to twenty years, during which there may or may not be exacerbations, succeeds to the active state, and usually occupies that period of life in which the larger number of children are generated, thus probably accounting for the number of cases where positive symptoms are present without any evidence of primary contagion. A positive proof of the occurrence of this disease in the form of a pneumonia or phthisis may be found in the fact that these complications yield quickly and favorably to anti-syphilitic treatment. The larger percentage among females, especially among the unmarried and virtuous, seems to favor inheritance. These views are those of a clinician and pathologist, and vary considerably from those advanced by syphilologists. The clinical history of a case of this character is explained by the pathological lesion, and *vice versa*. Whether it be of the acquired or inherited variety may be in doubt, but inheritance from the father's side is in keeping with the biblical prophecy of descent even to the third and fourth generations. The recognition of syphilis in causing and maintaining disease, especially when the pulmonary organs are the point of attack, would indicate that a large number were syphilitic and not tubercular in origin.

In many instances patients have come to the clinic with the statement that some competent observer had diagnosticated an incipient phthisis, accompanying it with an unfavorable prognosis. A careful interrogation usually revealed a specific taint, however, and, when the syphilitic pneumonia or phthisis had received anti-syphilitic treatment, they resolved, so that to-day these patients would pass the most critical physical examination. Is there any direct relation between syphilis and tuberculosis? Decidedly not, although clinically and pathologically closely allied, therapeutically they differ decidedly.

The changes found in the lungs are somewhat similar to those of tubercular phthisis, and caused Niemeyer to remark: † "It may be difficult to decide whether the lesion be of a syphilitic origin or not." The lungs may be free, but, as a rule, they are more or less bound to the chest-walls and diaphragm by newly formed connective tissue, so that the pleural space may be completely obliterated. The pleura itself may vary from one eighth to one half of an inch (three and one hundred and twenty-five thousandths millimetres to three and a half millimetres) in thickness. The greatest thickening is at the apices. After bisecting the lung the following changes are found: the main lobes, and often the lobules, are separated by distinct bands of newly formed fibrillated connective tissue, which is not the case in a normal lung. The bronchi, particularly the smaller ones, undergo the same change, while the bronchial glands are indurated and pigmented; the latter, however, is only a coincident lesion. There are numerous cheesy-looking masses which are recognized by a trained eye as gummy formations. Their cut surfaces have a sticky feel and a laminated capsule, which, when they have attained considerable size, is quite distinct. The smaller granules have a similar appearance, and often look as though they could be readily shelled out. These neoplasms may vary, both in size and shape, sometimes occurring as large as a hen's egg, and sometimes so small that they look like the miliary tubercle. They may occur in masses forming cheesy-looking patches, or they may occur in single round and isolated bodies. These masses are separated by degenerated pneumonia or by an interstitial thickening of the pulmonary substance. The early stage is characterized by a diffuse interstitial thickening of the pulmonary tissue, often associated with a degenerative pneumonia peculiar to this disease. In the latter stages cavities are not infrequent, and these are also found in the apex or high in the superior lobe.

The advanced cases are the ones that are usually found on the necropsy table, while the earlier types are not infrequently associated with intercurrent disease or surgical conditions; but here the histories are very incomplete, often being passed without attracting any attention. A striking illustration of this was found in the diabetic case already published, where, in looking for a tubercular process, a typical pulmonary syphilitic lesion was found. These pathological proofs of the apex—rather than the base, and anterior portion of the lung—being the point of invasion are contrary to the ideas of some previous writers, but it has been invariably so in all the cases examined by the writer, both in the post-mortem room and at the clinic. These facts also explain the physical signs which are so marked during life, and substantiate their truthfulness. Macroscopically, this lesion is differentiated from the tubercular by the peculiar cheesy and granular gummy formations which have a tendency to encapsulation, and look as though they could be readily shelled out and easily separated from the surrounding pulmonary tissue.

The microscopic appearances are varied and numerous, and the first thing that attracts the attention is the extensive new formation of connective tissue. In many places broad bands are found closely resembling tendon tissue, and intervening between these tense layers there is a universal thickening of the pulmonary tissue, which also involves the vascular walls. The yellow elastic fibers are larger, and consequently appear more abundant. In many of the cases there is little or no pigmentation found which can be traceable to inorganic substances or to blood. The absence of the first, of course, is indicative of the fact that the interstitial thickening is not due to the irritation of carbon, iron, stone, or any of the other inorganic substances, as in the case of some varieties of fibroid induration. The absence

* Phila. "Med. News," January 17, 1885, p. 66.

† Niemeyer: "Text-book of Practical Medicine," New York, 1881, vol. ii, p. 771.

of blood pigment, on the other hand, is positive proof that it is not due to chronic congestion or impeded blood flow. This also dispenses with the idea that the dyspnœa must be due to the stagnation of the blood.

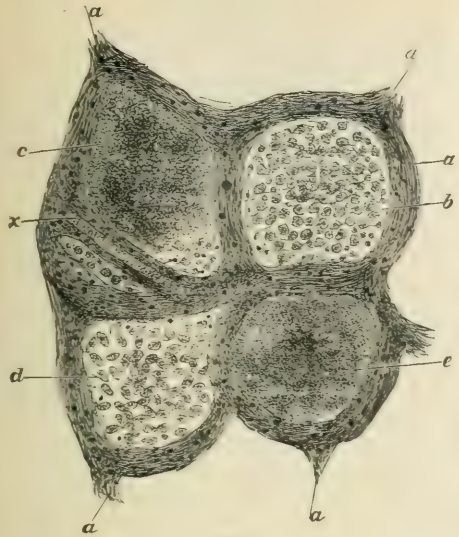


Fig. 1.

The thickness of the vascular walls varies from one twelve hundredth of an inch (20·833 m. m. m.) to one two hundredth (24·999 m. m. m.), but in the majority of the cases they are one eight hundredth to one six hundredth of an inch (31·250 m. m. m. to 41·666 m. m. m). (See Fig. 1, *a*.) In a number of instances the capillaries were seen in the center of these thickened bands (Fig. 1, *x*), the walls of which were thickened independently of the vascular tissue. When the vessels were distended with blood, as in Fig. 1, *x*, the thickness of the tissue intervening between the lumen of the blood capillary and the wall of the air-sac could be measured, and was found to be from one twelve hundredth to one four hundredth of an inch (20·833 to 62·500 m. m. m.).

This would naturally impede the free and easy interchange of gases between the two cavities, and would explain why the dyspnœa in this disease was so profound.

In addition, the connective tissue presents four characteristics microscopically:

1. Dense bands of white fibrous tissue with few corpuscular elements.

2. A less dense tissue studded with numerous small, round inflammatory corpuscles, having an average diameter of one one hundredth of an inch (4·166 m. m. m.). At other points, this same connective tissue was thickly set with oat-shaped corpuscles one thirteen hundredth of an inch (19·230 m. m. m.) long and one eight thousandth of an inch (3·002 m. m. m.) broad.

3. The same inflammatory basement substance, interspersed with round nucleated corpuscles, one forty-five hundredth of an inch (4·166 m. m. m.) in diameter, which, taken alone, looked not unlike a round-cell sarcoma.



Fig. 2.

4. The thickened bands had a granular and degenerated appearance.

In many of the ultimate bronchi there was marked fibroid thickening, and many of the vesicular spaces were filled with an inflammatory exudation which presented a variety of appearances:

1. The air-spaces were filled with red-blood disks, leucocytes, desquamated epithelium, and fibrillated fibrin identical with that found in the second stage of a lobar pneumonia. (Fig. 1, *b*.)

2. Others were filled with decolorized round cells, as in gray hepatization of lobar pneumonia. (Fig. 1, *c*.)

3. Others were filled with large, round, distinctly nucleated epithelium cells, with a diameter varying from one fifteen hundredth to one two thousandth. (Fig. 1, *d*.)

4. Others contained a granular degenerating material which would not stain. (Fig. 1, *e*.)

The marked feature of this change was that all four conditions were irregularly intermingled as though in each air-sac it ran its course independently of all the rest, going regularly through the red and gray hepatization; at this point degeneration, rather than resolution, set in. The thickened walls prevent absorption, and the degenerating inflammatory products probably account for the copious expectoration.

This process is best classed as a degenerative pneumonia and one peculiar to syphilis. This peculiar pneumonia, associated as it is with diminished elasticity, and with dilatation of the bronchial tubes and loss of resilience on the part of the lungs, explains the absence of both dry and moist râles. The dilated and moist condition of the bronchi accounts for the absence of sibilant or sonorous sounds which are so common in the ordinary forms of interstitial pneumonia. This same condition of affairs accounts for the absence of the crepitant and subcrepitant rales, because the walls of the bronchi are not able to approximate each other and cause the sounds.

My opinion has always been that these râles were due to the opening and shutting of the ultimate bronchi, and a careful study of the physical signs and of a number of sections has still further convinced me that this is the way in which these sounds are produced. But I do not care to say that this is the only way in which they are produced, as they are often heard in certain stages of pleuritic inflammations, and there is no point of diagnosis between the two that is practical. The pleuritic râle, however, is very much less frequent.

It is well known that there is no tidal motion to the air beyond the third division of the bronchi. Beyond this point the air is changed by diffusion and by an anatomico-physiological law.

The trachea and bronchi are lined throughout with columnar ciliated epithelium, and the current of motion produced by these cilia is from within outward at the periphery of the lumen, while the central column of air is constantly moving downward.

It is by this action of the epithelium that the major part, if not the whole, of all inflammatory exudations into the air-sacs and smaller bronchi are brought up to the larger bronchi, where they can be influenced by the tidal air. The mass of sputum is pushed up until it reaches the under surface of the true vocal cords, where it irritates the peripheral sensory filaments of the superior laryngeal nerve, through which it is reflected back to the cough center, when a deep inspiration and a spasmodic or complete closure of the chink of the glottis follow. This is in turn followed by a forced inspiration with the glottis closed, during which the glottis opens, allowing a sudden escape of a large quantity of air under a very high pressure. The result of this is that the mass of sputum is driven through the rima glottidis into the larynx, mouth, or outside world, according to the force of the inspiratory act. This constitutes what is known as coughing, and is simply a dislodgment of the contents of the superior portion of the trachea. Irritation of the peripheral fibers of the pneumogastric in the pleura or bronchi will produce a dry or hacking cough. A thorough appreciation of these anatomico-physiological laws and their application to pathological conditions is absolutely essential for the selection of proper therapeutic agents.

Professor Thomas E. Satterthwaite first called my attention to the true value of the ciliated epithelium. The large gummata have a peculiar laminated, fibro-vascular, connective-tissue periphery which tends to encapsulate and isolate their granular centers. The surrounding pulmonary substance is the seat of a peculiar fibro- and degenerative pneumonia. The capsules are highly vascular, the small vessels having thickened walls from hyaline transformation (Fig. 3, *d*); the center often liquefies, the contents being discharged through a bronchus, leaving a smooth cavity in the pulmonary tissue. These cavities may contract and form a cicatricial "pock-mark," or they may remain stationary for months. On the other hand, they may ulcerate and extend, so that at the necropsy we would find small smooth-walled cavities, together with larger ones with ragged walls, or sometimes with walls similar to those occurring with a tubercular phthisis.

Throughout lungs affected in this way small miliary bodies closely resembling miliary tubercle are abundant, but they are not opaque or transparent. These bodies I have called miliary gummata. These gummata sometimes

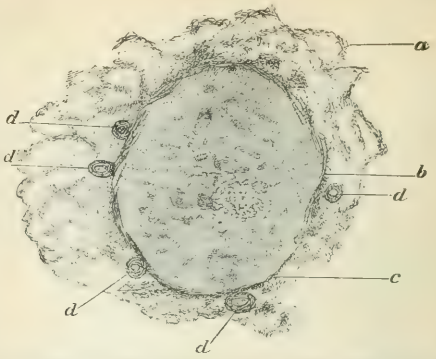


Fig. 3.—Gummy Tubercle showing Cheesy Center, Fibrillated Connective-Tissue Capsule, and Hyaline Thickening of Blood-Vessels. *a*, surrounding pulmonary tissue; *b*, cheesy center; *c*, sharply defined fibrillated connective-tissue capsule; *d*, thickened capillaries showing hyaline metamorphosis.

coalesce, but at first they are round and isolated. A close study of these, in comparison with miliary tubercle, shows that there is a vast difference between the two. The periphery of the gumma somewhat resembles the adenoid tissue of miliary tubercle, but a high power distinctly shows that its periphery is composed of concentrically arranged fibrillated connective tissue in which numerous blood-vessels ramify. (Fig. 3, *b*, *c*.) The walls of these vessels, owing to a hyaline transformation, are invariably thickened. (Fig. 3, *d*.) As a rule, no giant-cells are found in the gumma.

In miliary tubercle the adenoid tissue is more delicate and less perfectly fibrillated; it is full of small-round cells and often contains giant-cells; the capsules are less vascular and the blood-vessels do not present the hyaline transformation.

Taking the definition of Ziegler as the standard for miliary tubercle—i. e., "a non-vascular nodule (*Knötchen*) which does not grow beyond a certain size, and which, having attained a certain stage of development, undergoes cheesy degeneration"—gummy tubercles tend to become encapsulated, miliary to soften and diffuse. Such a striking analogy between these two forms of tubercles naturally suggests the following queries:

1. Is not tuberculosis superinduced by syphilis?

2. In the late stages of a syphilitic lung, may we not also have miliary tuberculosis?

3. Have not gumma tubercles been frequently mistaken for miliary tubercles?

The first two must be answered in the negative on account of the absence of temperature and of the Koch *Bacillus tuberculosis*. There is, however, no good reason why a tuberculosis should not be developed on a syphilitic lesion, but the writer has not found a single instance where the post mortem has revealed this.

Before answering the next question definitely, more data are required to prevent confounding the two.

The rational signs in many respects resemble those of a tubercular phthisis. The patients complain of having had a heavy cold with incomplete recovery, followed by a dry, hacking cough, or one with an abundant muco-purulent expectoration. The sputum is either white and frothy or thick, purulent, and of a greenish or yellow tinge, as in a true pulmonary tuberculosis. Early hæmorrhages are frequent and often copious, while the dyspnœa is an early and pronounced symptom. Pleuritic pains are common, and there is often great weakness while the general physique remains fairly good—in fact, the emaciation is not at all in proportion to the weakness, and is nothing like that of the tubercular variety. The skin is warm and moist, but there is little or no elevation of the bodily temperature. Night-sweats are frequent and distressing, and the patient complains of cephalalgia and of indefinite and wandering pains in the bones and tissues, which increase at night. Dyspepsia and slight jaundice are not infrequent. The urine has a characteristic pale, limpid appearance, which, together with the sallow complexion, often leads to the suspicion of a nephritic lesion. The urinary examination is usually negative unless there happens to be a coincident renal lesion.

Married females abort without any apparent exciting cause further than the syphilitic taint. Their children, if born, are often plump, but soon die of marasmus. The first child is often healthy, but the subsequent children are delicate. Frequently patients complain of sore throat and of an early loss of hair.

The physical signs are peculiar and diagnostic; the respiratory act is labored and all the accessory muscles of respiration are brought into play, but there is little or no expansion of the chest. Early in the disease palpation reveals increased fremitus, but in the advanced cases it is diminished, owing to the small volume of air entering the lung.

Percussion gives varying degrees of dullness, which is most marked at the apex but diminishes toward the base. The percussion-note is dull and of "wooden quality," and localized areas of dullness are found. Owing to the fact that small cavities have thin walls and contain considerable air, the dullness is not so great as would be expected, but, compared with a sound chest, it is decided.

Auscultation yields most positive and peculiar evidence when the rational history is taken into consideration. The inspiratory and expiratory murmurs are prolonged and harsh, especially the former, with a decided intermission between the two. Broncho-vesicular breathing is frequent at the apex. When the amphoric whisper is absent the presence of a cavity is eliminated. As a rule, crepitant and subcrepitant rales are absent, thus eliminating chronic bronchitis. It is differentiated from asthma by the absence of the sibilant and sonorous sounds. The vocal resonance is exaggerated over the consolidated portions. Another very strong and pathognomonic sign is a peculiar pain and œdema of the sternum and of the tibial crests. Pressure over these regions produces a very peculiar pain, which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction to the electric current. A noticeable feature is that when the sternum is excessively sensitive the tibial crests are less so, and *vice versa*. There is no other disease in which this localized tenderness in œdema of the periosteum is met with. It is never found accompanying a true miliary tuberculosis, but it is exceedingly common in connection with syphilis, and, from this absence in cases of tuberculosis where the diagnosis was confirmed by the necropsy and its almost universal presence in cases of syphilis, it may be regarded as pathognomonic of a specific taint. In addition to this, it is always found to yield when the patient is under an anti-syphilitic *régime*.

The diagnosis is based upon five principal signs and symptoms:

1. The abundant expectoration without any signs of softening of the pulmonary tissue.

2. The weak and debilitated condition without marked emaciation and the good rational history of phthisis.

3. Pronounced dyspnœa without any evidence of a cardiac or pulmonary obstruction to the circulation.

4. The peculiar pain and the reaction to pressure upon the sternum and tibial crests.

5. The ready response to treatment is another element in the diagnosis.

The prognosis depends upon the early recognition and treatment. Syphilitic phthisis may run a very rapid course, but, as a rule, it is quite chronic. Dissipation hastens its progress, especially when alcoholic stimulants are used to excess.

In treating this affection, the liver should first be freely acted upon by cathartic doses of calomel or podophyllin, which in some cases should be frequently repeated. Experience has shown that the mixed treatment yielded better results than when mercury or iodide of potassium alone was used. The combination most successful is one sixteenth of a grain of the biniodide of mercury, from five to ten grains of the iodide of ammonium, and ten to twenty grains of the iodide of potassium in a drachm of the compound tincture of gentian, three times a day after meals.

Great reliance is placed on the ammonium salt, not perhaps on account of its intrinsic action in syphilis, but from the action which it has in rendering the two others more soluble, capable of easier absorption and assimilation, and in increasing their solvent action upon these newly formed gummatous elements—in fact, its action may be compared to that of trituration on calomel.

This is, of course, only theoretical, although it was taught by the late Dr. Van Buren, and may not be in keeping with the experience of other observers, but there can be no question of its efficacy in the cases in which it has been tried. Patients have repeatedly come under observation in whom one hundred grains of the saturated solution of the iodide of potassium produced no effect, but who showed rapid improvement after a free catharsis and a maximum dose of thirty grains of the combined salts. It may be argued that recovery under the iodide is no sure proof of the existence of syphilis, as these drugs only prevent a waste of tissue and thus might retard an ordinary phthisis. It is, however, pretty generally acknowledged by writers on therapeutics that the chief potency of the potas-

sium salts and iodine is due to their power of increasing oxidation. Upon this property our theory of their action has been based. Turkish and Russian baths are also of great service. It is quite essential to prescribe expectorants which will render the inflammatory exudation as watery and free from mucus as possible, at the same time stimulating the ciliated epithelium-cells, and thus freeing the air-passages of inflammatory products which tend to decompose, act as irritants, and interfere with the aërating space.

The best of food, air, and a total abstinence from all forms of dissipation must be insisted upon. The inherited cases are the more intractable, and will not yield to the iodide of potassium alone.

The conclusions may be summed up as follows:

1. *Ætiology.*—Pulmonary lesions attributable to syphilis are very common, more so in females than in males, with the maximum number of cases occurring between thirty and forty years of age; it is as frequently, if not more frequently, inherited than acquired.

2. *Pathology.*—Is most frequent at the apex; usually involves both lungs; is a peculiar pneumonic process in the early stages, while later cavities are formed, and it becomes phthisical in the sense of progressive consolidation, followed by softening and the formation of cavities. There is a strong resemblance, but a positive difference, between syphilitic and tubercular phthisis, and a positive anatomical difference between a syphilitic and a miliary tubercle.

3. *Symptoms.*—These are peculiar and diagnostic.

4. *Diagnosis.*—This rests mainly upon the rational history and physical signs, the extreme dyspnœa, the periosteal tenderness, and the absence of an increased bodily temperature.

5. *Prognosis.*—This depends upon an early recognition of the trouble.

6. *Treatment.*—It must be anti-syphilitic to be of any avail. Many cases are unaffected by iodide of potassium alone, unless under enormous doses, but a rapid improvement follows upon the use of the biniodide of mercury, iodide of ammonium, and the iodide of potassium.

In conclusion, thanks must be extended to Dr. George R. Elliot for his pains in examining the specimens for the bacilli, to Dr. George G. Van Schaick for the drawings, and to Dr. E. B. Brunn, one of the laboratory students, for preparing the specimens and examining for the bacilli.

Note.—In addition to the foregoing, I would like to state that, from October 1, 1884, to May 15, 1885, I made forty-two necropsies. In eleven of the cases, or 26·19 per cent., there was, in my opinion, a syphilitic condition of the lung—either gummata or cavities. Each was put to the test for the bacilli of tuberculosis, and in every instance they were found to be absent. The last three of the eleven were also put to the double test for the bacilli of tuberculosis and those of syphilis, and in all of them the latter were found in abundance, but none of the former. One case of the forty-two, or 2·35 per cent., had been diagnosticated as tuberculosis. The sputum was found to contain the bacilli of tuberculosis, and the diagnosis was confirmed by the necropsy.

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"Bartholow's Materia Medica and Therapeutics" is, we are informed, to be translated into French by Dr Henri Huchard and Dr Lucien Dubois, of Paris.

SYPHILIS.*

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The treatment of this affection should be considered both constitutionally and locally. In the old routine of constitutional treatment with mercury for one period, succeeded by another of treatment with the iodide of potassium, the development of the symptoms was so interfered with that the surgeon was left in the dark with regard to the stage and tendencies of the disease. This method fully justified Voltaire's satire: "The practice of medicine was like the pursuit of an imaginary enemy by a blind man armed with a club." Present methods, however, were not open to such a criticism.

Syphilis is a complex disease, which runs a definite course, but which has been subjected to an arbitrary and misleading classification by its division into the primary, secondary, and tertiary stages. It would have been better at the first if it had been divided into the early and the late periods, making the division, not according to the chronological order, but according to pathological phenomena; then the early manifestations would be those where there was no ulceration, while the appearance of an ulcerating process would be indicative of the later period.

The train of symptoms in this disease is usually progressive: first, the chancre and the non-ulcerative lesions of the skin, followed by the destructive processes, with, once in a while, cases where the whole course of the disease is malignant.

In these later cases the chancre becomes phagedenic, and the ulceration, instead of being macular, is pustular and ulcerating, as in the so-called tertiary stage, with which it should be classed. There is no specific treatment for this affection. Although a believer in the use of mercury, I consider its efficacy dependent upon physiological rather than specific reasons; and then we must remember that mercury is not always indicated in syphilis, and is useful in some conditions, but harmful or useless in others. It should not be used in the initial stage. As a rule, the primary sore, *per se*, is of but slight importance, and is serious only on account of its sequelæ. If it is not complicated by improper treatment and dirt, and remains free from phagedenic ulceration and of diphtheritic inflammation, it would get well of itself without recourse to any treatment, and therefore it is best to confine ourselves at this stage to the simplest things possible. Although the books make the diagnosis between the chancroid and the initial lesion an easy matter, in reality it is frequently quite difficult, especially in the mixed sore, where, as is often the case, we have to deal with both the chancre and the chancroid; and, until we are quite sure of the true character of the affection, we should abstain from the administration of mercury, for in the chancroid it causes more or less irritation, and is of no benefit to the patient. Even when the diagnosis of the initial lesion is certain, it is

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best not to commence the administration of mercury for some little time, as it prevents the subsequent development of the disease, and the maculæ do not appear at the end of the sixth to the eighth week, or at the end of the forty-two days, and the surgeon is consequently left in doubt as to the correctness of his diagnosis. Delay in the administration of the mercury is not detrimental to the patient's future progress, and therefore, unless he be married and rapid healing a necessity, only the simplest treatment for the initial lesion should be employed. Water, lycopodium powder, bismuth, or even a piece of cotton or charpie, to prevent the friction of the mucous surfaces, is all that is required. When further symptoms develop, however, mercury should be resorted to, and its use should be continued through each successive stage. The iodide of potassium is useless at the beginning of the disease, and, in fact, its use only grew up from an effort to compromise between doing nothing and the administration of mercury, which, from its abuse in past years, had fallen into disrepute; but it can only be useful as an adjuvant, and not as a substitute.

That form of mercury should be used which is the simplest and which produces the least disturbance in the system. The chlorides and the iodides are more apt to produce toxic symptoms than other forms. It was observed, during my service in the Charity Hospital, that the patients who were taking the simple blue pill showed a tendency to ptyalism after a meal of salt meat, the salt apparently serving to form the chloride. It is no longer considered necessary to touch the gums, and any symptoms of its toxic effects upon the salivary glands, the gastro-intestinal tract, or other portions of the body, should be avoided, and, before their appearance, the treatment should be suspended or changed.

The simplest form of mercury is the blue mass, two grains of which can be advantageously combined with one grain of iron or quinine, thereby producing a tonic effect. In truth, mercury is itself tonic when administered in small doses, as it increases the number of the red blood-corpuscles; and in syphilis we have to deal with both physical and mental anæmia, the number of the red corpuscles being diminished while the number of the white is increased. Although mercury in small doses increases the richness as well as the number of the red corpuscles, in large doses the effect is quite the opposite. While the administration of the mercury by the simple blue pill is probably the best, we must not discard the iodides and the chlorides entirely, as the former is quite useful in the latter stages of the disease. Where there is a tendency to ulceration of the throat the bichloride is of use, but the gastric and salivary symptoms must be carefully watched during its administration. Calomel is a treacherous preparation, for often, when the patient seems to be doing well under its administration, there is a sudden and unexpected explosion of hydrargyrismus.

The administration of the mercury should be continued until the symptoms have entirely disappeared, when it may be suspended until the development of some fresh complication; hence the treatment of the affection under consideration is largely on the expectant plan. Relapses often occur, but, if treatment is immediately resumed, they become milder and milder until they cease entirely and the patient may be pronounced cured; but whether the disease is entirely eradicated the future only can decide.

This is not very satisfactory, it is true, but, in the present state of our knowledge, nothing more definite can be stated. If, however, I were to be asked whether the condition was curable, I should reply in the affirmative.

The iodide of potassium should be given, owing to its prompt action, whenever there is ulceration about the mouth, nose, throat, or parts of the body where there is danger of any disfigurement; but we should not depend entirely upon this drug to effect the cure, as it is not so positive or so well borne as the mercury. It will often be noticed that, when the iodide has been given to promote cicatrization, while the process will proceed rapidly for a time it will at last be arrested, and the mercury will have to be resorted to to complete the process. Small doses of the iodide are useless, and when it is indicated it should be given promptly and in increasing doses, until the disappearance of the symptoms or the advent of toxic conditions compels its abandonment. It is very readily absorbed and as readily eliminated, and we have no knowledge of its action which can account for its rapid passage through the blood. We do know that while a dose of ten or fifteen grains will do little or no good, one of forty or fifty grains will be followed by an amelioration of the symptoms; yet so rapid is the elimination that it is not likely that more is absorbed in the one case than in the other.

The treatment in skin lesions must be continued until not only the eruption but the staining has entirely disappeared, leaving only the scar, which is indelible, and is one of the few results of this disease that can not be removed.

The initial lesion sometimes leaves a scar, and atrophy, with a depression and whitish scar, often occurs after gummous infiltrations, whether in the bone or elsewhere. Some cases do not tolerate either mercury or the iodide, and this is notably true of those cases which are phagedenic from the beginning. Sometimes it is best, owing to the constitutional debility from excesses of various kinds with which these patients suffer, to institute a tonic and hygienic treatment before having recourse to the mercury or the iodide. The iodide of iron is especially useful in these cases, although the citrate and potassio-tartrate are well borne. Cod-liver oil may also be administered.

Some patients may recover without the use of mercury, but it is not safe to omit its administration, for we can never tell how the disease will end. Mercury, too, is our best remedy for this condition, and it would therefore be indefensible to withhold it and to subject the patient to the consequent risk, especially as the dangers from its effects are less than from the effects of the disease, and the number of recoveries without the mercurial treatment is too small to build a theory upon. Besides being given internally, mercury may be administered by inunction, fumigation, the bath, subcutaneous injection, and by suppositories. The results of the inunction are comparatively favorable, and it has the advantage of leaving the stomach for what it is intended—namely, food and drinks, and not for drugs;

but is uncleanly, and, while it is used quite extensively in foreign countries, Americans will not stand it—they prefer to drench their stomachs rather than soil their skin for five minutes. The old method was to rub in the ointment in different parts of the body consecutively, first the arms, then the legs, and then the back. An objection to this method is that in delicate skins it will produce an eczema, and that it soils the linen beyond redemption, so that in private practice it can scarcely ever be used. A method which is not so objectionable is, after a hot foot-bath, to apply the ointment to the soles of the feet; woolen stockings should then be worn, and then every step will rub the ointment in. There is no discomfort, the feet are not cold, there is no blistering of the skin, and absorption readily occurs. It should be applied every alternate night for a week or ten days; then it should be suspended for a like period. Iodide of potassium should be given when needed, thus constituting the mixed treatment.

The two remedies combined in the same prescription are given by some practitioners, but this is not advisable, as it prevents the increase of one of the ingredients without the increase of the other. It is better to give them separately—the iodide in the saturated solution, which contains about three fourths of a grain, or practically one grain to the minim, largely diluted with an alkaline mineral water, after meals, never on an empty stomach. The protiodide or the biniodide may be given in pill form.

A mercurial bath may be given once or twice a week, according to the strength of the patient. Lamps are sold for this purpose. The patient is placed on a cane-bottomed chair, stripped, and covered with a blanket, outside of which is a macintosh. A lamp, having a gutter for water and a cup containing mercury, is placed under the chair. The patient is left in this vapor until after the mercury is completely volatilized and he has had an opportunity to cool off somewhat, when he should be wiped off and put to bed for two or three hours, as in the Turkish bath. The best time for the administration of these baths is at night.

The hypodermic administration of mercury is now about abandoned. When it is employed, a combination of corrosive sublimate or of calomel and albumin is used. It is very inconvenient, however, as it necessitates frequent visits to the physician, and the pain and discomfort to the patient are very considerable. In large bodies of men, as in an army or navy, the first objection would not be applicable, and the method might be found of use.

The treatment by syphilization remains to be considered. This method depends upon the same theory as vaccination, but is subject to the difficulty of the absence of a dilute virus, and that we are not able to predict the future of the syphilized person. The most recent prominent advocates of the theory were Berk and Dwire, of Christiania. When Dr. Berk was in this country, Dr. Bumstead allowed him to use the ward of Charity Hospital for the demonstration of the theory, and I had an opportunity of personally observing the method, but I received an unfavorable impression from the start, from the fact that the doctor made no distinction between the chancroid and the syphilitic sore. Both were syphilis to him, while to me they were two very different things, and so I concluded that something was "rotten in the state of Denmark." The method of treatment was extremely disagreeable, and the fact that many of the patients who were subjected to it ran away—which was remarkable, as the class that frequent Charity look upon it as a summer home—attests how much they must have disliked the application. Three sets of inoculations were made each time: first, in the right breast, and from these matter was taken for another set, which were called the daughter sores, and then matter was taken from the last to form the granddaughter set, and then still another group, called the great-granddaughters, beyond which he did not go. There were usually six or seven of these open at a time, and the discomfort was very considerable, so that many said they would rather have the disease than be subjected to the cure, and left the hospital. From this circumstance it may perhaps be said that the trial was not complete, but the non-discrimination between the chancre and the chancroid would have entirely vitiated the result.

As at present all diseases are being caused by bacilli, syphilographers are looking for the discovery of such a cause for this disease. No tissue is exempt from the inroads of the disease. When it attacks the eye, the result may be very serious, and we can not be sure that it will not invade the deep parts and result in blindness. The earlier eye affections are not so serious as the later, for in this disease there is a tendency toward resolution, while in the later affections this tendency does not exist. Atropine is the great remedy in syphilitic iritis, and at one time the ophthalmologists relied upon it alone for the treatment; this is, however, a mistake, for, while the mild case of iritis, like the mild case of syphilis in other tissues, will get well without recourse to mercury, the surgeon should not submit his patient to the risk of treatment without this drug. Where the choroid or the retina is affected, the bichloride is better than calomel or blue pill. The ulcerative throat lesions are coincident with those of the skin, and, where the skin is non-ulcerative, the same is true of the throat. When the throat is affected, the bichloride is the best preparation for use; locally, a solution of the nitrate of silver should be applied for its stimulating and astringent effects. It can not be said to be caustic, even when applied in the solid stick, as its action is so superficial. The sulphate of copper may be used for the same purpose, or the parts may be dusted with calomel. Iodoform is good, but the odor is so intolerable that private patients will not allow it to be used.

The affections of the bones and the nervous system are pathologically the same as the initial lesion, but the one tends to resolution while the others do not. When nodes become soft, resist the temptation to put in the knife, for, while it is good for an abscess to be opened, it is bad for a gumma, as it admits the air to the bone and necrosis ensues, for which operation is hopeless, as no proper sequestrum is formed. In the affections of the nervous system the remedy should be given promptly and with a free hand. The most unpromising cases get well when properly treated, but the iodide must be given in doses which seem appalling when compared with those beyond which we were warned

never to go when we first began to use this drug. One ounce per diem, in divided doses, has to be given frequently. Bumstead reports the case of a patient who took his iodide *ad lib.* He became, in fact, an iodide eater. The rule may be relied upon that no toxic results will occur until the symptoms yield. The remedy should therefore be carried to that point and then dropped. Symptoms that laugh at fifty will yield to one hundred grains, and the necessity for one hundred and fifty or one hundred and eighty grains need cause no alarm. Many physicians will refer to fifteen grains as a large dose, and look incredulous when a dose of fifty or one hundred is mentioned. All practitioners should be prepared for the treatment of syphilis, for it often plays a not unimportant part where not expected, and is an important factor in the diseases of children. In every department of medicine we must be ready to meet it and to expect a cure.

THE USE OF OSMIC ACID IN PERIPHERAL NEURALGIAS.*

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When, in 1883, Neuber (G. Neuber, "Ueber Osmiumsäure-Injectionen bei periphäre Neuralgien," "Mittheilungen aus der chirurgischen Klinik zu Kiel," i) published the results of the treatment of peripheral neuralgias by hypodermic injections of osmic acid, it was to be foreseen that, owing to the good results obtained, other observers would take up the remedy and investigate its action in this regard. Such an inquiry was all the more necessary as the number of Neuber's cases was so small. The cases were old and obstinate ones, and consisted of two cases of sciatica and one of trigeminal neuralgia, which were all cured after ten to twenty-four injections. Only in one case was there a return of the pain, and this was again relieved by the same mode of treatment. The treatment of neuralgias is frequently so unsatisfactory that it is well to have at our command a great many remedies, any of which offer a hope of success. For this reason it becomes our duty to examine into remedies which are supposed to exert an influence upon this affection, whether that remedy *a priori* seems rational or not. Notwithstanding the small number of cases detailed by Neuber, the result attained was so good that Eulenburg ("Die Osmiumsäure-Behandlung bei periphären Neuralgien," "Berliner klinische Wochenschrift," 1884, p. 99) put the remedy to a fair test. He reports and tabulates twelve cases upon which he tried the remedy. The nerves affected were various ones of the upper and lower extremities of the body and of the head. He chose the fresh and not extraordinarily severe cases. The duration of treatment varied from one to six weeks, and the number of injections in the different cases was from three to sixteen.

In a foot-note to his article he says that since then he has treated seventeen more cases, and of these four were cured—two sciaticas, one lumbar, and one intercostal neuralgia. The twelve tabulated cases are as follows:

No.	Sex, age, etc.	Disease.	Total no. of injections.	Result of treatment.
1	35 y., male, machinist.	Right-sided sciatica; fresh case.	8	Cure.
2	43 y., male, merchant.	Right lumbo-sacral neuralgia (affection of n. cutan. femor. ext. and post.), to a slight extent also left-sided.	6	Improvement, but no cure; therefore, galvanic treatment employed.
3	65 y., female.	Left neuralgia brachialis ("neuritis" of single arm nerve-trunks); fresh case.	10	Cure.
4	44 y., female.	Right sciatica.	7	Cure.
5	32 y., female.	(Epilepsy) right brachial neuralgia.	4	Only slight improvement; bromides and galvanism.
6	29 y., female.	Left trigeminal and occipital neuralgia.	3	No change; therefore change of treatm'nt
7	49 y., female.	Left trigeminal (Ramus II).	2	No change; therefore change of treatm'nt
8	30 y., female.	Bilateral neuralgia of the (lower) intercostal nerves; fresh case.	5	Improvement slight, result not satisfactory.
9	47 y., female.	Left occipital and cervico-brachial; fresh case.	9	Improvement; later, galvanism.
10	40 y., male, laborer.	Bilateral sciatica; old case, recidiv.	4	No change; change of treatment.
11	53 y., female.	Right lumbo-sacral neuralgia; old case.	10	No change; morphine injections also had no effect.
12	49 y., female.	Multiple (universal) neuralgias, gouty rheumatic basis.	14	No change; other modes of treatment also without effect.

According to this set of cases, then, the result is not very encouraging. In twelve cases there were only three cures, four cases were more or less improved, and five cases were not influenced at all by the treatment. The three cured cases were fresh ones; the unaffected ones were old, complicated or multiple. After this publication I began to make use of this remedy, and should not now publish my observations were it not for reports which have since then appeared, and which certainly show us that we have in osmic acid a valuable remedy for the treatment of certain cases of neuralgia.

Dr. A. Wölfler, in a report from the surgical clinic of Professor Billroth ("Wiener medizinische Wochenschrift," 1884, p. 1495), reports eight cases, which may be tabulated as follows:

No.	Sex, age, etc.	Disease	Total no. of injections.	Result of treatment
1	Male, 42 y.	Right sciatica, three years' standing	16	Cure; no relapse after four months
2	Male, 50 y.	Sciatica, ten years	6	Very much improved.
3	Male, 21 y.	Sciatica; fresh case, three weeks.	1	Cure; no relapse after three months
4	Male, 42 y.	Sciatica, since one month.	5	Cured, with exception of a small painful point in calf of leg.
5	F'male, 56 y.	Left sciatica, one year	18	Cure.
6	F'male, 62 y.	Trigeminal neuralgia, all three branches	2	Cure; no attack in four months
7	Male, 67 y.	Trigeminal neuralgia.	10	Improvem't, relapse after a few months
8	Female.	Trigeminal neuralgia, Ramus III.		Improved, still under treatment.

This report is so encouraging, and in such contrast to Eulenburg's, that it necessarily requires confirmation by other observers. Of eight cases reported, we have five

* Read before the American Neurological Association, June 17, 1885.

cured, one improved but relapsed, one improved very much, and one improved but still under treatment. In eight cases not a single absolute failure.

James Merces ("Osmic Acid in Sciatica," "Lancet," 1885, p. 58) seems to have had just as much success. He does not give any details of his cases, but says that he has tried osmic acid in eighteen cases "which have resisted all other known methods of treatment." The ages of the patients varied from eighteen to sixty-five. In twelve cases he gave absolute relief for a period of three weeks, the patients then leaving the hospital. In these cases the number of injections varied from one to four. In six he gave temporary relief.

The manner in which I treated my cases was as follows: I made use of a 1-per-cent. solution of osmic acid in water, and of this 0·50 to 1·00, equal to 0·005 or 0·010, of the acid was injected. In a few cases less was used, but very rarely. The preparation was that known as osmium tetroxide, OsO_4, commonly known in histological research as osmic acid. The preparation known as hyperosmic acid, which was used by Neuber and others, is probably the same. According to the best treatises on chemistry, such a combination does not exist, as no mention is made of it. The solution, when exposed to the light, rapidly becomes decomposed, turning dark and ultimately quite black. Eulenburg says that it can nevertheless be used in this condition, but my experience has convinced me of the contrary. I consider it entirely inactive when in this state. For this reason it should be dispensed only from a dark bottle, and a small quantity only ordered at a time. I have never prescribed more than 20·00 of the solution, this quantity serving for about forty injections. The injections were always made as near as possible to the point of severest pain and into the connective tissue surrounding the affected nerve. The pain caused by the injection is in many cases exceedingly severe, producing a stinging, burning sensation which generally follows the course of the nerve. This pain, however, rarely lasts long, generally subsiding after a few seconds. Occasionally, also, local changes are produced, such as swelling and puffiness over the seat of puncture, and in many cases I have seen a hard, circumscribed thickening of the skin and connective tissue produced in consequence of repeated injections, which only disappeared after days. There is no discoloration produced by the acid except, perhaps, a single black spot where the needle was introduced. The action is a purely local one, no constitutional symptoms whatever being produced. The experiments of Dr. E. Fraenkel ("Ueber parenchymatöse Ueberosmiumsäure-Injectionen," "Berliner klin. Wochenschrift," p. 234, 1884) cast some light upon the action of osmic acid upon living tissues. In three animals he made injections of a 1 per-cent. aqueous solution of the acid, injecting 0·50 to 1·00. The point of injection was, in all three animals, the thigh, as near as possible to the point of exit of the sciatic nerve through the foramen. The number of injections made was, upon the first animal, four; upon the second, six; and upon the third, seven. Upon the second animal after death, which took place twelve days after the last injection, and sixteen days after the first one, the condition found was as follows: Upon removal of the skin, the superficial fascia and the perivascular and intermuscular connective tissue were found to be the seat of diffuse black discoloration. The muscles upon the back of the leg and thigh were atrophied. The sciatic nerve was found to have retained its normal appearance for only half a centimetre below its exit from the pelvis. Below this point it was colored black, imbedded and intimately adherent to the connective tissue.

This condition is found as far as the knee, from where the peroneal nerve may be followed as a clear white cord. Microscopically, the sciatic nerve above the seat of lesion showed normal fibers. A piece of nerve taken from below this point showed nerve-fibers distinctly colored black, their structure being completely retained. The fibers situated more internally, which were not discolored by the acid, were mostly changed, the myelin balled up and granular, and, in another branch, fatty degeneration was noticeable. In those parts of the muscle which were directly affected by the acid an exceedingly severe interstitial myositis was developed. The condition found was, in general terms, a parenchymatous degeneration of many nerve-fibers, and in the muscles a parenchymatous inflammation of the contractile substance, with atrophy. It is very interesting in this experiment to know that osmic acid produces the same discoloration upon the living nerve-fibers as it does upon the dead ones. Whether this discoloration can have any influence upon the action of the nerve can not be answered until our knowledge of the transmission of nerve-force is more positive than it now is.

If various branches of a nerve are affected, it is necessary to inject over each painful branch. These cases will, however, be found to be mostly intractable ones. Certainly the results are better in those cases in which the pain is localized over a single branch. The nerves of the skin do not appear to be at all affected by the injections, and no anæsthetic action was discernible in any of my cases. Of the cases under my treatment, and of which I have made notes, I shall only give three in detail. The first two, corresponding to Nos. 1 and 2 of the table, are taken as examples of the mode of treatment. The third, which is No. 8 in the table, is given for reasons which will become evident when the case is read.

Case I.—A. S., aged twenty-six years. Had been suffering for two years, and had been under my treatment for a right sciatica since February, 1883. The pain started from the upper part of the thigh and radiated downward to the heel. Pain upon pressure over the entire course of the nerve. The pain was so intense when he first came to me that he was unable to sleep at night, and could obtain a little rest only when under the influence of morphine. After six months' galvanic treatment he felt well enough to discontinue treatment, but, after a lapse of two weeks, the pain was as severe as ever, and he again came for relief. This time galvanism, massage, morphine, and the actual cautery were all tried, but in vain. Thus, six more months were passed, until I read Eulenburg's article in the "Berliner klinische Wochenschrift." I then made an injection parenchymatously over the sciatic nerve, between the trochanter and tuber ischii, injecting half a grain of the solution. These injections were repeated three times a week. The first injection was so painful that, notwithstanding all he had already

undergone (actual cautery, etc.), he refused to continue the treatment. The injections were all attended with more or less pain. After the sixth injection the pain had ameliorated to such an extent that he was able to sleep the entire night. Injections kept up. After the sixteenth he was entirely free, and has remained so up to date.

Case II.—T. L., male, aged forty-eight years. Came under treatment in May, 1884. Right sciatica, since six years. Had undergone, besides the usual modes of treatment, also an operation for stretching of the sciatic, but all without relief. Injections were made in the same manner as in the preceding case. The injections always caused considerable pain, but at no time were they unendurable. A translation of parts of a very long letter, written in German and dated April 1, 1885, will give a good idea of the result attained. He begins: "After I had spent months at a time in hospitals during the last six years, and had ultimately sacrificed everything in order to regain my health, a physician in Newark, after a thorough examination of my case, gave me the following advice."

The essence of this advice was that, as a last resort, he should try the osmic-acid injections, for which purpose he was referred to me. He then goes on to say:

"The result of the two to three weekly injections is a remarkable one. I can walk very well, but not for a long period of time. I can sit, lie down, sleep—all without any pain whatsoever; but, on the other hand, I can not stand still. This causes pain. But I believe that this also will change in time."

This patient received in all twenty injections. He had been suffering from a sciatica which disabled him from performing any of the necessary acts of life. He could not sleep, he could not stand, he could not walk or sit. The only position in which he enjoyed comparative ease was stretched out upon his back, and thus he spent the greater part of six years. The result, to say the least, was certainly encouraging.

Case III.—Female, aged forty-five years. Seen in consultation April 12, 1884. Left cervico-brachial neuralgia. Principal seat of pain over the radial in the arm. The pain had existed for two years, and was probably the result of a periarthritis of the shoulder. Every remedy that had been suggested had been tried, but without result. I recommended a trial of osmic-acid injection, and made one myself over the musculospiral nerve. I heard nothing more of the case for a fortnight, the attending physician having promised to continue the suggested plan of treatment. After the lapse of that period of time, on April 26th, the physician called upon me and told me that the case had progressed favorably until three days prior to his visit. The pain had gradually decreased, and prospects of entire recovery were fair.

At the time mentioned he made the sixth injection in the usual place. The patient complained at once of intense pain radiating downward into the thumb and forefinger. The pain at previous injections had been merely nominal. A few hours after that she called again and said that she had a feeling of numbness in the first fingers and along the outer border of the arm. The following morning the physician called upon her and found a well marked classic, radial paralysis. The patient had during the night slept with her arm thrown backward under her head, and the doctor concluded that he had to deal with a common case of radial paralysis due to pressure.

To me the case was not so clear. The sudden severe pain along the course of the radial after the injection, and the advent of anæsthesia soon after, inclined me to think that the paralysis was due to the injection itself. This view has since then been strengthened in my mind through the publication of Arnozan ("Des névrites consecutives aux injections hypodermiques d'éther," "Gazette hebdomadaire de méd. et de chirurgie," January 9, 1885).

In this article Arnozan calls attention to the occurrence of neuritis following hypodermic injections of ether. He says that in 1881 he accidentally produced paralysis in four cases after injections of ether. In 1883 he saw another case together with M. Salvat, and in 1884 M. Charpentier and M. Barbier published a case of neuritis of the sciatic due to the same cause. In all he publishes seven cases. Of these, six are paralyses of the extensors of one or both hands, due to injections into one or both forearms. The advent of paralysis was immediately consecutive to the injection except in one case, in which the interval between the last ether injection and the occurrence of the paralysis was nine days. Fränkel, in the article already referred to, in the clinical part, says of the experiment upon the second animal: "*After the third injection a complete motor and sensory paralysis of the foot was developed, and upon the third animal a paresis also occurred.*"

In the case of our patient a doubt as to the cause of the paralysis is certainly permissible, especially as the paralysis was not noticeable until the day after the injection, and then may have been due to pressure during sleep. But, in view of these two publications of Arnozan and Fränkel, I feel more inclined to ascribe its production to the osmic acid.

My cases—eighteen in all, including the three already given—have been tabulated as follows:

No.	Sex, age, etc.	Disease.	Total no. of injections.	Result.
1	Male, 26 y.	Right sciatica, old case.	16	Cure.
2	Male, 48 y.	Right sciatica, old case.	20	Cure.
3	Female, 50 y.	Left trigeminal, three years' standing.	3	Improved, but gave up treatment.
4	Female, 35 y.	Left crural neuralgia, fresh case.	5	No change.
5	Female, 30 y.	Right brachial neuralgia, old case.	10	Cure.
6	Male, 37 y.	Bilateral sciatica, old case.	6	No change, examination of urine, sugar, diet and opium, relief.
7	Female, 60 y.	Left trigeminal, old case.	3	Improved.
8	Female, 45 y.	Cervico-brachial, old case.	6	None.
9	Female, 37 y.	Cervico-brachial, old case.	12	Cure.
10	Male, 29 y.	Right sciatica, old case.	18	Cure.
11	Male, 33 y.	Left sciatica, fresh case.	6	No change.
12	Female, 65 y.	Left cervico-occipital; also neuralgia of the III. br. of trigeminal.	5 ove each point.	No change.
13	Female, 40 y.	Occipital neuralgia, radiating pains to the shoulder and arm, old case.	18	Cure.
14	F'male, 45 y.	Right trigeminal, R. I.	4	No change.
15	Male, 30 y.	Right sciatica, fresh case.	6	No change, afterward galvanism, relief.
16	Male, 39 y.	Right sciatica, old case.	17	Cure.
17	Male, 57 y.	Left sciatica, old case.	18	Cure.
18	F'male, 44 y.	Left sciatica, old case.	12	No change.

These cases, then, analyzed, show us, of eighteen cases, eight cures, two improved, and eight unaffected. Of the eight cured cases, five were cases of sciatica. All the cured

cases, including the sciaticas, were old cases. Of the unimproved cases, eight in number, three were fresh cases and two were old. The case marked 8 can not be counted, and of 12 and 14 no note is made.

At any rate, it would seem from these cases that the sciatic nerve is the one which is most impressionable to the action of this remedy, and that old, inveterate cases present a greater chance of success than fresh ones. This is contrary to Eulenburg's experience, and in my cases may be misleading, as I used the remedy only exceptionally upon fresh cases, in the majority of instances using it only as an *ultimum refugium*.

The conclusions justifiable, then, are:

1. We have in osmic acid a remedy which is of service in the treatment of certain cases of peripheral neuralgias, and in some cases where every other remedy has failed.

2. Osmic acid is not an anti-neuralgic, its action is very localized, and it frequently fails where other remedies succeed.

3. Its employment is in most cases very painful and not altogether free from danger.

4. In view of Case 8, it is dangerous to implicate a motor nerve in the injection.

ANTISEPTIC INHALATIONS.

By BEVERLEY ROBINSON, M. D.

(*Concluded from page 65.*)

In my first trials of antiseptic inhalations I made use of Kinnicutt's inhaler, which, I believe, was patterned after that of Roberts. The inhaler I now employ is slightly modified by Ford from Yeo's inhaler, so that the sponge is held by two folds of the perforated zinc-wall, instead of by strings which originally held it in place. I believe the inhaler, as I am now using it, could be perfected in the following ways: 1. The holes in the zinc-plate to be made larger, and thus allow the air to pass through the sponge more freely. 2. The posterior half of the inhaler *not* to be perforated at all, but to consist of one uniform piece on either side. In this way there would be a stronger direct current through the sponge with each inspiratory effort of the person inhaling. 3. A double-valve arrangement, to be placed so as to allow the vapor to pass from the sponge into the respiratory tract during inspiration, and also to permit the expired air to pass directly out from the inhaler without repassing through the sponge. With these modifications properly made, I am satisfied, in certain cases, that the inhaler could be worn almost continuously day and night, and sometimes with great benefit to the patient. The general treatment followed by my phthisical patients was: 1. Meat and cod-liver oil. 2. Compound syrup of the hypophosphites. 3. Iron and arsenic. To the use of one of these mixtures, stimulants, powdered meat, digitalis, and opiates were occasionally added. Counter-irritation by means of iodine, Canton's paint (iodine, croton-oil, and ether), or by blisters, was made whenever it seemed indicated. In many cases one of these treatments had already been faithfully carried out before the patients came under my care, and of course, I regret to add, with anything but promising results, in so far, at least, as the rational symptoms of disease were concerned. Of course, with respect to the physical conditions of the lungs previous to the time when I first saw them I could only form a probable judgment, and I inferred simply that as the symptoms of disease had not notably improved, so the alterations of structure had doubtless not retrograded to any marked degree. In more than one of my patients the inhalation used (fir-wood oil, combined or not with chloroform) eased the throat for a long while after using it. In spite of this ease to the throat, the cough was not always arrested; still, the inhalation gave a sort of renewed vigor, and the patient felt decidedly cheered and encouraged. Sometimes the inhalation brings on cough, but not even then does it appear to irritate the throat. Usually the expectoration was rendered much easier; it decreased often in quantity, and, consequently, there was less cough. While using the inhaler one of my patients had a slight hæmorrhage, and was disposed to believe at first that the inhalation occasioned it. Later, and in this same patient, the inhalation (creasote and alcohol) caused no irritation whatever of the throat, and was worn one hour at a time, and about three or four hours in the twenty-four. One patient notably gained several pounds in weight while using the inhaler, and stated that he felt stronger and better in every way than he had previously. When the inhaler was kept on too long, and in those patients who had functional disturbance already of the stomach, nausea was occasioned. No inhaling substance reduced the quantity of sputa to the same extent as turpentine, but this liquid was apt to cause dryness and irritation of the throat, and was frequently replaced on these accounts by creasote and alcohol. Not only were the sputa diminished, as a rule, by inhalation, but several times they showed manifest changes of color. They also became decidedly less thick and viscid, and, from being green-looking and tenacious, they soon were foamy, like soap-suds, and thinner, or showed the aspect of mingled mucus and pus. The breathing was also improved on many occasions, and the patient could make more exertion without becoming flushed and exhausted, or pale and panting. At times the improvement of breathing, of cough, in the amount and character of the sputa, in the appetite, in strength and feeling of more lightness and vigor, was accompanied by physical changes which seemed to indicate improvement in the local condition at the apex, or apices. In one instance, for example, I made a note to the effect (and after three months' use of the inhaler) that the pleuritic râles which had previously existed at one apex during ordinary respiration had completely disappeared, and the breath-sounds had otherwise improved. In other words, they had become more vesicular and less harsh, and the expiratory murmur less prolonged.

Owing to the diminution of cough and the decrease in the abundance of the sputa, the patient's sleep was not so much disturbed—and thus I have found the use of the inhaler during the evening, and even at bed time, was evidently a greater promoter of rest than cough-mixtures or anodynes. This was true even when direct examination with the mirror had shown that the larynx was red, swollen, and

inflamed, as indeed evidences were already present of incipient laryngeal phthisis. One of these patients stated in emphatic terms that, although she had taken all sorts of drugs for her cough, none of them helped her so much as the inhalation. I would not have my hearers misunderstand me and believe I am of the opinion that in the oro-nasal inhaler we have a panacea for *cough* and other distressing symptoms of phthisis at the first stage. Frequently patients will do well for a time with one kind of inhalation, and we shall feel greatly encouraged; and then, through some exposure or imprudence, or indeed by reason of the steady onward march of the disease, the cough again grows worse and other annoying symptoms return with full force—again and again to be relieved by some new form or combination of inhalation. In one case I employed at different times and during many weeks, extending in all over several months, the following inhalations: At first, inhalations of eucalyptus, then of carbolic acid, iodine and benzoin, later of creasote and alcohol, and finally of fir-wood oil, conium, and benzoin. Each one of these relieved for a time, and afterward lost its beneficial, soothing effect. Still, everything considered, I concluded I had a means which, contrary to Hassall's opinion, was powerful for good, and, despite regrettable failures, was more useful in many instances than steam inhalations or atomized fluids. In not a single instance was I satisfied that the metallic inhaler, when properly employed—and by this I mean when the quantity of fluid poured upon the sponge and the duration and frequency of the inhalation were judiciously regulated—increased the cough except in a very temporary manner, or was productive of any evident bad results. What I have written in regard to the effects of inhalation of vapors of antiseptic fluids in pulmonary phthisis at its first stage is almost, if not equally, true of phthisis at its second stage, and when the pulmonary apices give undisputable signs of softening and breaking down. Even under these circumstances cough becomes less, expectoration is soon more fluid, and, in consequence, more readily raised, and the patients speak of diminished difficulty of breathing and improved rest and sleep at night. In my cases of fibroid phthisis the patients, after a few weeks' use of the inhaler, felt much improved. They could use the inhaler half an hour to an hour at a time, and several times a day, without inconvenience, and stated that they thought the inhalations helped their cough very much. In these cases, also, the sputa diminished notably in quantity and became more frothy, and lost in great part their viscid character. From my limited experience with these cases, I am inclined to believe the fir-wood oil is more useful as an inhalation than any other liquid employed by me.

In laryngeal phthisis the cough in one instance was more frequent and troublesome at first; later it seemed to improve. Certainly the expectoration was looser, although more abundant, and no unpleasant sensations were experienced while inhaling. In one instance the patient increased several pounds in weight while under treatment by means of antiseptic inhalations. No visible changes in the intralaryngeal condition were noted, although repeated examinations were made with the mirror to detect, if possible, such modifications. The inhalation employed in these cases was a combination of one part of fir-wood oil with four parts of tincture of benzoin. A point to which I desire to direct attention in regard to the use of all inhalations is this: Frequently inhalations are useful in allaying cough and the symptoms dependent upon it, even though it is evident that the inhalation does not penetrate below, or even so far as, the larynx. This fact may be explained in two ways: First, as is well known, the cough may in reality be occasioned by a morbid condition in some part of the respiratory tract, preceding the lungs in location, and although the lungs or bronchial tubes may also be inflamed. This morbid condition may be an elongated uvula, post-nasal catarrh, follicular disease of the pharynx, acute or subacute laryngitis, etc. Again, in the use of all forms of inhalation, while the soothing and modifying effects of it are partly due to their direct local application, still there are similar effects produced by their absorption by and elimination through the mucous membrane lining the parts referred to. A final question in regard to phthisis and antiseptic inhalations should here be mentioned. Do they destroy the *Bacillus tuberculosis*, or do they affect notably its growth or vitality? *Personally*, I have never searched for tubercle bacilli after the oro-nasal inhaler had been worn a considerable time, and in which, previous to wearing it, these characteristic micro-organisms had been found. In one case, however, a careful microscopic examination of sputa was made by my house physician when the patient was known to have evident pulmonary phthisis as shown by indisputable physical signs. At the time the bacilli were first discovered, inhalation of antiseptic vapors had not been employed. Several months later, and when during the intervening period a metallic inhaler had been worn during several hours each day, a second microscopic examination of the sputa was made and still showed a large number of bacilli. The precise relative number of these organisms observed on each occasion is not mentioned in the history of the patient, nor is it stated whether there was any proof to show that the bacilli had less vigor than when first detected. What is known definitely is this, viz.: that, although bacilli were present in considerable numbers at the time of the second microscopic examination, the patient herself, both as regards her physical condition and her rational symptoms, had evidently much improved. How much the improvement was directly due to the use of continuous inhalations it was impossible to affirm positively. There was no doubt, however, as to the fact that they had been useful and comforting in allaying cough, diminishing faucial irritability, and promoting the ease of expectoration.

If other observers be consulted, I am not aware that, up to the time of writing, anything more definite can be obtained in regard to the mortuary effects of inhalation on tubercle bacilli than what I have stated.

Whether or not, therefore, dry vapor inhalations in concentrated form are able to destroy tubercle bacilli is not yet satisfactorily determined. That they are powerful to arrest or prevent fermentative and putrefactive changes of the sputa; that they can modify the terminal bronchi and lung-cells so that they will secrete less purulent matter for expectoration—so much at least results from direct clinical observation and

experience. It is also highly probable that continuous dry antiseptic inhalations are able to weaken and partly devitalize the infective germs upon which the origin and growth of pulmonary phthisis largely depend, according to the present state of our knowledge. The manner in which this is accomplished is apparently either by direct action upon these organisms or indirectly by rendering their surroundings and the location where they are deposited very unfavorable to their extension or propagation. It is perhaps true, and it is certainly conceivable—by reason of analogy with other means by which some organic germs are killed—that such an effect may be produced by prolonged or frequent inhalations of antiseptic volatile agents of moderate concentration, as well as by shorter inhalations of very strong vapors. This is a most fortunate circumstance, since it is proved that the continuous inhalation of concentrated vapors of antiseptic substances, in any notable quantity, is rendered impossible by the intolerance of the respiratory mucous membrane to their contact.

The power such inhalations may have will depend, in my opinion, upon several distinct factors: 1. Upon the form and efficacy of the inhaler itself. 2. Upon the substance which is used and its strength. 3. Upon the frequency and less or greater continuance of the inhalations. 4. Upon the stage which the pulmonary phthisis has reached, upon hereditary influences, hygienic surroundings, and individual vigor of constitution.

Having already taken up much of your time and attention, I shall be brief in my remarks about my other cases. In fact, I do not consider those in regard to which I have preserved notes as sufficiently numerous to warrant any strong affirmations. Still, as my memory serves me about several cases of each disease treated by inhalation, in some particulars at least, I trust that what I may say has more value than would be apparent but for this prefatory statement.

A. In *laryngitis*, acute and subacute, antiseptic inhalations are decidedly useful. They quiet irritation, lessen hoarseness, diminish cough, change the aspect of the inflamed mucous membrane, and, in certain cases at least, evidently hasten the disappearance of symptoms and the establishment of a cure. In one case, in which there were concomitant post-nasal catarrh, pharyngitis sicca, and paresis of the tensors of the vocal cords, producing hoarseness, there were also "a red, swollen epiglottis, arytenoid cartilages, and ventricular bands." In this case there was moderate cough. Still it persisted and caused much mental distress, despite various medications internally, and numerous local applications of pigments, sprays, and powders. One week after inhalation was begun the cough had disappeared completely. The larynx was less inflamed, the pharynx was not at all glazed, there were little or no frothy sputa, and, indeed, the patient was so far recovered that the remedy was stopped. This had consisted of ten drops of turpentine, used in Kenne att's inhaler, during five minutes every three hours.

B. In cases of *chronic nasal catarrh* the following effects were noted. A singer, having post-nasal catarrh, hypertrophy of the turbinated bodies, slight pharyngitis sicca, and catarrhal laryngitis, secondary to the other affections. This patient made use of inhalations of pine-needle oil, and soon remarked that these inhalations rendered the discharges from her nose, especially anteriorly, very much less. The breathing also became notably freer. In fact, after two months' use of the inhaler, she had very slight trouble, if any, with her anterior nasal cavities. There still remained, however, some discharge from the naso-pharyngeal cavity. It is only fair to state that in this case, as well as in my other cases of catarrh of the nose, I made use, concomitantly, of other local treatment as an adjunct. Still, by comparison between the cases of nasal catarrh in which dry-vapor inhalations were employed and those in which these inhalations were not used, although other remedies were made use of, I believe that the inhalations were undoubtedly beneficial in the manner stated above. In three cases, in which marked dysphonia was obviously caused by the catarrhal inflammation of the nose, inhalations of benzoin and of benzoin and fir-wood oil produced marked benefit to the voice and general condition of the throat and nose. In one case, where the nasal duct had become obstructed by reason of pituitary hypertrophy, and there was consequent epiphora, this symptom, among others, was apparently relieved *in a measure* by inhalations, and the swollen membrane was reduced in thickness.

C. *In subacute and chronic bronchitis*, inhalations of tincture of benzoin and fir-wood oil—one part of the latter to eight parts of the former—after one or several weeks, diminished the cough, expectoration, and hoarseness. In one instance the patient stated distinctly that the cough was stopped by the inhalation. The amount of fluid used was 10 to 15 drops, one or more times during the day, and the inhalation was repeated ten minutes every three hours.

In a case of chronic dry pleuritis the first few inhalations produced cough, with expectoration. After a time the patient felt convinced that the inhalation was of benefit to him. "He coughs less now than formerly, and there is much less expectoration."

In one case of chronic laryngitis there was decided improvement after only a few days' treatment.

In my case of paralysis of the tensors of the vocal cords, and in one also of chronic pharyngitis, decided amelioration was shown after a time, owing to the use of the perforated metallic inhaler.

DISCUSSION.

Dr. F. C. Shattuck, of Boston, said the paper confirmed him in certain views concerning antiseptic inhalations which were partly preconceived and partly based upon experience. Some years ago, when antiseptics first began to be used by inhalation, he administered them to certain patients. He found carbolic acid to be very disagreeable; it was difficult to induce patients to wear the inhaler containing it. He could not say whether or not they were of any benefit, but perhaps he employed the inhalations too strong, and possibly under other circumstances the results would have been better. Certainly it was very desirable to get something which would simply allay cough. If by means of such simple remedies as these inhalations we could diminish cough and irritation, we should certainly do our patients a great service, and the service was no less if it enabled

us to dispense, even only to a degree, with the use of opium. Dr. Hassall's book upon the subject of inhalations was a very interesting one, but his statement of the case seemed pretty strong. If one put a few drops of an antiseptic, say of carbolic acid, thymol, creasote, etc., on a sponge, and found at the end of two hours' inhalation that three quarters of the remedy could still be detected in the sponge, certainly the amount of the drug which could have effected an entrance into the lung must be very small. That, it would appear, was reasonable ground on which to distrust this method of treatment. Acting upon these observations, Dr. Hassall had constructed his inhalation chamber, and it would be interesting to see what would be the practical working of it.

Dr. Boardman Reed, of Atlantic City, inquired of Dr. Robinson whether he had used ether or cocaine by this method of inhalation. It had occurred to him that, inasmuch as these agents had been found so valuable in other directions, they might also prove valuable when inhaled in allaying cough, particularly laryngeal cough.

Dr. P. Kretzschmar, of Brooklyn, thought the tables referred to only went to show that there had been a change in the condition of the sputa after the use of the inhaler.

Dr. B. F. Westbrook, of Brooklyn, thought the benefit which Dr. Robinson had produced with this mode of treatment could be referred to two factors: First, the favorable influence upon the mucous membrane of the upper respiratory tract of an atmosphere kept constantly at the same temperature. This every one knew to be a very important matter in irritations of the respiratory apparatus. It was known that cough, especially when violent, almost always had its origin in the trachea or above it, although possibly in the bronchi, and a continuous supply of uniformly warm, moist air undoubtedly had a very soothing effect upon this part of the respiratory tract. Besides, balsamic vapors, which Dr. Robinson had employed, when inhaled even in very small quantities and for some time, had a very markedly soothing and beneficial effect upon the irritated membrane. It seemed to him that the allaying of the nasal and post-pharyngeal catarrh, the laryngitis, and the bronchitis, would account for all the good results which Dr. Robinson had observed. Anything which would give the consumptive rest would increase his appetite, improve sleep, and prove of benefit to his general bodily condition. Furthermore, Dr. Robinson had given his patients cod-liver oil, malt, and such agents as would improve general nutrition. Dr. Westbrook did not think that irritation at the apex of the lung would be more likely to produce cough than irritation of any other portion of the lung. At least he knew of no proof of it. Dr. Robinson had mentioned congestion and œdema of the base of the lung as not being accompanied by cough, but it was also very well known that pneumonia of the apex was not accompanied by cough, while the withdrawal of a sufficient amount of pleuritic effusion to exert considerable influence upon the lung usually led to violent coughing. He therefore thought it hardly warrantable to say that irritation at the apex was peculiarly liable to produce cough.

The President (Dr. A. L. Loomis) remarked that the element of cough in phthisis was a very large one, particularly in the third stage, violent paroxysms occurring as the result of pleuritic adhesions. One often saw cases in which the only evidence of phthisis was the presence of fine crepitation at the apex or some other portion of the lung, and yet the patient was a sufferer from the most violent paroxysms of coughing, without there being apparent physical signs in the bronchial tubes or upper air passages. His experience with inhalations had led him to believe that they were of use only so far as they acted as anodynes to the upper air passages. He, perhaps, was prejudiced against their use, for his experience with them had been somewhat unfortunate. Their use had in a few instances been followed by profuse hæmorrhage. He would not say that the inhalations caused the hæmorrhages; he would only say that two or three cases, occurring at short intervals, had led him to be careful.

Dr. Robinson, in closing the discussion, said, in reply to Dr. Reed's question, that on one or more occasions he had used a small quantity of ether as an inhalation, either alone or combined with balsamic vapors, and he thought it produced some irritation, although it was very volatile. Certainly ether very generally produced more or less irritation, and it was but natural that it should do so in these conditions. He therefore preferred chloroform to ether. As to cocaine, he had not supposed that it would be of any benefit inhaled, and had not employed it. He had, of course, used it as a spray or with the brush in troubles of the respiratory tract. As to the susceptibility of the upper portion of the lung to irritation and the production of cough, of course he could not prove the point positively. He had concluded, from examination of the sputa in these cases, that they had come at least as far as from the lung structure, and, with the physical conditions present, it seemed fair to suppose that they came from the air-cells. It had been stated in the discussion that benefit from the inhalations was due to allaying irritation in the nasal cavities, larynx, pharynx, and trachea. He too thought that we should seek to know the real source of benefit derived from our treatment. He had only stated that in the use of inhalations we should, as far as possible and without causing undue irritation of the respiratory tract, make the air inhaled as pure as we could. That was what he had endeavored to do, and he had employed small quantities of the drug because large amounts caused irritation. If wealthy persons went to pine regions and to the Adirondacks in search of pure air, with the expectation of being benefited thereby, it was but natural to suppose that the poor of New York city would be benefited by placing themselves in a condition approximating as nearly as possible the surroundings of such regions. While he agreed with the president that in a great many cases pleuritic adhesions might be the cause of cough in phthisis, yet his observation had not led him to believe that they occurred as frequently as many authorities had stated. He thought the irritation often centered in the lung itself, and was frequently allayed by favorable atmospheric conditions reaching the lungs themselves.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED

The Climate of Canada, and its Relations to Life and Health. By W. H. Hingston, M. D., D. C. L., L. R. C. S. Edin., etc. Montreal: Dawson Brothers, 1884. Pp. 266.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars, for the Year 1883. London: H. K. Lewis, 1885. Pp. 544.

Le Peronospora Ferrani, agent infectieux du cholera, et la vaccination cholérique. Par le Docteur Duhourcau (de Cauterets), etc. Avec planche gravée. Toulouse: Edouard Privat, 1885. Pp. 23.

Cholera and its Relations to State Medicine. By S. Oakley Van der Poel, M. D., LL. D., etc. New York: The Society of Medical Jurisprudence and State Medicine, 1885.

Miscellaneous Reprints. By James Craig, M. D., Jersey City, N. J.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, AUGUST 1, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

With admirable self-control, the profession refrained until after the new committee had done its work from giving vent to the widespread indignation that the action of the American Medical Association at New Orleans gave rise to. In the same issue in which we gave the proceedings of the New Orleans meeting we sharply rebuked its course in the matter of the Congress, and shortly afterward the "Journal of the American Medical Association" characterized it as "of questionable propriety." We insisted at the time that the movement for a reorganization had its rise in the bitterness of personal disappointments, and not in any genuine feeling that the original committee had acted otherwise than in the true interest of the Congress. But, as we have said, the profession at large reserved its judgment until after the work of the new committee had been made known, although it had all along been difficult to see how that committee, practically only a ministerial body, could accomplish anything in palliation of the destructive course that had been entered upon at New Orleans. Any lurking hope of this sort that there may have been was seen to be groundless when the results of the Chicago meeting were learned, and the profession in most of the great cities were prompt to express their condemnation. So rapidly did the new nominees in one city after another—Philadelphia, Boston, Baltimore, Washington, and Cincinnati—declare that they would take no official part in the Congress under the new organization that it became evident that the undertaking was doomed to ignominious failure unless a complete reversal of the New Orleans action could be secured. We have for some time been convinced that nothing short of that would satisfy the profession and restore any reasonable hope for the success of the Congress. We have felt, too, that this end was most likely to be accomplished by getting as full and prompt an expression as possible of the feelings of the profession. Of late it has looked as if these [illegible], which at one time seemed to confirm the wreck of the Congress, would result in the radical remedy we have mentioned, and also in the far more important result of lifting the American Medical Association out of the low position it has brought itself to occupy.

Its new constitution still has its defenders, however. They are no longer numerous, and they have been put on the defensive; but it is evident that they will not give up their undertaking until they are compelled to do so. The tenacity of their purpose is shown by their latest tactics. Realizing the effect that is sure to be produced by a continuance of such action as that taken in Philadelphia and the other cities that we have mentioned, and the informal action taken by individuals elsewhere, they are now trying to persuade those who have not yet declined not to do so. They hold out the consideration that it is unnecessary and quite out of character for a man to decline a position until he has been officially notified of his appointment. As the secretary can take his own time about notifying the appointees, it is evident that, in case he avoided sending out notices, and the appointees could be made to take the advice mentioned, they would have the game in their own hands. It is nearly a month since the appointments were made public, and it seems to us that any of the appointees who hesitate to declare their intentions, simply because they have not been officially notified, can only be compared to the man who, seeing a man drowning, refrained from interfering, on the ground that he had never been introduced to him.

Another device to which they are resorting is that of affecting to look upon the dissatisfaction that has been expressed as not really due to their revolutionary scheme of reorganization, but simply to the unpopularity of the secretary, Dr. Shoemaker, and it is hinted that that gentleman will be induced to resign, with the result of calling back those who have declined, and restoring harmony. It is needless to say that nothing could be more absurd than the pretense that Dr. Shoemaker's unpopularity, in case it exists, is at the bottom of the serious action that has been taken. It is little short of ridiculous to bring forward so paltry a matter as being the cause of so important a step. But, even if there were any truth in it, Dr. Shoemaker is not the man to allow himself to be cast overboard as a Jonah. We must conclude, therefore, that the petty nature of all that can be said in favor of the reorganization augurs well for the hopes of those who recognize that nothing but its overthrow can save the Congress.

DEMAND AND SUPPLY AS APPLIED TO PHYSICIANS.

The constant tendency of our teaching bodies, quite independently of the urging that has come from the profession at large, and the striving of the latter, wholly apart from any demand on the part of the community, toward improvement in medical instruction are as gratifying as they are evident. We believe that within certain limits the matter may safely be left to these agencies. Therefore we have never looked upon proposed legislative enactments bearing upon it as quite the panaceas that their authors have seemed to believe them. We have insisted that a uniform standard of the qualification to practice, whether high or low, was impracticable under existing circumstances. If too high, it would reduce the number of practitioners below the force needed in a sparsely settled country; if too low, it would not meet the fair demands of the older sections.

That the first of these contingencies is not altogether imaginary is beginning to be found out even in so compact a community as that of England. The "Medical Times and Gazette," of London, lately said: "Assuming for a moment, what might perhaps claim to be more than a mere assumption, that the well-meant strictures of the Medical Council is really cutting off

the supply of qualified practitioners in poor and distant neighborhoods, and throwing their inhabitants into the hands of quacks and herbalists, who is there to warn the Council of this result?" It is doubtless a source of annoyance to a man who has spent all the time and money that could be spent to advantage in attaining to a thorough mastery of the medicine of the present day to be classed by the community only as one among little short of a hundred thousand possessors of the degree of M. D., and it is no less an annoying and humiliating circumstance that foreign critics almost invariably hold up our weaker educational institutions as specimens of what we are able to produce. All this is inseparable from the young and undeveloped state of the country, and it should be endured with resignation, as a sort of sacrifice to "the greatest good of the greatest number."

It has often been said to our discredit, and often complained of by the unsuccessful among us, that the proportion of the medical body to the population was far in excess of what was to be found in other countries. We have before expressed the conviction that this excess had not the same significance that it would have in a densely peopled country, and we believe that the great numbers of "young doctors turned out" every year, as the phrase runs, are not an unmitigated evil.

MINOR PARAGRAPHS.

AN INJUSTICE TO A DISTINGUISHED PHYSICIAN.

THE "Medical Times and Gazette" gives a summary of a statement by Professor Warlomont, of Brussels, a distinguished ophthalmologist, and a man well known for the energy and ingenuity he has displayed in the study of animal vaccination, as well as for his admirable report on the famous Louise Lateau case. The story was published in the "Presse médicale belge," and it sets forth the circumstances of an injustice to which Dr. Warlomont has been subjected. He has been dismissed arbitrarily from the post of director of the Ophthalmological Institute, the only reason given being the fact that the state of his health had made it necessary for him to go abroad for a few months during the past year, for which he had obtained the permission of the authorities. During the thirty years of his service he had never before been a week at a time away from his post. The managers superseded him by abolishing his office. The pension to which he was entitled was refused him on the ground that it could only be gained by a person who had attained the age of sixty-five years. He lacks less than a year of having arrived at that age, and it looks as if his dismissal had been abruptly and hastily brought about, as our contemporary intimates, with the intention of depriving him of this acknowledgment of his services.

NEWS ITEMS, ETC.

The Plymouth Epidemic. The memorable epidemic of typhoid fever at Plymouth, Pa., is now announced to have so far subsided as to be practically at an end. The relief committee has discontinued its work, and the hospital was to have been closed yesterday.

Chicken-pox mistaken for Small-pox. That unsavory suburb commonly known as Hunter's Point, but which to-day in the high sounding corporate name of Long Island City, were likely to have a suit for damages to defend, according to the newspapers, as it is alleged that the authorities ordered the removal of a man who seemed to have small-pox to the hospital on North Brother Island, where it was discovered that he was only suffering from chicken-pox. He was kept in the hospital eleven days.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 28, 1885:

DISEASES.	Week ending July 21.		Week ending July 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	1
Typhoid fever	10	2	16	6
Scarlet fever	40	14	29	6
Cerebro-spinal meningitis	4	3	2	1
Measles	48	8	34	8
Diphtheria	59	23	34	21
Small-pox	2	0	1	1

The Health of Connecticut.—We learn from the June report of the secretary of the State Board of Health, Dr. C. A. Lindsley, that the death-rate of ten cities in the State was 16·6 in 1,000, against 18·6 for the month of May. Hartford and Norwich, however, showed 23·4 and 20·4 respectively. Dr. R. M. Griswold, of North Manchester, reports an endemic of quinsy, laryngitis, and bronchitis as manifestations of malarial poisoning.

Sir Guyer Hunter is reported, says the "Medical Times and Gazette," to have been selected as a candidate for a seat in Parliament.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 19, 1885, to July 25, 1885:*

ELBREY, F. W., Captain and Assistant Surgeon. Sick leave of absence further extended four months on surgeon's certificate of disability. S. O. 162, A. G. O., July 17, 1885.

STRONG, NORTON, Captain and Assistant Surgeon. Ordered for temporary field duty with battalion of 8th Cavalry at Hillsboro, N. M. S. O. 34, Headquarters District of New Mexico, June 27, 1885.

EVERTS, EDWARD, First Lieutenant and Assistant Surgeon. Ordered for duty as post surgeon, Benicia Barracks, Cal. Par. 3, S. O. 70, Department of California, July 15, 1885. (Modifies Par. 2, S. O. 68, C. S., Department of California.)

WINNE, C. K., Captain and Assistant Surgeon. Ordered for duty at Benicia Arsenal, Cal. Par. 3, S. O. 70, Department of California, July 15, 1885. (Modifies Par. 2, S. O. 68, C. S., Department of California.)

Society Meetings for the Coming Week:

MONDAY, *August 3d*: Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Chicago Medical Society.

TUESDAY, *August 4th*: Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Cobleskill, N. Y., Medical Association; Hudson County, N. J., Medical Society; Hampden District, Mass., Medical Society (Springfield); Androscoggin County, Me., Medical Association (Lewiston).

THURSDAY, *August 6th*: Society of Physicians of the Village of Canandaigua, N. Y.

SATURDAY, *August 8th*: Millers River, Mass., Medical Society.

Letters to the Editor.

THE INTERNATIONAL MEDICAL CONGRESS.

University of Michigan, *July 27, 1885.*

To the Editor of the New York Medical Journal:

Sir: Please add our names to the list of those gentlemen who have already declined to serve as officers in the organization of the International Medical Congress as now arranged by the second enlarged committee of the American Medical Association at their recent meeting in Chicago. In taking this step we do not intend to criticise the committee for their action. On the contrary, we think that, handicapped as they were, they did their work remarkably well. But we do object to the action of the American Medical Association at the New Orleans meeting in introducing into the question of the organization of a congress for scientific work an element that has no more pertinency to such a purpose than the matter of a man's religion or his politics. Very respectfully, etc.,

E. S. Dunster, M. D.,
Henry Sewall, Ph. D.

THE INTERNATIONAL SANITARY CONFERENCE AND THE DISINFECTION OF RAGS.

To the Editor of the New York Medical Journal:

Sir: In justice to me, I trust that you will publish the following letter, which I have just written to the "New York Times," in your next issue.

"To the Editor of the 'Times':

"Sir: In your issue of July 22d, under the heading 'The Importation of Rags,' I find the following:

"'The frequency with which inaccurate statements have been made concerning the disinfection of imported rags is somewhat extraordinary. Several days ago the "Times" called attention to a letter from Rome, published in a Philadelphia medical magazine, which purported to give the report agreed to by the Committee on Disinfection appointed by the International Sanitary Conference. The letter in question contained the following clause:

"'"V. Disinfection of merchandise and of the mails is unnecessary (steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros*)."

"'The "Times" suggested that probably the words were interpolated by the writer of the letter. A few days thereafter Dr. George M. Sternberg, the American delegate to the conference and the same gentleman who was employed as an expert by Health Officer Smith to make some tests of disinfecting processes in Brooklyn, sent a note to the "Times" denying that the writer of the letter had interpolated the words in question. A gentleman in this city who is interested in the importation of paper stock wrote to Dr. Koch at Berlin for definite information upon the point, and yesterday he received a cablegram stating that the words as those quoted in parentheses appear in the report of the committee.'

"It has nothing to do with the fight between the paper manufacturers and the health officers who insist upon the disinfection of rags from cholera-infected countries, but [illegible] upon it the "Times" to defend himself from the [illegible] made on the above-quoted paragraph.

"What the gentleman intended as the improvement of paper stock [illegible] to Dr. Koch I do not know, but that Dr. Koch would deem that [illegible] to as a part of the report of the Committee on Disinfection is inconceivable, and can only [illegible] misunderstanding on his part.

"I inclose herewith a copy of the report of the Committee on Disinfectants which was printed in Rome and distributed to all of the members of the Conference. The correspondent of the Philadelphia medical journal referred to has given a very good translation of Article V, which in the original is as follows:

"'V. La désinfection des marchandises et des colis de poste est superflu (La vapeur sous pression serait le seul moyen si on voulait désinfecter les chiffons en gros.)'

"The same wording will be found in the report of the committee as adopted in *procès-verbal* No. 10, page 3; also in the *Relevé des conclusions*, page 16.

"A copy of the proceedings, printed in French and brought by myself from Rome, is on file in the office of the Hon. T. F. Bayard, Secretary of State, and another copy in that of the Surgeon-General, U. S. Army."

George M. Sternberg, *Major and Surgeon, U. S. Army, Delegate to International Sanitary Conference.*

Proceedings of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-first Annual Session, held at the Pequot House, New London, Conn., Wednesday and Thursday, July 15 and 16, 1885.

(*Concluded from page 105.*)

Two Cases of Congenital Paresis of the External Rectus were reported by Dr. Harlan, who also exhibited and described Borck's sphero-cylindrical lenses.

The Removal of a Piece of Steel from the Lens with the Electro-Magnet.—Dr. J. L. Minor, of New York, reported a case in which the shank of a strabismus-hook was touched to an electro-magnet, thus making it a magnet. The extremity of the hook was then carried into the lens, and the piece of steel at once attached itself to it and was removed. Thirteen days later the eye had recovered from the operation. The lens had not yet been removed.

Removal of an Epithelioma of the Eyelid by Applications of Benzol and Calomel.—Dr. A. Mathewson, of Brooklyn, reported the case of O. D., a laborer, fifty years of age, who was seen October 3, 1881, with a tumor on the right lower lid. This first appeared as a warty growth three years previously. Of late it had been rapidly growing, and presented a raw granulation surface. Careful examination by an expert showed it to be undoubted epithelioma. It was treated by frequent dustings of calomel, after brushing the surface with benzol. The tumor entirely disappeared until a few months ago, when a granular spot appeared at one edge of the site of the former growth. This disappeared under a renewal of the same treatment.

Lipomatous Ptosis.—Dr. H. S. Schell, of Philadelphia, reported four cases of ptosis from excessive accumulation of fat in the upper lids. The excessive fat was removed through a horizontal incision. The smallest amount taken away was thirty-five grains, the largest seventy-one grains. The levator regained power in from one to four weeks. In one case it was necessary to repeat the operation.

The Pulsating Variations of Intra-ocular Tension as measured by the Manometer. Dr. Lucien Howe, of Buffalo, N. Y., exhibited the double manometer described by Grasser and Holzke. In this there was an imperfection in the trocar

which was rather complicated and liable to get out of order. An improvement was accordingly suggested in having a stop-cock attached to a needle of the hypodermic syringe, and this the writer found to serve the purpose much better than any other. The animal best adapted to this class of experiments was the cat, on account of the deep anterior chamber.

In the earlier experiments with the manometer it was noticed that the intra-ocular tension varied with the heart's action. In addition to this, the writer called attention to the fact that these variations in the pressure as indicated by the manometer corresponded to pulsations which could be seen with the ophthalmoscope in the vessels in the interior of the animal's eye. In other words, if the same thing held in the human subject, we must infer that, when pulsation was seen in the interior of the eye, there was also a variation of intra-ocular tension, although not enough to be detected by the touch or by an ordinary instrument. This connection between pulsation and pressure was a demonstration of the cause of venous pulse in the eye as explained by Donders. It was also observed that after the introduction of the needle there was at first considerable pulsation, but after a short time this ceased, the eye evidently adjusting itself to the unusual condition. The experiments referred to were made in the laboratory of Prof. Zunzt, of Berlin.

The Extraction of Chips of Iron from the Interior of the Eye.—Dr. H. Knapp reported nine successive cases in which the electro-magnet was used for this purpose.

These cases were operated on during the past three years and a half. In two the chip of iron was located in the iris, in one for two days, causing inflammation, and in the other for seventeen years, remaining quiet until recently. Both were successfully removed without injury to the eye.

In the seven remaining cases the foreign body was in the vitreous, had produced cataract, and could not be seen. In three cases the attempt to extract them with the magnet failed, and the eyes had to be enucleated. In four cases the chips of iron were brought forth at the first, second, or third introduction of the tip of the magnet. In all these four cases the recovery was uninterrupted. All four were still cataractous. In two the form, size, and tension of the globe were not changed, and the perception of light was good over the whole field. In the two others the globe was slightly smaller and softer and the field of vision defective, corresponding to the wound made for the extraction of the foreign body. There was no irritation in any of the four eyes as long as they were under observation.

The Actual Cautery in Destructive Corneal Processes.—Dr. Knapp cited a number of cases in which its use had been of service, and he considered it a valuable measure.

Thursday's Proceedings.

Pneumophthalmos, or Air in the Vitreous.—Dr. W. F. Mittendorf, of New York, reported two cases, the first of which was that of a young blacksmith who was wounded by a piece of iron penetrating the sclera and lodging in the vitreous. The foreign body, surrounded by a clot of blood, was found at the bottom of the eye. Behind the lens and a little above it, three air bubbles were seen by means of the ophthalmoscope. These appeared to be of the size of a small pea, the smallest about as large as a rape-seed. They closely resembled the air-bubble as seen under the microscope, their centers being bright and the outlines well defined, and surrounded by a sharp, black border. Their recognition was not difficult. The foreign body could not be removed with the magnet, and it was decided to allow it to remain. The eye was carefully bandaged, and the day following it was found that the air-bubbles had united and were located at the posterior pole of the lens, the patient having remained quietly on his back some time before the examination. While he was in the upright position the air began to rise slowly until it reached the upper part of the vitreous chamber. During this trip the bubble looked oval and decidedly pointed at its lower portion, resembling oil-globules as they are seen ascending in water. Forty-eight hours after the accident every trace of the air-bubbles had disappeared.

The second case was the result of a drilling accident. Quite a large piece of stone or iron had perforated the sclera at the lower and outer part of the eye. In the semi-transparent vitreous an air-bubble of the size of a hemp-seed could be seen distinctly.

In order to determine the exact appearance of air in the vitreous, the writer experimented upon rabbits' eyes. Four of them had air introduced into the vitreous humor by means of a hypodermic syringe, and four were subjected to the introduction of oil, also by means of the hypodermic syringe. Nearly all these experiments were successful. The difference between the air- and the oil-bubble was so marked that they could be readily diagnosticated by means of the ophthalmoscope. The latter were more highly refractive, heavier in appearance, and the contour decidedly darker than the air-bubbles, which were entirely colorless.

The conclusions reached by the author were as follows: 1. The entrance of air into the vitreous body could occur only after a part of the contents of the vitreous chamber had escaped. 2. It was favored by the entrance of a foreign body, which made a large, gaping, irregular wound of the sclera. 3. In order to allow air to enter the vitreous, this must either be quite fluid or its anatomical arrangement must have been disturbed by the entrance of a foreign body, or the air must have been attached to the foreign body and carried with it into the eye. 4. The air in the vitreous humor appeared like an air-bubble as seen under the microscope; it was more or less round, highly refractive in the center, and had a sharply defined black outline. 5. Oil-globules in the vitreous presented a similar appearance, but they looked heavier and were not perfectly colorless, and their outlines were darker; they were also more glittering in the center. 6. Air-bubbles would be absorbed completely within two or three days; their presence was not a source of great danger to the eye. Oil-globules lasted longer, but they were likewise non-irritating.

A Case of Tubercle of the Iris.—Dr. Myles Standish, of Boston, reported the case of a girl, fourteen years of age, who came under his observation with an eye trouble which had existed four weeks. There had not been much pain or photophobia. No specific history could be elicited. During the past winter the patient had suffered with intense epigastric pain and ascites. The iris was attached by its pupillary margin to the capsule of the lens, and presented near its ciliary border a growth 2 mm. in diameter, pink in color, with small vessels on its surface. In the course of a month the growth had doubled its size, the conjunctiva and iris remaining perfectly clear. Other growths made their appearance, and, after consultation with Dr. Wadsworth, the eye was removed at the Massachusetts General Hospital. Examination after enucleation showed the vitreous, retina, and choroid to be normal. The lens was somewhat opaque. The iris was very adherent to the capsule of the lens along its pupillary border, and also beneath the entire area of the principal growth. The largest mass sprang from the surface of the iris near its ciliary border, and at its base was 2.5 mm. in diameter and 2 mm. in height. At the top its diameter was 1 mm. This was apparently due to the pressure of the growth against the cornea. There were three other growths, but none of them involved the ciliary body, or even the ciliary border of the iris. The microscopical examination showed the presence of giant cells and of tubercle bacilli.

Dr. Knapp had seen growths presenting exactly the same appearance which had disappeared under treatment with mercury, even where there was no evidence of syphilis. He had never felt warranted in making the diagnosis of tubercle in such cases, although the presence of the tubercle bacilli in this case would seem to confirm the diagnosis.

A Case of Congenital Coloboma of the Iris, Choroid, etc., was reported by Dr. C. J. Kipp. The patient was a woman sixty-nine years of age. She was first seen four years ago. There were at that time no inflammatory symptoms, but a small triangular coloboma of the iris was found exactly in the vertical meridian. The tension was above normal. The patient had never seen with this eye, but it had never given pain. Four years later the patient was again seen, and the eye presented the signs of inflammatory glaucoma. The pain had prevented sleep for many weeks. The eye was enucleated and healed promptly. There was also found a large ectasia of the sclerotic, and over this the choroid and retina were wanting. The ectasia extended close to the optic papule. There was also a deep, kettle-shaped excavation of the optic nerve.

Coloboma of the Choroid on the Temporal Side.—Dr. S. D. Risley, of Philadelphia, reported the case of a young physician who consulted him for asthenopia. There was a considerable degree of myopia in the left eye. In the right eye vision was much diminished. The ophthalmoscope showed a large hiatus in the choroid on the temporal side, the depth of which was 3 D. There had been no pain. The speaker thought that these cases were comparatively rare.

Gray Degeneration of the Optic Nerve with Abnormal Patella Tendon Reflex.—Dr. William F. Norris made an elaborate review of the literature of the subject, and gave the results of his observations in cases in which the patella tendon reflex was increased or diminished. He described three cases of gray degeneration associated with tabes dorsalis which had come under his observation. While he did not hold that this symptom indicated beginning tabes dorsalis, yet it was a danger signal calling for rest of the brain and cord, with attention to improvement of the general condition.

A Case of Double Optic Neuritis and Ophthalmoplegia from Lead Poisoning complicated with Typhoid Fever. Dr. O. F. Wadsworth reported the case of a boy nine years of age who had suffered from obscure febrile symptoms for several weeks, and movements of the left eye had been observed to be imperfect. When first seen by Dr. Wadsworth there was pronounced optic neuritis in both eyes. The rest of the fundus was normal. Vision was much diminished. No lateral movement of the left eye could be made, and movement downward was impaired. The outward movement of the right eye was [illegible]. The probable diagnosis was tumor in the region of the pons.

The symptoms of the eyes became still more impaired and [illegible]. The boy developed distinct symptoms of typhoid fever. The spleen and liver were both enlarged. Lead was found in the urine, and the diagnosis of tumor was then abandoned. The treatment was with iodide of potassium. The general symptoms gradually improved. He was then passed into a [illegible] ward [illegible] to resort [illegible]. The movements of the eyes [illegible] returned, and the head disappeared from the pillow. The cause of the boy's coming was found to be the presence of a [illegible] lead pipe in the room from which the [illegible] had been removed.

Olive-Oil as a Menstruum for Dissolving Cocaine for Application to the Eye. Dr. Joseph A. Arlington said that [illegible] of cocaine in olive-oil [illegible] a longer contact of the remedy, and a smaller quantity was required to [illegible]. This quality of [illegible] advantage in operations on the eye. Neither the salts of cocaine nor those of atropine were soluble in olive-oil; but both alkaloids dissolved readily in the menstruum without the addition of an acid, it being only necessary to expose the solution for a few minutes to a gentle heat in a water bath.

Enucleation of the Eye for Glaucoma precipitating Glaucoma in the other Eye.—Dr. David Webster reported a case, the patient being a man of fifty-four, the subject of glaucoma absolutum. He complained of periodical obscurations of vision in the good eye, and there was no limitation of the visual field. As he was of dissipated habits, he was advised to live properly. A week or two later he returned, stating that he had had a worse attack. There was detected an excavation of the nerve in the good eye. The glaucomatous eye was now removed. Two days later acute glaucoma appeared. An iridectomy was performed, and he recovered in a week or two, with no cupping of the disc and no limitation of the field.

Quinine Amaurosis.—Dr. E. Williams reported two cases. In the first case a man took about one ounce in the course of four days. This produced total blindness and deafness, but in six weeks he could see as well as ever. The hearing had never completely returned, although the quinine was taken eight years ago. The field of vision was concentrically contracted in both eyes. The optic discs were very white, the caliber of the arteries and veins was reduced, and the smaller capillaries could not be seen.

The second case was that of a boy of fourteen, who had received large doses of quinine, the exact amount not being known. He was totally blind for four days. When examined, the sight was much diminished, the atrophy of the optic discs was extreme, and there was great contraction of the field of vision.

A Means of Measuring the Amount of Anæsthesia from Cocaine. Dr. Lucien Howe exhibited the drawing of a kymograph, which he had used for this purpose. The use of the instrument was based on the fact that irritation of a sensory nerve was followed by a rise of blood-pressure. The instrument was connected with an artery, and the conjunctiva was irritated. Cocaine might then be applied, and the results on the blood-pressure compared.

Officers for the Ensuing Year.—President, Dr. W. F. Norris, Philadelphia; Vice-President, Dr. Hasket Derby, Boston; Secretary and Treasurer, Dr. O. F. Wadsworth, Boston; Corresponding Secretary, Dr. J. S. Prout, Brooklyn.

New Members were elected as follows: Dr. Charles A. Oliver, Dr. Edward Jackson, and Dr. B. Alexander Randall, Philadelphia; Dr. D. Pope Walker and Dr. William O. Moore, New York; Dr. Frank G. Capron, Providence; Dr. S. M. Burnett, Washington; and Dr. William T. Bacon, Hartford.

The next meeting will be held at New London, the third Wednesday in July, 1886.

CLINICAL SOCIETY OF THE NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of March 2, 1885.

Dr. F. R. Sturgis in the Chair.

Syphilis. The Chairman read a paper on this subject. [See page 129.]

Dr. G. H. Fox did not consider that syphilis was the frightful disease that the text-books would have us believe. He also thought the results of its treatment by mercury much overrated, and considered that this drug could be dispensed with without involving any risk to the patient. The value of a remedy in the treatment of any special disease could only be determined when

the opportunities of studying the natural history of the trouble had been taken advantage of, and he did not believe that this was the case with the mercurial treatment of syphilis. Many persons were, too, greatly adverse to mercury, and therefore it had been the custom for a number of years in the New York Dispensary to ask the patient if he objected to its use, and if the reply was in the affirmative, as it often was, they considered that they were authorized in omitting it altogether, taking the liberty of thus carrying out an experiment with the consent of the individual; and this practice in his hands had been free from bad results. He considered that the average case of syphilis was benignant in character, and, given average good health, previous to the inception of the disease, did not believe that it would produce the ravages ascribed to it. He did not care to say that mercury was useless in these cases, but thought it was better to rely upon tonic and hygienic measures than upon the drug alone, and he felt convinced that many patients recovered under this mode of treatment. He knew of several old men who had undoubtedly contracted the disease in their youth and who had completely recovered without the intervention of mercurial treatment. He also thought that when mercury was used the dose should be much smaller than the one usually employed, considering that half a grain of blue mass would accomplish all that could be gained with one to two grains. The treatment of syphilis should no more be based upon a routine plan than the treatment of scarlet fever, and, just as there were some cases of the latter affection so mild as to need no treatment, so there were cases of syphilis that could fall under the same category. It was absurd, in his opinion, to continue a mercurial treatment for two or three years in cases that were really so mild that, if left to themselves, they would end in recovery; but in deference to custom he usually did continue the treatment for six months after the symptoms had disappeared. His opinion was, however, that in the severer forms it was better simply to treat the symptoms as they arose. In the stage of efflorescence iodide of potassium had no curative value and should never be continued for a long period. He considered that great harm could be done by giving too much of this drug, as several physicians had reported cases where the symptoms of iodism were substituted for those of syphilis. Where no good results were noted from the use of this remedy harm was almost sure to follow, and then it would have been much better had the money thus thrown away been expended in beefsteak and country air.

Dr. William H. Porter remarked that his conclusions, deduced from both clinical observation and experience in the post-mortem room, were that, in a very much larger proportion than was commonly supposed to be the case, of the patients suffering from diseases of the viscera, an initial syphilitic lesion could be discovered. This was peculiarly the case with the cerebro-spinal system, lungs, liver, and kidneys. He was decidedly in favor of mercury in the treatment of this affection, but did not consider very large doses of the iodide necessary. It was very necessary to give calomel or podophyllin frequently, however, in order to have a free and frequent action upon the liver; he considered this particularly important in the inherited forms. He was in favor of combining the mercury and iodide of potassium, and had found that the iodide of ammonium had an effect, apparently not from any inherent curative power, but because it seemed to act in very much the same way as trituration did with calomel, increasing the power of the combined drugs so that the same result was obtained from smaller doses than when the ammonium was not employed. He had obtained quite as good results from one sixteenth of a grain of the bin-iodide of mercury, fifteen grains of the iodide of potassium, and five grains of the iodide of ammonium at a dose, when sixty, eighty, or even one hundred grains of the saturated solution of the iodide of potassium had failed. If by combining these substances a small dose would effect the same result as the larger one, it was of course better.

Dr. G. B. Hope had seen cases of so-called cured syphilis where the initial lesions had disappeared and the later symptoms had been absent for years, but where ulcerations of the throat and larynx existed of such a character as to be at once serious and dangerous. These cases yielded more readily to treatment when internal medication with mercury and the iodide of potassium rather than topical applications was employed. He had found that iodoform could be elegantly prepared, and, when combined with morphine powder and used as a local application, gave great relief.

Dr. D. B. St. J. Roosa remarked that, as his chief interest lay rather in general medicine and surgery than in the specialty into which the circumstances of his life had directed him, he preferred speaking on the subject from that standpoint. He had been particularly interested in the discussion because it indicated that the therapeutics of syphilis was approaching a standard of correctness which was hardly comparable with the iron-clad notions which formerly obtained regarding the efficacy of drugs in the treatment of this affection. If it should ever be his misfortune to be inoculated with this disease, he would prefer to put himself into the hands of a good cook and housekeeper, with country air and plenty of exercise, to trusting to the empirical remedies applied by many physicians whom he could designate. The homœopathic theory, which considered all disease a beast, to be hunted out by some other beast, was not even true in syphilis; neither was it true, on the other hand, that this affection could be successfully combated without recourse to drugs of any kind, for was it not apparent to every one what remarkable results were obtained by the use of iodide of potassium in the late ulcerations of the fauces and throat? In ophthalmology, however, if the patients were in an infirmary, where they could have good and nutritious diet and proper bathing facilities, drugs could be dispensed with, but even then we should not forget that the character of syphilis differed in different individuals. The late Dr. Willard Parker had been accustomed to say, "Study the history of a family before you say a patient is going to die."

The Chairman would recall the instance of a medical gentleman who, troubled with a recurring ulcer of the cornea, had consulted both of them as to whether or no he had syphilis, and it was well, perhaps, to remember that we never found this ulceration in the acquired, although it was very common in the hereditary form.

Dr. W. O. Moore said that at the New York Eye and Ear Infirmary during the past fifteen years one per cent. of all the eye diseases could be traced to a syphilitic origin. Iritis was the most common, forty-five per cent. of those inoculated being affected in this way. Next in the order of frequency was paresis of the ocular muscles, sixty-five per cent. of all these cases being of a specific origin. The muscles most commonly affected were those supplied by the third, sixth, fourth, and fifth cranial nerves. Thirteen per cent. of all the cases of retinitis were specific. The rarer forms in which this infection exhibited itself were: conjunctivitis, nine cases; ophthalmitis, three cases; chancre of the eyelid, two cases; mucous patch of the palpebral conjunctiva, two cases; condyloma of the lid, one case. Hereditary syphilis was the aetiological factor in forty four per cent of all the diseases of the cornea, and the clinical fact was well known that the cornea was not affected by the acquired variety except through ulceration propagated by contiguous inflammation, as in mucous patches of the lids; but in the hereditary variety it was by far the most common eye lesion.

Dr. Culver considered the Turkish bath a very valuable ad-

juvant to mercurial treatment. In Vienna he had seen from eighteen to twenty-four inunctions effect a cure.

Dr. Porter said that he had never had any personal experience with the Turkish baths in the treatment of these disorders, but it was a well-known fact that all syphilitic processes were removed by increasing the oxidation which consequently caused the excretory organs to be overworked and their epithelium to become cloyed, so to speak. He thought the bath would tend to free them from this effete material, and would be of great aid to the system generally; for the same reason he considered free purgation essential.

Dr. J. M. W. Kitchen had a patient who refused to be treated with mercury internally, and asked the chairman by what method it could be applied by the spray.

The Chairman replied that the usual spray was a preparation of half a grain of the bichloride of mercury to four ounces of water. This was not irritating, but was not in general use, astringents being usually preferred.

Dr. W. N. Leszynsky had used the hypodermic injection of a solution of the corrosive sublimate in four cases, in doses of a thirty-second of a grain, with a little morphine, combined with glycerin and water. The injections were given in the muscles of the back once daily, and in one case thirty-two, in another twenty-four, and in the others between twenty and thirty punctures were made without the occurrence of a single abscess. In every instance there was some burning pain following the injection, but the discomfort was of but temporary duration, and in each instance care was had that the injection should be at least half an inch from the place where the preceding puncture had been made. In all the cases there was a clear syphilitic history, and two of the patients, while under observation, had an eruption, with the fever and headache of the secondary stage. He had never found that the iodide disagreed with an empty stomach, and had been in the habit for some years of giving it before meals, sometimes, however, dissolving it in a little milk. Where a tonic treatment was also necessary, he would give the iodide before and the tonic after meals.

Dr. Charles Henry Brown considered that in by far the largest number of cases the recoveries from syphilis took place in the primary or secondary stage, and that only in the minority of cases did it provoke destruction of tissue and proceed to the exhibition of late phenomena. He did not doubt that many a practitioner had seen suspicious sores that were indurated, accompanied with swollen inguinal glands and other suspicious circumstances, but where the history of contagion was absent, and yet the symptoms were strong enough to lead the ordinary observer to diagnosticate the affection and declare that the patient was suffering with the primary lesions, which diagnosis would not be doubted until the time for the appearance of the secondary lesions had passed without the vestige of any cutaneous lesions.

All writers upon this subject had so emphasized the fact that the secondary lesions had to appear, that, if for any reason they did not show themselves, the suspicious sore would be allowed to pass unchallenged and be considered as simply a local, unimportant affair. This might or might not be the case, for he considered that many primary lesions never went beyond the first stage and were not followed by any secondary phenomena. Dr. Anderson had laid it down as an axiom that the primary sores required only local treatment, and that only after the appearance of the secondary symptoms were we to adopt heroic treatment. He did not doubt that many of those present had seen patients run through these secondary symptoms as easily and as unconsciously as a child with chicken-pox, provided they did not know what they had and were in good physical condition. The vast majority of acute diseases were treated upon an expectant plan, and we all knew that we could not compete with Nature's modes of treatment; in fact, we could only hope to assist her in her plans. He had been in the habit for two years past of treating this affection, both in its primary and in its secondary stages, without recourse to mercury, simply keeping an eye upon its progress, and when disturbing elements, such as mucous patches, tonsillar or naso-pharyngeal inflammations, etc., appeared, he treated them with local applications, which in the vast majority of cases he found to be quite sufficient. He did not wish to be understood as deprecating the use of mercury, as he considered it one of the giants of the materia medica, and thought that it undoubtedly often did all that was alleged of it, but he was inclined to the belief that its action was often, in this complaint, confounded with the natural limitation of the disease. He also objected to the term specific as applied to the action of drugs, as he thought it implied something mysterious and something not fully understood; if it was necessary to make use of any term, he considered "unknown action" far preferable. The action of mercury was not, however, unknown, and its action in syphilis, as the chairman had remarked, was the same as in any other case. He fully agreed with all this, but thought that we should not stop without adding that it failed quite or nearly as often as it was successful. Was it not possible to call to mind case after case that had not been controlled by mercury? The severe types of this disease needed all that Dr. Roosa recommended, and, if possible, even more. The dietetics and hygiene of syphilis had never received the attention that they deserved, and yet we had to look in this direction for the cure of the severe and otherwise unmanageable cases oftener than to any other method of treatment. The use of the Turkish and Russian baths, electricity, exercise, and tonics should be encouraged in every case. The banishment of syphilophobia, which had as potent a power in retarding recovery as any other agent in the disease, should always engage the attention of the physician. The drug which the speaker preferred was iron. If pain, ulceration, etc., complicated the course of the disease, they should receive local treatment in the shape of oleates and plasters, and calomel dusted on the surface of the ulceration. He considered this method of administration preferable to giving the drug by the stomach, as its action was exerted directly upon the diseased structure. The late phenomena of syphilis were not so self-limited in duration, and demanded more vigorous methods of treatment than the primary, but care had to be exercised in these cases to improve the constitutional condition, and to place the surroundings in as perfect a hygienic condition as possible. He did not consider iodide of potassium capable of exerting any harmful influence upon the constitution, and, in his experience, although it did not work rapidly in lesions of the nervous system, it was wonderfully efficacious in dissipating the late lesions of the disease. Large doses, however, were essential, and he had frequently seen patients who took two hundred grains three times a day without discomfort. In giving such large doses it was necessary that it should be lavishly diluted, two hundred grains to the pint, and from fifteen to twenty minutes occupied in its consumption. Under these circumstances it mattered little whether or not it was taken on an empty stomach. He had never seen any bad effect from these doses, unless the patient refused to take a large amount of water. In the department of nervous diseases they were not in the habit of looking for much improvement until the patient reached one hundred grain doses. In cases where there was considerable sclerosis of nerve tissue the iodide was alternated with nitrate of silver, and in such cases it was noticed that when the patients returned to the use of the iodide the effects were often more marked than in the first instance.

Dr. T. E. Satterthwaite then presented the histories of

three cases which illustrated some unusual symptoms following the internal administration of the iodide of potassium.

Case I. *Following the Administration of the Iodide of Potassium in Moderate Doses.*—On March 6, 1882, I was called to see J. C., who had previously been brought to me through my attendance upon members of his family. I found him suffering from agonizing headache, chiefly of the vortex, and that he had taken large doses of quinine, which had greatly aggravated the symptoms. It was known to me that he had acquired syphilis fully twenty-five years before, that he had contaminated his wife soon after marriage, and that, after many years, she had only succeeded in bringing into the world a delicate boy, who had now arrived at maturity, but was phthisical. I had also been informed a number of times previously that he had refused to take antisyphilitic remedies, because he disbelieved in doctors and medicines. In the present extremity, however, he consented to follow out my recommendations. He was immediately put upon the use of iodide of potassium, in thirty-grain doses, three times daily. After the third day an amelioration of the symptoms was noted, and, as the patient exhibited no phenomena of iodism, the doses were doubled, when almost immediately coma, with paralysis of the upper and lower extremities, set in. In fact, all the indications pointed to cerebral compression. The iodide was immediately stopped, consciousness returned, and with it the paralysis disappeared. With a view of ascertaining whether the iodide was to be credited with producing these remarkable conditions, it was again given in drachm doses, and was followed, as before, by coma, which also disappeared upon the discontinuance of the drug. The late Dr. J. L. Little saw the case with me in consultation during both attacks of coma. Under the iodide, in ninety-grain doses, daily, the patient fully recovered, and was able to resume his occupation.

Case II.—For the notes in this case I am indebted to my friend and colleague, Dr. Porter. J. N. P., thirty-three, England, contracted syphilis in 1870, eight years before the present attack. A year later he married, and his wife subsequently had several miscarriages in succession. The attack here described occurred in May, 1878, and began with a severe cephalalgia. On June 3d following he began to be aware of some paresis of the left side, and had left ptosis. His mental faculties began to deteriorate at the same time. A little later, June 13th, he was put upon the "mixed treatment," to which the iodide of ammonium was added; but, showing no improvement, he was given, June 24th, calomel, one forty-eighth of a grain, every fifteen minutes, which failing, the iodide of potassium, in fifteen-grain doses, was added on the 29th. Through some mistake it was taken at first every fifteen minutes, and how long it was continued at these intervals can not be judged; but two days later, July 1st, he became comatose, and when first seen could not be aroused. The pupils were contracted, sensation over the body was not abolished, the pulse was 80 and strong, and the respiration was 24. Subsequently the coma lightened slightly, and he could be aroused when shaken. Later on consciousness returned fully, and simultaneously there was dilatation of the pupils. As it was not known that he had taken a large amount of the iodide, it was again ordered, and was given, presumably, in fifteen-grain doses every fifteen minutes, in conjunction with the mixed solution before mentioned. On the following day the patient had another attack of coma, and then only was it discovered that these extraordinarily large doses had been given. They were immediately stopped, and the iodide was continued in moderate and gradually decreasing doses until July 7th. He received one sixteenth of a grain of the biniodide of mercury, with ninety grains of the combined potassium salts, six times a day. This amounted to a dosage of two hundred and eighty grains of the iodide of potassium, and the same number of grains of the iodide of ammonium per diem. This was continued without intermission until the 13th, when he was discharged from the hospital greatly improved. In this instance there was no renal lesion, nor was the coma attributable to anything but the potassium salts. It was impossible to determine the amount of the iodide given daily in this case, but it was evidently more than a drachm.

These two cases appeared to represent what had been called by Wunderlich the narcotic symptoms of iodism, among which he mentioned dizziness, diminution of intellectual power, incoherence of ideas, paresis, and even wild delirium, though neither he nor any other writer, so far as the speaker knew, had ever fully described the coma of iodism. The nearest approach to this condition appeared to have been noted by Sir Benjamin Brodie, who described the paralysis of iodism.

Stillé cited the example of a man aged fifty-five under the treatment of the iodide of potassium where trembling of the limbs, a feeling like intoxication, an irregularity of motion, and double vision were experienced. Bumsted and Taylor stated that sometimes the iodide caused an oppression in the head, muscular debility, and sluggishness of the intellect. Other symptoms of iodism had been frequently discussed by writers. The amount taken appeared not to be a matter of much consequence, for in certain persons and under certain conditions the iodide would prove poisonous even in very small doses; thus, Stephen McKenzie had known an infant die of purpura after taking two grains and a half of the iodide ("British Med. Journal," 1880, vol. i, p. 626), and the same fact had been noted by Little (*Ibid.*, April 24, 1880), while Phillips ("Mat. Med.," vol. i, p. 64) cited a case in which one grain administered to a syphilitic patient three times a day produced iodism.

Of a different nature is the following example of profuse salivation and respiratory embarrassment, following moderate doses of the iodide:

Case III.—A. J. N., a young man about thirty years of age, consulted me at my office, December 11, 1883. He was then suffering from supra-orbital, infra-orbital, and maxillary neuralgia, with some intra-cranial headache. For his relief I gave him morphine, the bromides, and chloral, but the removal of the pain was finally effected only by large doses of quinine (forty grains a day). In the following month he developed aphasia, difficulty in articulation of labials and sibilants, and loss of memory. On January 25, 1884, he was put upon the use of iodide of potassium, taking twenty minims of the saturated solution three times a day. Almost immediately he began to complain of a sore tongue, on which account the medicine was discontinued, but profuse salivation ensued and continued to the time of his death, February 4th, coma having set in after an apoplectiform seizure. It may be inferred that the cerebral symptoms in this case were not due to the iodide, from the fact that they developed fully a week after the suspension of the drug, while it is a matter of general belief, on the other hand, that these symptoms disappear on the withholding of the drug. It is equally true in this instance that the soreness of the mouth and salivation, the coryza, the swelling of the face, and the symptoms of obstruction of the larynx gained in intensity between the inception and death; and it is also noteworthy that the paralysis, at least from mercury, is not always arrested by the suspension of the remedy. There was also marked fœtor, as in mercurial salivation. The patient had no renal or cardiac disorder. Dr. J. A. Hegeman, Dr. H. B. McCarroll, and the late Dr. J. L. Little saw the case with me, and it was regarded as singular that the salivation was not arrested, as no mercury had been previously given. Claude Bernard, after taking iodide of potassium, failed to find it in the urine twenty-four hours after, while three weeks later it could be detected in the saliva (Phillips, "Mat. Med.," vol. i, p. 62). It may have been true, therefore, in this case, as it was agreed in consultation that death was due to causes independent of iodism.

During eighteen years of the practice of medicine, he had never before seen or known of such a case, although he was constantly using the iodide, often carrying the dose as high as six drachms per diem.

Dr. A. A. Altounyan said that in Turkey he had seen the Turkish bath used in the treatment of this affection. It was usually taken two or three times a week, the patient remaining in the bath for three or four hours at a time and drinking from seven to eight pints of water. Sometimes [illegible] was used, but mercury was usually administered. Sarsaparilla also had a great reputation.

[illegible]

New Inventions, etc.

A NEW UTERINE APPLICATOR AND DRESSING FORCEPS.

By C. N. Dixon Jones, M. D.,
BROOKLYN.



In certain cases in gynæcological practice the ordinary methods of cleaning the part and making application to diseased surfaces have proved so troublesome that I have devised the following-described instrument, which has been manufactured by Messrs. George Tiemann & Co., in order to facilitate the performance of the process.

The instrument is a modification of the well-known throat applicator devised by my friend and instructor, the late Dr. Elsberg. It is essentially a forceps provided with a lock similar to the lock of an obstetrical forceps, in order that the blades may be separated, to facilitate cleaning.

The method of using the instrument is as follows: A bit of cotton is rolled into a wad of the proper size, leaving a firmly twisted projecting portion, which is grasped between the teeth of the forceps without springing the blades; the cotton is then saturated with the appropriate medicament. Thus armed, the instrument is introduced through a speculum and the cotton-point passed through the os tincæ into the uterine cavity, and the medicament brought into contact with the parts to be operated upon.

By using a large wad of cotton, the instrument may be used to clean the vagina of mucus previous to intra-uterine medication, or for making application to the vaginal surface.

After using, the instrument is unlocked, the blades are separated, the cotton is shaken off, and the instrument cleaned.

The instrument in my hands has proved itself of great value, and I can confidently recommend it to the profession.

Miscellany.

Recovery after a Fall of nearly Two Hundred and Fifty Feet.—In the "Bristol Medico-Chirurgical Journal" for June, J. Fenton Evans, M. B., relates the remarkable case of a girl, twenty-two years old, who attempted suicide by throwing herself from the Clifton suspension bridge. After she had partially rallied from the shock, the manubrium of the sternum was found dislocated forward, and there were severe bruises of the buttocks and the back of the thighs. The respiration was feeble, and she vomited fluid containing streaks of blood. Albumen and blood casts appeared in the urine, and there was restless delirium for several days. In less than three weeks the girl had so far recovered as to be able to walk without pain, and there appeared to be no permanent injury beyond slight protrusion at the junction of the first and second pieces of the sternum. The author adds the following remarks:

"The height of Clifton Suspension Bridge above the river at low water is about 250 feet, and the time any weight takes to fall that distance is about four seconds, clearing the resistance of wind, etc., out of the question. The time taken by that girl to fall from the bridge was probably much longer, not only on account of the resistance offered by the clothes she was wearing at the time, but also from the nature of her clothes, which are said to have been inflated from below, and thus decreased the descent. She was also reported to have fallen on the buttocks, which statement was supported by the condition of her clothes on examination, and the bruises subsequently discovered. A point of some interest is that the patient's memory is now a complete blank as to what occurred after reaching the bridge, although she can remember setting out from home with the intention of destroying herself in this manner. Of the sixteen persons who have hitherto attempted suicide from this bridge this girl alone has survived the consequences of the act; one other was picked up alive and survived twenty or thirty minutes. As far as the writer knows, no case of survival after a fall from a height of 150 feet has hitherto been recorded; this instance of recovery, after a fall of nearly 250 feet, is probably unique."

Tyrotoxicon (Cheese Poison).—We are indebted to Dr. Henry B. Baker, the secretary of the Michigan State Board of Health, for the following abstract of an important paper read by Dr. V. C. Vaughan at the recent quarterly meeting of the board:

It was well known that cases of severe illness followed the eating of some cheese. Such instances were of frequent occurrence in the North German countries and in the United States. In England they were less frequently observed, while in France, where much cheese was made and eaten, these cases were said to occur very rarely. A few years ago the reputation of a large cheese factory in northern Ohio was destroyed by the great number of cases of alarming illness from eating its cheese. Dairymen knew this cheese as "sick" cheese.

A German author had said that the numerous kinds of soft cheese prepared in small families or on small farms were generally the cause of the symptoms, while it was quite exceptional to hear of symptoms arising from the use of cheese prepared in large quantities. Some two years ago a family in Alpene, Michigan, was poisoned by eating cottage cheese; the cheese which poisoned so many in the State last year was made at one of the largest factories in the State, and by an experienced cheese-maker. The old foul-smelling cheeses, such as Limburger and Schweitzer, had never been known to be poisonous.

The symptoms produced by "sick" cheese, as reported by German and American physicians, agreed quite closely, and were as follows: Dryness of the mouth and throat with a sense of constriction, nausea, vomiting, diarrhœa, headache, sometimes double vision, and marked nervous prostration. In rare instances the sufferer died from collapse. As a rule, recovery occurred in a few hours, or at most after a few days. The symptoms of cheese-poisoning and those of sausage, canned-meat, and fish-poisoning were very similar, though death resulted more frequently from the others mentioned than from cheese-poisoning.

The samples of cheese examined had no peculiarities of appearance, odor, or taste, by which they could be distinguished from good cheese. It was true that, if two pieces of cheese—one poisonous and the other wholesome—were offered to a dog or a cat, the animal would select the good cheese. But this was probably due to an acuteness of the sense of smell possessed by the animal and not belonging to man. Indeed, if a person tasted a cheese, knowing that it was poisonous, he might detect a sharpness of taste which would not ordinarily be noticed.

There was no certain means, aside from a chemical examination, by which a poisonous cheese could be distinguished from a wholesome one. The most reliable ready method was probably that proposed by Dr. Vaughan a year ago, and it was as follows: Press a small strip of blue litmus-paper (which can be obtained at any drug-store) against a freshly cut surface of the cheese. If the paper is reddened instantly and intensely, the cheese may be regarded with suspicion. When treated in this way, any green cheese would redden the litmus paper, but ordinarily the reddening would be produced slowly and would be slight. If the piece of cheese was dry, a small bit should be rubbed up with an equal volume of water, and the paper should then be dipped in the water. Dr. Vaughan did not regard this test as free from error, but as the most reliable ready means now known. Every groceryman should apply this test to each fresh cheese which he cut. The depth of the reddening of the paper might be compared with that produced by cheese known to be wholesome.

Dogs and cats, at least, were not affected by eating poisonous cheese. This was probably due to the fact that they did not get enough of the poison from the amount of cheese which they ate. The pure isolated poison, in sufficient doses, would undoubtedly produce upon the lower animals effects similar to those produced on man.

Dr. Vaughan had succeeded in isolating the poison, to which he had

given the name tyrotoxicon (from two Greek words which meant cheese and poison). It was a product of slight putrefaction in the cheese, which probably occurred in the vat, as the curd had been known to poison a person. By this slight putrefaction, or excessive fermentation, as it might be called, a large amount of butyric acid was formed, and this, in the presence of the casein of the cheese, was capable of developing a poison. Different samples of poisonous cheese contained different amounts of the poison. The same weight of cheese from one cake furnished three times as much poison as that from another cake. The poison was obtained in long, needle-shaped crystals, which were freely soluble in water, in chloroform, in alcohol, and in ether. The smallest visible fragment of a crystal placed upon the end of the tongue caused a sharp, stinging pain at the point of application, and in a few minutes dryness and constriction of the throat. A slightly larger amount produced nausea, vomiting, and diarrhœa. The poison was volatile at the temperature of boiling water, and for this reason even poisonous cheese might be eaten with impunity after being cooked. The substance had also a marked pungent odor, and through the nose one could obtain sufficient of the volatile poison to produce dryness of the throat. This was true, however, only of the isolated poison. In the cheese the taste and odor of the poison were both modified to such an extent that they would not be recognized, as had already been stated.

The first step in the study of cheese poisoning had now been taken by finding out what the poison was. Efforts would be made to ascertain the means for preventing its formation.

Small-pox in Michigan.—At the same meeting of the Michigan State Board of Health at which Dr. Vaughan's report was read, the secretary submitted a summary of the work done during the quarter ending July 13th. Small-pox had broken out in several localities, among them South Haven, where there had been nine cases and one death. The infection had been brought by a German immigrant who sailed from Bremen on the 12th of April, on the Donau, of the North German Lloyd line. He was broken out with small-pox when he reached South Haven, April 27th, and might have been quarantined *en route*. This was another example of outbreaks which a faithfully executed immigrant inspection service, carried on by the general Government, would put an end to or greatly diminish.

The International Medical Congress and the Profession.—The "Medical News" publishes the following preamble and resolutions adopted in Cincinnati:

"*Whereas*, The recent action of the American Medical Association with reference to the organization of the proposed International Medical Congress was, we believe, detrimental to the best interests of the Congress, therefore,

"*Resolved*, That we, the undersigned, nominated members of the Congress, hereby decline to serve."

	P. S. Conner,	J. C. Reeve,
[Signed]	F. Forchheimer,	W. W. Seely,
	S. Nickles,	J. T. Whittaker,
	Thad. A. Reamy,	E. Williams.

In addition to the declinations that we have before mentioned, the "News" announces those of the following named gentlemen: Dr. J. Nevins Hyde, of Chicago; Dr. George M. Sternberg and Dr. R. W. Shufeldt, of the army; Dr. E. Van de Warker, of Syracuse; Dr. William Lee, of Washington; and Dr. J. M. Keating and Dr. George L. De Schweinitz, of Philadelphia.

The same journal publishes the following resolution as having been passed at the recent annual meeting of the American Ophthalmological Society:

"*Resolved*, That it is the sense of the American Ophthalmological Society that the action of the American Medical Association at its late meeting in New Orleans, and of the enlarged committee appointed at that time to make arrangements for the International Medical Congress in overturning much of the carefully planned work of the original committee appointed at Washington for the same purpose, was unwise and not to be defended, unless, possibly, upon technical grounds; and this Society hopes that none of its members will indorse the action of the enlarged committee by accepting official positions at its hands."

The "Pittsburgh Commercial Gazette" publishes the following preambles and resolutions recently adopted unanimously by the Allegheny County, Pa., Medical Society:

"*Whereas*, The American Medical Association, at its recent meeting at New Orleans, has seen fit to rescind the action of the original committee adopted at Washington, to arrange for the meet of the Ninth International Medical Congress, to be held in Washington in 1887, and

"*Whereas*, The new committee in its recent action at Chicago has so changed the arrangements for the meeting of the Congress as to insure its failure, therefore be it

"*Resolved*, That the Allegheny County Medical Society disapproves of the action of the Association at New Orleans and of the action of the new committee at Chicago; and further,

"*Resolved*, That the American Medical Association at its next meeting in St. Louis be advised to restore to the original committee, which was appointed at Washington, full power to make all the arrangements for the meeting of the Ninth International Medical Congress."

The Washington Congress in Danger.—Under this heading, the "Medical Times and Gazette," in its issue of July 18th, says: "Those who have looked forward to taking part in the next International Medical Congress, and have counted perhaps on making personal experience of that friendliness and hospitality of which every English doctor who has yet crossed the Atlantic has brought back such golden report—yes, and not only those, but every practitioner to whom the reputation of his profession is dear—will have read with intense surprise, if not distress, the intelligence we published last week, that the Washington Congress is in imminent danger of falling through. We are sorry to announce that our worst anticipations are in process of realization. The leading practitioners of Philadelphia, many of whom were to hold high office in the Congress according to the list distributed by Dr. Billings some months ago, met together on the 29th ultimo, and decided that, as the changes recently effected in the preliminary organization and rules for the International Medical Congress of 1887 'are inconsistent with the original plan and detrimental to the interests of the medical profession in America, and of the International Medical Congress,' they would decline 'to hold any office whatsoever in connection with the said Congress as now proposed to be organized.' This resolution was signed by thirty of the most distinguished practitioners in Philadelphia, including men like Weir Mitchell, Horatio Wood, Roberts Bartholow, Da Costa, Duhring, Goodell, Minis Hays, Leidy, Pepper, W. Osler, Stillé, Tyson, and Yandell. We hear that a similar movement is on foot in Boston, and that it is quite likely that the most distinguished practitioners in that hub of the universe will follow the lead of their Philadelphian *confrères*. And as some of the leading New York men, including Dr. Jacobi and Dr. Lefferts, who were to have presided over sections, have already been deposed from their places, as adherents of the New Code, while Dr. Bowditch, the most respected physician of Massachusetts, has been struck off the list of vice-presidents for his sympathy with that party, it must be admitted that the 'New York Medical Journal' is probably right in describing the outlook for the Congress as 'gloomy.' We can only hope that the sound sense for which our American cousins are so distinguished will prevail, and that the decisive action of the Philadelphia practitioners will rouse the mass of the profession in America to step in and to [illegible] by overwhelming numbers before it is too late that old controversies shall be [illegible], that old ill-feeling shall be buried, and that no one shall be allowed to turn partisan spirit into a ladder for his own elevation at the expense of the reputation and good fellowship of the profession to which he belongs.

"We do not wish, and we hope no one on this side of the Atlantic will attempt, to revive the memories of the celebrated [illegible] We believe that the late Dr. Parvin, the General Secretary of the Copenhagen Congress, distinctly insisted, when the invitation to America was accepted, that the [illegible] And we feel sure that a very large majority of English and Continental practitioners will refuse to cross the seas if this understanding is not loyally kept to. They will feel, too, that if [illegible] they can only go as the guests of an [illegible]. A Congress from which the most distinguished representatives of American [illegible]

were excluded or had withdrawn would not be worth going to as a scientific meeting, while the remembrance of the bitterness and heart-burnings which had attended its organization would rob its social distractions of all their charm. It would be like feasting with a man, while his wife, unjustly divorced, stood in the street watching. We can assure our American readers that in the present case the best English sympathies will be with the wife. The men whom English visitors, if they go, will go to see and hear are the very men who have been elbowed out of the Congress. The scientific success of a Congress does not depend on numbers, but on quality. The profession in America is no doubt rich in numbers, as well as in scientific activity, but it is not so rich that it can afford to play all Europe with only pawns on its side of the board.

"We must add a few lines to explain to English readers how the matter lies. The American Medical Association, a body which includes some three thousand of the forty thousand practitioners in the States, appointed a committee of seven to go to Copenhagen in order to express the desire of the Association that the Congress of 1887 should be held at Washington. The invitation was given in the name of the whole American profession, the Association acting to this extent as its spokesman. It was accepted, and the committee were intrusted with full powers to organize and appoint officers of the Congress. They thereupon added to their original numbers some score of the leading practitioners of the States, and issued the programme which has been distributed far and wide. At a recent meeting of the American Medical Association at New Orleans, Dr. Billings reported on behalf of the committee, but a certain section refused to accept the work done, and claimed that the Association had power to revise it, inasmuch as the committee derived its commission from that body. They succeeded in getting a majority to indorse this claim, and induced the Association to strike off the names that had been added to the committee and to replace them by thirty-eight new men, elected with regard rather to their local distribution than to their scientific attainments. The new committee accordingly, with the exception of the original seven, contains scarcely a name that is familiar to English ears. The question of the competency of the Association to act as it had done was submitted to counsel, with the result that it was declared to have acted quite within its powers. The members of the original committee therefore decided to attend the meeting of the enlarged committee held on June 24th and 25th at Chicago, the reports of which have just reached us.

"At this meeting Dr. Beverley Cole, of San Francisco, was elected permanent chairman of the Organizing Committee, and Dr. Shoemaker, whose name is familiar to us as the active advocate of the use of the oleates known by his name, its permanent secretary. A sub-committee was appointed to revise the rules and preliminary organization of the Congress, published at Washington in 1884, and their report and list of officers was subsequently adopted by the committee. The rules, however, have not yet been published, and we can only say that the first rule was so amended by the committee as to guard against the participation of irregular practitioners in the meetings of the Congress. Besides this, the committee removed from their positions in the Congress some twenty-five men, including Jacobi, Loomis, and Lefferts, who have given up the code of the American Medical Association and retired from that body, but who are still met in consultation by the 'old-coders,' and are members of the New York Academy of Medicine. The committee also entirely changed the executive *personnel*, substituting for men whose names are household words with us others whose reputation has certainly not yet crossed the Atlantic, whatever it may do in the future. It also removed the chairmen of sections from membership in the executive committee and restricted the membership of the Congress so far as regards America, to members of the Association, or of State and County societies in affiliation with it, and to others nominated by the executive. After these achievements the committee adjourned to meet in St. Louis just before the next meeting of the Association. The above is a very brief abstract of intelligence derived from the American periods and from our correspondents in the States, and no doubt from its very brevity, it will appear somewhat confusing to the English reader. The whole affair will look to him, perhaps, very much like a storm in a teapot. He will perhaps, however, be able to realize the dispute a little more clearly if he can imagine the Committee of Council of the British Medical Association having taken the London Congress of 1881 under its entire control, removed all but a few of the leading London men from any share in organizing the meeting, and allowed no one to participate in the Congress but members of the Association. But even that comparison would be misleading, for the English Association represents at least fifty per cent. of the English profession, while the American Association only contains some seven per cent. of American practitioners."

The "Lancet" on the Congress.—In its issue for July 18th the "Lancet" says:

"The Committee of the American Medical Association, appointed to nominate the list of officers and make the arrangements for the Congress which is to meet in Washington in 1887, has made a preliminary report. It confirms the nomination of Dr. Austin Flint for the post of president. This, we imagine, was never for a moment doubtful, and, as the success of the Congress depends in no small measure upon its president, we are glad to know that this element of success will not be wanting at the Washington meeting. Among the vice-presidents we find the name of Dr. E. Oliver Wendell Holmes [*sic*]. We trust some arrangement will be made for him to give an address at the meeting. The Secretary-General is Dr. John Packard, of Philadelphia, and Prof. F. S. Dennis is nominated chairman of the Finance Committee; these also are excellent nominations. The scientific work of the Congress will be conducted in sixteen sections, one of which will devote attention to the work of Collective Investigation."

[When the foregoing was written the "Lancet" was of course not aware that Dr. Packard and Dr. Holmes had declined to serve.]

The Merritt H. Cash Prize.—The chairman of the Prize Essay Committee of the Medical Society of the State of New York, Dr. W. W. Potter, of Buffalo, writes to us that the committee desires to state that the society offers a prize of one hundred dollars, payable out of the Merritt H. Cash prize fund, for the best original essay on any medical or surgical subject. The conditions are: That the competitors shall reside in the State of New York; that all essays offered shall be either printed or type-written; that each essay shall be designated by a motto on the title-page; that in a sealed envelope, attached to the essay, shall be placed the name of the writer and the corresponding motto; and that all essays shall be sent to the chairman on or before January 1, 1886. Dr. Potter's address is 306 Franklin Street, Buffalo.

Dr. Homans's Laparotomies.—Dr. Homans, of Boston, informs us that, in our summary of the paper he lately read before the Massachusetts Medical Society, we were in error in stating the number of his laparotomies as two hundred and seven, the real number being two hundred and seventy.

The British Gynæcological Society.—Dr. R. Stansbury Sutton, of Pittsburgh, Pa., and Dr. F. C. Batchelor, of New York, have been elected to fellowship in the society.

THERAPEUTICAL NOTES.

Coniine in the Treatment of Cough.—The "Centralblatt für die gesammte Therapie" publishes the following formula:

Coniine hydrobromate, } each..... 15 grains;
Sugar of milk, }
Mucilage of gum arabic, a sufficient quantity.

Divide into forty pills, from two to four of which are to be given daily for nocturnal convulsive cough.

Potassium Iodide for the Prevention of Habitual Abortion.—Goshkevich ("Wratsch;" "Brit. Med. Jour.") remarks that, although the causes of habitual abortion are obscure, syphilis is the best known of them, and on that ground, notwithstanding the general belief that potassium iodide tends to cause abortion, he advises its employment even when no syphilitic manifestations have been recognized. He gives two cases to sustain his position. The fœtal heart-sounds and movements, which had become almost imperceptible, improved under the use of five grains three times a day, and diminished whenever the administration of the drug was stopped. In each case the full period of gestation was completed.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 114.*)

ELECTROLYSIS. — When a galvanic current is concentrated within animal tissue by a close approximation of the electrodes, or when, by means of the "polar method" and insulated needles, a galvanic current of high intensity is made to traverse some selected spot upon the human body, there is apt to be a chemical decomposition of the water and salts, and a coagulation of the albuminous elements of the tissue thus acted upon. The salts are then separated into their bases and acids, while the water is simultaneously decomposed into hydrogen and oxygen. The positive pole attracts to it the acids and the oxygen; the negative pole attracts to it the alkalies and the hydrogen. For this reason the insulated needles tend to become oxidized when they are connected with the positive rheophore. They do not become so when attached to the negative rheophore. The free alkalies deposited at the negative electrode are apt, on the other hand, to cause destructive effects upon adjacent tissues. These are greatly in excess of that produced by the oxidation of the metal points of the insulated needles when joined to the positive rheophore.

When we wish to test the strength of the current which we propose to employ for electrolysis, it may be easily done by sending the current through the white of an egg for twenty or thirty minutes. In that time it should coagulate the albumin.

In order to reach the parts upon which we most desire to perform electrolysis, it is often necessary to perforate the skin and the muscles. To do this, needles are employed. They should be insulated with hard rubber, collodion, or shellac, except at their point for one half-inch, and the uncovered part should be gilded, as a rule, in order to prevent its oxidation. They should be from two to five inches long; should be strong enough to penetrate tissues without a liability of breaking; should be as small as is consistent with the current-strength to be employed; and should be so arranged as to enable the operator to adjust them in a handle to which one of the rheophores of the battery may be attached. Ordinary sewing-needles strung on a wire may be employed in treating superficial nævi, tumors, etc., if you lack the instruments specially designed for the purpose. You may shellac them for insulation if deemed best.

It is very important, in some cases, that the insulation of the needles employed be as perfect as possible; and that the tips of the needles be triangular or lancet-shaped, in order that they may penetrate the skin with ease. The needles and handle required can be bought of any manufacturer of electrical appliances.

The battery employed for electrolysis need not be unlike that for ordinary medical purposes. Twenty-four of Grenet's cells will produce a sufficient intensity of current, provided they are freshly filled. Robin's statement that a current of forty-five milliampères is requisite must be based upon a very limited external resistance. It is well to use a battery of greater power than is actually required, so that fresh cells can be added, without breaking the current during the operation, when deemed necessary. Personally, I prefer insulated copper wire for rheophores when performing electrolysis, in preference to the tinsel cords commonly employed for electric applications. They are less flexible than the tinsel cords, but they are vastly superior to them as conductors.

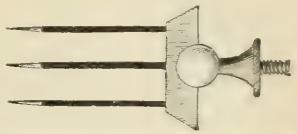


FIG. 37.—ELECTRODE FOR ELECTROLYSIS (with three insulated needles).

Electrolysis has been employed for the following purposes, with more or less success:

1. The coagulation of blood in aneurysmal sacs.
2. The relief of nævi and erectile tumors.
3. The cure of cystic tumors.
4. The cure of goitre.
5. The cure of echinococci.
6. The cure of ovarian cysts, and those of the broad ligament.
7. The cure of urethral stricture.
8. The cure of malignant and fibroid growths.
9. The cure of hydrocele.
10. The destruction of the fœtus in extra-uterine pregnancy.
11. The removal of cicatrices, polypi, and other new formations.

Respecting the treatment of large aneurysmal sacs by this method, statistics show that the operation merits more general recognition, as a means of possible cure of intra-thoracic and abdominal aneurysms which can not be safely treated by ligation, than it has received. Nine cures out of thirty-seven cases have been collected by Duncan from various sources; and Bartholow has since collected others which have been benefited by it, although not positively cured. In none of these cases, so far as I can ascertain, was the current-strength measured by a galvanometer. There is reason to hope that the operation may become more generally employed when the steps of the procedure necessary to its success are determined with greater exactness. There seems to be a doubt, as yet, regarding the best method both of generating and directing the current, so as to prevent suppuration and secondary hæmorrhage. In two cases of blood-sacs upon the face, intrusted to my care, I have succeeded in consolidating the tumor and effecting its radical cure by this means without suppuration or other complications. I employed the positive rheophore for the needles, and placed the cathode at the nape of the neck in both cases. The duration of the two sittings in each case was about ten

minutes, and twenty-four Grenet cells were employed. I believe that the anode produces the firmest clot; hence the danger of hæmorrhage on the withdrawal of the needles is less than when the cathode is employed. The risk of embolism, as a result of disintegration of the clot, does not seem to be so great as one might at first imagine.



(*a*) (*b*)

Fig. 38.—An Electrode for Electrolysis. The needles are fine and numerous, and are arranged as shown in (*b*). This is an excellent device for effecting the cure of diffused nævi, small glandular tumors, etc.

The employment of electrolysis in cystic tumors of the neck, the ovaries, and the thyroid gland, has been resorted to by many experimenters of note. Among these may be mentioned Althaus, Amussat, Ultzmann, Clemens, Semeleder, and others. Some of the cases reported seem to point toward this method of treatment of these diseased conditions as potent and comparatively devoid of danger if properly carried out.

The *treatment of urethral stricture* by electrolysis I have always heretofore combated—chiefly because I think it less safe and far less certain than gradual dilatation. I must confess, however, that I have had no personal experience in the electrical treatment of stricture; and that my prejudices may be more or less without foundation. My perusal of the reported cures by this method has not, as yet, carried to my mind a conviction of my error. The method seems to me to lack precision, which should, to my mind, form the basis of all surgical procedures within that canal. I am having made for me some modifications of urethral electrodes which I believe will insure greater precision than any yet devised; and I propose to give them a thorough trial.

Ordinary *cases of goitre*, and the *enlargement of the thyroid gland which accompanies Basedow's disease*, have been cured by electrolysis. Rockwell and Butler have reported some astonishing results in the treatment of exophthalmic goitre by galvanism of the thyroid gland. Rockwell places the cathode over that body and the anode over the solar plexus, combined with the employment of the anode in the auriculo-maxillary fossa and the cathode over the cilio-spinal center (cervical segments of the spinal cord) at each sitting. His cases of reported cure required from fifty to sixty-nine sittings. Needles were occasionally employed upon the goitre. This treatment was supplemented by the use of iron, zinc, digitalis, and ergot; and a restricted diet, with instructions regarding the necessity of the repression of the emotions and passions, was enforced.

The *arrest of extra-uterine pregnancy* by electrolysis, and also by shocks transmitted through the sac from Leyden jars charged with static electricity, constitutes, perhaps, one of the most successful and remarkable contributions to medicine. The former method has proved the most reliable. Needles are inserted into the sac and a current is sent through the fœtus of sufficient intensity to destroy life.

The *treatment of cancer* by electrolysis has been followed by satisfactory results in some cases, according to the observations of Beard, Butler, Mussey, and Neftel. The question of accurate diagnosis of the cases reported as cured must still be considered as unsettled. The results apparently obtained should certainly awaken the profession to a trial of this method of treatment of a malady which internal medication, caustics, and the knife seem powerless to combat.

Bartholow reports a cure of four out of six cases of *fibroid tumors of the breast* by electrolysis. The remaining two patients failed to continue treatment for a sufficient length of time. He did not employ needles in any of these cases.

The *relief of hydrocele* by the introduction of two needles connected with the rheophores of a galvanic battery and brought within a half-inch of each other at their points has been reported by Rodolfi, Frank, Bartholow, and others. Some of the cases reported as cured required only one application.

In dismissing this subject it may be well to summarize the effects of electrolysis, as follows:

1. A feeble current tends to cause dilatation of the capillaries and the lymphatic vessels, and thus to aid in absorption.

2. A stronger current decomposes the salts and the water of tissues, and coagulates the albuminoid elements.

3. A disintegration of the tissues immediately adjacent to the pole which produces the effects previously described takes place, with an escape of bubbles of gas, when the decomposition of tissues is active.

4. As an eschar may be formed by a current of great intensity, it is maintained by some authors that the cicatrix which results from such a slough is soft and pliable if the eschar has been made by the anode, and dense, with a tendency to contract, when due to cathodal action. I am unable to confirm or deny this statement.

5. The danger in electrolysis is that of "doing too much" rather than too little. The former error can not be repaired; the latter can by repeated sittings.

6. When an escharotic effect is desired, it is well to have the needles made of zinc. The decomposition of the chloride salts forms indirectly the chloride of zinc, because the liberated chlorine attacks the needle. This is absorbed by the tissues adjacent to the needle, and an escharotic effect is thus produced. In the treatment of malignant growths such needles, with currents of weak intensity, and long sittings, seem particularly well adapted. This method is almost painless, and has produced excellent results in some cases reported.

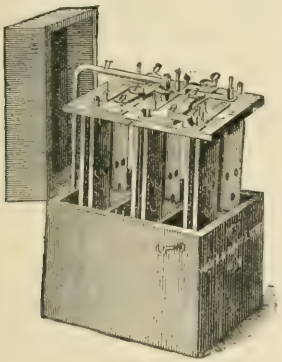
7. The introduction of needles into the tissues is not an absolute necessity when treatment by electrolysis is indicated. The same effects to a lesser degree may be obtained by placing the electrodes in contact with cutaneous or mucous surfaces.

8. The employment of iron needles has been suggested for the rapid coagulation of blood, on account of the styptic effect of the chloride of iron which tends to form by the liberation of chlorine from the chlorides of sodium, potassium, and calcium.

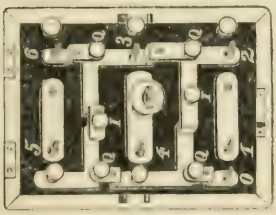
The Galvano Cautery.—When a large quantity of elec-

tricity is forced through the resistance offered to its passage by a platinum wire or a strip of platinum (usually bent into the form of a knife), the heat produced causes the platinum to rapidly approach redness or whiteness. Such an arrangement is known as a "cautery-loop" or a "cautery-knife." The battery which is employed to generate electricity in sufficient quantity to accomplish such a result is known as a "cautery-battery." In cautery-batteries the plates are large and near together; hence unusual precautions have to be taken to prevent "polarization," which takes place very rapidly on account of decomposition of the fluid in which the elements are immersed.

Of all the devices which have been suggested to overcome this difficulty, I prefer that of Dr. Piffard. In the battery devised by him the zinc plates are perforated, so that the fluid can be forced through them upon the platinum plates by means of a rocking motion when the battery is in action. The assistant who operates the battery can produce any degree of heat required by making the plates move slowly or rapidly through the fluid. The key-board of the battery is so connected by means of large thumb-screws that the elements can be connected for either quantity or intensity, as the operator may desire. The rheophores are composed of large copper wire, heavily insulated with rubber.



(a)



(b)

Fig. 39.—Piffard's Cautery Battery. (a) The battery as suspended when not in action. (b) Arrangement of the top of the battery, showing the screws which regulate the connections between the different cells. The battery is rocked during its action to prevent extreme polarization. By making the movement slow or rapid, the heat of the loop or knife may be regulated at will.

I have made several improvements upon the original Piffard battery of late, which, in my opinion, will increase the ease of working the instrument. They are not, as yet fully perfected.

It may be advisable to again impress upon you the fact that batteries designed for ordinary medical purposes are totally unfit for heating a cautery-loop or producing an electric light. A battery designed for cautery purposes is also totally unfit for other purposes in medicine.

In operations upon the tongue, nose, pharynx, uterus, vagina, rectum, and in some other regions, the galvano-cautery seems destined to supersede the scalpel and écraseur. No blood need be lost in amputations of considerable magnitude, provided the operation is skillfully performed. If the loop is employed, it is slipped when cold over the part to be removed. It can be adjusted, therefore, with every precaution against accident. After the current is turned on, the heat of the wire even can be regulated with great precision. Care should be exercised against drawing the wire too closely to the handle, and in selecting a wire which will not burn off or prove too large for the battery employed. As in all surgical procedures, this instrument should be handled by an expert. It is well for a novice to practice upon pieces of meat or bone until he familiarizes himself with the details of its use, in case he meditates performing an operation upon a human subject. When operations are to be performed within the mucous cavities of the body, the patient has frequently to be trained to tolerate the necessary manipulation. A dull red heat is preferable to a white heat in dividing vascular tissues, and it is very important that the division be slowly performed. When the skin is to be embraced within the loop, it is well to divide it first with a cautery-knife, and subsequently to adjust the wire.

The cautery-knife has been successfully used in removing cancerous growths within mucous cavities, in tubal pregnancy, in tracheotomy, in extirpation of the breast, and many other similar procedures.

An attachment to the cautery-battery, known as the "dome cautery," consists of a coil of platinum wire over a cone of porcelain. These may be of any size, and the porcelain cone may be omitted if deemed necessary. It may be employed in destroying hypertrophied tonsils, hæmorrhoids, polypi, nævi, epithelioma, etc.

The great advantage which the galvano-cautery has over the use of the knife is the absence of hæmorrhage and of great pain. The platinum knife can be made of any form desired. There is no limit to special forms of attachments which may be devised to simplify its use in different regions of the body.

In operating upon the tongue, needles may be passed through the organ in front of the site selected for the loop, so as to prevent slipping of the wire. Bryant, who has had an extensive experience in this operation, recommends a twisted wire rather than a large one. There is some reason to believe that the heat tends, moreover, to destroy (in the case of cancerous growths) the germs of the disease which might elude the knife.

General Rules governing Electro-Therapeutics.

Before we pass to the consideration of special methods of employing electricity in the treatment of disease, it seems

to me advisable to suggest a few rules which may possibly aid you in deciding where and how to direct your treatment in any special case. There are, of course, some exceptions to each of these rules; but they are, nevertheless, sufficiently accurate to be used as guides in your practice:

1. Soak your electrodes in a weak solution of table-salt, not in simple water. This diminishes the resistance afforded by the skin at least fifty per cent.

2. Always press your electrode firmly and evenly against the part which it touches. This renders the current employed an even one to the patient and assists in its conduction.

3. Put a milliampère-meter or a galvanometer, as well as the body of your patient, into circuit, and record all your observations, respecting the current-strength employed, from its scale. It is neither scientific nor accurate to simply record the number of cells employed. Cells grow weak by long-continued use, by polarization, and other causes. In case a faradaic instrument is employed, a galvanometer is useless; hence you should record the number either of centimetres or inches of the primary or secondary coil employed.

4. Always endeavor to apply one of the poles to the part which is diseased. The plates which I show you indicate the situation of the "motor points" of the head, trunk, and extremities. Such plates will enable you to direct your treatment to any special nerve or muscle.

5. Acquire, by frequent experimentation upon yourself, a knowledge of the effects of different current-strengths, the situation of most of the more important nerve-trunks, the formulæ of contraction of healthy nerve and muscle, and all other information necessary to the use of electricity in medicine.

6. Never use too strong a current upon a patient at the first sitting. It may frighten him, and he may never return. It is always best to begin with weak currents; in the majority of cases weak currents are indicated rather than strong ones.

7. If you have no galvanometer, the intensity of a galvanic current can be approximately determined by the burning sensation produced in the skin by the electrodes when they are applied to it.

8. The "pecu method" is more painful when the faradaic current is employed than when the galvanic current is used. It is not well to separate the poles of a faradaic machine too widely; pain is intensified, and no special benefit is gained by so doing. Remember that the faradaic current has no fixed polarity. A galvanometer will record the difference between the current produced by the "make" and "break" of the circuit only; hence it is of no value in determining the intensity of the faradaic current actually administered to a patient.

9. The "pecu method" is absolutely requisite to electrodiagnosis when the galvanic reactions of nerve or muscle are being tested. It constitutes the best method also of administering the galvanic current for therapeutical purposes, because it is usually important that the anode or cathode exert its special influence upon the part diseased. The further apart you place the poles, the less is the effect of the indifferent or neutral pole upon the part which you wish chiefly to influence.

Although clinical experience seems to prove that we obtain different results in the majority of cases by employing the anode or cathode upon the part to be influenced, I am inclined to question the correctness of the view that those effects are in any way dependent upon the direction of the transmitted current. We know that it is not possible to transmit an electric current in any one direction by means of animal tissues. Every current becomes diffused to a greater or less extent, as is illustrated in diagrams prepared by Erb and other authors upon electro-therapeutics. It is probably more correct to view the special effects obtained by employing the positive and negative poles of a galvanic battery as the effects of the poles themselves, rather than the result of the direction of the current.

10. Remember that the anode or positive pole of a galvanic battery is the sedative pole, and the cathode or negative pole is the stimulating or irritating pole. When the cathode is made the indifferent pole, it is well to use a very large electrode.

11. Do not change the polarity of a current during its application to a patient any oftener than circumstances demand. As a rule, it is unnecessary to do so at all. It causes unnecessary irritation, which should always be avoided. In the treatment of neuralgia, diseased conditions of the brain or spinal cord, and painful points, it should never be done without some special reason. It is positively contra-indicated when catalytic effects are desired.

12. When galvanic currents to the head are indicated (especially if the current is to be sent through the brain), employ only those of moderate intensity (save in exceptional cases), and do not reverse the current unless there is good reason for so doing. When you read about thirty-cell currents being sent through the brain, it is safe to suppose that the battery was not of the most active kind, or that the ability of the patient to endure such a current was very exceptional. It is rare to meet with a patient who can tolerate a current of more than from three to six milliampères through the brain, and it is not safe to break currents of high intensity when employed about the head.

13. Static electricity will sometimes produce muscular contractions when faradaic currents will not. In hysterical conditions, some of the spasmodic diseases, sciatica, and organic spinal affections, it is well to try this form of electricity when galvanism fails to afford relief.

14. Respecting the duration of individual applications of electricity in its various forms, my experience teaches me that short sittings accomplish as much, and often more, than long ones. I seldom exceed five or six minutes, unless I am endeavoring to induce catalytic action, to benefit chronic articular rheumatism, etc.; or when I am employing general faradization, general galvanization, central galvanization, electrolysis, the galvano-cautery, or other procedures which require a longer sitting. Frequently, thirty seconds to two minutes is all that is required when some particular part of the body is alone to be galvanized or faradized.

15. It is impossible to lay down any rule which will

guide you in determining the frequency of the applications required by any individual case. It is seldom necessary to employ this agent oftener than every day, and three sittings a week will suffice in the majority of cases. If the disease is of a chronic type, it is often advisable to occasionally discontinue treatment for a few weeks, and then to renew it with vigor. Experience has taught me that the effects of electricity are more vigorous after such intermissions. It is often well to change from galvanic to faradaic, and again to static, currents, from time to time, in the treatment of obstinate diseases which fail to progress satisfactorily.

16. I would advise you to be persistent in employing this agent when your judgment tells you that it is advisable to begin it. Many of the chronic forms of cerebral and spinal diseases are materially benefited and often completely cured by a proper course of electrical treatment which has been followed, with occasional intermissions, for some months during each year for several years.

17. As adjuncts to a course of electrical treatment, you will find massage, baths of various kinds, a change of climate, enforced rest in bed, and judicious internal medication, indicated in special cases. Delicate subjects, who suffer from neurasthenia, hysteria, persistent neuralgias, mental depression, sleeplessness, morbid fears, excessive "nervousness," rapid or extreme emaciation, profuse and persistent sweating of the palms or feet, dyspeptic symptoms, and the thousand other manifestations of debility, are especially benefited by these adjuncts to a judicious use of electricity.

18. When simple excitation of motor or sensory nerves is demanded, the faradaic or static current is the best one to employ.

19. As a counter-irritant, and in the treatment of anæsthesia, dry faradization with a wire brush excels all other electrical applications, unless it be the use of static electricity.

20. In spasmodic diseases, in neuralgia, and other like conditions, galvanism and static electricity are alone of material service.

21. Interrupted galvanic currents are of service when muscular contractions of a forcible character are desired. When degeneration of a nerve exists, these can not be produced by the faradaic current.

22. The size of the electrodes modifies the density of the current directly. When large, the current is less dense because it is more diffused. The cathode should, as a rule, be larger than the anode when electrical applications are being made.

Original Communications.

INTUBATION OF THE LARYNX.

By JOSEPH O'DWYER, M. D.

It was not my intention to publish anything in relation to my method of tubing the larynx in croup and kindred diseases until I had brought my instruments to a greater degree of perfection than I can claim for them at present, but, as several references to this subject have appeared in the journals and reports before medical societies, I have concluded to give the profession a brief account of the progress I have made, with a description of the instruments and the method of using them.

At the time I began my experiments, almost five years ago, and for more than a year subsequently, I was unaware of Bouchut's similar attempt and failure in 1858. His abandonment of any further experiments after such a limited trial as seven cases of croup, treated with very imperfect instruments, must be attributed solely to Trousseau's unqualified condemnation, in his report on this subject to the Paris Academy of Medicine, soon after the publication of Bouchut's cases. Trousseau was at that time strongly advocating the operation of tracheotomy, and, from the brief reports on this subject that I have read, it does not appear that he ever tried tubage of the glottis himself or witnessed its trial by others, but condemned it on purely theoretical grounds.

Bouchut in his experiments used a short cylindrical tube, introduced into the larynx on the end of a hollow sound, to which a thread was left attached and brought out through the mouth, for the purpose of removal. It is reported as having produced an extreme amount of irritation, in some cases necessitating its prompt withdrawal, but, notwithstanding the great lack of conformity between the shape of the tube and that of the rima glottidis, I am convinced from my own experiments that the greater part of this irritation was produced by the constant contact of the silken thread with the epiglottis and base of the tongue. Even in my earliest experiments, and with the imperfect tubes I was then using, I did not encounter any such marked irritation, but, on the contrary, was surprised at the tolerance displayed by the larynx for this kind of foreign body.

In attempting to construct a tube for the larynx, the first serious difficulty encountered was how to make it self-retaining. I could think of nothing more likely to accomplish this result than having it arranged in the form of a bivalve, similar to the bivalve speculum but elliptical in shape, with a narrow transverse diameter and having a shoulder to prevent its slipping into the trachea. This cannula was so constructed that, while being introduced, the blades were approximated and opened as soon as detached from the introducing instrument.

I will not enter into any details concerning my numerous experiments with various modifications of this instrument, except to state that it was always retained and gave prompt but transient relief to the dyspnœa, a return of which was due to intrusion of the swollen mucous membrane between the blades in the infraglottic division of the larynx.

My next trial was made with plain tubes, also elliptical in shape and about one inch long. The reason for having them so short was the belief that longer ones would be difficult to introduce. My first experience with these was in an infant aged two months and twenty four days, in the suffocative stage of diphtheritic croup. Immediate relief to the dyspnœa, which was extreme, and a refreshing sleep,

followed the introduction of the tube. During the succeeding seventeen hours that it lived, most of which time was passed in sleep, almost a pint of milk was taken through a nursing-bottle. Death took place without any appearance of suffering.

The second case was that of a little girl aged three years and a half, in the service of Dr. J. Lewis Smith at the New York Foundling Asylum, suffering from the most urgent dyspnœa due to the same cause. In the presence of Dr. Smith and Dr. Blodget I introduced a tube with prompt and permanent relief. I removed it on the fourth day, but was obliged to reinsert it at the end of five hours, owing to a return of the obstruction. During an attack of coughing it was expelled on the seventh day, and, although the cough continued croupy for several days, with considerable dyspnœa at times, it was not found necessary to insert the tube again. She made a rapid recovery, with complete restoration of the voice. For the seven days this little patient retained the tube in her larynx she not only made known her wants in a very audible whisper, but kept up an almost continuous chatter with her attendants, the best possible proof that the irritation produced was not great. She swallowed fluids, such as milk, with considerable difficulty, usually coughing after each deglutition, but solids and semi-solids with comparative ease.

From the foregoing cases I was led to hope that these tubes would prove self-retaining without further modification, but in the next case, that of a boy aged four years, a tube of suitable size was expelled almost immediately; a larger followed the same course; the largest size I had, which was much too large for this age, was finally retained. Dyspnœa returned within twenty-four hours, and death took place with apparently as much suffering as if no tube had been used.

At the autopsy, the lower end of the cannula, which extended only into the narrow upper portion of the trachea where the latter unites with the infraglottic division of the larynx, was found obstructed by a thick deposit of pseudo-membrane, considerable of which also existed in the bronchi.

This case proved the necessity for longer tubes, and I procured a set, the largest of which was one inch and a half long, and the smaller somewhat shorter. As these were not retained any better than the former, and I was convinced that still longer ones could be introduced, I ordered a set the smallest of which was one inch and three quarters, and the largest three inches in length. They were constructed in accordance with a large number of measurements of the trachea at different ages, and would reach within half an inch or less of the bifurcation, thus overcoming obstruction in the trachea as well as the larynx. I also entertained the hope that the increased length would prove an important factor in preventing their expulsion, but had serious doubts about the possibility of introducing them. By having the curve on the introducing instrument very short, I experienced no more difficulty in passing these into the larynx than the much shorter ones previously used. In some cases they were retained, but in the majority were promptly coughed out.

The next attempt at overcoming this difficulty was the addition of a wedge-shaped piece of metal to the lateral aspect of the same tubes, half an inch from the upper extremity, with the thick end looking upward, which was intended to hold beneath the vocal cords. This accomplished the desired result, but at the same time retained them so firmly that their removal was rendered very difficult, and, as this would prove an insuperable objection, it was abandoned after a brief trial.

The tubes I am using at the present time differ in every respect, except length and caliber, from any heretofore tried. In order to give greater freedom of action to the epiglottis in protecting the aperture of the tube during the act of swallowing, I have given the upper extremities of these a slight posterior curve, with some degree of obliquity from before backward and upward, and, from my limited experience with them, deglutition is certainly less difficult than with the straight ones formerly used. But, as the epiglottis is only an accessory to the closure of the larynx, and the other more important factor, the action of its constrictor muscles, is prevented by the presence of the cannula, it is evident that the deglutition of fluids can never be perfect with any form of tube in the glottis.

The device adopted for preventing their expulsion consists in increasing the narrow transverse diameter about the center, without changing the caliber, so as to make the tube at this point almost cylindrical, and gradually inclining upward and downward somewhat in the shape of a double wedge. In the few cases in which I have used this modification it has proved self-retaining, and, should it continue to do so on a more extended trial, I believe there will be very little scope for further improvement, except, possibly, to increase the length so that it will reach still closer to the bifurcation, which would be of doubtful utility, as, after a very considerable experience in the dead-house, I have never yet found an exudation thick enough to produce obstruction in the lowest and widest portion of the trachea without at the same time having extensively invaded the bronchial tubes.

As all my work, up to a very recent period, has been of a purely experimental character, and as I am not prepared even now to say that further modification of these tubes may not be necessary in order to make them absolutely self-retaining, without which they would not be available for general use, I will leave all considerations as to the value of this method of treating croup and other acute stenoses of the larynx to be determined by a more extended trial in the future. At the same time I will venture the prediction that in the near future it will be recognized by the profession as a legitimate and valuable method of overcoming obstructions in the upper air-passages with a rapidity by no other means obtainable.

I believe these tubes will also prove valuable as dilators in chronic stenoses of the larynx or trachea, and particularly in those cases following tracheotomy where it is found impossible to dispense with the tube. Not having had any experience with such, I can give no facts as to the length of time a tube can be worn without injury; but some valuable inferences may be drawn from the time it has been retained

in acute stenosis. For instance, in two of my cases of diphtheritic croup that ended in recovery, the cannula was worn in each for the space of ten days without the slightest impairment of the vocal apparatus, and from this it is reasonable to infer that it would be tolerated in the healthy larynx for a much longer period, and probably, if worn intermittingly, for an indefinite period.

The following is the method of introducing the tube, which is done without the use of an anæsthetic: The child is held upright in the arms of a nurse and the gag inserted in the left angle of the mouth, well back between the teeth, and opened widely; an assistant holds the head, thrown somewhat backward, while the operator inserts the index-finger of the left hand to elevate the epiglottis and direct the tube into the larynx. The handle of the introducing instrument is held close to the patient's chest in the beginning of the operation, and rapidly elevated as the cannula approaches the glottis. As soon as the obturator is removed, and it is ascertained with certainty that the tube is in the larynx, the thread which is attached for the purpose of removal, should it be found to have passed into the œsophagus, is withdrawn, but at the same time the finger is kept in contact with the tube to prevent its being also withdrawn.

Its removal is accomplished in a similar manner; but, as it is difficult, on account of the struggling of the child, to guide the extracting instrument into the narrow aperture of the tube, I prefer to give an anæsthetic for this purpose.

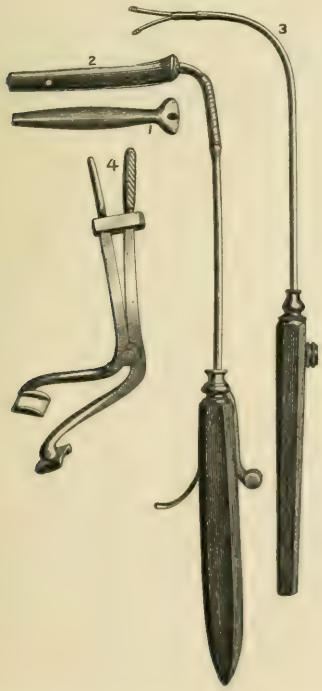


Fig. 1 gives an anterior view of the tube; Fig. 2, a lateral view of the same attached to the introducing instrument; Fig. 3 shows the extracting instrument; Fig. 4, the mouth gag.

Dr. J. Lewis Smith, in an article on croup, in the April number of the "American Journal of the Medical Sciences," speaks of tubage of the glottis in a manner that would lead his readers to infer that it was a well-recognized operation with which the profession was quite familiar. The only previous attempt ever made to tube the larynx (excluding the use of catheters and long tubes of every kind) with which I am acquainted was Bouchut's, previously referred to, the only result of which was to deter others from trying similar experiments. Dr. Smith's familiarity with this subject, no doubt, arose from our association at the New York Foundling Asylum, where my experiments were almost exclusively conducted.

There are several important points in connection with this subject the consideration of which I shall have to defer to some future time.

The manufacturer of these instruments is H. Keller, of 106 West Thirty-seventh Street.

ON CERTAIN

VASO-MOTOR DISTURBANCES OF THE NASAL MEMBRANE.*

By WILLIAM C. GLASGOW, M. D.,

ST. LOUIS.

For a number of years my attention has been attracted by a series of cases which could not be explained by the well-known factors of inflammatory process. Resembling them in some particulars, still there are differences which necessitate an additional and independent influence for their production. The laws of vaso-motor action, although still imperfectly developed, would seem to explain them, and the success attending the use of therapeutic agents would seem to verify it. During the last few years the subject of vaso-motor disturbances of the nasal membrane has been very fully developed by several members of this society, and especially by Dr. Mackenzie, of Baltimore, Dr. Roe and Dr. Daly, and our co-laborer, Hack, of Freyburg. I find, however, that my experience of these cases has been somewhat different from that of my *confrères*, and I would aim in this paper to record my views and the conclusions which they would seem to justify. For a number of years my attention has been attracted by a series of cases characterized by great swelling, more especially of the cavernous tissue, a profuse discharge of limpid fluid, and abnormal paleness of the mucous membrane. Formerly, when they occurred during the summer months, I was content to consider them as modified types of so-called hay fever. When, however, I found they occurred during the year irrespective of seasons, I became convinced that there was a different agency from that then recognized as an essential factor in hay fever, *i. e.*, the pollen of Wyman, Blakley, and Phoebus. Dr. Beard's work first attracted my attention to the possibility of a new-

* Read before the American Laryngological Association June 24, 1885.

rosis being the chief factor in the disturbance, and gave me my first ideas of what I considered to be the true theory of these cases. Considering the so-called hay fever to be a functional disorder of the nervous system, in which the over-sensitiveness of the nasal mucous membrane occurs, and producing through this certain well-known reflex symptoms and disturbances of the normal vaso-motor action, I can still consider these cases as closely allied, both in ætiology and mechanism, with the so-called cases of hay fever. From a number of cases I have selected three, showing the distinct and different types of nasal disturbance. I would eliminate from consideration another class of cases in which we find neuralgia, especially orbital, supra-orbital, and frontal, occurring as a result of subacute rhinitis; although having many of the pathological conditions found in Case II, still there is wanting the primary neurotic element capable of producing the vaso-motor disturbance.

Case I.—I. W., an Englishman, a merchant, forty-five years of age, was brought to me for consultation by his physician. He was of stout build, somewhat florid, and had been generally healthy. He was suffering acutely with a neuralgia of the superior maxillary nerve of the left side, and complained of great obstruction, with a profuse flow of a clear watery fluid from the left nostril. He stated that this had only commenced with the neuralgia, and had been constant. On examination, the left nostril was found occluded by a swelling of the cavernous tissue; the mucous membrane was colorless in appearance, and seemed to be saturated with moisture which constantly oozed from its surface. The touch of the probe produced instantly an increase of the swelling and an increase of the discharge of the limpid fluid. The right nostril was normal and unobstructed. He was treated by his physician for the neuralgia, and received no local treatment. With the subsidence of the neuralgia the nasal disturbance disappeared.

Case II.—Mrs. P., thirty-two years of age, well developed, healthy, of a nervous temperament, and inclined to hysterical attacks. Has had three children; married eight years. Three years ago she noticed a nasal trouble for the first time, although for many years she had been suffering with follicular pharyngo-laryngitis and naso-pharyngitis. Her first attack occurred during pregnancy, and has been repeated at irregular intervals about four times a year. There is no special dependence upon atmospheric conditions. The attacks usually occur at the beginning or at the close of the menstrual epoch. The first symptom is a violent sneezing, occurring in paroxysms, with a profuse watery discharge from the right nostril. This is soon followed by an intensely painful spot in the right nostril, and by neuralgic pains radiating to the eye and the frontal regions. Congestion of the conjunctiva, lachrymation, and ptosis of the right lid soon follow. The right nostril becomes completely closed, especially toward evening, and there is generally accentuation of all the symptoms. The attack is accompanied by slight fever, with general lassitude and loss of appetite. There is also increase of the general arterial tension, as shown by the pulse and pronounced accentuation of the second sounds of the heart. About the third day a plug begins to form in the nostril, which completely prevents the passage of air. The plug is of a dense structure. It is elastic and solid, and resembles no other nasal secretion that I have seen. It resembles somewhat a piece of rubber, and the elasticity is well marked on touching it. The nostril is now completely occluded by the swollen membrane and the plug, and the probe can only be passed by force. With the removal of the plug relief is given. The walls become less swollen and the nostril opens. During the next twelve hours another plug forms, and we find a renewal of the same symptoms, only in a moderated form. Without treatment this condition lasts ten days, with paroxysms varying in intensity and gradually diminishing toward the end. The nostril is then found in the normal condition, which is that of hypertrophic rhinitis. During the attack the mucous membrane is swollen and œdematous, pouring out quantities of limpid fluid. It is of a pale red, the pallor being in marked contrast to the color of the other nostril. It shows complete occlusion of the nostril, and it is exquisitely sensitive. The slightest contact of the probe causes increased swelling and profuse discharge, with violent paroxysms of sneezing; intense pain is felt radiating from the nose to the orbital and supra-orbital region, and immediate congestion of the conjunctiva is produced. Relief of this condition is most marked by bleeding the opposite nostril. The slightest touch of the knife produces a free hæmorrhage. The touch of the knife to the affected membrane increases the symptoms, and little blood is obtained unless the puncture is deep into the cavernous body. The blood is always pale and watery. The bleeding is then followed by the use of the hot alkaline sprays. By these means the swelling is reduced and the plug can then be blown out. I have also found the insufflation of the vapor of ether to have a very happy effect in promptly reducing the swelling and drying up the mucous membrane; the nitrite of amyl has also produced good effects.

Case III.—Miss S., thirty years of age, healthy, in excellent general condition. Has periodical attacks in the spring and fall of what she calls acute catarrh. When I saw her in March she complained of great obstruction of the nostril, and profuse watery discharge of both nostrils. On examination, both nostrils were found to be occluded by swelling of the cavernous bodies, the mucous membrane œdematous, of a pale color. A watery secretion seemed to be oozing from the mucous membrane and the discharge was profuse. The touch of the probe increased the swelling and the discharge, but produced no pain. A deep puncture in the cavernous body produced a slight hæmorrhage, the blood being very pale and watery. This always opens the nostril. Insufflation of the vapor of ether gave a certain amount of relief. The instillation of atropine into the nostril was also beneficial, as well as inhalations of camphor. These attacks would last about two weeks, and were always shortened by treatment, and the nostril would be left in a normal condition. In this case I found great benefit in the external use, in the shape of liniments, of the camphor chloral, aconite, and veratrine. This liniment was applied to the course of the fifth nerve and over the nose.

These three cases, although resembling each other in some respects, will be seen to be essentially different. In Case I we see the effect on the mucous membrane, the irritation being applied to the body of the nerve. In Case II we notice the effect produced by the irritant being within the nasal cavity in a case complicated by inflammation of the membrane. We find added to the original symptoms extreme sensitiveness and the tender spot with acute pain. The presence of the plug causes a swelling of the cavernous bodies, the swelling only subsiding on its removal. Case III is to me obscure. I have seen several such cases, some of them absolutely resisting all treatment for the reduction of the swelling. It may be due to some derangement of the vaso-motor centers, or some irritation within the nasal canal which has been overlooked. In the three cases, and in all of

this character which I have seen, there are found the three factors of great swelling of the cavernous bodies, abnormal paleness of the mucous membrane, and profuse discharge of the limpid fluid. And in all these cases these symptoms are aggravated by the application of an irritant to the affected membrane. These conditions I will consider to be due to disturbed nerve action, probably altered tone in the minute arterioles, produced by derangement of vaso-motor control. The mechanism which causes the swollen and œdematous tissue, the pale color of the membrane, and the profuse discharge must be explained simply on theoretical grounds; and, in the present state of our knowledge of vaso-motor action, it must certainly still remain problematical. Are the cavernous bodies congested, as has been asserted? Congestion presupposes a dilatation of the blood-vessels, with increased supply of normal blood. Under such conditions we shall find, not pallor, but increased redness. The prominent feature, however, in these cases is pronounced paleness, and this, in my opinion, disproves the possibility of dilatation of the blood-vessels. I would rather assume the opposite condition to exist—a contraction of the arterioles, due to an increased tone of the vessels caused by an augmented action of the vaso-constrictors. In short, the minute vessels supplying the arteries are in a state of spasm through nerve irritation, the general arterial tension is increased, the onward flow of the more solid portions of the blood is prevented, and the cavernous bodies of the mucous membrane become infiltrated with escaping white corpuscles and the liquor sanguinis. To these must be added the liquefaction and the increase of the glandular secretion, as the result of gland stimulation. The theory of spasm of the arterioles is supported by the favorable action of remedies which favor arterial dilatation—such as atropine and nitrite of amyl. In the present state of the knowledge of the laws of vaso-motor control it certainly is hazardous to base a theory on such laws. But the conditions existing in the nasal cavity seem to me to be explained solely by this means. I firmly believe that, whenever the laws governing the vaso-motor system shall be more thoroughly developed, we shall find more of the functional disturbances of the body to be due to disturbed vaso-motor action than is generally believed.

DISCUSSION.

Dr. Roe.—The subject of neurosis of the nasal membrane is certainly a very extensive one, and there are so many different factors which enter into the consideration of the subject, that many times the cause and effect are not properly differentiated. In many cases the nose is the objective cause, and in many cases, no doubt, the subjective cause. There is no reason why the nose may not be affected in a subjective manner, from irritations in other parts of the body, reflected through the sympathetic system, as well as the larynx or other portions of the body. But in the great majority of cases we find the nose to be the primary seat of the reflex irritations. As an illustration of this I will cite a case in point. Last summer, about a year ago, a gentleman came to me with a moderate naso-pharyngeal catarrh. In addition to his throat trouble he had marked pain in his chest, which caused him great anxiety. He suspected that he had a pulmonary difficulty. Careful examination of his chest revealed no trouble whatever. But in his nose there was, in addition to inflammatory trouble, an exostosis of the inferior turbinated bone, which came in contact with the septum. I advised him to have that removed, as the pain might be a reflected one, and as we are often surprised by the great amount of trouble which is reflected from the nose, and also as necessary in the cure of the nasal affection. He consented to the removal, after which, within an hour or two, the pain in his chest disappeared.

Dr. Robertson.—I have noticed in a large number of cases, in subjects of hay fever, this peculiar paleness of the mucous membrane. I think the case just related would naturally come under that subject—*i. e.*, that peculiar condition of the mucous membrane which is due to an irritation of the nervous system. I have such a case in mind who, I consider, had chronic hay fever. She would have paroxysms of sneezing and discharge of watery fluid from the nose. The peculiar paleness of the mucous membrane and the usual hyperæsthesia of the membrane were very marked. The attacks were frequent. They came on during the summer, fall, or winter, but were undoubtedly of nervous origin, because, with any mental disturbance, from going to a party, or to school, she would sneeze twenty or thirty times, and then the watery discharges would take place. This case was treated with spray and with a preparation of eucalyptol, with relief for a few days. I have noticed a number of cases of hay fever in which this condition of the pallidity of the mucous membrane and these peculiar watery secretions were very marked. As far as swelling of the membrane is concerned, it frequently occurs during the early stages of the disease, but gradually subsides. I believe it due to a swelling of the cavernous portions of the turbinated bodies, with contraction of the membrane itself. There might be contraction of the arterioles and capillary blood-vessels of the skin, and still directly underneath the skin, congestion. In the turbinated bodies this would only occur in conditions of disturbance of the vaso-motor system.

Dr. Mackenzie.—I do not propose to reiterate on this occasion all that I have said and written on the subject of which Dr. Glasgow treats; but there is one point in regard to the pallor of the mucous membrane, which is a good one, to which my attention has not been directed before. On the contrary, I have found in my experience that the opposite condition is the most prevalent one. I think with the cases which Dr. Glasgow has described you will allow me to include a number of so-called hay fever, and of these some to which I have ventured to give the name of sympathetic rhinitis. In its pathology two factors enter. The peculiar irritability of the tissue of the nose may be due to different causes: either from some local pathological process, or from a host of other peripheral influences, or from some irritation starting in the nervous centers, or possibly due to some disease of the nervous system as a whole, or from some reflex irritation from its various parts, or, finally, from some disease of a distant organ. In one of my papers on vaso-motor coryza I have called attention to the purely psychical element in the production of the paroxysms. Lately I saw a lady who had been suffering for over fifteen years with certain forms of so-called hay fever. The paroxysms were so violent that she was compelled to take to her bed and remain there in great suffering until it was over. It was unquestionably a case of so-called rose cold. She could not go into a room where roses were without bringing on an attack. She was not insane in the ordinary acceptation of that term, but was not, however, hysterical. I had a perfect artificial rose constructed, of such exquisite workmanship that it was the exact counterpart of the original. I carefully kept this in a clean place in my office behind a screen, and when she was expected I carefully removed every particle of dust from it by a thorough washing. Several days before I had used the galvano-cautery, and when she came

to my office that morning she said she had never suffered so little during the past fifteen years as during the three days prior to coming to my office. After she had been in my office over a quarter of an hour I produced the artificial rose, and, sitting down in front of her, dangled it in my hand, at the same time conversing on some topic foreign to her case. In less than a minute she said she would sneeze. In less than two minutes she had intense itching at the nose, and in less than four minutes from the time I produced the rose from behind the screen the symptoms of asthma had commenced. As soon as the difficulty in breathing had commenced, I removed the rose and told her it was an artificial rose, and her astonishment was of course very great. Four days afterward she came to my office. I produced the most perfect specimen of a real rose, into the center of which I plunged her nose and kept it there a long time. I tried to get all the pollen I could in her nasal chambers, and I think I was fairly successful. I kept it there for about five minutes without exciting the slightest tendency to the so-called rose cold. On the day on which I performed the experiment with the artificial rose she entered my office apparently a well woman, and left it with one of the severest coryzas she ever had. The pallor of the mucous membrane is a point of extreme interest, and worthy of our future consideration.

Dr. Harrison Allen.—I saw a case last winter which illustrated the point taken by Dr. Glasgow. A lady, the subject of Bright's disease, suffered from intense irritation of the nasal chambers, accompanied with absolute occlusion. The condition was undoubtedly due to a constitutional cause, and yielded to general remedies.

Dr. Rice.—I have been pleased with Dr. Glasgow's classification of these cases, for there certainly is great difference in the pathological appearances presented. In some we find all the color of inflammation, and in others the pallor which has been mentioned. In hay fever the inflammatory condition enters more largely than in these so-called "neurotic cases" which Dr. Glasgow has spoken of, the redness and swelling in one case being due to dilatation of the arterioles, while the white, boggy enlargement is caused by the transudation of serum, the capillaries being contracted. I have noticed the different action of cocaine upon these two classes, and it may be made a means of differential diagnosis. In simple inflammatory hypertrophies of the nose we know that the swelling is instantly and completely reduced when cocaine is applied; but in the white swellings little effect is produced in causing absorption of serum.

Dr. Glasgow.—I think the point that the irritation of the cavernous tissue is the primary one is not valid. The swelling is simply the effect, and due to irritation. In the first case I reported we had a beautiful illustration of disturbance without an inflammatory condition. There was profound pallor, such as I have never seen, except in the cadaver. Now, here irritation was increased, and the swelling of the cavernous tissue was simply the effect of this disturbed nerve action. In the second case there was a swelling of the cavernous tissue, due to this same cause. Call it vaso-motor or not, it is a disturbed action due to irritation in the nostril. Remove the plug, and you immediately remove the swelling; so that the swelling could not have been primary, but a secondary effect of the primary nerve irritation. Dr. Mackenzie also beautifully illustrates this fact in his nose experiment. I am a profound believer in this mental influence; but I neglected to mention in my case that the lady could intensify her colds by thinking about them. If she had any little annoyance during the day, toward evening her trouble would be greatly intensified.

The University of Vermont.—Dr. L. M. Bingham, of Burlington, has been appointed Professor of surgery, succeeding the late Dr. J. L. Little.

TWO CASES OF UNILATERAL TEMPORAL HEMIANOPSIA.*

By CHARLES STEDMAN BULL, M. D.,

LECTURER ON OPHTHALMOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

Case I.—*Unilateral Temporal Hemianopsia, with Central Scotoma of the Other Eye.*—Colonel A. D. N., aged sixty-six, a retired officer of the army, was first seen by me on June 28, 1884, and told the following history: In the summer of 1849, while at one of the Government posts on our western frontier, he was struck by lightning as he was standing at the door of his tent. He fell to the ground and remained unconscious for several hours. When he regained his senses, he discovered that he was blind in both eyes; but this condition rapidly improved, so that at the end of a few days he had regained his sight, and in a short space of time had the perfect possession of all his faculties. He remained perfectly well in every respect till 1857, nearly eight years later, when the muscles of the left thigh and leg began to atrophy, and almost simultaneously there appeared a sudden temporal hemianopsia of the right eye. The paresis and atrophy of the muscles of the left lower extremity slowly but steadily progressed till 1859, since which time there has been no change. There has been no change in the field or power of vision in the right eye since the hemianopsia first appeared. He walks with comparative ease, but the muscles of the left leg are markedly smaller than those of the opposite side, and he tires easily on walking. About six months before I saw him he noticed a central obscuration of vision of the left eye, which came on suddenly, and this scotoma has existed ever since, and he thinks has grown larger. He has never had rheumatism or syphilis, has no hypertrophy or valvular disease of the heart, and repeated and very careful examination of the urine has not been able to determine any signs of chronic degenerative nephritis. He has had intermittent fever of the congestive type several times severely, and during the past six months he has had several attacks of fainting, which have occurred without any warning. He has never been addicted to drinking, and for many years has not touched alcohol, but he has all his life chewed and smoked tobacco to excess. He was a man of fine physique, with snow-white hair, but with a rather feeble, cautious gait. On testing the vision, it was found in the right eye $= \frac{1}{6}\frac{5}{0}+$, with no vision on the temporal side of the median vertical plane of the eye. In the L. E., V $= \frac{6}{1}\frac{}{0}\frac{}{0}$ eccentrically. A very careful examination of the field of vision was then made, and repeated at each subsequent visit, but all the examinations gave the same result. In the R. E. there was entire loss of the temporal half of the field. In the L. E. there was concentric narrowing of the field and also a central scotoma, which was of an irregular oval in shape, with the long diameter of about 30° vertical, and the short diameter 20° horizontal. An ophthalmoscopic examination showed that the media were perfectly transparent, and oblique illumination proved that the iris was normal in color and reaction. Both optic discs were of a dirty grayish-white, and in the left eye the outline of the papilla was ill-defined and at places swollen, as is met with after a neuritis. In both discs there was a deep, overhung, almost glaucomatous excavation, with pulsating veins, but no pulsation in the arteries. In the L. E., in the region of the macula, was a large, irregular retinal hemorrhage, of the apparent size of two or three papillæ, with its long diameter vertical and of a different tint in different portions, showing that there had been several extravasations at different dates. The center was evidently the

* Read before the American Ophthalmological Society, July 15, 1885.

oldest in date, and the blood had been partially absorbed, giving here and there a glimpse of white sclera showing through an atrophied choroid. The rest of the fundus in both eyes varied but little from the normal in its appearance. The tests for color-blindness showed that in the L. E. the color-sense was defective for all but blue, while in the nasal half of the field of the R. E. it was normal though sluggish. The tension was normal in both eyes, Fig 1.

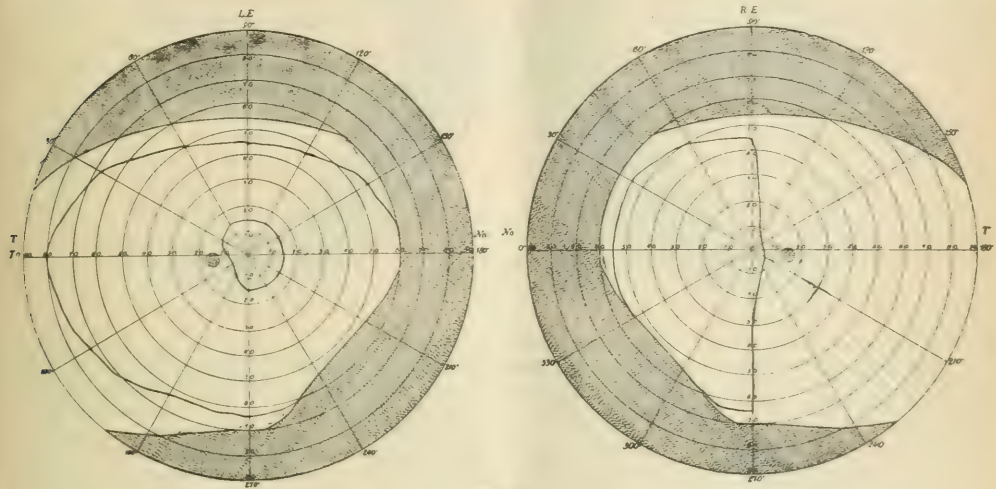


Fig. 1.

Between June 28, 1884, and March 24, 1885, I saw the patient at intervals of three or four weeks, but never discovered any change in the condition of the eyes. On the latter date he complained of seeing what he called a "ball of fire" at times in front of the L. E., of transient duration, which was always followed by a spiral or corkscrew appearance of light, which lasted some seconds. In testing his vision in L. E. at this date, I found that it had risen to $\frac{1}{3}\frac{5}{5}$ eccentrically in the nasal half of the field, but there was no change in the ophthalmoscopic appearances, except a gradual absorption of the extravasated blood in the region of the macula, and no recurrence of the hæmorrhage.

Case II.—*Unilateral Irregular Hemianopsia, with Concentric Limitation of the Field of Vision of the Same Eye.*—Mr. D. W., aged sixty, was first seen by me on March 27, 1885, and gave the following history: On Christmas-day, 1884, while standing on a street-crossing, he was knocked down and trampled upon by a horse. When picked up he was unconscious, and there was a large laceration of the scalp covering the frontal bone above the left eye. He was carried in an ambulance to his home, and, in the transit, regained his consciousness so that on arrival at his residence he got out with assistance and walked up stairs to his bedroom. He then again became unconscious, and remained either semi-comatose or delirious for

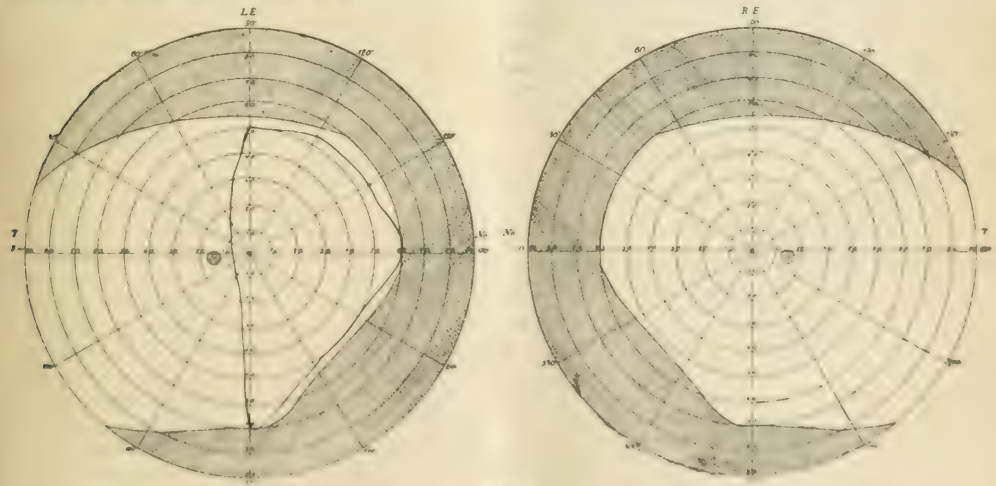


Fig. 2.

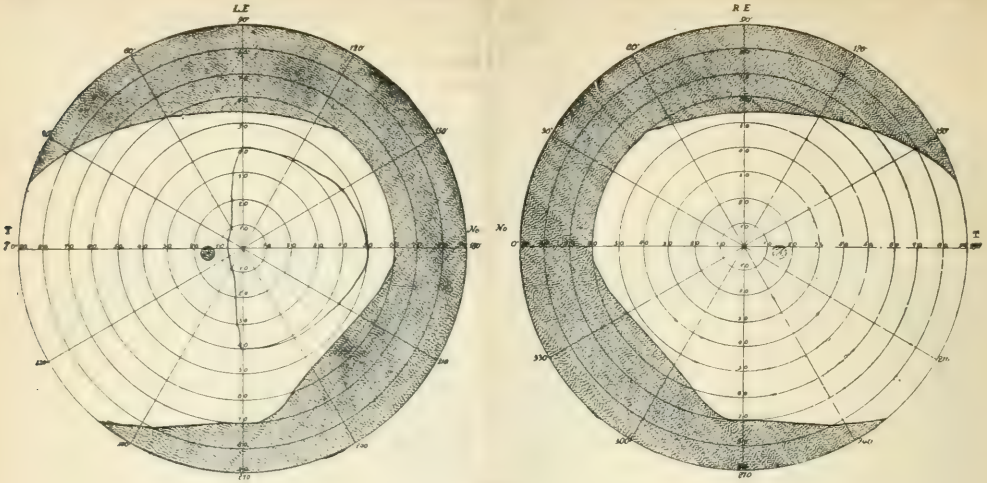


Fig. 3.

four weeks. There were also two ribs on the right side fractured at the time of the accident. An examination of the scalp-wound, which was of an irregular shape and about three inches long, showed that it ran from above, close to the hairy scalp, downward and inward toward the median line of the left eyebrow. Beneath this laceration was a depressed fracture of the skull of some considerable extent. The patient was not trephined, but was treated mainly on the expectant plan. Erysipelas of the scalp developed within the first week, beginning at the wound and extending all over the face and scalp. Both eyes were closed by the swelling of the eyelids, and this lasted for several weeks. When he regained complete consciousness, and the swelling of the eyelids had disappeared, he noticed that he could not see anything on his left side if the right eye were closed, and this condition remained unchanged till I saw him. In addition to the left temporal hemianopsia, he complained that, whenever he attempted to write, everything swam before him, but said that he could read with ease for any length of time without fatigue. He had always been hypermetropic, but had never worn glasses for distant vision. An examination showed V $= \frac{15}{70}+$ in *both eyes*, and with Sph. + D 2 $= \frac{15}{15}+$. He also read Sn. D = 0·25 at 10″ with Sph. + D 4. An examination of the field of vision showed that it was perfectly normal in the R. E.; but in the left eye there was a well marked, though somewhat irregular, temporal hemianopsia. The color perception was normal in the R. E., and normal in the perfect half of the field in the L. E. An ophthalmoscopic examination showed on the right side a normal hypermetropic eye, with clear media; but in the L. E. the opic disc was white, with clearly defined outlines, and the arteries were reduced in caliber. The tension was normal in both eyes. There was no tenderness on pressure over the seat of the fracture in the frontal bone, nor along the course of the supra-orbital nerve. On the contrary, the patient complained of a numbness along the course and distribution both of the supra-orbital and infra-orbital nerves ever since he became conscious of his own sensations. The patient was seen by me, at intervals of a few days, from March 27th to date, and there has been no change in any of the conditions, except a gradually increasing concentric limitation of the nasal half of the field of the left eye. His last visit was made on June 22d, at which time a careful examination was again made of the field, and his vision also tested. Figs. 2 and 3 show the condition of the field of the left eye at the date of his first visit, March 27th, and of his last visit, June 22d; the latter also shows the gradual concentric narrowing of the nasal half of the field. A possible explanation of the visual defect in this case may lie in an extension of the line of fracture from the frontal bone through the roof of the orbit, backward to the optic foramen, and a consequent injury to the fibers of the optic nerve, which are distributed to the nasal half of the retina. There seems to be but little doubt that the amblyopia is progressive, and that the pseudo-hemianopsia will end in complete amaurosis of one eye.

THE EFFECT OF COCAINE UPON THE HEALING OF WOUNDS.

By LUCIEN HOWE, M. D.,
BUFFALO.

The anæsthetic effect of cocaine upon the eye, already so well known, suggests an inquiry as to the influence it may also have on the healing of wounds. A considerable time must necessarily elapse before clinical experience can furnish sufficient data to warrant conclusions which are entirely reliable. Different individuals and the circumstances accompanying the operations vary so greatly that, in spite of the many cases already published in which cocaine has been used, only a series of those exactly similar would furnish an average for just comparison. In certain rather rare instances, it is true, the same operation is made on each eye of the same individual at the same time, and in these the effect of the drug can be tested. But such cases are by no means numerous. I have, therefore, endeavored to determine its influence upon the healing of wounds by producing equal lesions in both eyes of an animal, and then comparing the one treated with cocaine with the other, either left to itself or treated with atropine. The principal objects of this inquiry were to detect any unfavorable influence cocaine might exert upon such wounds by reason of the irri

tation produced, or of the effect upon the nerve supply. On the contrary, if its action was advantageous, it was important to determine what parts of the eye it affected, and if for the iris or any other portion it was as reliable as atropine. It is well to settle such questions as soon as possible after the discovery of an agent like this, whose anæsthetic properties naturally excite unguarded enthusiasm or too great confidence in a really valuable drug. Accordingly, in October last, in the laboratory of Professor Zuntz, in Berlin, I noted the healing process in wounds as follows:

Rupture of conjunctiva in one rabbit.
Rupture of conjunctiva in two Guinea-pigs.
Abrasion of corneal epithelium in two rabbits.
Abrasion of corneal epithelium in one Guinea-pig.
Abrasion of corneal epithelium in one cat.
Burn of conjunctiva and cornea in two rabbits.
Puncture of cornea in one cat.
Iridectomy, simple, in one rabbit.
Iridectomy, iris being left in wound, in two rabbits.
Iridectomy, iris left in wound, in three Guinea-pigs.
Traumatic cataract in three Guinea-pigs.

It would be unnecessary repetition to rehearse in detail the healing of each of these wounds, yet a few examples are not out of place illustrating not only the process of repair in general, but also the form of record kept in these cases. In these, the eye treated with cocaine is indicated by "C."; the other by "L." or "R.," as it happened to be left or right. For convenience, the amount of secretion in the conjunctiva, or the extent of swelling there or elsewhere, is indicated in degree—1 representing the minimum and 3 the maximum.

Guinea-pig.—Extensive tear in conjunctiva, reaching from outer to inner canthus.

Day	Eye.	Ciliary injection. Large.	Ciliary injection. Small.	Condition of wound. Degree of swelling.	Condition of wound.	Two-per-cent. solution used
1	C.	2	4	2	Closing.	5 times.
	L.	2	4	2	"	
2	C.	1	2	2	"	5 times.
	L.		3	2	"	
3	C.	1	1	2	Closed.	5 times.
	L.		2	2	"	
4	C.		2	1		5 times.
	L.		2	1		
5	C.		2	None.		5 times.
	L.		2	"		
6	C.	Normal.		"		
	L.	"		"		

Small White Rabbit.—Scrape off epithelium of cornea in each eye from a spot measuring two by two millimetres.

Day	Eye	Ciliary injection. Large	Ciliary injection. Small	Cornea.	No. of times 1-p.-c. sol'tion of cocaine was used
1	C	2	4	Epithelium partly renewed.	5
	L.	2	5	Epithelium entirely "	
2	C	2	4	Normal.	5
	L.	2	2	"	
3	C		2	"	
	L.	1	1	"	
4	C				
	L.				

Comparison of Cocaine with Atropine in the Healing of a Burn with Lime, involving Conjunctiva and Cornea of a Rabbit.—A sufficient amount of unslaked lime was placed on the upper half of the conjunctiva and cornea to produce an eschar on all the palpebral and ocular portions of the former, and also to whiten the latter over a space measuring five by six millimetres. Exactly the same was repeated in the other eye, and both were thoroughly washed with distilled water, to remove all remaining particles of lime. A two-per-cent. solution of cocaine was then dropped into the right, and one of atropine, of the same strength, into the left.

Day.	Eye.	Lids.	Conjunctiva. Swelling.	Conjunctiva. Secretion.	Ciliary injection. Large.	Ciliary injection. Small.	Opacity on cornea in mm.	Diam. of pupil in mm.	Application to each.
1	C.	Open.	3	3	10	13	5×5	5½	6 times.
	L.	H'f-open	3	3	12	9	5×6	8	
2	C.	Open.	2	2	9	10	5×4	5½	3 times.
	L.	H'f-open	3	3	10	9	6×6	8	
3	C.	Open.	1	1	9	8	3×2	7	5 times.
	L.	"	3	3	10	9	5×4	8	
4	C.				7	10	2×2	7	2 times.
	L.		3	2	8	11	4×3	9	
5	C.				2	8	2×2	6	3 times.
	L.		2	1	6	12	2×3	8	
6	C.				1	8	1×1	6	3 times.
	L.				4	10	2×2	8	
7	C.					4		6	3 times.
	L.				2	10	2×2	8	
8	C.					2		5	3 times.
	L.					6	2×2	7	
9	C.					1		5	3 times.
	L.					2	2×2	7	
10	C.							5	
	L.						2×2	8	

Small Cat.—Puncture anterior chamber of each eye, evacuating entirely the aqueous humor, and allowing iris to engage in the wound. Right meanwhile under the influence of cocaine, and subsequently treated with it.

Day.	Eye.	Conjunctiva.	Ciliary injection. Large.	Ciliary injection. Small.	Dull spot in cornea.	Wound.	2-per-cent. solution of cocaine.
1	C.	Normal.		5	2×2½ mm.	Closed.	9 times.
	L.	"	2	4	3×2½ mm.	Open.	
2	C.		1	3	As on	Closed.	5 times.
	L.			5	1st.	Opened.	
3	C.		1	3	"	Closed.	5 times.
	L.			5		Opened.	
4	C.			2	Barely	"	5 times.
	L.			5	visible.	"	
5	C.		Nor mal.		"	"	4 times.
	L.			5		"	
6	C.		Nor mal.		Normal.	"	4 times.
	L.		5		"		
7	C.		Nor mal.				3 times.
	L.			3			
8	C.		Nor mal.				3 times.
	L.			3			
9	C.						
	L.						
10	C.						
	L.						

Large Albino Rabbit.—Two-per-cent. solution of cocaine dropped into the right until conjunctiva and cornea were fully under its influence and pupil measured 009 millimetre in transverse diameter. An iridectomy was then made, and

the two ends of iris allowed to remain in the wound. Exactly the same operation was made on the left without cocaine, the corneal wounds, and pieces of iris removed from each, being as nearly as possible of precisely the same size.

Day.	Eye.	Conjunctiva.	Ciliary injection. Large.	Ciliary injection. Small.	Upper part of cornea.	Wound.	Anterior chamber.	Pupil. Size.	Iris.	2 per cent. solution of cocaine.
1	C.	Much swollen.	1	4	Dull.	Open. Iris prolapsed.	Blood in upper half.	mm. ·005	Swollen.	1
	L.	" "	2	3	"	" " "	" " half.	"	"	
2	C.	Less "	3	2	"	Closed. " "	" " quarter.	"	Less swollen.	2
	L.	" "	2	8	"	Open. " "	" " half.	"	"	
3	C.	Normal.	3	2	Clearer.	Closed. " "	" " eighth.	"	As on 2d.	2
	L.	"	4	6	Dull.	Open. " "	" " half.	"	" "	
4	C.		3	2	Still more clear.	Closed. " "	" " eighth.	·008	" "	4
	L.		4	6	Clearer.	" " "	" " half.	·005	" "	
5	C.		1	2	As on 4th.		Blood all absorbed.	"	Normal.	2
	L.		3	6	Still more clear.		Blood. Lymph in ¼.	"	As on 2d.	
6	C.		1	1	As on 4th.		As on 5th.	"	Normal.	2
	L.		2	3	" 5th.		" "	"	Still less swollen.	
7	C.			2	" 4th.			"	Normal.	2
	L.			4	" 5th.		" "	"	"	
8	C.			2	" 4th.			"	"	2
	L.			2	" 5th.		" "	"	"	
9	C.			1	Cicatrix only.			"	"	2
	L.			2	As on 5th.		" "	"	"	
10	C.				Cicatrix only.			"	"	2
	L.				" "		" "	"	"	

Large Brown Rabbit.—A linear wound at the cornea-scleral margin, six millimetres long, was made in the left, and the prolapsing iris allowed to remain. Exactly the same operation was made on the right. A piece of cotton was placed on each eye, that of the left being saturated with a two-per-cent. solution of cocaine, and that on the right with water only. In order that both might be kept moist, they were then covered with thin India-rubber, and the animal placed with his head resting easily, but firmly, so that the covering could not be scratched off.

Day.	Eye	Swelling of Conjunctiva.	Ciliary injection. Large.	Ciliary injection. Small.	Cornea.	Wound.	Anterior chamber.	Pupil. Size.	Pupil. Form.	Swelling of Iris.	Cocaine, 2 per cent.
1	C.	3	8	10	Dull above.	Open.	Small clot above.	mm 6	Regular.	3	10 times
	R.	3	8	10	"	"	Small clot above.	4	Irregular.	3	
2	C.	2	6	7	Clearer.	Closed.	Smaller.	6	Regular.	2	3 times.
	R.	3	7	8	Dull above.	"	"	4	Irregular.	3	
3	C.	Normal.	3	4	Clearer.	"	Clot barely visible.	6	Regular.	1	4 times.
	R.	2	6	8	"	"	As yesterday.	3	Irregular.	3	
4	C.	Normal.	2	4	Normal.	"	Normal.	6	Regular.	Normal.	3 times.
	R.		3	4	Almost normal.	"	As on 2d day.	4	Irregular.	2	
5	C.		1	2	Normal.	"	Normal.	6	Regular.	Normal.	3 times.
	R.		1	3	"	"	As on 2d day.	4	Irregular.	2	
6	C.		1	1	"	"	Normal.	6	Regular.	Normal.	3 times.
	R.		1	3	"	"	As on 2d day.	4	Irregular.	"	
8	C.			1	"	"	Normal.	6	Normal.	"	3 times.
	R.			3	"	"	Band of lymph.	4	Irregular.	"	
14	C.		Normal.		"	"	Normal.	Normal.			
	R.		Normal.		"	"	Band of lymph.	4	Irregular.		

No attempt has been made in any systematic manner to verify these experiments by a similar series upon the human subject. One is not justified in subjecting an eye recently operated upon for iridectomy, for example, to the manipulation, or even violence, which such an exact examination often demands, but the great majority of clinical experience thus far seems to be in perfect accord with the results reached by experiments upon the animals mentioned.

These conclusions may be briefly stated as follows:

1. In lesions of the conjunctiva, perfect solutions of the hydrochlorate of cocaine have no appreciable effect, beneficial or otherwise, upon the healing process. When the cocaine is imperfect, a slight additional hyperæmia is produced, which persists longer than in the other eye, but this is considered of no practical importance.

2. In lesions of the cornea it has a beneficial effect, like other mydriatics, but inferior to that of atropine. In imperfect solutions a perceptible abrasion of the epithelium is produced, and, though this is quickly renewed, the healing is thereby delayed by the cocaine.

3. In wounds of the iris the mydriatic action of cocaine is evident; but here again it is inferior to atropine, and is of little value in detaching firm synechiæ. Imperfect solutions, however, do not appear to hinder the healing process any more than when applied to the conjunctiva or cornea. Indeed, as strong mixtures possess decided antiseptic properties, they would seem to exert a favorable effect in this respect.

The Death of Prof. von Fehling, of Stuttgart, is announced in our European contemporaries. He was widely known as the originator of a ready method of testing for grape sugar in the urine by the use of what is everywhere known now as "Fehling's solution."

SYRUP OF HYDRIODIC ACID IN ACUTE INFLAMMATORY RHEUMATISM.

By JAMES CRAIG, M. D.,
JERSEY CITY, N. J.

In an article appearing in the New York "Medical Record," April 21, 1883, I speak of the manner in which I was led to the use of this syrup in cases of acute inflammatory rheumatism. The object of the present article is not merely to reiterate what was said in that publication, but to emphasize my entire faith in the efficacy of this treatment by the citation of cases of cure, and the statement that I have yet to find a case in which, the syrup being properly used, it has failed to meet my expectations.

Since the publication of my first article this method of treatment has been employed by a number of physicians with success, shortening the duration of the disease, relieving pain, reducing temperature, and in all cases leaving the patient without heart complications, the remedy preventing exudation and organization of plastic material. I order the syrup in from two- to three-teaspoonful doses, in a wine-glass of water, every two hours, lessening the dose as improvement takes place, and continuing the syrup for about a week or ten days after symptoms have disappeared, to insure recovery and prevent relapse.

The old method of treatment by the use of bicarbonate of potassium is slow, and its continued use brings about a depraved condition of the system by reducing the amount of fibrin in the blood and destroying the red corpuscles. It also acts as an irritant to the stomach, injuring the mucous membrane and causing loss of appetite. The depraved condition of the blood can be seen in the pale face, pallor of the lips, and enfeebled action of the heart, requiring weeks for the patient to recover from the disease and its treatment. Salicylic acid has had its day and has been found wanting, being replaced by some with oil of gaultheria—salicylic acid in another form.

This acid, from its difficult solubility, allows its crystals to irritate the throat and stomach, and, in some, occasions so much vomiting as to render its continued use impossible.

Syrup of hydriodic acid is a good remedy in sub-acute rheumatism also, but is not so prompt in its action as in cases of the acute form.

I have tried it in chronic rheumatism, but can not say that I have observed any good results. In some cases I use a lotion as follows:

℞ Liq. plumbi subacetatis..... ℥ ij;
Tincturæ arnicæ..... ℥ ij;
Aquæ puræ..... ℥ iv.

M. Sig. Add one part of the solution to three parts of hot water, and apply saturated flannels to the inflamed joints. It usually gives immediate relief. This solution is of a beautiful yellow color when properly prepared.*

* The tincture of arnica should be made according to the United States Pharmacopœia, and not by using the fluid extract of arnica flowers, and making a tincture by the addition of diluted alcohol, as this tincture makes an unsightly dirty brown mixture.

The following are a few of the numerous cases of successful treatment of acute inflammatory rheumatism by the use of the syrup of hydriodic acid:

Case I.—On December 16, 1880, I was called to see Mary S., aged eight years, who was suffering from a very severe attack of acute rheumatism. The knees and ankles were very much swollen, and the pain was so excruciating that she could not bear the weight of a sheet to touch her legs. Protected them with a barrel-hoop cut in two and crossed. Prescribed syrup of hydriodic acid, in teaspoonful doses, every two hours. The pain was subdued within fifteen hours. Continued treatment for about a week. No relapse.

Case II.—Mrs. E. P. R., aged thirty-five years, was seized with a chill on January 9, 1883. Began the use of the syrup of hydriodic acid on the 10th, and continued the treatment, in three-teaspoonful doses, diluted with water, until the 16th, when the patient was dismissed cured.

Case III.—Mrs. C. F. C., aged thirty-nine. I was sent for on March 21, 1883, and found her suffering from acute rheumatism; prescribed the syrup in two-teaspoonful doses: continued treatment to the 29th, when I made my last visit, and found my patient dressed, sitting up, and free from pain.

Case IV.—B. E., aged fifty-five, a merchant, has had rheumatism for many years. I attended him with a subacute attack on the 13th of January, 1884; left him on the 18th free of pain. The medicine was given in tablespoonful doses, every two hours, up to this time, when he was ordered to continue its use in smaller doses and at longer intervals for another week. On the 4th of April, 1885, I was called to attend him with a similar attack. Used the syrup. The pain was still severe on the 5th, so I used the lotion to his hand and knee, which gave immediate relief. The last visit was made on the 8th, at which time he was entirely free of pain and swelling.

Case V.—Mrs. L. A., aged twenty-seven, was taken with a chill, followed with high fever, on the 21st of January, 1885. I was called on the 22d, and found her suffering with an attack of acute rheumatism, affecting both upper and lower extremities. As usual in such cases, prescribed the syrup in three-teaspoonful doses, every two hours, using the lotion as well. She was relieved in thirty-six hours, and was about the house in one week. Ten days after I made my last visit. Her husband told me that she had had a relapse from imprudently sitting by an open window. Medicine was repeated, and in four or five days she was again free from pain.

Case VI.—W. C., aged twelve years, of stout build, was seized with rheumatism in knee, ankle, and hand. Saw him for the first visit on February 20, 1885. I prescribed the syrup in two-teaspoonful doses, diluted in water (which should always be done); the lotion was also used in this case. My last visit was made on the 28th, when I left him walking about the house.

Case VII.—S. G. S., aged thirty-eight, clerk, was seized on the morning of the 15th of March, 1885. Commenced the use of the syrup on the evening of the same day; he was free of pain and swelling on the 16th, and went to his business on the 17th. He has had no return.

Case VIII.—J. C., aged fifty-one, has had chronic rheumatism for more than twenty years. About the beginning of March, 1885, he was seized with a violent pain in right knee while walking, followed, after a few days, with heat and swelling. The affected knee was two inches larger in circumference than the other; the trouble was looked upon as a sprain for about three weeks, when rheumatism was suspected. Began the use of the syrup in tablespoonful doses in a glass of water; he felt relief after the second dose; treatment was continued

every two or three hours until eight ounces of the syrup were taken, which removed all further trouble. No relapse.

Case IX.—John L., aged forty, coachman, was taken down on May 4, 1885; his knees were very much swollen and very painful. He was given the syrup in tablespoonful doses every two hours, and was able to be around the house in four days and a half. He had a relapse on the 24th of the same month, caused by exposure, and was seized with a chill, and again used the syrup and lotion. Advised the syrup to be continued in decreasing doses and at longer intervals for a week or ten days.

Case X.—J. F., aged forty, conductor. I was sent for on May 29, 1885, and found his right knee and left ankle swollen and very painful. He also complained of pain in his fingers and toes. The syrup was given, in tablespoonful doses, every two hours; the lotion was also used. He was free from pain within forty-eight hours. Dismissed him on the 3d of June without pain or ache.

The following cases were kindly furnished me by my friend, Dr. Conrad Wienges, of this city:

Case I.—*August 28, 1883.*—P. M., engineer, aged forty-nine; subacute rheumatism in both knees and ankles. Gave him two teaspoonfuls of syrup of hydriodic acid every three hours. Dismissed him September 30th, free from pain or ache. This patient had several attacks previous to this one, but was always confined to the house from four to six weeks.

Case II.—*June 16, 1884.*—Mrs. L., aged thirty-five; subacute rheumatism in the chest and right shoulder. Two teaspoonfuls of syrup of hydriodic acid every four hours. It relieved the pain entirely in twenty-four hours.

Case III.—*March 30, 1885.*—F. McC., nineteen years old; worker in tobacco factory; acute rheumatism in both knees and ankles. He was ordered two teaspoonfuls of syrup of hydriodic acid, every two hours, in a wineglass of water. At my next visit, on the 31st, he could flex his knees and move the foot with comparative ease.

April 1st.—The swelling had vanished and the patient was sitting up when I called. He was dismissed on the 3d, cured, and resumed his occupation on the 3d of April.

Case IV.—*May 7, 1885.*—G. E. P., thirty years old; deck-hand; acute rheumatism affecting his right shoulder and elbow. The pain was excruciating—so much so that one fourth of a grain of morphine, every hour for four hours, was given to produce immediate relief. He took two-teaspoonful doses of hydriodic acid every two hours. At my next visit, sixteen hours later, the pain had almost disappeared, and he could move the arm with ease in any direction. On the 9th he was entirely free from pain, and was dismissed, cured, on the 11th.

The following cases were kindly furnished me by Dr. Bennarts, House Physician at the New Haven Hospital, New Haven, Conn.:

Case I.—M. E. M., Irish, aged twenty-five; single; painter. Was attacked April 24, 1885, with acute rheumatism in the ankles and knees, and on the 25th it extended to his shoulders, elbows, and wrists. Entered hospital this day; temperature 101° F. The pain was so severe that the slightest movement caused great distress. No cardiac lesions. Ordered syrup of hydriodic acid, one teaspoonful, every two hours.

27th.—Patient has improved greatly. Temperature 100°; articulation painful.

28th.—Improvement continues. Patient got up to-day.

May 1st.—He is up and around the wards, and has no pain at all. Treatment continued.

2d.—Discharged cured.

Case II.—P. M., aged twenty-two years; has been under treatment in the surgical wards since April 28th for gluteal abscess. He had an attack of rheumatism in both wrists and hands, and pain in the chest and back. The pain and swelling were so severe that he could not bear to be touched. Temperature 100°. Ordered salicin, grains xx, every three hours, and sodii bicarb., 3 ss., every three hours.

May 30th.—No marked improvement, and was transferred to medical wards. Salicin was stopped and he was given syrup of hydriodic acid, two teaspoonfuls every two hours. Temperature 101·6°. Morphine, hypodermically, had to be administered during the night on account of severe pain.

31st.—Pain diminished; morphine not required. Temperature 101·2°.

June 1st.—Patient slept well without the use of anodynes. Fingers could be moved without pain, but the chest was still painful.

2d.—Patient comfortable; all pain and inflammation have disappeared. He fed himself for the first time to-day. Temperature 100°.

5th.—He was transferred to a surgical ward, and syrup stopped.

8th.—Temperature rose to 100·3°, and another attack threatened. He was given the syrup in the same doses. Next day temperature fell to normal. The syrup was continued a week, and then gradually diminished and stopped.

Remarks.—The patient had previously had several attacks of rheumatism, each lasting from two to four weeks. He had a mitral regurgitant murmur on admission.

The syrup was tried in a number of subacute cases with good results, but was unsuccessful in chronic cases.

I hope that I have thus been able to impress upon the minds of my readers the fact that, by the use of the syrup of hydriodic acid in cases of acute inflammatory rheumatism, our results will be far more satisfactory, and our cases less tedious and uncertain.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Overcrowding of the Profession. Extracts from an Address delivered March 23, 1885, before the Alumni Association of the Chicago Medical College, by the President, Dr. E. J. Doering. Chicago: Clark & Longley, 1885. Pp. 8.

Some Interesting Reflex Neuroses, with Treatment and Comments. By John J. Caldwell, M. D., Baltimore. [Reprinted from the "Virginia Medical Monthly."]

Correspondence.

LETTER FROM WASHINGTON.

The Wales Court Martial. Laparotomy for Gunshot Injury. Last Year's Outbreak of Cholera in France.

Washington, *July 31, 1885.*

The findings of the naval court-martial before which ex-Surgeon General Wales was recently tried were made public to-day. The court sentences him to suspension from rank and duty for five years on furlough pay, and to retain his present number in his grade during that period. The Secretary of the

Navy says: "In expressing its approval of the proceedings, findings, and sentence in this case, the department deems it proper to remark that no dishonest or corrupt act or motive involving any breach of personal integrity on the part of Medical Director Philip S. Wales, as chief of the Bureau of Medicine and Surgery, was alleged against him, nor is there any evidence in the record which would have justified such a charge, or which tends to cast any reflection upon his personal honesty. It is equally proper, however, to remark that the charges of 'culpable inefficiency in the performance of duty' and 'neglect of duty' are fully sustained by the evidence. The proof shows that the established routine of business in the Bureau of Medicine and Surgery, including the various steps required by the regulations to be taken in making purchases of supplies and in paying for the same, was such that the exercise of ordinary care on the part of Dr. Wales, as chief of the bureau, would have been sufficient to arrest at an early date, if it could not have been wholly prevented, the fraudulent acts of his subordinates in the bureau. When he assumed charge of the bureau, as chief, he became officially bound to enforce, so far as practicable, an honest as well as diligent performance of duty by his subordinates, and also became responsible for a proper supervision of their conduct. This he failed to do. The facts and the degree of punishment proper in the case have received the careful and laborious consideration of a most eminent court of naval officers. The proceedings, findings, and sentence of the court in this case are approved."

Dr. Thomas B. Hood, who has so long and so efficiently performed the duties of Medical Referee of the Pension Bureau, was removed this week, and Dr. Campbell, of Cincinnati, appointed in his place. It is difficult to see what public policy could dictate the removal of one so well fitted by education and long experience to settle the intricate and far-reaching questions submitted to the medical branch of the bureau.

Dr. C. V. N. Callan, of the Providence Hospital staff, has been seriously ill for the last month, and his friends have feared that his return to duty would be permanently prevented.

Laparotomy with suture of the intestines was recently performed at the Providence Hospital by Dr. John B. Hamilton. The patient, a young mulatto, was shot in the abdomen three weeks ago. The wound was inflicted by a pistol carrying a ·32 caliber ball. The missile severed a small artery in the mesentery, and made eleven wounds in the small intestines and two in the ascending colon, and remained in the bowel. The operation was performed three hours after the accident. The artery was tied and the wounds were stitched with Lembert's suture. Feces were passed by the natural channel on the seventh day, and on the twentieth day the patient was allowed to sit up, the abdominal wound having healed. The ball was passed with the feces on the twelfth day.

Consul Mason, in a recent report to the State Department on the last year's outbreak of cholera at Marseilles and vicinity, states that it is now apparently settled that the cholera of 1884 was kindled at Marseilles by the clothing brought to that city in the trunk of a young student coming from the Lycée at Toulon.

In regard to the outbreak at Omagues, in the Department of Basses-Alpes, he states that "on the 10th of July, 1884, there arrived at Omagues a young servant-girl who had been in service at Marseilles. Soon after her arrival she washed some linen, which *had been in contact with a cholera patient* at Marseilles, in the Jabron, *a creek which supplies the village with water*. From that imprudence sprung the contagion which decimated that unfortunate community and spread death throughout the valley of the Jabron *below* Omagues, while the inhabitants of the same valley above the village escaped."

THE

NEW YORK MEDICAL JOURNAL,

A Weekly Review of Medicine.

Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, AUGUST 8, 1885.

VACCINATION AFTER THE BEGINNING OF SMALL-POX.

SOME weeks ago, commenting on a paper, by Dr. Eccles, of Brooklyn, published in this journal, we had occasion to express an opinion which we then supposed, and still believe, to be supported by overwhelming testimony, to the effect that it was useless to vaccinate a person already affected with small-pox. We were aware that an impression to the contrary existed in the minds of many of the profession, but we were quite unprepared for such statements as we find in a report by Dr. J. H. Rauch, the able and painstaking secretary of the Illinois State Board of Health, submitted to the board at its quarterly meeting, held July 2 and 3, 1885. Dr. Rauch quotes from previous published writings of his own as follows: "It has now come to be understood that vaccination has a positive therapeutic value, as well as prophylactic power, and where it is too late to exert the latter there may still be sufficient time to make the former available, provided the virus used act promptly. Thus, if a patient be vaccinated during the febrile stage, and the vaccination progress normally—there being nothing antagonistic between the two diseases, variola and vaccinia, to prevent such normal progress—the areolar stage of vaccination will be reached before the dangerous tenth day of the variolous disease; and, as has been repeatedly witnessed, the graver disease will be aborted, jugulated, or materially modified." Again, he says: "It is never too late to vaccinate."

This is a question that only observation can settle, and our conviction is that observation did settle it long ago. The late Mr. Marson, whose experience was simply enormous, is quite explicit on this point. In his article on Small-pox, in Reynolds's "System of Medicine," he says: "Suppose an unvaccinated person to inhale the germ of variola on a Monday; if he be vaccinated as late as on the following Wednesday, the vaccination will be in time to prevent small-pox being developed; if it be put off until Thursday, the small-pox will appear, but will be modified; if the vaccination be delayed until Friday, it will be of no use, it will not have had time to reach the stage of areola, the index of safety, before the illness of small-pox begins: this we have seen over and over again, and know it to be the exact state of the question. Re-vaccination will have effect two days later than will vaccination that is performed for the first time, because re-vaccinated cases reach the stage of areola two or three days sooner than in those persons vaccinated for the first time."

Marson's article has been widely read, and the particular statements we have here reproduced have been extensively quoted, without, so far as we are aware, the accuracy of the latter having ever before been challenged by a competent ob-

server. But Dr. Rauch does not rest his contention on theory or dicta; he adduces certain facts that have come to his own knowledge. These facts relate to a recent outbreak of the disease in Mound City, Illinois, in which one hundred and forty-four cases occurred. Of those attacked, one hundred and twenty had never been vaccinated prior to actual exposure. After exposure to cases in their respective families, fourteen of this number were vaccinated—the exposure having lasted from three days to "about a week." Of the remaining one hundred and six, thirty-eight died, the mortality rate being 35·84 per cent. of the wholly unvaccinated. Only one ("a confirmed epileptic," twenty-five years of age, vaccinated in childhood) died, out of the thirty-seven vaccinated before exposure—the mortality rate in this class being, therefore, less than three one-hundredths of one per cent. All the fourteen who were vaccinated only after exposure recovered. Interesting statistics are then given as to the average duration of the disease in the several classes.

These statements appear to be very much to the point, and, however at variance they may be with general observation, we are disposed, considering the high source from which they emanate, to look upon them as of great importance. There is a point, however, on which more specific information would be of value—as to how many of the fourteen had been exposed for only three days, and how many for "about a week," before being vaccinated. Moreover, it is not certain that a person necessarily imbibes the contagium the first day that he is exposed to it, or the second day, or any particular day. Nor does it appear that any of the fourteen had shown signs of actually having the disease before they were vaccinated. Much as we defer to Dr. Rauch's judgment, therefore, we can not admit that in this instance the facts sustain his statement that "it is never too late to vaccinate."

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 4, 1885:

DISEASES	Week ending July 28.		Week ending Aug. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	1	0	0
Typhoid fever	16	6	27	5
Scarlet fever	29	6	23	4
Cerebro-spinal meningitis	2	1	2	2
Measles	34	8	21	4
Diphtheria	34	21	33	17
Small-pox	1	1	2	0

The Health of the State of New York.—The State Board of Health's "Bulletin" for the month of June shows a total reported mortality of 6,204, of which 40 per cent. were of infants. The proportion of deaths in each thousand was 238·55 from zymotic diseases, 109·61 from diarrhœal diseases, 51·42 from croup and diphtheria, 103·64 from acute respiratory diseases, and 141·20 from consumption.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office August 4th: *Cardenas, Cuba.*—For the week ending July 18th: Free from epidemics; no cholera or yellow fever. *Curaçoa, W. I.*—For the same week: No cases of infectious disease. *Havana, Cuba.*—For the week ending July 22d: About 22 cases and 3 deaths from yellow fever; typhoid fever prevalent. *Matanzas, Cuba.*—For the same week: No cholera or yellow fever; intermittent fever prevalent. *St. Thomas, W. I.*—For the second quarter of 1885: 4 deaths from yellow fever among soldiers in garrison prior to May 1st, when detachment was removed; no cases since. June 23d, quarantine was established against all Spanish ports, and the importation of rags, padding, wool, hair, and hides prohibited. *Laguayra, Venezuela.*—For the week ending July 18th: Free from infectious diseases. *London, Eng.*—For the week ending July 11th: 101 cases of small-pox, and 21 deaths; 101 deaths from diarrhœa and dysentery, and 3 from simple cholera. *Paris, France.*—For the week ending July 18th: Small-pox, 41 cases, 1 death; typhoid fever, 199 cases, 38 deaths. During the week ending July 11th there were 40 cases of small-pox and 5 deaths; typhoid fever, 146 cases and 27 deaths. *Lisbon, Portugal.*—May 9th to 23d: 6 deaths from small-pox; otherwise free from infectious diseases. *Trieste, Austria.*—For the week ending July 4th: 3 deaths from small-pox; diphtheria prevalent. *Valencia, Spain.*—For the week ending July 11th: Cholera, 1,747 cases and 964 deaths. The epidemic is reported as spreading still, but becoming less virulent. *Venice, Italy.*—For the week ending July 4th: 5 deaths from small-pox; diarrhœal diseases prevalent. *Bombay, India.*—For the week ending June 23d: 2 deaths from cholera; general sanitary condition good.

English Comments on the Congress Question.—Until now, the "Medical Times and Gazette" has been almost the only European journal to give its readers anything like an adequate idea of the deplorable status of the matter of the International Medical Congress in this country. In its issue of July 25th it quotes from a number of American journals, and says editorially: "The leaders of the profession both in Boston and Baltimore have followed the lead of the Philadelphians and withdrawn from the Congress, and it is not unlikely that their example may spread to other cities, though indeed enough has already been done to turn the meeting of 1887 into what an American contemporary, drawing its illustration from our common history, appositely terms a 'rump' Congress. The only hope is that the American Medical Association will be startled back to its senses by the strong and decisive action of the profession in Philadelphia, Boston, and Baltimore, and will make haste to retrace its steps. It may be taken for granted that not even the leaders of the malcontents, and certainly not the members of the association at large, realized that the result of their action would be destruction to the Congress of 1887 and danger to its successors. Such an event was probably far from their calculations. They simply reckoned without their host, *i. e.*, their leaders, and if they are wise they will cast another reckoning, this time with due regard to the said host."

Homœopaths in the British Medical Association.—In the report of the Council, presented at the recent meeting at Cardiff, and published in the "British Medical Journal," we find this statement: "The Council have had under their consideration the subject of admission and retention of homœopaths as members of the association during the past year. An inquiry has been made throughout the thirty-three branches, and the result has been that there is evidence to the effect that a large majority of the members are adverse to the admission of homœopaths as members, but an equally large proportion are opposed to the idea of the expulsion of those members who have already gained admission into the ranks of the association."

The Lehigh Valley Medical Association will hold its fifth annual meeting at Quakertown, Pa., on Wednesday, the 19th inst. The programme includes an address on "The Proper Organization of Local Boards of Health," by Dr. Benjamin Lee, and one on "The Treatment of Joint Diseases by Rest," by Dr. De Forrest Willard.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 26, 1885, to August 1, 1885:*

BILL, JOSEPH H., Major and Surgeon, U. S. A. Died at Yonkers, N. Y., July 21, 1885.

MCDOUGALL, CHARLES, Lieutenant-Colonel, U. S. A. (retired). Died at Fairfield, Va., July 25, 1885.

DEWITT, CALVIN, Captain and Assistant Surgeon. Promoted to major and surgeon, vice Bill, deceased, to take effect from July 21, 1885.

IVES, FRANCIS J. Appointed assistant surgeon with rank of first lieutenant, to rank as such from July 25, 1885.

GIRARD, A. C., Captain and Assistant Surgeon. From Department of the East to Department of the Columbia. S. O. 170, A. G. O., July 27, 1885.

EBERT, R. G., Captain and Assistant Surgeon. From Department of the Columbia to Department of the East. S. O. 170, A. G. O., July 27, 1885.

TESSON, L. S., Captain and Assistant Surgeon. Ordered from Fort Stockton, Texas, to Fort Davis, Texas. S. O. 90, Department of Texas, July 27, 1885.

CARTER, W. F., Captain and Assistant Surgeon. Ordered for duty as post surgeon, Fort Stockton, Texas. S. O. 90, Department of Texas, July 27, 1885.

APPEL, A. H., Captain and Assistant Surgeon. Ordered for duty with U. S. troops, forming portion of guard of honor over remains of Ex-President General Grant, at Mt. McGregor, N. Y. S. O. 36, Division of the Atlantic, July 29, 1885.

GORGAS, WILLIAM C., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect about August 10, 1885. S. O. 169, A. G. O., July 25, 1885.

Society Meetings for the Coming Week:

MONDAY, *August 13th:* Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *August 14th:* Medical Society of the County of Rensselaer, N. Y.; Newark and Trenton, N. J., Medical Associations (private).

WEDNESDAY, *August 15th:* New Jersey Academy of Medicine (Newark).

THURSDAY, *August 16th:* New Bedford, Mass., Society for Medical Improvement (private).

Letters to the Editor.

THE MEDICAL MUDDLE.

FORT BUFORD, D. T., *July 25, 1885.*

To the Editor of the New York Medical Journal:

SIR: It is not graceful to apply such terms as "organized villainy" and "crowning act of infamy" to the American Medical Association, as was done in your editorial of July 11th. Let us see: "Villany, n. Extreme depravity. Atrocious wickedness." "Infamy, n. Total loss of reputation." Is our great A. M. Ass. depraved or totally wicked, or has it lost anything?

I once knew a good old man who was noted for wealth and Christian meekness in a community where both were scarce. He had a pet chicken, which was being raised "by hand," as it were. This chicken, early in its career, showed a strong tendency to consider itself "one of the family." Its frequent visits to the parlor made it a disturbing element. On the occasion of one of these visits, the old man, who had been dozing before a bright fire, called a negro servant to drive the chicken out. The servant, with white apron spread before him, made a dash at the chicken, and so startled it that it ran into the blazing fire upon the hearth. The old gentleman gazed upon the catastrophe with more of horror than commiseration depicted upon his features, and, after mature deliberation, remarked with great gravity, "You're a fool!" It was the first and only piece of severity he was ever known to be guilty of, although the owner of two or three dozen slaves.

I don't know why the action of the A. M. Ass. should recall this incident of my childhood. The feelings with which I have contemplated that action have not been all commiseration, but "organized villainy" and "crowning act of infamy" were never suggested to my thought. Instead of guile, I have noticed, besides bile, that absence of intelligent comprehension which led the chicken—but I have said I did not know why the action of the A. M. Ass. reminded me of the chicken incident.

I had supposed that the idea of the Congress was an associated effort of the leading medical minds of the world to evolve something by which mediocrity might be benefited, and the leading minds refreshed and encouraged for still greater achievements. The idea that local geographical divisions in our country could have anything to do with such a Congress was, to me, the embodiment of—why did you not, by the way, think of that word *imbecility?* It would have obviated the necessity of such strong terms as "villainy," "infamy," etc.

I could never understand why well-earned obscurity should desire to obtrude itself upon the assembled wisdom of the world. I yield to no man in the possession of that amiable quality; but, before I would allow myself thrust into such company in any official capacity, I would apply for a "sick leave." If left without constraint, I might slide in at a side-door and listen to the speeches in German and Russian, but nothing more.

Large bodies are apt to act with more difficulty than wisdom, and are only necessary when the political and religious liberty of all are concerned. The original committee, being intelligent and wieldy, was doing its work well. If it had been let alone, gratifying success seemed reasonably sure. As matters now stand, ignoble failure is much to be feared. There ought to have been no two opinions about our duty, or the duty of the committee, to put forward: 1. Our men of international reputation. 2. Our men of national reputation. 3. If more were needed to round off with, the best local material. But no geographical thought should have entered any man's head, nor would have, if nature had not abhorred a vacuum.

S. S. TURNER, M. D., A. A. Surgeon, U. S. Army.

THE DISINFECTION OF RAGS.

August 3, 1885.

To the Editor of the New York Medical Journal:

SIR: In the "Medical Journal" of August 1st Major Sternberg states, in a letter addressed to you, that he has nothing to do with the fight between the paper manufacturers and the health officers, who insist upon the disinfection of rags from cholera-infected districts. I am not aware that any such fight exists.

They (the paper makers) not only *do not object* to rags from infected ports being disinfected, but would prefer (in deference to public opinion) that their importation (from such ports) should be entirely prohibited. The only contest the paper manufacturers have with the health officers is about rags from healthy ports. Last winter a patent was obtained for a process for disinfecting rags; a few days afterward an order was issued that all rags shipped after January 1st should be disinfected; this order was revoked by the present Secretary of the Treasury.

No such patent or order was ever before issued in this or any other country. What the paper makers object to is that, while there is no case on record of cholera having been conveyed in rags, they should be compelled to subject their material, under the pretext that it is dangerous, to an expensive and (as they believe) injurious and unnecessary process.

The estimated annual consumption of rags in this country is 270,000 tons. The charge for "disinfecting" is $5 a ton; this would make quite a handsome revenue.

By publishing this you will much oblige yours, etc.,

Augustine Smith,
Vice-President of the American Paper-Makers' Association.

DR. DIXON JONES'S UTERINE APPLICATOR.

Brooklyn, *August 3, 1885.*

To the Editor of the New York Medical Journal:

Sir: The cut accompanying the description of my applicator, in your issue of August 1st, entirely fails to give a proper idea of the instrument. By some mistake, the instrument-maker failed to send the cut intended to accompany the description. The forceps has a double curve—one corresponding to that of the normal parous uterus, the other a compensatory pelvic curve, which facilitates any manipulation in which it is used.

Yours, very respectfully,

C. N. Dixon Jones.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of February 17, 1885.

Dr. Walter R. Gillette in the Chair.

Recurrent Tumor of the Breast. — Dr. B. F. Dawson showed a tumor which he had removed a few days before. Five years ago an enlargement appeared in the patient's right breast. The mass was excised, but soon recurred, so that it was necessary to repeat the operation seventeen times; the last operation was performed about a year ago. Soon after that the patient began to be troubled with excessive leucorrhœa, and for six months past she had had repeated hæmorrhages, attended with a gradual decline in her health and strength, so that a suspicion of malignant disease of the uterus was aroused. Six months ago there was a recurrence of the mammary growth at the site of the last operation. Dr. Dawson saw the patient one month ago. The tumor then presented the appearance of a large dark bleb. The os uteri was patulous and its edges were ragged, but there was no hæmorrhage at that time. The uterus was movable, and there were no evidences of infiltration around it. Dr. Sands now saw the patient in consultation, and regarded the tumor as a myxo-sarcoma. She improved so much that Dr. Dawson operated about three weeks ago. She had recovered rapidly and was now able to walk about. Her uterine condition had improved, but, if the hæmorrhages returned, he would consider the question of a radical operation. (A subsequent microscopical examination showed epithelioma of the cervix.)

Sarcoma of the Uterus.—Dr. Dawson also showed a quantity of soft brain-like material which he had removed from the uterine cavity of a patient at the Woman's Hospital. She had had constant leucorrhœa for four years, with repeated hæmorrhages during the past three months. The discharge always had a very offensive odor. He found an irregular patulous os, from which protruded a dark, friable mass, which bled easily on being touched. The uterus was enlarged and soft, but freely movable. The diagnosis seemed to lie between sloughing fibroid and sarcoma. The cervix was divided and the interior of the uterus was thoroughly scraped with the spoon-saw (which was used as a curette). Although the patient had showed symptoms of septic poisoning before the operation, she recovered perfectly and was now comfortable. It would probably be necessary to remove the uterus eventually.

Dr. Dawson remarked that these cases were both interesting from the fact that if the conditions had been recognized at an early day much trouble might have been saved.

Dr. H. C. Coe said that he had examined the second specimen and found it to be round-celled sarcoma.

Dr. A. Jacobi asked if any enlargement of the axillary glands had been observed. The reply was in the negative. Dr. Jacobi said that he had asked this question because he had the impression that sarcoma was rarely attended by any considerable affection of the neighboring glands. He further stated that sarcoma of the uterus sometimes bore a close resemblance to fungoid growths. He recalled the case of a woman, forty years of age, from the interior of whose uterus he had removed with a common soup-spoon a cauliflower mass as large as a man's fist, which proved to be round-celled sarcoma. No secondary deposits existed, so far as could be ascertained; in fact, sarcoma might run a long course without the formation of metastatic growths.

Dr. P. F. Mundé mentioned the case of an Irishwoman who entered his service at Mt. Sinai Hospital, complaining of frequent uterine hæmorrhages and a constant offensive discharge. The uterine cavity was found to be four inches in depth and was filled with a soft mass which broke down under the finger. As the patient was too weak at the time of entrance, he intended to build up her strength and then to scrape out the cavity with a Simon's sharp spoon and subsequently swab it out with chloride of zinc, but an operation was declined.

Dr. Jacobi asked, with reference to the mammary tumor, if it was not rather unusual to have a complete absence of glandular enlargement after the growth had been so frequently removed.

Dr. Dawson thought that perhaps the tumor had always been removed so early that there was no time for the glands to enlarge.

A Shot-Perforator.—Dr. C. Cleveland presented a modified shot-perforator, in which a spring was so arranged that the shot were disengaged from the pin as the forceps opened.

A Uterine Drainage-Tube.—Dr. W. G. Wylie showed a uterine drainage-tube of hard rubber for use after dilatation of the cervix, or whenever it was desirable to maintain patency of the canal. He said that he used six sizes of the instrument, there being three variations in the length and three in the diameter. He maintained the following advantages for the tube: 1. Having a bulbous extremity, it could not slip out of the canal. 2. The groove along its side allowed of free drainage. 3. The curve was such that it adapted itself perfectly to the shape of the uterus. 4. There was a knob at the lower end,

which could be held with a forceps and the tube easily withdrawn.

Dr. J. B. HUNTER asked when this instrument was indicated. The answer was, when it was necessary either to drain the uterus or overcome stenosis.

Dr. MUNDÉ thought that a straight stem could be introduced perfectly well if the os was dilated thoroughly and the anterior lip was then drawn down with a tenaculum.

Dr. HUNTER remarked that Dr. Sims originally used a straight tube, but subsequently modified it.

Dr. DAWSON and Dr. PERRY thought that the cervical mucous membrane might become entangled in the slot at the side of the stem, so that it would be impossible to withdraw it.

Dr. WYLIE said that this never occurred after proper dilatation. He thought that the cervix was stretched during the attempt to introduce a straight stem. He had been led to adopt this form of stem from observing how often it was necessary to hold the other varieties *in situ* by means of tampons. He was of the opinion that in many cases the plug had not been passed through the internal os at all.

Dr. CLEVELAND asked if stems were not sometimes forced out even after they had been introduced through the os internum.

Dr. WYLIE thought not. He subsequently admitted that they might be expelled by uterine contractions.

Dr. MUNDÉ differed with Dr. Wylie, and thought that he had frequently introduced laminaria tents through the os and had seen them come out again, simply because they were slippery.

Dr. WYLIE thought that a distinction should be drawn between *slipping* and *rebounding*.

Silvered Copper Wire.—Dr. HUNTER showed a specimen of silvered copper wire which possessed all the advantages of solid silver wire and yet cost only about one twentieth as much. It was less brittle than silver.

B. McE. EMMET, M. D.,
B. F. DAWSON, M. D.,
H. C. COE, M. D., *ex officio*,
Committee on Publication.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of June 10, 1885.

The President, Dr. JOHN A. WYETH, in the Chair.

Exsection of the Knee.—Dr. J. H. RIPLEY presented an Italian, twenty-eight years of age, who was admitted into Charity Hospital September 14, 1882. There was no history nor evidence of venereal disease. He had always been well until four years ago, when he had an attack of rheumatism, suffering continuously from severe pains in the left knee joint, which was very hot, but not swollen. This attack continued for about one year, and then disappeared of itself. September 2, 1882, the patient slipped on a banana-peel and injured the left knee, which soon increased to twice its natural size, and became very hot and painful. Twelve days later he entered Charity Hospital, and was treated for rheumatism in a medical ward for three months, when he was transferred to a surgical ward. Extension was employed for two months, in conjunction with the local application of liniments, etc., and internal remedies. Extension was then discontinued, and a succession of plaster-of-Paris splints applied, together with the use of electricity, etc. Although there was absence of crepitus, and several surgeons were in doubt as to the propriety of exsection, Dr. Ripley concluded to do the operation, as it seemed to offer the patient the only chance of relief. The bones of the joint were very extensively diseased. The patient made a good recovery, with two inches shortening. The interest of the case centered in the fact that the man had suffered for nearly three years with inflammation of the knee, there being no suppuration, and at the end of that time the pathological condition was such that several surgeons were in doubt as to the propriety of exsection. The reason why friction was absent was that at no one point were both of the opposing bones roughened. A second point of interest was the illustration of the reparative power of diseased bone. A third point of interest concerned the use of wires. Dr. Ripley thought they did little or no good, and they gave him a great deal of trouble in removing them. He referred to another case of exsection under like circumstances, done about ten years ago, in which the patient was longer in recovering from the fact that the bones were not made immovable.

The PRESIDENT remarked that this case afforded strong evidence in favor of exsection as against the old method of treatment by amputation. In the latter case the death rate had been placed at twenty-five per cent. He had not seen a case in which death resulted from exsection. He referred to some cases in which he had done exsection the past winter, and said he did not use wires, for the limb could be rendered immovable without them. If wires were used, it was unnecessary to remove them afterward.

Suppurative Endocarditis.—Dr. R. VAN SANTVOORD presented the heart and great arteries removed from the body of a man, forty-six years of age, who was admitted into the hospital March 28th. His father had died suddenly after a few weeks' illness, the nature of the trouble being unknown. His mother had died suddenly of heart disease, aged sixty-three. The patient, when a child, had had measles, scarlet fever, and smallpox, had had a chancre without secondary manifestations, and had been a hard drinker. He had suffered from rheumatism and from swelling of the feet at night. There were aortic and mitral regurgitant murmurs, the apex beating in the sixth intercostal space. When admitted, he was suffering from rheumatism, the attacks recurring during his stay, with exacerbations of temperature, and finally exhaustion. He had become apathetic, and his memory failed. At the autopsy a small bony growth was found impinging upon the brain between the second and third frontal convolutions, about half an inch in front of the ascending frontal. There was a certain amount of pachymeningitis hæmorrhagica, chiefly over the left hemisphere; the membranes were generally opaque; most of the vessels at the base of the brain showed considerable atheroma. There were lesions in other organs, the result of alcoholism, but the lesion of chief interest existed in the heart. There were the remains of old pericarditis, the ventricles were somewhat dilated, and the muscular substance had the gross appearance of fatty degeneration. On the leaflets of the aortic valve were masses of vegetation, surrounding two perforations of the valve, of about the size of a crow-quill. The third leaflet was somewhat atheromatous, but had no vegetations. There was also a rough spot of the size of a three-cent piece on the inner surface of the heart, forming a pocket. A small mass of vegetations was found on one of the leaflets of the mitral valve. The aorta showed advanced atheroma. The sphygmographic tracing had been that said to be characteristic of a combination of aortic regurgitation with atheroma of the arteries.

Congenital Deformities.—Dr. A. JACOBI showed a boy, aged seven years, who presented certain congenital deformities, but was in normal health. The right upper extremity was normal. On the left hand there were but three fingers, the index and little fingers being absent, together with the corresponding metacarpal bones. The left ulna was 14 cm. long, and the right one 16·75. The left elbow joint was imperfectly formed, allowing of only partial supination. The lower extremi-

ties presented symmetrical malformations excepting in the following respects: The left foot was half an inch shorter and was smaller than the right; the right thigh was longer than the left by about 4 ctm. The movements of the right foot were much freer than those of the left. The patella was absent on the left side, and imperfectly formed on the right. The right leg was 28, the left 27 ctm. in length. On the left foot the second and third toes were slightly raised. The chest showed some signs of rhachitical development, most marked on the left side. The head and face were nearly symmetrical.

His sister, a baby, aged three years, had a congenital deformity of the right leg and foot. The tibia had an anterior curve, and at about the junction of the middle with the lower third there was a longitudinal scar half an inch in length. There was decided eversion of the foot, with absence of the fibula. There were but two toes, one being the great toe, the other apparently a blending of two toes. There were three metatarsal bones, the great toe articulating with the first, and the second toe with the two others. The right limb, down to the knee, seemed to be perfect. It was impossible to straighten the leg on the thigh, because of some malformation in the knee joint. The leg turned outward when it was straightened as far as possible. The right leg was shorter than the left by an inch and a half, being eleven inches long. There seemed to be no anterior tibial artery. The right foot was shorter and smaller than the left. As to the bones entering into the formation of the tarsus, it was impossible to state positively, but the cuneiform bones seemed to be absent. The right patella seemed to be somewhat smaller than the left, and was placed a little externally to the normal position. The three metatarsal bones articulated with the scaphoid and cuboid. The speaker had seen as many as three or four cases of absence of the fibula, there being a scar on the leg, which one might suppose resulted from an injury at a period of intra-uterine life when the skin was only partially developed.

Volvulus of the Sigmoid Flexure.—Dr. Frank Ferguson presented a distended and dried gut, showing volvulus of the sigmoid flexure. The patient, a Russian, aged thirty-seven years, had complained for several years of abdominal pains and cramps, which would pass away to return again. On the 27th of February last an attack had lasted three days, when he sought relief in the hospital. It began with a chill, followed in a short time by nausea and vomiting, there being very severe and continuous pain in the abdomen. He rapidly failed, and died four hours after admission. The autopsy showed enormous distension of the gut, with twisting of the sigmoid flexure, which was blackened with hæmorrhage. The obstruction was complete.

Dr. Waldstein thought it was not infrequent to find at the autopsies of old subjects, with a large amount of adipose tissue in the peritonæum, a turning of the gut, almost amounting to a complete twist and obstruction, with great distension of the colon co-existing.

Dermoid Cyst near the Coccyx.—The President presented a tuft of hairs, obtained in the case of a patient twenty-two years of age, who came for treatment of a supposed fistula starting eighteen months before in what he called a boil near the coccyx. The sinus led down to an abscess, and no communication with the rectum was apparent. A little pimple, looking like a comedo, attracted attention, and, being explored with a probe, was found to lead to a small cavity. With a little force the probe was made to penetrate into the old abscess. In the cavity was a tuft of hair, resembling that of a camel's hair pencil. The President thought it was undoubtedly a dermoid cyst, and so far as he knew, the case was unique.

Dr. Ferguson asked if congenital cysts in this locality were not rather common. He had examined two specimens of congenital cysts situated over the sacrum which contained ciliated epithelium and cholesterin. No hair was present.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By ALEXANDER DUANE, M. D.

The Morbid Anatomy of Diabetes.—The summing up of Windle's examination ("Dublin Jour. of Med. Sci.") of all accessible records of autopsies held in cases of diabetes mellitus is that no one lesion is present with any degree of constancy, and, further, that no one organ is involved in more than half the cases in which the condition of that organ has been ascertained. Thus, in 184 cases in which the brain was examined, it was found normal in 91, and in the remaining 93 the most diverse lesions were discovered. Lesions affecting the medulla and the fourth ventricle were present in 23 of these cases. So, also, among 58 cases in which the spinal cord was examined, only 25 showed any abnormity. On the other hand, out of 333 cases, only 75 presented a normal condition of the lungs, while rather more than one half of the whole number displayed the lesions of pulmonary phthisis. It is to be noted that these pulmonary lesions do not appear to be the result of the deposition of tubercle, and for their origin seem to be dependent upon some change taking place in the nervous system. Fat embolism of the lungs, although described by some, seems to be of rare occurrence. Enlargement and congestion of the liver are frequent accompaniments of diabetes, but the microscopical appearances are not characteristic. The same may be said of the renal changes. The pancreas, again, was affected in more than half of the cases in which the condition of the organ was noted, the lesion being usually of an atrophic nature. Lesions of the other organs are noted, but are still more inconstant in their appearance. These are all tabulated in considerable detail in the original paper.

Diabetic Coma.—Lindsay (*Ibid.*) brings little that is new to add to our confessedly imperfect knowledge of diabetes. He briefly dismisses most of the current theories as to the origin of diabetic coma, believing them all to be unproved, although he inclines most favorably to the toxæmic hypothesis. His own observations, with those of others, show that coma terminates about half of the cases of diabetes, being relatively more frequent in the young and in cases of acute coma, more particularly those uncomplicated by pulmonary disease. [That a rapidly fatal course with death from coma is usual in young subjects has been shown already by Schmitz, who has statistics of six hundred cases of diabetes.]

A Disease of Auerbach's and Meissner's Plexuses.—Blaschko ("Arch. f. path. Anat. u. Phys. u. f. klin. Med.") has described two cases, in both of which there was extreme fatty degeneration of the sympathetic plexuses in the walls of the intestine (plexuses of Auerbach and Meissner). Only one case presented a well-defined clinical history, the symptoms being those of extreme and progressive anæmia and profound disturbance of the digestive functions, with abdominal pain, but without any characteristic change in the blood suggestive of pernicious anæmia or of leucocythæmia. There was marked atrophy of the intestinal wall, and the fact that in other cases where this atrophy existed, and where a sufficient cause for its existence was present, no alteration of the sympathetic plexuses was found, seems a proof that the sympathetic lesion in this case was the cause, and not the effect, of the intestinal atrophy.

Œdema from Vaso-motor Paralysis.—Jankowski's experiments upon animals (*Ibid.*) tend to prove that vaso-motor paralysis is an important factor in the production of œdema; and that, while scarcely of itself sufficient to excite this condition without an accessory hydræmia, its influence must be called into account for most of the cases of œdema occurring in cachectic conditions. The fact that transudation from the vessels may thus be largely dependent upon the state of the peripheral nerves and hence upon alterations of the nervous centers affecting this state, will also serve to explain the existence of urticaria and of the

acute circumscribed œdema of Quincke (acute rheumatismal œdema), which undoubtedly have their origin in the central nervous system.

Diabetes Insipidus.—Weil (*Ibid.*) has, with extraordinary patience and industry, followed out the family history of a patient afflicted with diabetes insipidus, and has found that in his case it was undoubtedly an hereditary malady, many of his ancestors and immediate relatives being victims to it, or, to use their own phraseology, being "water-drinkers." The disease first appeared in the family records in the great grandfather, who had five children, of whom three were affected like himself. Of twenty-nine grandchildren, seven were "water-drinkers" and nine died in infancy, before the disease had a chance to show itself. There were fifty-six great grandchildren, and twelve of these were the subjects of diabetes. It is to be remarked that all who escaped having the disease transmitted the same immunity to each one of their children and grandchildren; so that atavism would seem to be the exception in the transmission of this form of diabetes. The author's facts, the collection of which must have cost him very great expense of time and trouble, are summed up in a neat genealogical tree, showing the relationships between the diabetic ancestor and his ninety descendants, as regards both the ties of blood and the more recondite associations involved in the transmission of the disease.

Intestinal Neuroses.—Cherchevsky ("Rev. de méd.") has collected several cases which he regards as examples of tonic spasm of the circular muscle-fibers of the intestines. This accident, which occurs more especially in persons of intellectual habits and sedentary modes of life, is characterized by suddenly appearing enormous tympanitic distension of the abdomen, with a considerable degree of pain and tenderness, a sense of epigastric oppression and of dyspnœa, violent griping pains and constant desire to go to stool with inefficient expulsive efforts, and the passage of only a small amount of fæcal matter in the form of bullet-like scybala or of small compressed cylinders. These symptoms last a few hours, or even some days, and then suddenly disappear. In the intervals between the paroxysms the patients enjoy excellent health, their appetite is good, and their only complaint is of more or less persistent tympanites, with constipation and frequent eructations of odorless and tasteless gas. The paroxysms are induced by intellectual effort, mental excitement, violent emotions, etc. This, together with the suddenness of the appearance and disappearance of the symptoms and the character of the latter, leads the author to the belief that in this condition we have to do not with a state of intestinal atony, but with a state of localized intestinal spasm, producing sudden accumulations of gas with the associated phenomena of colic, tenesmus, and constipation. The results of treatment are corroborative of this view, as the constipation and tympanites yield readily to opium and belladonna, while cathartics, which should ameliorate the symptoms, if due to atony, only aggravate them.

The Virulence of Tuberculous Matter.—Martin and Parrot (*Ibid.*), in experiments which seem to be conclusive, have found that no one of the so-called antiseptics—carbolic acid, creasote, corrosive sublimate, bromine, salicylic acid, or oxygenated water—even in the most concentrated solutions and the most complete and prolonged contact, can be relied upon to destroy the virulence of tuberculous matter. The only agent which acts certainly in this way is heat, and the surest means of disinfection in a hospital or apartment is the introduction of air heated to 125° C., and carried into every corner and crevice. But, so far as any feasible means for attacking the tuberculous organism in the human system are concerned, the author's experiments are completely negative.

Diabetic Neuralgia.—The occurrence of neuralgia in diabetic subjects, and depending apparently upon the diabetic diathesis for its existence, has been noticed by several writers within the last two or three years. Cornillon (*Ibid.*) has collected the histories of twenty two instances of this association of neuralgia with diabetes; eight of these cases, including two contributed by himself, have been very fully described, the histories of the other cases are more meager. The characteristics of diabetic neuralgia, judging from the description of these twenty two cases, are well marked, and render the diagnosis of the complaint easy. Such neuralgias are distinguished by their spontaneity, no cause, either immediate or remote, except the glycosuria, being discoverable, by their intensity, hardly paralleled in any other variety of pain; by their tendency to a symmetrical development (noted in eighteen out of the twenty-two cases); and by the obstinacy with which they resist any form of treatment except that addressed to the relief of the causal condition—the diabetes itself. They show a tendency to attack the regions supplied by the sciatic nerve, although the face and other parts of the body are also occasionally affected. They are associated with marked tenderness to pressure over the course of the nerve which is the seat of the pain; and motion of the muscles in the vicinity of the nerve, as well as variations of temperature, greatly aggravates the suffering. The causation of this rather infrequent form of neuralgia is still obscure. The author rejects the hypothesis of Rosenstein, that it is due to congestion of the abdominal viscera, on the ground that the latter is so often present without the co-existence of any neuralgic or any diabetic symptoms. The theory that it is due to an excess of sugar in the blood is disproved, he thinks, by the fact that in some of the cases the glycosuria is very moderate, and that, although in some instances the intensity of the symptoms is proportional to the degree of glycosuria, this is by no means the universal rule. Cornillon's own view, which we believe to be open to the same objections that he urges against these other theories, is that diabetic neuralgia is a manifestation (as he holds diabetes itself to be) of a gouty diathesis, and that such a neuralgia is the direct result of a condition of uricæmia. The decision of this question must, however, undoubtedly await more extended investigation and the analysis of a greater number of cases than the author has been able to collect.

Pernicious Anæmia in Children.—Kjelberg ("Arch. f. Kinderheilk.") describes a case of pernicious anæmia occurring in a child five years of age and running a very rapid course, without remissions, until death occurred, only a month and a half after the inception of the disease. The case is highly interesting as constituting, with one other, the only certainly known instances of pernicious anæmia in childhood. The whole account is sufficiently full and accurate, and, with the confirmatory evidence of the autopsy, leaves no doubt as to the correctness of the diagnosis.

The Relations of Scrofula and Tuberculosis.—Albrecht (*Ibid.*) insists anew upon the pathological identity of tuberculosis and scrofula, and, from recent literature, gives a host of instances where tubercle bacilli have been found in scrofulous formations. The practical bearing of the connection between these two morbid states is evident; and, if this connection were only a probable one, it would still claim our attention in view of the great prevalence of scrofula and the fatality of tuberculosis. If there is a chance that the former can develop into the latter, or even if we are limited to the certainty that the former leaves the system in a condition suitable for the development of the latter, we must welcome any means by which scrofula itself can be prevented, or by which, when once initiated, its further development can be checked. According to Albrecht, we can effect the former by inoculation of scrofulous material, conducted in the same way as a vaccination for small-pox. A further means for accomplishing the same end is the refusal to permit a tuberculous mother to nurse her infant, and a limitation, as far as possible, of the marriages of patients affected with syphilis. For the suppression of scrofula when once inaugurated, Albrecht recommends most earnestly the replacement of starchy by nitrogenous diet, and more particularly the employment of peptones as an aliment. Another very useful agent is the inhalation of oxygen. This gas, given to children four or five years of age, in quantities of fifteen to thirty litres twice a day, notably stimulates tissue-metamorphosis, and often renders possible a degree of super-alimentation which could not otherwise be undertaken without endangering the integrity of the organs of digestion.

Miscellany.

The International Medical Congress. In its last issue the "North Carolina Medical Journal" says:

"Seldom has there been such unanimity of opinion upon any matter

as we have seen expressed in the medical journals of this country on the proposed International Medical Congress. We need not repeat in detail the well-known story of the appointment of the original committee by the American Medical Association, with plenary powers to prepare for the meeting of the Congress in 1887; of the opposition which the printed provisional list of officers and members of the Congress met with; of the movement set on foot to reorganize the original committee, and thus give an opportunity for the admission of some of the malcontents to positions in the Congress; of the reorganization of the officers and councilmen of sections in Chicago in such a way as to distribute the appointments over a larger area of the Union, not failing to 'punish' (as they say in politics) original members who had condemned the New Orleans movement, or were new-code men; how some of the active dissentionists were supplied with prominent places in the new organization; how the leaders of the original committee were compelled by self-respect to resign, and the most prominent members of the original body in Baltimore, Philadelphia, and Boston promptly withdrew their names, thus withdrawing from the Congress a considerable number of the ablest men in the country. It is a record painful to make, not only because it means that the Congress can not now possibly be what it could have been under the first organization, but because it shows how large a share of medical politics can enter into the meetings of such a loosely constructed body as the American Medical Association when designing members choose to exert themselves.

"The 'Journal of the American Medical Association' makes the best it can of the situation, but is almost alone in the position it has taken in defending the unfortunate reorganization. We agree with that journal that the new appointments, with a few offensive exceptions, have been judiciously made, but we believe that the whole movement which culminated in the Chicago reorganization was discourteous to the original committee, and that the ruling as to the legality of a body having power to reorganize and reinstruct its committees has no bearing upon a purely scientific body, composed of voluntary members, and working without any other emolument than the reputation which would ensue from eminent ability brought to the task.

"The sum of the unfortunate affair may be thus stated: We have been made ridiculous in the eyes of the medical world. The proposed Congress has been severely crippled. The American Medical Association has given evidences of a state of things which must be corrected or be ruined. The new-code men by this blunder have been advanced to a position which no act of theirs could have accomplished for them in a quarter of a century."

The "Maryland Medical Journal," in its issue of August 1st, says: "Despite the very cheering assurances of the 'Journal of the American Medical Association' that the Ninth International Medical Congress will be conducted in the 'most liberal and enlightened manner' by the 'present able and judicious Committee of Arrangements,' the progress of another week presents a wide-growing distrust of the recent work of the committee at Chicago. The withdrawal of the appointees of the committee in Philadelphia, Boston, Baltimore, and Washington has been followed by similar resignations in Cincinnati, St. Louis, Chicago, and in other localities. These declinations have come not only from the gentlemen originally appointed by the last committee, but, in a number of instances, the appointees of the present committee respectfully decline to hold the honors awarded to them. Indeed, it seems to be quite apparent that the gift of that committee will go begging unless some chosen patriot is found up to peep at waning fortunes. Under existing circumstances it would clearly be the duty of this committee to abandon its work of reorganization as the most graceful and practical solution of the difficulties which confront it. By such a course the committee would at once lose the respect of the American profession. It has been used in a false position by the American Medical Association. It has been called upon to perform a duty which no similar committee of the association can perform under existing circumstances. The present status of the Congress is the result of a false and unnecessary issue which was made to the American profession or to the American Medical Association. Its introduction into the discussion was totally unwarranted and unjustifiable. The 'code' issue is not an issue which should be raised in the organization of an International Medical Congress. At previous meetings of the Congress all questions of medical politics have been rigidly excluded, and such should have been the case in the organization of the present Congress. The gentlemen who have declined to hold positions under the present committee of organization are 'old-code' men. Their action has not been influenced by this question. Any attempt to impugn their motives on this ground is an unjust and unwarranted assumption.

"The only point to be considered has been overlooked by the *organ* of the association—in its great devotion to the interests of the present committee of organization—while it vigorously assails the first committee and the gentlemen who decline to serve under the present committee. It is the fact that the Congress is a scientific body, that it is interested only in scientific work, that it should be organized only on a strictly scientific basis, and that the gentlemen intrusted with the conduct of the Congress should be selected out of deference to this fact. The composition of the Congress demanded that men should be selected to its various offices irrespective of geographical position or 'code' politics, but solely on the principle of natural selection—the best men for the best positions.

"We do not deny the fact that the first committee made serious blunders, that the doctrine of natural selection has been overlooked in a number of instances. This fact did not, however, warrant the action of the association in introducing false and absurd issues into the reorganization of the Congress. The first committee performed a difficult duty in a manner perhaps as satisfactory as any similar committee would have done. It considered that it was constituted to organize a body of scientific workers, and it was doing a duty to scientific medicine when it lost sight of geographical lines and medical ethics.

"It is the grossest presumption on the part of the association *journal* to charge these gentlemen with having used the association as a 'decoy duck' to obtain positions for themselves and for their friends, and then 'coolly turn the association into a "foot-ball."' We must regret the illogical and ill-tempered manner in which this 'journal' discusses the points at issue in this controversy. It seems to us its position is poorly taken, and its language is indiscreetly chosen. This 'journal' is now harping on the false issues introduced at New Orleans, and it is no more representing the views of the majority of the members of the association than the few malcontents, who captured the New Orleans meeting, represented the true feelings of the membership of that meeting. Our contemporary is in the position of the ox in the mire. In its efforts to extricate the association from the serious blunders it has made, it becomes more hopelessly entangled. It plunges and charges in the mud of its own make, and hopelessly attempts to fling this mud into the faces of gentlemen who are not responsible for its unfortunate dilemma. It is a trite saying, 'Whom the gods wish to destroy they first make mad.' This seems to be the unfortunate state of mind which besets the leaders of the association and its official *organ* at this time."

The "Canadian Practitioner" says: "We have watched with great interest the progress that has been made in completing the arrangements for the International Medical Congress, which is to be held in Washington in 1887. As our readers well remember, the American Medical Association appointed a committee, giving power to the same to invite the medical world to America, and make the necessary arrangements for the meeting. The invitation which was cordially given was accepted in a very friendly spirit, and the committee proceeded with the work it was asked to perform, and accomplished it most admirably, as we thought. The officers and committees were chosen with great care and prudence, truly representative men being placed in the most important positions.

"We had supposed that the meeting of the American Medical Association recently assembled at New Orleans would gladly indorse the acts of its committee, and say, Well done! go on and complete the work you have so well commenced. But no, says a narrow clique of agitators, you have left certain States unrepresented, you have neglected the rural districts, and, worse than all, you have ignored a number of the bumptious notoriety-seeking boys, who are superlatively well qualified for the most respectable positions in the Congress. By some means, a majority of those present were induced to vote for a resolution which prac-

tically censured the committee, and added enough new men to govern the organization for the future.

"The new committee, including some members of the original committee, met at Chicago, June 24th, and made many changes in accordance with the views expressed at New Orleans. Before these changes were confirmed, Dr. Billings explained the situation, from the standpoint of the old committee, as follows:

"'The invitation was purposely worded as coming from the medical profession of the United States, and not from the association only, in order that all regular physicians in the country, and in particular the various important societies devoted to special branches, such as the gynæcological, ophthalmological, laryngological, etc., and also the societies in our large cities which are specially devoted to scientific work, such as the Academy of Medicine, of New York, the College of Physicians, of Philadelphia, etc., should feel that they were included, and must share the responsibility of providing a proper reception for the Congress.'

"This broad view of the question was not acceptable to the committee. They had received orders to decapitate, and they decapitated accordingly. We have neither space nor inclination to discuss at length the merits or demerits of the victims or their substitutes. While, in a general way, we may say that the new appointments should, under ordinary circumstances, be acceptable, this affords no reason why equally good men should be subjected to such humiliation.

"We can not help thinking that the method of procedure was, in all respects, unmanly, ungenerous, and unjust; and we sincerely sympathize with that large portion of the respectable body of the profession in the United States who must feel keenly the humiliating position in which they have been placed. Already this sad business is bearing its bitter fruit. The respectable physicians of grand, conservative old Philadelphia have, in a body, formally declined 'to hold any office whatsoever in connection with said Congress as now proposed to be organized.'

"We had looked forward to a very pleasant and successful meeting at Washington. The ability, generosity, and hospitality of the physicians and surgeons of the United States are well known to the whole world. A few weeks ago the prospects for the proposed Congress were exceedingly bright; now a dark cloud overhangs the undertaking, and what the end will be no one can foresee. We would gladly welcome any solution of the serious difficulties which would bring light out of darkness, but, so far as we can see at present, the prospects are gloomy in the extreme."

The "Independent Practitioner," of New York, one of the ablest of the journals that are devoted to dental surgery, says:

"In the last number of this journal it was announced that the reorganized committee of the American Medical Association had dropped the section of oral and dental surgery from the list of sections established by the original committee. This action demands some notice on the part of dental journals. At the London meeting of 1881 our section played such an important part, it worked in such harmony with the other sections, and contributed so largely to the distinguished success of that Congress, that we had no reason to doubt that, here in America, where dentistry has made such peculiarly rapid strides, where as a branch of medical science it was first organized, whose the modern teaching of dentists as scientific men originated—here, among a people who claimed preeminence in practical advancement, our specialty would surely be given every opportunity to benefit by this convocation of all that was great in medicine. In London there was no distinction between the various sections. In free democratic America it was anticipated that a section that would probably number more delegates than any other would be given peculiar facilities. We are happy to say that the Congress, as first organized by representative medical men, had fulfilled all expectations. It remained for a rump association to outrage respectable medicine by overturning that which had been established, and to attempt to found a World's Congress upon sectional issues. It shows a woful misconception of the character and purposes of the Congress when local quarrels and questions of personal bias are injected into the discussion thereof. They must indeed be men of narrow views who would force a world's professional assembly to take sides on a division of opinion among the physicians of the State of New York. Will medicine as a whole never get above these petty squabbles? Will it never make good its boast of being a learned profession, and rise superior to the pot-house wrangles which engage only minds of small caliber?

"That dentists may understand the present status, it is necessary that we explain some things that may not be known to all of them. The International Medical Congress is what its name indicates—a council of the representative medical men of the world, which meets every third year. It knows nothing of medical societies or medical politics, but at each meeting accepts the invitation of the medical profession of some country to hold its next session with them. It is never the guest of any medical society, but it expects that the whole profession of the country in which it meets will join in advancing its interests. It is not intended to be a convocation of small men, nor is it anticipated that it shall be so used as to advance individual interests. Especially does it discourage all professional demagogism. In this country the American Medical Association, as the nearest approach to a national organization that we have, assumed to issue the invitations through a committee of representative men, who, in the event of its acceptance, were directed to complete an organization. This committee visited Copenhagen, where the Congress of 1884 was held, extended the invitation, which was accepted, and the committee thereby became an organizing committee of the Congress.

"They returned home and proceeded to complete their work by adopting rules, establishing sections, and appointing their officers. That this work was well done there can be no question. But upon the reassembling of the American Medical Association in New Orleans, in March last, in a place remote from the great medical centers, and where the membership for the year would necessarily be made up largely of those who were not conversant with the needs and feeling of the profession, it was found that a few determined demagogues, oily of tongue and reckless of the best interests of the profession, had secured control of the association. They did not belong to the class of men who have made medicine what it is. They were in no sense representatives of the better part of medical science, and so they had not been appointed to commanding positions. But they were determined in some way to make the Congress personally profitable to themselves, and they accordingly headed a movement which resulted in the undoing of all that had been done, and the appointment of a practically new committee, with themselves in the prominent positions.

"The plea under which this was done was, that the organization of the Congress did not properly represent the country, and that some of the new-code men of the State of New York had been appointed to office. The speciousness of this claim will be seen when it is understood that this is not a political assembly; it is not the *country* which is to be represented, but the profession of medicine, and such men should be chosen as best typify the great profession, no matter if they were all found in one city. If the backwoods of Arkansas could furnish a man who could take rank with the leading minds of medicine, he should be chosen. But, if not, Arkansas should wait until it could produce such a man. As to the factional issue of new- old codes, that was a matter with which the Congress had, and desired to have, nothing whatever to do.

"But the new committee assumed the reins, and proceeded to reorganize the Congress, displacing some of the men whose fame is world-wide, and who cast a luster upon medical science, and putting in their places some of the [illegible] who were great only in their own conceit. They reduced the number of sections, dropping that of dental and oral surgery, or, what is the same thing, consolidating it with general surgery. The Medical Bulletin, of Philadelphia, which is edited by one of the leading spirits in the revolution, says: 'The exclusion of the section of dental and oral surgery was [illegible] because not being generally recognized as a legitimate department of medicine.' We may well be content to rest under the ban which [illegible] with very much that is reputable and honorable in medicine.

"Anticipating criticism, the new committee [illegible] themselves with the opinion of lawyers concerning the legality of their action. [illegible] What have lawyers to do with the ethics of scientific professions? Did the committee propose to go to extreme legal limits, or was it their desire to do what was professional and right?"

"As might be imagined, their proceedings have excited a deep and indignant feeling among the better part of physicians. The protests have been many and vigorous. The most of the leading medical journals have forcibly denounced the movement. Meetings of leading medical men have been held in several of the large cities, and many of the most respectable of the appointees have announced that they will have nothing to do with the Congress as now organized. In Philadelphia, such men as Agnew, Bartholow, Brinton, Da Costa, Gross, Hays, Leidy, Mitchell, Stillé, Tyson, Wood, and many others, with Yandell, of Louisville, have formally withdrawn. The Philadelphia list of protestants alone includes four presidents of sections.

"This action has been imitated in other cities, and so many eminent names have been withdrawn that it now seems demonstrated that, under the present organization, the Congress can not by any possibility be made a success. The men now charged with the management of the Congress are believed to be incompetent, and they certainly do not possess the confidence of the profession, nor are they sufficiently representative of the intelligence of those for whom they assume to act. Therefore, as we said in the last number, it is probably as well that we are not involved in the quarrel. The only thing that remains is to see if the Congress can not be rescued from the hands of those who have assumed its management. But even this could not probably be done in time to re-reorganize with much hopes of making it what it should have been.

"It is a shame and a scandal to medicine that such a state of affairs can exist. But as long as such an organization as the American Medical Association, with its fluctuating, constantly changing membership, shall be the representative Association of American Medicine, we have little better to hope for. It is a complete political body, and, like all such associations, it is usually controlled by demagogues and wire-pullers. What medicine needs is a permanent body, that shall represent, not its tricksters and politicians, but its intelligence, its professional eminence, and its scientific attainments. This the American Association does not and can not do, because its membership is founded upon geographical, and not upon scientific or professional representation. It now seeks to make the International Medical Congress but an enlarged session of this unrepresentative body."

In the course of a spicy article entitled "The Late Proposed Medical Congress," the "Peoria Medical Monthly" says:

"The Philadelphia protest and withdrawal contained twenty-eight names, that from Boston nineteen, and Baltimore twelve, with more to hear from. Twenty-seven from New York were ignominiously bounced, and the list of officers and committees as it now stands is bereft of such names as Loomis, Emmet, Bulkley, Keyes, Lefferts, Mundé, Knapp, Bosworth, Packard, Da Costa, Bartholow, Pepper, Mitchell, Gross, Hays, Agnew, Parvin, Goodell, Leidy, Stillé, Yandell, Williams, Blake, Chadwick, Chisolm, Johnston, Mackenzie, Lee, Tiffany, Theobald, Johnson, Burnett, Prentiss, Baker, Huntington, Engelmann, etc.

"Poor Congress! it looks as if it had 'died abornin',' or, at least, as if having so sad a hard time to get started into this world it were permitted to rest in peace and contention. The office of secretary-general is vacant. The sections of therapeutics, medicine, anatomy, and surgery are without heads, and other sections are partially dismantled. And still the fight goes on."

The "New Orleans Medical and Surgical Journal" says:

"So at the New Orleans meeting of the American Medical Association, the report of the committee was presented and disapproved. Many of our readers will recall the intemperate discussion on the occasion. It was characterized by offensive personalities, well calculated to widen the difference already existing. One spokesman from the West, in a spirit of the truest valor which beckons the highest needs in his garden as a summons to his subjects, proposed to befriend the great men of the East. The sentiment was applauded. As a crowning act of discretion, to the second committee composed of some of the most honored names on the roll of the association, a resolution was finally adopted empowering said committee to be composed of the membership of the original committee of seven, enlarged by the addition of thirty-four members of the association, one from each State and Territory represented here, from the Army, Navy, Marine Hospital Service, and the District of Columbia. To the new committee thus constituted, was granted the power of reviewing, altering, and amending the work of the original committee, as deemed necessary. This enlarged revisory committee some of our most esteemed contemporaries choose to call the 'New Orleans Committee.' True, the committee was born here, but of foreign parentage, and certainly conceived elsewhere. It is a fact worthy of record that not a single Louisianian raised his voice in the discussion which led to the organization of the new committee.

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"Already it is painfully evident that it is simply impossible to organize the American meeting of the International Medical Congress upon the plan adopted by the Chicago committee. Truly, we stand to-day a divided household, and, unless some reconciliation can be effected, the failure of the Congress is inevitable. The present situation is deplorable beyond expression. A mighty responsibility rests on the present Committee on Organization. The members must realize the impossibility of organizing the Congress in further pursuance of the policy recently adopted. For the sake of harmony, through which alone the Congress can succeed, and the profession escape a national disgrace, the committee should make concessions to the gentlemen who feel aggrieved by their action; and such concessions to those who have resigned, as well as those who have been displaced, should meet only friendly responses and pledges of harmonious co-operation.

"We favor the organization of a National Committee of peace-makers, composed of representatives from the States and Territories, to be appointed by the presidents of State and Territorial societies; from the District of Columbia, to be appointed by the president of the District Society; and from the Army, Navy, and Marine-Hospital Service, to be appointed by the ranking medical officer of each service."

The "Canada Lancet" says:

"This action on the part of the leading members of the profession seems a most serious step, but it arises from the fact that there is a growing want of confidence in the ability of the American Medical Association, as an organization, to carry out such an undertaking satisfactorily, and also in the probable success of any Congress from which the best known scientific men of the country are excluded. The action of the committee in regard to the 'new-code' men would indeed be ludicrous were it not so serious, and will have the effect of creating sympathy where before there was only cold and formal respect. The insult offered to such veterans as Bowditch, Fordyce Barker, Draper, Weir, Mundé, Roosa, Knapp, Noyes, Agnew, Jacobi, and others, merely because of a difference of opinion on the code question, will not be tolerated by the good sense of the American medical profession."

The "British Medical Journal" says:

"The most recent advices from the United States have brought the startling intelligence that there exists in the American medical profession a very serious discord concerning the next International Medical Congress. We do not propose to discuss the ætiology of this rupture, for it is quite enough to be called upon to face the fact that it exists. The fact is very grave. Its existence jeopardizes, if it have not already destroyed, the probable success of the forthcoming Congress. Certainly our brethren in the States can not expect those who have already promised to attend, and those who may expect to visit America at that time, to work with enthusiasm in the preparation of any scientific contributions while those whom they propose to visit are divided, and while wholesale secessions of the official executive and of well-known persons nominated to high offices are announced. Nor do we consider it to be either our duty or privilege to suggest a remedy for this exceedingly unpleasant dilemma. It seems to be conclusive that the profession in America at this moment is hopelessly divided on the subject. Already a large proportion of the influential and active scientific men of Philadelphia—such as Bartholow, Weir Mitchell, Da Costa, H. C. Wood, Pepper, Leidy, Stillé, Parvin, and Goodell, and David Yandell, of St. Louis—have publicly withdrawn from the organization of the Congress. A like number of distinguished men in New York—such as Loomis, Roosa, Jacobi, Mundé, Agnew, and Emmet—have also either resigned or been dropped, and therefore will not co-operate with the present organization. The outlook as the matter now stands is not at all encouraging. One committee has reorganized the work of another up to the point near that of destruction. Moreover, the work of the present

committee must be submitted to the American Medical Association in May, 1886; and no one can say to what extent it may also be either overturned or modified in such a way as to seriously impede the labor necessary to be performed before the meeting of the Congress in 1887. Altogether, the position is lamentable, and there is much fear that the acceptance of the invitation to meet in the States may be withdrawn, and the next meeting of the International Medical Congress be held in Berlin, or some other great medical center, pending the settlement of the serious dissensions among our brethren of the United States."

Clinical Teaching in Obstetrics and Gynæcology.—It is pleasant to note the constant increase of the facilities for the practical teaching of these branches in New York. Besides the professors and instructors at the Polyclinic and the Post-Graduate School, there are now several very capable private instructors holding clinical appointments. We would call attention to Dr. Garrigues's card, which appears in our advertising columns this week, and assure our readers that he will be found most efficient as a teacher of obstetrics and gynæcology.

The University of Charkow.—The "St. Petersburger medicinische Wochenschrift" states that Dr. J. Lasarewitsch, having served the appointed time as professor of obstetrics and gynæcology, has been made a professor emeritus.

The University of Berlin.—We learn from the same journal that Professor Gerhardt, of Greifswald, has been called to Berlin as an ordinary professor in the medical faculty, and to succeed Professor Leyden in the service at the Charité.

The Death of Professor Vogt, of Greifswald.—The same journal announces that Dr. Paul Vogt, the Greifswald professor of surgery, died suddenly, of heart disease, on the 5th of July, in the forty-second year of his age. He had held the full professorship for only three years, having succeeded Hüter in 1882.

THERAPEUTICAL NOTES.

The Summer Diarrhœas of Infants.— The "Medical Age," of Detroit, contains, in its issue for July 25th, a valuable article on this subject, by its editor, Dr. J. J. Mulheron. He treats first of the causes of these affections, dividing them into simple diarrhœa, entero-colitis, and cholera infantum, and then speaks of the treatment as follows:

"The first thing necessary in undertaking the treatment of a case of 'summer complaint' is to decide to which of the three forms of intestinal disturbance above referred to the case belongs, and, having settled this point, to settle on some definite theory of its nature and the pathological conditions which obtain. Without these preliminaries the physician must flounder aimlessly about.

"The armamentarium which I would suggest in going out to cope with the summer diarrhœas of infants comprises the following drugs and remedies, it being understood, of course, that the dietary shall be determined *pro re nata*. The drugs are mentioned at random, and are not given in the order of their importance: Castor-oil, prepared chalk, calomel, creasote, salicylic acid, opium, strychnine, vegetable astringents, ergot, belladonna, chamomile, bromide of potassium, sulphuric acid, subnitrate of bismuth, oxide of zinc, cocaine, the spice poultice, and warm and cold baths.

"A brief review of the physiological action of these may assist to their therapeutic application. Castor-oil is a mild but decided purgative, and is at the same time an emollient through its action on the intestinal mucous membrane. Prepared chalk (carbonate of calcium) is an antacid. The belief that calomel is a cholagogue is now very generally discarded. The drug has, doubtless, a complex action, but for our present purpose it is sufficient to state that it is an antiseptic, having specially marked anti-fermentative properties. Experiments conducted by Wyssotsef in Hoppe-Seyler's laboratory are quite conclusive as to its influence in preventing decomposition and butyric acid fermentation in the intestines. Added to a cultivating fluid it prevents the development of micro-organisms, while it destroys the activity of those which have already formed. These properties are, probably, due to the formation of the bichloride of mercury through its union with the chlorides of the stomach. Creasote is intensely poisonous to all forms of infusoria and fungi. It allays irritative conditions of the gastric nerves and becomes thus also an excellent anti-emetic. Salicylic acid destroys low forms of organic life and ferments. Opium has a very manifold action, but for our present purpose it is sufficient to recall the fact that it is an anodyne, that it diminishes peristaltic action of the bowels, and that it checks secretion from all surfaces except that of the skin. Strychnine, besides its characteristic action on the spinal motor nerve-centers, influences also such portions of the cord as affect the vaso-motor centers. Without being able to state its exact physiological action in this direction, clinical experience has demonstrated its value as a tonic in atony and relaxation, both of striated and non-striated muscular tissue.

. . . . . .

"Ergot has the peculiar property of causing vaso-motor spasm, and its action is noticeable in the non-striated muscular fiber of the intestines as in the same tissue found elsewhere. Belladonna is a stimulant to the vaso-motor centers, causing contraction of the capillaries. It checks secretion from glands. It relieves pain, Anstie regarding it as the best remedy to mitigate pain of every kind in the pelvic viscera. Chamomile, through the volatile oil which it contains, possesses the power of subduing reflex excitability. Grisan found it impossible to tetanize with strychnine a frog which had been fortified with chamomile, and, *vice versa*, when excitability had been produced by strychnine it could be calmed by means of chamomile oil. The power of bromide of potassium in allaying reflex excitability is well known. Subnitrate of bismuth acts, probably, locally, forming a coating over the mucous membrane and protecting it from the action of irritants. Oxide of zinc, besides being an astringent, possesses also the property of allaying reflex irritation. Sulphuric acid is tonic and astringent, with an apparently specific action on the intestines. The local anæsthetic action of cocaine has been so much discussed recently as to make reference to it unnecessary. It suggests itself as an application to the irritated gums. The spice poultice is a counter-irritant, and is, probably, also antispasmodic through absorption of the oils which it contains.

. . . . . .

"*Simple Diarrhœa.*—Assist the effort of nature to rid the bowel of irritant matter with a dose of castor-oil. Follow this by sufficient doses of prepared chalk to correct the acidity of the discharges, give opium to diminish the peristaltic action, and give astringents and strychnine to restore tonicity. The following is a good formula for a child of, say, eighteen months:

Tr. opii camph.	℥ ss.;
Ext. rubus villos. fl.	℥ j;
Tr. nucis vomicæ	gtt. xij;
Mist. cretæ	q. s. ad ℥ iij.

M. Sig. A teaspoonful every three hours.

"*Entero-Colitis.*—When the character of the stools, the elevation of the temperature, the disturbance of the stomach, etc., indicate the involvement of the intestine in a catarrhal inflammation, the means employed in the simple diarrhœa, which is usually the precursor of these graver symptoms, must be supplemented by other remedies. Place the child on small doses of calomel and ipecac—say a twelfth of a grain of each for a child of eighteen months—every two hours, alternated with a teaspoonful of an infusion of five chamomile flowers in a cup of boiling water. The spice poultice, moistened with hot brandy, must be laid over the abdomen. If the temperature pass 101° F., it must be reduced by baths, the water of which must at first be tepid, and gradually cooled to 70° F., or lower, as the circumstances of the case require. Should twenty four or thirty six hours of this treatment be followed by no betterment, and the stools continuing or becoming more colliquative, I have found the following formula to answer admirably, quieting the irritability of both the stomach and the bowels:

Creasoti	gtt. iv,
Zinci oxidi	gr. xv,
Tr. belladonnæ	℥ ss,
Glycerini	℥ ss,
Aquam	q. s. ad ℥ ij.

M. For a child a year old: Sig. A teaspoonful every three hours. This may be alternated with aromatic sulphuric acid, two drops in ten drops of brandy, every three hours. The spice poultice should be continued.

"*Cholera Infantum.*—Bearing in mind our conception of this affection as a neurosis, our treatment should be directed, 'first, to destroying the organisms, on which every fermentation depends for its development; secondly, to allaying the irritation of the end organs of the splanchnics in the mucous membrane; thirdly, to arresting the outward osmosis from the vessels; fourthly, to lowering the febrile temperature and removing the algid condition.' My experience leads me to speak with favor of salicylic acid and chalk, as recommended by Dr. Hutchins in the September, 1880, number of the 'Proceedings of the Medical Society of the County of Kings,' N. Y., as a remedy meeting the first and second of these indications. This combination is useful only in cases of serous diarrhœa, having no efficacy in the inflammatory or lienteric form. It acts happily, also, in allaying gastric irritability. Three grains of salicylic acid, rubbed up with two grains of prepared chalk, should be given every three hours. Care should be taken that the chalk be pure, and that, during the effervescence attending the addition of water to the powder, no odor of chlorine be emitted. Such odor denotes the presence of chlorine—a residuum of the manufacture of chlorinated soda. It is apt to exist in prepared chalk, and should be carefully avoided. The creasote formula, given above, for entero-colitis, has also answered a good purpose, especially in cases attended with much gastric irritability.

"There are few cases of cholera infantum in which the bromide of potassium will not prove helpful, and especially when there exist restlessness, wakefulness, and twitching of the muscles. It allays the irritation of the splanchnics, and of the nervous system generally.

"Baths hold an important place in the treatment of the fever of cholera infantum, and for one reason, among others, that it is of little use to administer medicines as long as the temperature is elevated. The soothing influence of a cold bath on a child whose temperature has reached, say, 103° F., and the increased activity of the drugs administered after the bath, need but to be witnessed to make converts to this much neglected remedy in the treatment of cholera infantum. The child should be immersed up to its neck in water at a temperature of 95° F., to which cold water should be added until the bath reaches 70°, or even lower, the condition of the patient, his temperature, etc., being the guide to the reduction. No hard-and-fast rules can be laid down to govern the temperature of the bath or its frequency. The condition of the infant must be the guide, which the good sense of the physician must be trusted to interpret and follow.

"When the child has entered the algid stage of the disease, treatment offers little hope of rescue. Alcoholic stimulants and warm baths are about the best we can apply. Belladonna, through its action on the heart, suggests itself as a remedy in this condition, and experience has shown it to be of value. By paralyzing the terminal inhibitory filaments of the pneumogastric, it gives the heart over to the sympathetic, and we have, as a consequence, increased rapidity of contraction and raised arterial tension—a condition of affairs which it would seem very desirable to secure in the cold stage."

Osmic Acid in the Treatment of Neuralgia.—Schapiro ("St. Petersb. med. Woch.") enumerates the results met with by a number of observers in the use of injections of osmic acid for the relief of various forms of neuralgia, and gives the details of his own experience, which relates to eight cases: 1. A woman, thirty-eight years old, was cured of a neuralgia of the second and third branches of the right trigeminus by two injections. 2. A woman, fifty-two years old, was cured of a neuralgia of the same branches by seven injections. 3. A woman, forty-eight years old, with neuralgia of the first and second branches of the left trigeminus, was improved by ten injections. 4. A woman, sixty-six years old, was cured of a neuralgia of the second and third branches of the right trigeminus by one injection. 5. In the case of a woman, sixty-four years old, with neuralgia of the occipital nerve and tender points, one injection seemed to increase the severity of a most acute paroxysm, and he declined the further use of the remedy. 6. A man, sixty years old, was cured of a neuralgia of the first and third branches of the right trigeminus, was improved by twelve injections. 7. A man, sixty years old, was cured of a neuralgia of the first and third branches of the right trigeminus by eight injections. 8. A man, fifty-three years old, was cured of a neuralgia of the second and third branches of the right trigeminus by six injections. Momentary faintness followed an injection in one instance, but he states that, with that exception, he has observed no unfavorable effects.

The Use of Ergot during Labor.—Säxinger, of Tübingen ("Dtsch. med. Wchnschr."; "Ctrlbl. f. Gyn."), defends the use of ergot during the expulsive stage of labor, provided the head is low in the pelvis, and even in cases of contracted pelvis, after the head has become fully molded. He quotes Schatz to the effect that ordinary doses simply increase the frequency of the uterine contractions, without making the individual pains stronger. At Seyfert's clinic, for the past three years he has observed excellent results from the use of an extract recommended by Dr. Denzel, which is said to contain none of the active principles but sclerotinic acid, ergotin, and ecboline. Rather more than a grain and a half of this extract may be considered the equivalent of fifteen grains of powdered ergot. The author thinks that the use of ergot during labor will be recognized as legitimate so soon as a preparation free from deleterious constituents becomes generally available.

Salicylic Acid in the Treatment of Chancroid.—Notta ("Union méd.") gives the following formulæ:

Salicylic acid	1 part;
Flour, Powdered gum arabic, each	2 parts.

Mix.

Salicylic acid	3 parts;
Oxide of zinc, Powdered starch, each	15 "
Vaseline	20 "

This ointment is used by Mauriac at the Hôpital du Midi.

The Treatment of Pyrosis.—A contributor to the same journal gives the following formula, on the authority of Peter:

Powdered bicarbonate of sodium	37 grains;
Prepared chalk	15 "
Extract of nux vomica	1½ grain.

Mix and divide into ten powders, one to be taken three times a day. They are prescribed for persons with whom a milk diet disagrees, but for whom that diet is ordered. If diarrhœa occurs, subnitrate of bismuth is given, in doses of seven or eight grains, with a sixth of a grain of extract of nux vomica, and from a sixth to a third of a grain of powdered opium.

The Treatment of Whooping-cough.—The same writer (*Ibid.*) attributes to Roger the following method of treating prolonged and severe whooping cough ("*hypercoqueluche chronique*"):

Ammoniac	1½ to 7½ grains;
Syrup of orange-flowers or of red poppy,	375 "
Infusion of elecampane or of Virginia snakeroot	1,125 "

Dose, a teaspoonful, to be repeated with greater or lesser frequency according to the child's age and the effect produced. When the expectoration is very abundant and as if formed of muco-pus, a terebinthinate (syrup of fir-cones, of eucalyptus, or of turpentine) is prescribed. Flowers of sulphur, mixed with honey (from three quarters of a grain to two grains or more of sulphur), may also be given twice a day. It is well, too, to rub the chest or the sides of the neck with a soothing ointment, such as one containing a drachm of the extract of aconite to an ounce of lard.

Menthol as a Local Anæsthetic.—Rosenberg ("Berl. klin. Wchnschr.", "Lancet") finds that a twenty- or thirty per cent. solution of menthol, which is much cheaper than cocaine, is a useful substitute for the latter as an anæsthetic application to mucous surfaces, like those of the nose, the pharynx, and the larynx. Although its effect is much evanescent than that of cocaine, it appears to be somewhat cumulative, for, when repeated, even after a long interval, the later application produced a longer period of anæsthesia than the earlier one.

Original Communications.

OBSERVATIONS ON THE MEDICAL AND SURGICAL TREATMENT OF ACUTE PERITONITIS.*

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PERITONITIS may well be regarded as the most fatal of the acute inflammatory diseases. After a careful compilation of various hospital statistics, etc., I think its mortality may be set down, when all varieties of the disease are considered, at about from fifty to sixty per cent., and from twenty to thirty per cent. higher when so-called "idiopathic cases" are excluded. Indeed, as is well known, there are certain cases, especially such as are incident to septic poisoning, and others that follow perforation of the bowel, in which a fatal termination may be said to be inevitable.

Believing that this mortality is unnecessarily high, and that certain patients with peritonitis are permitted to die who, perchance, under different procedures might be saved, it is my desire to formulate and emphasize certain principles of treatment already known, although not as yet generally accepted by the profession.

All treatment, to rise above mere empiricism, must rest upon a threefold conception—a conception of the cause of the disease, a conception of the natural history of the disease, and, finally, the natural tendencies of the disease, or a foreknowledge of the mode of recovery or death. These principles apply with special pertinency to the treatment of peritonitis, and, before we can expect to treat that disease rationally, we must first know what causes it, and then how it kills.

Without going into unnecessary detail, it will suffice to know that peritonitis may originate from *external traumatisms*, from *internal traumatisms*, by extension of inflammation from contiguous parts, from septic causes and certain blood diseases (as rheumatism, Bright's disease, etc.), and possibly, though rarely, from causes that are purely miasmatic and climatic, constituting the so-called idiopathic cases.

Now, what are the causes of death?

According to the text-books, collapse and asthenia. According to clinical and pathological observation:

1. *Collapse*, which represents the shock received by the nervous system from injury inflicted on the largest serous membrane of the body.

2. *Asthenia*, which may be more intelligently expressed by, *a*, heart failure; *b*, respiratory failure.

3. By inflammatory changes in the lungs.

4. By inflammatory changes in the kidneys.

5. By *hyperpyrexia* as a special cause, superinducing any or all of the foregoing.

Any treatment, to be successful, must be prosecuted in the light of these clinical facts, and, in this understanding, the following considerations are submitted:

1. The rarity of idiopathic peritonitis being now generally admitted, it is of paramount importance that each case should have its ætiology definitely determined at as early a period as possible.

The mere fact that peritonitis exists is not sufficient in itself to justify the adoption of any course of treatment. This primary diagnosis, like the sign-board by the wayside, simply points the way to further explorations.

So long as peritonitis is regarded as a finality rather than as the expression or symptom of some organic disturbance, but little help can be expected from other than a purely empiric line of treatment.

The views of the profession have undergone a great change in this respect. As Dr. Savage tersely puts it ("Brit. Med. Jour.," January 31, 1885), "We are learning, if we have not already learned, to look on peritonitis as a symptom of some organic change, and not as a disease in itself. And this is well for our patients, because operative measures can do much for it. We shall, ere long, regard so-called 'idiopathic peritonitis' almost as a curiosity."

In no other disease is an early knowledge of the causation of the attack so essential, and yet how often is the ætiological factor totally ignored in our haste to adopt a course of treatment which, while it mitigates symptoms and apparently gives relief, at the same time unwarily leads us on to a fatal though, perchance, a painless finale!

It is in the incipiency of the attack, before excessive tympanites has disturbed the normal configurations of the abdomen and fatal asthenia has developed, that the golden opportunity for successful diagnosis exists.

One word as to the alleged difficulties of accurate diagnosis under such circumstances. So much has been said on this subject that they have come to be regarded as well-nigh insuperable. Yet, under a systematically conducted examination, which necessitates the interrogation of each abdominal viscus and which seeks to find a satisfactory explanation for each abnormal symptom, it is surprising how the difficulties will dissipate. It is owing to a want of thoroughness in the examination and a lack of the judicial element in weighing symptoms, rather than to inherent difficulties often, that the diagnosis seems so obscure. Six times have we seen fatal peritonitis develop after acute perforation of the vermiform appendix, and in five cases out of the six has the autopsy verified the diagnosis. ("N. Y. Med. Jour.," January, 1881.)

Of nine cases of *intestinal obstruction* that have fallen under our personal observation, two cases have recovered without surgical interference; hence the diagnosis could not be verified. Of the remaining seven, a positive diagnosis was made in five. In three of these I did laparotomy—twice with success. The autopsy revealed the correctness of diagnosis in the two remaining cases. (See "Transactions of N. Y. Co. Med. Soc.," meeting of April 7, 1884, p. 296.)

These diagnoses were made and the lesion differentiated under conditions of collapse, tympanitic distension,

* Read before the New York Academy of Medicine, May 21, 1885.

and abdominal pain, for these are the prominent symptoms ushering in acute peritonitis, and are cited in this connection to show that a diagnosis which is practically accurate is feasible. (For fuller information regarding diagnosis the reader is referred to an article by the author on "Operative Interference in Acute Perforative Typhlitis," "N. Y. Med. Jour.," January, 1881.)

2. The diagnosis being made, and a local lesion amenable to surgical interference being demonstrated, surgical relief should be rendered at the earliest moment practicable.

The peritonæum behaves very differently under different circumstances. It seems scarcely credible that the same structure that will passively submit to the enormous distension of a gravid uterus or an ovarian cyst would reject so summarily the trifling local irritation consequent upon some minute intestinal perforation. Yet such is its behavior under acute irritations that the rule might well be formulated that all foreign substances, solid, liquid, or gaseous, of an irritating nature, when introduced into the peritoneal cavity, will inevitably and rapidly produce acute inflammation. The history of such traumatisms is, as we have shown, most unfortunate, the terrible features of the attack precipitating themselves with a rapidity and malevolence that are simply appalling.

What, under the circumstances, are the indications for treatment? Were the irritation located elsewhere in the body than in this much-dreaded locality, sound surgical judgment would advise the immediate removal of the irritant. Why, then, should the peritonæum, a structure which is daily proving its immunity to surgical manipulation by giving to surgery its brightest triumphs, not be subjected to the same wise principles that guide us elsewhere in our operative procedures?

True, it is no trifling responsibility we assume when we propose, in the very face of a commencing peritonitis, to open the cavity of the abdomen, release a strangulated bowel, divide constricting bands, or cleanse the cavity from purulent extravasations. But, in view of the exigencies of the situation and the absolute imminence of death, do we shift these responsibilities one iota when we sit supinely by, knowing full well the inevitable fatality that attends the orthodox methods of treatment? What ovariotomist is there that would hesitate a moment to remove stitches and reopen a wound in case internal bleeding or purulent accumulations demanded it? Too well does he know the fatality of temporizing. How many more valuable lives, then, are yet to be sacrificed before the profession realizes the necessity of surgical interference in these desperate cases of internal abdominal traumatism?

Marion Sims ("Brit. Med. Jour.," December 17, 1881) in this very hall sounded the key-note of the future treatment of such cases when he said: "Given a case of perforation of intestine, and given an accurate diagnosis, which is by no means difficult, what are we to do in the present state of our knowledge? Why, of course, we should open the abdomen promptly, clean out the peritoneal cavity, search for the perforation, pare its edges and bring them together with sutures, and treat the case as we now treat other cases involving the peritonæum. Rest assured," he says, "that the day will come, and it is not far off, when an accurate diagnosis in such cases, followed by prompt action, will save life that must otherwise quickly ebb away."

Dr. Robert W. Johnson, chairman of the Surgical Section of the Medical and Chirurgical Faculty of Maryland, said in his Annual Report (N. Y. "Med. Record," p. 550): "The greatest triumphs of the year (1884) are in abdominal surgery, Dr. Bull's case of laparotomy and suture of the intestine for gunshot wound being the greatest of them all." He then goes on to state: "The abdomen should be opened in case of perforation of intestine, hæmorrhage, extravasation of fæces, and *beginning peritonitis*, just as in cases where internal strangulation has been positively diagnosticated, but only under full and complete Listerism, (1) because without operation the patient is almost sure to die; (2) the danger is far more than counterbalanced by the chances of recovery."

To familiarize myself with the technique of the operation, three times I have laparotomized dogs, resected one or more segments of intestine, suturing with catgut the divided gut, and, notwithstanding the difficulty of keeping the animals quiet, they all recovered. Twice I have subcutaneously perforated with a slender bistoury the gut of a dog, and, after forcibly squeezing some of the intestinal contents and blood into the peritoneal cavity, have opened the animals, washed out the abdomen, sutured the perforations, and had one of the dogs recover.

The point raised by Dr. James R. Wood in the discussion on Dr. Sims's paper, to which reference has already been made—namely, that "pathological surgery or operations done for tumors and disease were very different in their results from traumatic or acute surgery, and that this was specially true regarding manipulations of a large serous membrane that resents all impertinent interference"—does not, it seems to me, afford a sufficiently logical basis for doing or not doing the operation.

As a clinical fact, the peritonæum is exceedingly tolerant of interference, provided the proper precautions are observed.

Note the vast number of Tait's operations alone that have been done during the last three years, and the splendid results that have been obtained. Death in these cases has resulted from peritonitis but rarely. More frequently it has been from septicæmia or shock.

In order to show the tolerance of the peritonæum under operations done for the relief of acute irritations, as well as to emphasize the principle I maintain, I beg to present in evidence the following cases, purposely omitting all cases of hernia or intestinal obstruction, referring the reader to Mr. Treves's recent excellent work on the latter subject:

Case I. Kuester ("Verh. d. deutsch. Gesellsch. für Chirurg.," viii, 1879.—Rupture of the sac of an incarcerated crural hernia with escape of fæces into the peritoneal cavity during a kelotomy. Immediate laparotomy and resection of the gut. Death from septic peritonitis.

Case II. Scheide ("Verh. d. deutsch. Gesellsch. für Chirurg.," 1878.—Laparotomy in a case of incarcerated umbilical hernia with gangrene of the gut.

Death four days after operation.

Case III. Schetelig ("Berl. kl. Wochenschr.," xvii, 80, 607). —Knife wound of the abdominal wall in a decrepit man of sixty. Protrusion and laceration of a part of the colon. Reposition impossible at first. Enlargement of the upper part of the wound with subsequent replacement of the bowel. Recovery.

Case IV. Wittelshoefer ("Wien. med. Wochenschr.," xxxi, 81, 118).—Man brought to Bamberger's clinic with the following history: Some days before he had introduced a painter's brush into the rectum to stop a diarrhœa, but when he tried to take it out it had disappeared. On admittance, presents signs of peritonitis, and examination shows the presence of the body in the sigmoid flexure. Other means proving of no avail, he is transferred, three days after, to Billroth's clinic for operation. Patient at this time gives symptoms of severe peritonitis and is somewhat collapsed.

Operation by Billroth.—*Laparotomy.* Incision beginning at anterior superior iliac spine and extending as far as the symphysis. Peritoneal cavity is found filled with fæcal matter, indicative of a perforation. Brush found in the ascending colon and removed by an incision 7 ctm. in length.

Toilet of peritonæum, wound of gut sutured, severe collapse after operation. Death.

Autopsy shows perforation of the peritoneal covering of the gut 25 ctm. above the anus.

Case V. Wittelshoefer ("Wien. med. Wochenschr.," 1881, xxi, 118).—Man, aged fifty-two, brought to Bamberger's clinic, November 8th, with obstinate constipation of six days' duration. On admittance, presents already signs of peritonitis, stercoraceous vomiting, etc. He is found to have a small umbilical hernia, reducible.

Transferred to Billroth's clinic November 18th. At that time already in collapse. The hernia is not so easily reduced, and is somewhat painful.

Laparotomy. Incision in linea alba 18 ctm. in length. On opening the peritoneal cavity, a quantity of fœtid matter oozes out, and there are signs of a general peritonitis. Examination shows gangrene of the gut a little above the ileo-cæcal junction, and volvulus. Resection. Death in collapse five hours after operation.

Case VI. Assmuth ("St. Petersb. med. Wochenschr.," 1881, vi, 118).—Incarcerated umbilical hernia in a man aged forty-five. Symptoms of acute ileus.

Laparotomy. Omentum and gut found gangrenous and excised. Sutured. Recovery.

Case VII. Weinlechner ("Jahrb. für Kinderh.," 1881, xvii, 304).—Laparotomy in a child five years old, with intussusception after the development of acute purulent peritonitis. Resection of intussuscepted part.

Death five hours after operation from exhaustion.

Case VIII. Hoffmann ("Wien. med. Presse," 1881, xxii, 114). —Man aged twenty-four brought to Bamberger with acute gastric symptoms. Diagnosis: perforating gastric ulcer. Transferred to Billroth. Laparotomy performed and shows a perforating ulcer on upper curvature. Edges are excised and united by sutures. Death day after operation.

Autopsy shows an enormously distended stomach with thickened walls. What had been taken for an ulcer was probably a spontaneous rupture, the result of the extreme distension.

Case IX.—Hagens ("Berlin. kl. Woch.," 1883, xx, 106). Historical account of one of the oldest cases of gastrotomy, 1663.

Operation performed by Schwab on a peasant who had swallowed a knife. Incision two fingers' breadth under the free border of the ribs. Wound in stomach united by sutures; abdominal wound closed. Recovery.

Case X. Maurer.—Perityphlitis in a man aged seventeen. Incision extending from the quadratus lumborum muscle anteriorly to the anterior iliac spine. Opens into an abscess cavity, communicating with the perforated colon. Recovery.

Case XI. Weinlechner ("Wien. med. Blat.," 1882. "Ileus in a Man Aged Fifty-two," No. 44).—Laparotomy; incision in median line. Death from peritonitis eighteen hours after. Autopsy shows perforation of appendix vermiformis and perityphlitis.

Case XII. A. Schmidt ("Wratsch.," 1881, No. 51, and "Centralbl. für Chirurg.," 1882, No. 47).—Slow purulent peritonitis in a man aged twenty-one. By aspiration, a thin purulent fluid is obtained. Laparotomy. Incision extending from the navel to the symphysis. The whole peritoneal cavity filled with pus; about five pounds. Removed. Drainage, etc. Complete recovery.

Case XIII. Gussenbauer ("Wien. med. Blat.," 51, 52).— Sword-swallower, aged nineteen, during one of his performances breaks the blade in the œsophagus. The lower fragment is pushed into the stomach by the father, as the boy seems to be choking. On admittance, an examination is at once made, but fails to detect the body either in the œsophagus or stomach. Peritonitis developing, gastrotomy is performed, with extraction of the fragment, which is 27 ctm. long. As no perforation can be detected, closure of the gastric and abdominal wound.

Death. Autopsy shows septic peritonitis, wound of the œsophagus 14 ctm. above the cardia, and a perforation at the fundus of the stomach.

Case XIV. Kocher ("Corresp.-Bl. f. schweiz. Aerzt," Nos. 23, 24).—Gunshot wound of the stomach, in a boy of fourteen, quickly followed by peritonitis and collapse. Laparotomy three hours after. Wound of stomach closed by catgut sutures (Lembert's); closure of abdominal wound. Recovery. Patient out of bed seventeen days after.

Case XV. Sonnenburg ("Berl. kl. Wochenschr.," 142, 1885).—Rupture of the bladder in a man aged thirty-six years. Laparotomy after the establishment of acute symptoms. Abdominal cavity is found filled with urine mixed with fibrinoserous fluid, and signs of peritonitis. The rupture is situated at the inner side of the bladder. It is found impossible either to unite the ruptured part or to sew the bladder to the abdominal wall. Drainage of abdominal cavity. Death eight days after from infiltration of urine and septicæmia.

Mikulicz ("Tageblatt d. Versamml. deutsch. Naturforsch. und Aerzte," Magdeb., 1884, 1, viii, 224).—Mikulicz performs laparotomy in all cases of injury, whether direct or indirect, to the stomach and intestines, even where peritonitis is already present. He cites the four following cases:

Case XVI.—Laparotomy for rupture of the stomach in a man aged twenty-four. Perforation found at the lesser curvature, and is probably the result of extreme dilatation of the stomach. Abdominal cavity is full of fragments of partly digested food. Death three hours after operation.

Case XVII.—Symptoms of obstruction and ileus following a diarrhœa (three weeks' duration) in a young man. Diagnosis: strangulation of the gut. Laparotomy is performed, and about one litre of fibrino-serous matter is removed from the abdominal cavity. Volvulus present and reduced. Recovery from operation, but death three weeks after from intercurrent pneumonia.

Case XVIII.—Perityphlitis followed soon after by symptoms of incarceration. Laparotomy (incision in linea alba). Two litres of fœtid purulent matter are removed from the abdominal cavity. Death five days after. Autopsy shows a perforation of the intestine.

Case XIX.—Acute signs of ileus and meteorism in a young man. Laparotomy. One litre of fœtid pus and a number of pieces of undigested potato found in the abdominal cavity. A perforation is also discovered, on the left side, involv

ing the ileum, about 6 mm. long and 4 mm. broad. No cause can be found for the perforation except that it is a typhoid ulcer in a case of typhoides ambulatoria. Edges of perforation united by sutures. Rapid recovery.

Case XX. Brugisser ("Corresp.-Bl. f. schweiz. Aerzt").—Acute signs of ileus strangulation and peritonitis in a man of seventy-four. Laparotomy; incision parallel with Poupart's ligament. Resection of strangulated bowel. Recovery.

Case XXI. Lloyd ("Brit. Med. Jour.," March 24, 1883).—M. L., a domestic, aged nineteen, was admitted to Woman's Hospital late in the evening of February 23d. She had been accidentally shot in the abdomen three hours previously. No shock and but little vomiting. Bullet had entered slightly to the left of the median line immediately above pubes. Finger passed readily into peritoneal cavity. Patient becomes steadily worse, and on the 26th has constant vomiting, severe abdominal pain, a temperature of 99°, and a thready pulse. Laparotomy in the evening; abdominal section at once followed by escape of a fœtid, thick, brownish fluid. The intestines are matted together. A coil of gut, hooked from the left iliac region, has in it a ragged wound three quarters of an inch in diameter. Abdominal cavity washed out with plain lukewarm water, a glass drainage-tube inserted, and perforated gut stitched to the center of the abdominal wound. Patient never rallies, and dies in collapse one half hour after. Autopsy shows that bullet has contused the apex of the bladder, cut through the free edge of a coil of intestine, perforated the mesentery and lies between it and the mesocolon.

Case XXII.—Savage ("Brit. Med. Jour.," April 14, 1882) reports seventy cases of abdominal section performed that year. Six laparotomies during *presence of subacute peritonitis with more or less exudation.* All the patients recovered.

Case XXIII. Bouilly ("Bullet. de la soc. de chir.," 8 août).—In a man, aged twenty-nine, who has received two hoof blows in the umbilical region, Bouilly performs laparotomy twenty-three hours after the injury, as symptoms of perforation and peritonitis are present. On opening the abdominal cavity a rent 1½ ctm. long is found in the small intestine, with irregular margins. Resection of a piece of intestine 10 ctm. long. Great improvement. Fæces, however, continue to pass through the abdominal wound (a part of which had been left open). On the tenth day examination is made of the fæcal fistula, with the object of curing it, but in the evening the patient suddenly collapses, and next day dies from purulent peritonitis. Autopsy shows that sutures of intestinal wound had separated, that the separated ends had been shut off by exudation from the peritoneal cavity, and that the rupture of an adhesion was probably the cause of death.

Case XXIV. Albanese.—In a man, seventy-six years of age, who, four days before admission, had received a blow upon the abdomen, symptoms of acute ileus and peritonitis become developed. On the seventh day after the injury laparotomy, the incision being over the colon ascendens. A coil of strangulated intestine is found, bound by adhesions to the cæcum. These are carefully separated. Good recovery.

Case XXV. Willett ("St. Bartholomew's Hosp. Reports," 1870, p. 208).—T. F., aged forty-eight, admitted with symptoms of ruptured bladder, the result of a kick over the pubes. Laparotomy in twenty-four hours after development of peritonitis (general). Incision five to six inches long, extending from the umbilicus to the pubes. On opening the abdominal cavity, several ounces of brown urinous fluid escape; a rent is found across the fundus of the bladder three inches and a half long. Edges of rent are brought together by sutures. Sudden death after a temporary improvement.

Case XXVI. Heath ("Royal Medico Chirurg. Society," Feb. 25, 1879).—Rupture of bladder. Laparotomy. Rent in bladder closed by sutures. Death from peritonitis.

Case XXVII. Tait ("Brit. Med. Jour.," 1878, i, p. 677).—Laparotomy for abdominal tumor, during the presence of acute peritonitis. The tumor is found to be a Fallopian tube distended with menstrual blood. Drainage, etc. Perfect recovery. Tait has done forty ovariotomies during commencing peritonitis. All the patients recovered.

Case XXVIII. Walter ("Med. and Surg. Reporter," Philadelphia, 1862).—Rupture of the bladder in consequence of a kick on the abdominal wall. As no amelioration follows the introduction of the catheter, and as signs of peritonitis supervene, laparotomy is performed. A rent is discovered at the fundus of the bladder two inches in extent. Some extravasated urine in the abdominal cavity. Wound in bladder is not closed, as no urine is seen to escape. Abdominal wound sutured. *Recovery.* Probably the first case in which laparotomy has been resorted to for acute conditions within the abdomen.

Case XXIX. Chaput ("Jour. de méd.," 1880, p. 103).—Laparotomy for perforation of the vermiform appendix by a foreign body during the presence of acute peritonitis. Abdominal cavity filled with fœtid pus. Drainage. Death.

References.—Güterbock ("Arch. f. klin. Chirurg.," 1884, 419) recommends laparotomy and closure of vesical wound in all cases of rupture of the bladder. McCormac (N. Y. "Med. Rec.," p. 477, 1883) advocates laparotomy in cases of gunshot wound of the abdomen.

Case XXX. Tilnig ("St. Petersburg. med. Woch.," No. 44, 1884).—Man, aged nineteen, received while at supper a knife wound four fifths of an inch long in the epigastric region, one inch to the left of the linea alba and three inches above the umbilicus. While the wound was being sutured patient vomited large quantities of a reddish chyme, and afterward pure blood. Laparotomy. Incision six inches long in median line. On section of peritonæum much blood escapes. The finger introduced detects a wound in the left gastro-colic ligament leading to another in the posterior wall of the stomach, through which the mucous membrane protrudes. The edges of the stomach wound are brought together by sutures. Owing to the collapsed condition of the patient, the abdominal cavity can not be thoroughly cleaned. Abdominal wound closed by Lembert's sutures. Quick recovery.

Case XXXI. Taylor ("Lancet," 1884, ii, 589).—Girl, aged fifteen, gives symptoms of acute hydronephrosis. As the symptoms increase in severity, *laparotomy* is determined on. On the morning of the operation symptoms of collapse set in, the cystic tumor, which was before perceptible on the left side, has also disappeared, and the abdomen is very tender. As rupture of the cyst is probable, immediate laparotomy. Incision in median line. Peritoneal cavity filled with urine. As the point of rupture can not be found, the cyst is opened at another place, and the edges of the wound are stitched to the abdominal wound. Recovery with a urinary fistula.

Case XXXII. "Gunshot Wound of the Intestines treated successfully by Laparotomy with Sutures of the Intestines," by William T. Bull, M. D.; read before the New York Surgical Society, January 27, 1885 ("N. Y. Med. Jour.," Feb. 14, 1885, p. 184).—W. McE., male, twenty-two years of age, was brought to the Chambers Street Hospital on the night of November 2, 1884, suffering from a pistol-shot wound of the abdomen. Seventeen hours after the accident laparotomy was performed under strict antiseptic precautions. On opening the abdominal cavity, the intestines were found to be wounded in seven places; these were carefully washed, and the peritoneal edges were then approximated and the line of sutures carefully rubbed with iodoform. The bullet was detected at once lodged in the

upper surface of the sigmoid flexure. Operation lasted two hours. Abdominal wound closed with deep silk sutures, and dressed with an iodoform and borated-cotton dressing.

Six hours after operation cold-water coil applied. After the eighth day convalescence was uninterrupted save for a few sinuses in the line of incision, and at the end of eight weeks the large wound was cicatrized. The functions of the alimentary canal were performed normally, and he was apparently in good health.

Case XXXIII.—Frederick Treves, F. R. C. S., in a paper read before the Royal Medical and Surgical Society of London, on the "Treatment of Peritonitis by Abdominal Section," reports a case in which a large pelvic abscess had burst into the peritoneal cavity, followed by acute peritonitis. Laparotomy under strict antiseptic precautions. Peritonæum showed appearances of acute peritonitis. The whole cavity washed out and a drainage-tube introduced. Patient made a good recovery.

Case XXXIV.—Mr. Howard Marsh, at same meeting, read the history of a case, the patient being a medical student who was attacked with symptoms of sudden and acute peritonitis. Laparotomy; about two pints of fœtid pus evacuated. Whole cavity washed with sol. acid. carbol., 1 to 60, and a drainage-tube introduced. Recovery.

In the discussion which followed the reading of Treves's paper, Bryant, Thornton, Powell, Barwell, Goodhart, and Meredith were in perfect accord in commending the practice carried out in the two cases noted.

Case XXXV.—Omental abscess, rupture into peritoneal cavity. Laparotomy. Recovery. T. H. Burchard.

On August 20, 1883, I was requested by Dr. Frederick D. Lente to see Ephraim Wells, aged twenty-five, a colored waiter, employed in one of the smaller hotels in Saratoga. For some three weeks Wells had been confined to bed suffering from a severe cellulitis of the abdominal walls. Several superficial abscesses had formed, which had been located by Dr. Lente.

He had suffered intense abdominal pain, temperature fluctuating from 101·6° to 104·5°, and was rapidly emaciating. For six or seven days prior to the present complication his abdomen had become tympanitic and the pain more diffused. For forty-eight hours there had been excessive hiccough and frequent retching of green mucus. On the night of August 19th he took surreptitiously four compound cathartic pills. At seven o'clock on the morning of the 20th Dr. Lente was summoned, and an hour later I saw him.

He was lying with legs flexed, abdomen moderately distended and breathing thirty-two times a minute; his pulse was 120 and his temperature 102·2°.

Examination showed an indurated condition of the tissues of the hypogastric and left hypochondriac regions, the integument being somewhat erysipelatous in appearance. The indurated mass appeared to involve the entire thickness of the abdominal wall, and was about six by seven inches in diameter. Both Dr. Lente and myself thought we detected deep-seated fluctuation, and, although a Lüer's aspirating needle failed to give pus, at Dr. Lente's request I proceeded to evacuate the abscess. Dr. William Curtis, of Philadelphia, gave ether.

My incision was made in the median line (deep-seated fluctuation appearing more distinct there, although the principal part of the induration was slightly to the left), and extended from an inch below the ensiform cartilage downward to the umbilicus.

Just as I reached the linea alba, at a depth of fully two inches and a half, something was felt to suddenly give way beneath the hand, as though an abscess had burst within the peritoneal cavity. Although it was thought the patient would certainly die, it was determined that what little chance he had depended upon giving vent to the pus anteriorly. The incision was extended through the linea alba and into the great omentum, which was adherent to the abdominal wall and the seat of the abscess.

Omentum, intestines, and mesentery were matted together in one inseparable mass, and pus of an extremely fœtid odor welled from the cavity of the belly. I should say fully a quart escaped.

The patient grew rapidly weaker. Inhalations of ammonia and amyl and hypodermics of whisky were freely used. Warm milk-punch was injected *per rectum*.

The patient rallying, the incision was prolonged below the umbilicus, so as to get beneath the abscess, and so thoroughly wash out the abdominal cavity.

Fully a gallon of warm carbolized water (3 per cent.) was thrown gently in among the matted coils of intestine. The walls of the abscess cavity were sparingly dusted with iodoform, and two rubber drainage-tubes were inserted. The upper and lower ends of the incision were sutured with silver wire; the median portion above the umbilicus was purposely left open to permit of free drainage.

A pad of oakum, wrung out in sol. hydrarg. bichlor., 1 to 1,000, was placed over the entire wound, and a light bandage applied.

The patient rallied poorly from the operation. Hiccough and vomiting continued the entire afternoon, the pulse most of the time being scarcely perceptible. 2 P. M., pulse 140, temperature 103·4°, respiration 26; 5 P. M., pulse 136, temperature 104·6°, respiration 30.

Cracked ice and small portions of champagne frappé were given by the mouth, and enemas of beef peptonoids and milk punch were given each four hours. Morphine, atropine, and digitalis were given hypodermically, p. r. n. Ice-coil on abdomen.

August 22d.—5 A. M., pulse 130, respiration 28, temperature 100·6°. Sleeping quietly. Has had during the past twenty hours morphine 2½ gr., atropine ¼ gr., tinct. digitalis ♏ xl. 4 P. M., pulse 124, respiration 27, temperature 101·4°. Wound discharging freely. No hiccough or vomiting.

23d.— 8.30 A. M., pulse 118, respiration 24, temperature 100·2°. Comfortable night. 3.30 P. M., pulse 116, respiration 26, temperature 100·4°. Morphine 1¼ gr. in twenty-four hours. Takes peptonized milk and iced champagne.

24th.—Vomited once during the night. General condition excellent. Wound discharging comparatively little. 9.45 A. M., pulse 115, respiration 22, temperature 99·8°.

26th.—Improving in every respect. Abdominal induration disappearing. Removed one drainage-tube and one stitch. Ordered a tonic—iron, quinine, and strychnine.

29th.—Removed all stitches. Incision about one half inch long. Removed rubber tube, and inserted one of decalcified bone.

September 2d.—Patient convalescing rapidly. Leaving Saratoga to-day. Dr. Lente took entire charge of the case. A few days after, Dr. Lente returned to Cold Spring, and I never saw him again alive. I learned, however, that Wells left Saratoga about the last of September in excellent condition. Most diligent inquiry has failed to find his whereabouts since.

Now, if these forty cases, with twenty-four recoveries, teach anything, they teach not merely the feasibility of such operations, but, more than that, they give us legitimate ground for encouragement in fully sixty per cent. of these otherwise hopeless cases.

In contrast with the foregoing, permit me to give very briefly the history of my sixth case of perforation of the

appendix vermiformis, and, for personal reasons, I desire to omit all names and dates:

I was requested by Dr. —— to see Miss —— in consultation. She was twenty-two years of age, and generally had enjoyed good health. Three months before she had had an attack of perityphlitis, which had lasted about three weeks. A small mass of induration, of about the size of a billiard-ball, was still left. She had had another attack sixteen months before.

On the evening prior to the present attack she had been at a party, danced excessively, got overheated, drank considerably of cooling beverages, and in going home and after she retired had chilly sensations. On awakening about 8 A. M., feeling "uncomfortable in her old spot," she took a large saline. This was followed by two copious movements. During the second she experienced a sudden sharp, darting pain in her right side, and immediately fainted. I saw her about noon. She was then in excellent condition—pulse 108, temperature 100°, abdomen moderately distended; some hiccough and nausea. Pressure over the tumor produced sharp pains. Stethoscopic examination over the cæcum gave distinct fremitus and crepitation. I diagnosticated unhesitatingly perforation of the bowels, and urged an immediate operation. My advice was not accepted. At nine the following morning I was summoned hastily, and to "be prepared to operate." The condition of things had now entirely changed. The patient was semi-moribund. Abdomen enormously tympanitic. Pulse 140, and intermittent. Naturally, an operation at this period would have been worse than useless. The patient died two hours later, or twenty-seven hours from the commencement of the attack. It was with melancholy interest that I saw the autopsy reveal a minute perforation at the base of the appendix not three lines in diameter. The appendix was bound down by old adhesions. There was the faintest exudation of lymph immediately around the perforation.

Austin Flint, in his last edition, in speaking of septic peritonitis (Flint's "Practice," p. 590), says: "The time may come when paracentesis abdominalis will have been proved to be as applicable to certain cases of peritonitis as are thoracentesis, injections into the pleural cavity, and a permanent opening in the chest in cases of suppurative pleurisy." In the light of these cases, I submit, Has that time not already come?

Regarding the medical treatment of peritonitis, there are some points of special interest worth considering, and, first, as to the opium treatment. Opium is our sheet-anchor in the treatment of peritonitis, and yet, indispensable as the drug is, there are certain conditions which arise in the course of the disease in which the drug can only be used with the greatest caution. The indiscriminate use of opium, even in peritonitis, is quite capable of doing more harm than good.

The symptoms of peritonitis vary with the extent, severity, and the cause which produce it. When the disease develops gradually, as from a pre-existing visceral inflammation, for some time there may be little or no constitutional disturbance. When it develops suddenly, however, and particularly if from *external traumatism*, as hernia, perforation, or other intestinal injury, the condition of *shock* enters as a very important element in the development of symptoms, and the treatment must be varied accordingly.

This initial collapse of peritonitis is a subject upon which too little has been said, and yet its treatment is of most signal importance. I have seen it persist for hours after well-pronounced peritonitis had developed, as evidenced by increasing meteorism, increasing abdominal tenderness, and a rising temperature, and yet the while the patient lying listless or semi-conscious, with limbs extended, with features pinched and shrunken, and a pulse scarcely perceptible.

A most remarkable case of this kind occurred in my practice a few years since. A young gentleman, John H., aged about twenty-six or twenty-seven, came to my office one morning complaining of a left epididymitis. As the inflammation was of unusual severity, I sent my assistant, Dr. L. D. Woodbridge, to his home to apply half a dozen leeches over the cord in the left inguinal region. About midnight I was summoned to see him, as he was suffering severely.

Dr. Woodbridge responded to the call and found his pain was less, but that he was rapidly sinking into a condition of collapse. At 2 A. M. Dr. Woodbridge wrote that "Mr. H. was evidently dying." I went at once, and found my patient unconscious and almost pulseless. His respirations were very shallow, and at times would stop altogether. His pupils were widely dilated and irresponsive. Superficies of the body pale and cold. Rectal temperature 96°. Abdomen greatly distended, and pressure on it would cause a reflex regurgitant movement in throat and an expression of pain. During the early afternoon his temperature rose to 102·6° and he became deeply cyanotic.

Dr. Loomis saw him at 2 P. M., confirmed the diagnosis of peritonitis, and said the patient, being then comparatively pulseless, would certainly die. At 5 P. M., after fifteen hours' constant labor, keeping up artificial respiration all the while and feeling that he could survive but a very few minutes, Dr. Woodbridge and I left the house.

At 6.30 P. M. we were recalled, to find him slowly regaining consciousness. He subsequently fully rallied, passed through an unusually severe peritonitis, and is now well.

In speaking of treatment, the text-books generally recommend, "as soon as the unmistakable symptoms of peritonitis are developed, administer at one dose from two to five grains of opium, or from one half to one grain of morphine."

And yet physiological experimentation has proved that collapse, such as existed in this case, is dependent upon vaso-motor paresis, and the deeper the involvement of the sympathetic the more profound the collapse.

Now, this is a condition of the system in which opium, even in moderate doses, is poorly borne. Infinitesimal doses of morphine in conjunction with atropine, by mitigating pain and securing nervous tranquillity, undoubtedly exert a favorable tonic influence upon the heart. Large doses increase the paralysis of the cardiac inhibitory center and still further cripple that organ.

This is no visionary condition of affairs, for I have more than once seen a heart feebly endeavoring to rally from the

shock of a commencing peritonitis well-nigh overwhelmed by a dose of morphine that the text-books would justify, and one which a few hours later would be insignificant.

Another and very important fact to be noticed in the commencement of peritonitis, and governing greatly the freedom with which opium may be used, is the perplexing discrepancy that ofttimes exists between the severity of the pain and the apparent hard, tense, wiry pulse on the one hand, and, on the other, the very great heart-feebleness.

Under such circumstances, every dose of opium given, unless guarded by atropine or digitalis, jeopardizes the heart, and no dose should be administered under such circumstances without previous careful cardiac auscultation.

There is another condition, developing later in the history of the disease, in which the administration of morphine in large doses is equally prejudicial, and upon which condition current literature is likewise, unfortunately, silent.

I refer to the hypostatic pneumonia which, owing partly to the patient's asthenic condition and partly to pressure on the lungs from excessive tympanites, is so apt to develop at that time.

Here, too, we have an important inhibitory center, the respiratory, paralyzed from carbonic-acid-gas poisoning. In addition, we have lungs badly compressed, with blood imperfectly aërated sluggishly flowing through them; portions of the pulmonary structure are consolidated, either from simple stagnation of the blood or from lobular inflammation.

At this stage a slight overdose of morphine might arrest the respiratory act entirely. Yet I have seen its use persisted in under these very conditions.

When the disease has reached this point and cyanosis begins to develop, I believe little is gained from pressing opium, and it is wise to suspend its administration except at infrequent intervals, giving it only to meet some special indication, and guarding it carefully with digitalis, atropine, or ammonia. At this period stimulating hypodermics should be freely resorted to; dry cups to the lungs are of signal benefit, and inhalations of oxygen often tide us over an ugly complication.

In a case of peritonitis under my charge last winter—that of a young lady of twenty, in the third week of typhoid—my assistant, Dr. Henry A. Mandeville, and myself fought day and night for nearly a week a temperature that fluctuated from 103° to 106·6°, until at last she went into unconsciousness from respiratory failure and carbonic-acid poisoning. Although the cyanosis involved the entire body, and she had been practically pulseless and unconscious for eighteen hours, nevertheless, under the atropine and other stimulants that were injected, and the oxygen inhalations that were given, she rallied and regained consciousness.

Regarding the use of opium, *freedom from pain* is the ideal condition to be secured, irrespective of the quantity of the drug administered. When this is attained, sleep from which a patient can be readily aroused follows as a natural consequence. Opium, or its alkaloid, morphine, should be administered. Personally, I prefer the hypodermic administration of morphine, not alone from the simplicity and certainty of its administration, but, what is of more consequence, the absolute knowledge it gives us of the exact quantity of the drug our patient is receiving. Given by the mouth, how much is absorbed and how much lies dormant in the stomach is purely a matter of conjecture.

Several years since a patient of mine, convalescing from peritonitis, passed a curious mass at stool several days after the discontinuance of the drug. Upon examination, this proved to be a collection of opium pills that had been prepared at one of the most reliable pharmacies in the city.

I am confident that, had this amount of opium been absorbed, it would have killed my patient, in which event the death would naturally have been attributed to the peritonitis.

Objections have been raised against the combination of atropine with morphine, it being alleged that the physiological antagonism that naturally exists between these two drugs tends to render the development of symptoms irregular, and their interpretation more perplexing and obscure.

Undoubtedly atropine does produce a marked change in the patient's appearance, and certain very characteristic changes in the phenomena of the disease; but these changes, we believe, are in every way favorable to the patient.

There is no one drug in the treatment of collapse—whatever be its cause, whether traumatic or from disease—in which more implicit confidence can be placed than in atropine. Owing to its stimulating action, the heart gains strength, the respiratory act deepens, and the phenomena of shock yield in a surprising manner to those of traction. In the later stages of peritonitis, especially when the heart and lungs fail and when gastric regurgitations and hiccough are rapidly exhausting our patient's vitality, I have obtained results that were simply marvelous from the administration of one or more hypodermics of atropine, varying in strength from one sixtieth to one tenth of a grain each, and given either alone or in combination with morphine, digitalin, ammonia, or alcohol, according to the special indications existing.

The contrast in the appearance of two patients—one being treated with atropine in combination with morphine, and the other with morphine alone—is most marked, while in moments of special exigency the value of this drug is inestimable.

The amount of morphine that should be administered varies naturally with the patient's susceptibility, the severity of the disease, and the amount of pain.

Each patient in these particulars is a law to himself, and no rule could be formulated that, in a general way even, would apply to individual cases. The remarkable tolerance of morphine in peritonitis is too well known to require more than a passing mention, and yet, since adopting the hypodermic method, I have been surprised to see how little was generally required, as compared with the immense doses formerly given by the mouth.

After being brought to a condition of partial narcosis there have been comparatively few cases, except those of a septicæmic nature, that have required more than two grains of morphine a day: although in one case attended by Dr. Loomis and myself, after giving three doses of two grains

each, hypodermically, an hour apart, I gave one grain, hypodermically, each hour for twenty-seven consecutive hours without entirely controlling the pain or materially reducing the frequency of the respirations, which varied from twenty-five to thirty a minute. The patient recovered, having received during the first five days of her sickness sixty-three grains of morphine hypodermically.

External Applications.—Much has been said of the efficacy of external applications—used either hot or cold.

Poultices are still used by many. Until within the last two years I employed them exclusively. Upon what therapeutic principle their use was based I did not know then. I do not know now. Under three conditions only can I conceive of any physiological reason for their employment: First, in the commencement of a peritonitis, by their sedative effect upon peripheral nerves, they may assist in lulling pain; secondly, during the passage of urinary or biliary calculi, or in intestinal colic, they may assist in relaxing spasm; and, lastly, during the stage of decline they may hasten the absorption of inflammatory products. For these reasons a poultice is indicated; otherwise they neither control inflammation, reduce temperature, nor lessen tympanites, all of which is done, and with perfect comfort to the patient (provided the temperature of the water is reduced gradually), by the employment of the ice-coil.

If experimental physiology has taught us anything, it is that cold applied to peripheral sensory nerves controls the afflux of blood to those parts supplied by the vaso-motor nerves that inosculate with such sensory branches.

The sympathetics distributed to the intestines and peritonæum arise from the solar plexus, the sensory filaments being the lumbar nerves which supply the wall of the abdomen. Ice applied to the abdomen constricts the blood-vessels of the intestines and peritonæum, and it is in the reflex contraction of these blood-vessels that the benefit resulting from the application of cold to the abdomen finds its physiological explanation. Poultices are not curative. Cold, judiciously employed, lowers temperature, reduces inflammation, relieves tympanites, and secures nervous tranquillity. There is but one way of employing cold, and that is by the ice-coil. This can be readily extemporized from either lead or rubber tubing.

For diet nothing is comparable with peptonized milk, to which additional cream may be added if desired. Valentine's beef-juice, beef-peptonoids, and Leube's meat solution furnish valuable nitrogenized preparations.

For the relief of tympanites much depends upon whether the gas is within the cavity of the peritonæum or in the intestines. If the former, a fine aspirating needle may be introduced, and with immediate relief. If the latter, a long tube may be passed up the bowel and an ounce or more of some warm aromatic solution injected. Gas must not be expected to escape through a tube occluded with fæces.

Large local measures not infrequently prevent the escape of flatus by blocking up the rectum. Under such circumstances a large enema of flaxseed tea, in which some ox gall has been dissolved, may be injected with benefit. A patient of mine, who was once rapidly succumbing to increasing tympanites, was saved by this simple procedure.

Pneumatic aspiration of the intestine I regard as neither surgical nor safe.

As in the case Professor Polk, reported at the Obstetrical Society, I have seen gangrenous inflammation with fæcal extravasation follow the puncture.

Turpentine stupes I resort to more out of respect to tradition than because of any very positive benefit I have ever seen follow their use in general peritonitis.

When turpentine is pushed to any considerable extent, I fear damage to the kidneys.

I have seen both strangury and hæmaturia follow its external application. In two cases I have noticed a marked increase of albumin in the urine following its employment. A discontinuance of the stupes caused a total disappearance of the albumin in one case, and a considerable reduction in the other.

Independent of the fact that Bright's disease is of itself a frequent cause of peritonitis (Habershon's statistics give 63 cases of Bright's disease as the exciting cause of 301 cases of peritonitis [" Med. Times and Gaz.," Dec. 13, 1859]), the anatomical position of the kidneys renders them prone to take on inflammation whenever the peritonæum is inflamed. Hence I have often questioned if a powerful irritant to the kidneys—as turpentine is—does not sometimes add additional irritation to these organs.

Daily and frequent urinary examinations should be made, for more than once has the timely application of cups and a digitalis poultice over the kidneys saved for me the life of a patient who was insidiously developing a nephritis which, without such examinations, would never have been suspected.

Last, but by no means least, the successful treatment of peritonitis demands a personal devotion and attention involving complete abnegation of self.

THE OPERATION OF EPISIOTOMY.

By REYNOLD W. WILCOX., M. A., M. D.

The operation of episiotomy does not seem to have received, at the hands of English and American writers on the subject of obstetrics, the attention to which its merits entitle it. In the majority of obstetrical treatises the subject is dismissed in a few lines, or no allusion is made to it. If, on the contrary, it has attracted the attention of the author, it is often superficially discussed, or his erroneous preconceived ideas are apparent in his treatment of this subject. To one who has seen this operation as one of frequent, even daily occurrence in the lying-in wards of Vienna, this appears incomprehensible. It is the writer's intention to briefly point out its advantages and results, and, if possible, to deduce some impartial conclusions.

Episiotomy is no new operation, nor is it an abandoned one recently resurrected, but one, although influenced by the fluctuation of obstetrical opinions, in uninterrupted use for more than a century. If we read aright, the name was suggested by Ould, in his "Treatise on Midwifery," in 1742,* although Michaelis was the first to perform it, in 1799. At the next confinement, ten years later, the same

* Parvin, in "Trans of the Am. Gyn. Soc." for 1882, vol. vii, p. 151.

perinæum was yielding and in excellent condition, but showed a fine cicatrix from the operation.* A little later we find Elias v. Siebold† strongly advising this operation. Frequent allusions are met with in German obstetrical literature, until we find the most complete exposition of this operation in an elaborate article, by Credé and Colpe, in the "Arch. f. Gyn." for 1884.‡ The operation consists in making a small incision, often a subcutaneous one, in the *rima vulvæ*, and is never an extensive and complete laying open of the vagina, as has been described or as is often considered to be the case by those who have not seen it performed. In fact, it hardly deserves to be dignified by the term "operation" if one looks at it only from the standpoint of facility of performance and the slight amount of practice required.

The aim of the operation can best be understood if one considers the causes of dystocia that arise from conditions of the soft parts, or can be remedied by operations upon them. In brief, in performing episiotomy it is intended to avoid rupture of the perinæum, arising from all causes except those referable to the force and character of the pains. The causes of perineal rupture are:

I. From condition of the soft parts.

a. Rigidity, by which we mean that the perinæum shall be anatomically normal—the perinæum of inexperienced obstetricians. In this case the vaginal orifice can be dilated to the size of the child's head, yet the hyperæsthesia of the muscles prevents this end.#

b. A second condition to which this same term is applied when the vaginal outlet is anatomically incapable of full distension, when the surrounding tissues are not fully developed, or, as in old primiparæ, the tissues are inelastic.

c. A condition of the muscular fibers which renders them unable to bear moderate strain, a state of affairs found in tissues for a long time subject to congestions, indeed analogous to the fatty infiltrations and degenerations. ‖

d. Excessive width or length of the perinæum.△

II. From condition of the bony parts.

a. The narrow pubic arch, "male pelvis," or, what amounts practically to the same result, a thickened condition of the urethral structures.

b. Too little inclination of the pelvis.◊

III. On the part of the child.

a. Incompressibility or excessive size of the head.

b. Malpositions and malpresentations.

Lastly, the feeling on the part of the accoucheur that, "if laceration is inevitable, treatment to prevent it can be of no avail."‡ In the three classes mentioned it is assumed that the conditions present do not exist to such an extent that birth is not possible without other operative or instrumental interference. It is to hasten the result and to avoid the unfortunate consequences of perineal rupture that this operation is demanded.

That unavoidable perineal rupture takes place is proved conclusively by the records of clinics where no one is allowed to practice midwifery until shown competent by examination.

Winckel* states that ten per cent. of all patients suffer laceration. While Hecker,† in over twelve thousand cases, found three and sixty-six hundredths per cent. of lacerations, Spiegelberg,‡ among three thousand cases, found tears over two and a half centimetres long (one inch) in three and one half per cent. of cases; Preiter's* cases, over seven thousand in number, showed tears in three and forty-seven hundredths per cent. of their number.

Considering primiparæ alone, the percentage is much higher, being, according to K. Schroeder,‖ twenty-four and four hundredths per cent. (deliveries in side position); according to Hippold,△ eighteen and seven tenths per cent. In elderly primiparæ, as shown by Ahlfeld,◊ about thirty per cent.; by Hecker,‡ fourteen per cent.; by Cohnstein,‡ three and fifty-eight hundredths per cent.

The relative frequency of lacerations in primiparæ and multiparæ may be inferred from the following figures: B. Schroeder ‡ thirty-four and one half and nine, Kleinwächter ** thirty-four and ten, Olshausen †† twenty-one and one tenth and four and seven tenths per cent., respectively. The last authority, quoted in Lusk,‡‡ believes that fifteen per cent. is not too great for unpreventable tears due to defective distensibility of the perinæum and disproportionate size of the head of the child in primiparæ, although he considers two per cent. too high for multiparæ.

The advantages of episiotomy are not disputed in cases of atresia vaginæ or in any structural contraction.§§ Granting that a laceration is inevitable, the operation removes it from the median line and locates it in the exact position chosen by the accoucheur. This avoids the danger of a laceration through the sphincter ani, and also relieves the strain upon the recto-vaginal septum, preventing a central rupture.‖‖ Also, as is stated by Elder,△△ episiotomy limits the extent of the lesion. In Credé's cases not a single case of total rupture occurred.

When one compares the spontaneous lacerations, irregular in depth and outline, with the subcutaneous incisions or

* Credé u. Colpe, "Arch. f. Gyn.," 1 Hft., 1884, S. 159.

† "Lucina," 1819, vol. vi, quoted by Credé u. Colpe, *loc. cit.*

‡ S. 148, u. ff.

§ Carter, "Med. News," 1883, v. 43, pp. 66 *et seq.*

‖ Carter, *loc. cit.*

△ Baker "Trans. of the Med. Soc. of Penn.," 1882, xiv, p. 256.

◊ Cf. papers of Baker and Carter above quoted

‡ Duncan, "Papers on the Female Perinæum," London, 1879, p. 16.

* "Die Path. u. Ther. des Wochenbettes," 2te Aut., S. 44.

† "Arch. f. Gyn.," Bd. vii, S. 458.

‡ "Lehrb. der Geburtsh.," 1878, S. 628.

\# Quoted in Winckel, *op. cit.*

‖ "Manual of Midwifery," Am. trans., 1878, p. 2[illegible].

△ Quoted in Credé u. Colpe, *op. cit.*, S. 149.

◊ "Arch. f. Gyn.," Bd. xiv, S. 544.

‡ "Arch. f. Gyn.," Bd. vii, S. 452.

‡ "Arch. f. Gyn.," Bd. iv, S. 509.

‡ Quoted in Credé u. Colpe, *loc. cit.*

** "Grundriss der Geburtsh.," 1877, S. 304.

†† Volkmann's "Sammlung klinischer Vorträge," No. 1[illegible], S. [illegible].

‡‡ "Science and Art of Midwifery," 1882, p. 2[illegible].

§§ C. v. Braun, "Lehrb. der Gyn.," 1881, S. 126; and Burns, "Principles of Midwifery," 1813, vol. ii, p. 14.

‖‖ Lusk, *op. cit.*, p. 240; Gibson, "Lectures on Midwifery," 1887, p. 368.

△△ London "Lancet," 1884, i, p. 1[illegible].

the clean-cut operations (the daily practice in Vienna), he can not but mark the difference and marvel that so simple a procedure has attracted so little attention in America. Not only because the incisions are subcutaneous do they unite so readily, often by first intention, without subsequent attention, as in Spaeth's wards at Vienna, but the fact that the edges are clean-cut is important.* Yet Playfair, in his "System of Midwifery," 1880, has apparently changed his opinion, for, while he now admits, as every one does, that incised wounds heal more rapidly than lacerated ones, he believes that a distended perinæum ruptures with edges as clean-cut as if by a knife.† The testimony of the gynæcologist who meets with extensive cicatrices, deep and irregular in outline, in his daily work, proves that a clean-cut spontaneous laceration must be very rare—far more so than our author would have us believe.

A third reason for the more rapid process of healing after this operation is that the gaping observed from retraction of the transversus perinæi muscle in spontaneous laceration is absent.‡ Although the passage of lochia over an open wound is often unattended by general symptoms or retarded healing, yet the artificial lesion obviates any possible danger from this source so long as the dorsal position is maintained.

Finally, the deformity of the vulva is by no means so great as after spontaneous rupture.#

In marked contrast to the anxiety shown in the paper by Credé as to the patient's future is that inferred from the statements, so often met with, more or less frankly made, "that perineal tears are of no significance if they heal without surgical interference."‖ Perhaps even more unfortunate, and fraught with far more disastrous consequences to the patient, is the opinion occasionally met with that these lacerations are very rare, and in the observers' personal experience never have they been encountered.^ Happily, such opinions are fast becoming less frequent, and one may hope that the practitioners may be led to take measures to prevent what they have hitherto left for others to cure.

It has been justly urged that we can not certainly predict that a laceration will occur, and therefore this operation has no clearly defined indications. In an earlier portion of this paper statistics from various sources are quoted showing that, under any and all systems of treatment, lacerations must occur; but to state that one who has had thorough practical instruction—and none other should be allowed to practice midwifery—can not with reasonable certainty predict that the perinæum, if left to itself, will be lacerated, is, to say the least, begging the question. To operate only when the fact that the accident will occur is ascertain would be to debar surgical interference, not only in this, but in every other department of medicine. It is true that we must have a wound when we perform this operation; but in Credé and Colpe's cases (*loc. cit.*, S. 159) puerperal ulcers (episiotomy wounds healing by granulation) occurred only nine times in two hundred and seventy-one cases of operation, but little significance need be attached to this statement. It is also true that the wound may be a point for general infection, but the relative probability of this in a wound not exposed to the lochia, as compared with the sloughing, granulating wounds of a lacerated perinæum bathed in a decomposing discharge, is easy to determine. Further, the wounds most dangerous as regards general symptoms are those about the cervix, and not the external ones. That this operation does not prolong the puerperium will be shown in the figures to be quoted hereafter. The operation causes pain, very slight in amount if it be properly done, but by no means to be compared to the pain that it saves by shortening the period of labor and by substituting a rapidly healing for a slowly suppurating wound.

Apparently Adolphus* is totally misinformed as to the character of this operation when he advises the timely use of the forceps, which will render this operation needless, since, even if a perineal laceration could be avoided, a doubtful contingency, the forceps operation is by far more severe than episiotomy.

The weightiest argument of all against episiotomy is the fact that it will not always prevent a laceration. In Credé's cases the laceration occurred in one and four tenths per cent. of his episiotomies, a small percentage indeed when one considers the value of the operation. Leishman's statement,† that the incision will always be extended as the head advances, is unsupported by the facts and is contrary to our own experience. It is conceded that we can not always estimate the extent of the laceration;‡ thus we can not always avoid slight addition to the incision; but even this is far preferable to the spontaneous laceration. The percentage of extensions given above is far too small to condemn the operation.

In performing episiotomy, the left lateral position for the patient is preferable, since the advance of the child is then under perfect control.# The instrument used by Michaelis was a Pott's bistoury; in Leipsic formerly Cooper's scissors, now the usual straight scissors are employed. In Vienna the ordinary blunt-pointed bistoury is employed. Leishman‖ remarks that the finger-nail may be used, "as has been practiced by some of the most distinguished accoucheurs," a fitting commentary upon his knowledge of the operation. The time of the performance of the operation is of no little importance; according to Credé and Colpe,^ the incision should be made immediately after the acme of the pain, because then one knows exactly the length of the cut, and it gives rise to less pain, whereas, if it be made before or during the pain, a sudden and severe labor-pain may be set up and the head be suddenly forced into the world, and the incision be converted into a rupture. On

* Cazeaux, Lee, loc. cit.; Leishman, "Text-bk. of Midwifery," 1875, p. 5[illegible]; Playfair, "Handb. of Obstet. Operations," 1883, p. 153.

† P. 152; cf. Duncan, *op. cit.*, p. 23, and Ahlfeld, "Arch. f. Gyn.," Bd. x, S. 546.

‡ Lee, *op. cit.*, p. 319.

§ Credé u. Colpe, *loc. cit.*, S. 165.

‖ Cazeaux, "Traité prat. d'accouchements," 1884, t. ii, p. 225.

¶ Cf. Cornwall, "N. Y. Med. Monthly," 1882–84, pp. 155, 156.

* "Jour. of the Am. Med. Ass.," ii, p. 526.

† *Op. cit.*, p. 573.

‡ Schroeder, *op. cit.*, p. 93.

McGaughey, "Am. Jour. of Obstet.," v. xviii, p. 589.

‖ *Op. cit.*, p. 280.

^ *Loc. cit.*, S. 152.

the contrary, Lusk* advises that it be made at the beginning or end of the contraction. The incision is made two to three centimetres (three fourths to one inch and a fourth) above the frænulum,† toward the tuber ischii—in other words, perpendicular to the rima.‡ In the Vienna wards it is generally submucous or subcutaneous. Spiegelberg ‡ advises that the open wound be made chiefly in the skin. The length of the incision is fairly given as from one to three centimetres, by Lusk‖ as not over three fourths of an inch. One incision only is recommended by Credé and Colpe, to be upon the side which bulges most,△ while Carl Braun◊ and Schroeder‡ seem to prefer the bilateral. The structures divided are, omitting the skin or vaginal mucous membrane the so-called constrictor cunni,‡ or, as Lusk‡ explains, the, resisting ring formed by the constrictor cunni, transversus perinæi, and sometimes the levator ani.

To recapitulate: The patient being in the ordinary side position, the operator, controlling the advance of the child's head with his left hand, takes the blunt-pointed, straight bistoury in his right hand. He inserts it, at the commencement of a labor-pain, between the presenting head and the thinned edge of the vulvar outlet, flatwise, and where the outlet bulges most, generally at the distance above indicated from the commissure. The bistoury is held in this position during the increase and until the acme of the pain, the left hand being likewise kept in place. Immediately after the acme has been reached the edge of the bistoury is turned at a right angle to the edge of the vulva, the head being prevented from being forced out by a sudden exacerbation of the pain; the incision is made outward, from one half to one inch, through the resisting structures. The labor now is conducted as usual, the head, as a rule, passing out at the next pain. In most cases no after-treatment is required, as the wounds almost invariably close by first intention if carefully cleansed. If the operator believes the suture to be necessary, it is done in the following manner: The first suture should enter at the junction of the skin and mucous membrane, at the upper angle of the wound, coming out at the corresponding lower angle, and be tied. The second suture is to cover in the two small surfaces left, the one in the skin and the other in the vagina. This suture passes through the skin into the vagina, over the vaginal wound, out through the skin, and is tied over the skin wound. Iodoform dressing is then applied. The sutures are removed about the sixth day, and one will find, with difficulty, a fine cicatrix, if he examines the parts, at the end of the third week.

In presenting the numerical results of this operation, the writer is indebted to the excellent paper of Credé and Colpe, as indeed all others who are interested in this procedure must be. One of the strongest objections to this operation has been that it offers a point for general infection. That infection more frequently results from coincident tears in the vagina or cervix is stated above; the observations in the Leipsic clinic confirm this view, there being a difference of only three tenths of one per cent. in cases of puerperal fever in patients suffering from injured perinæum over those occurring when the perinæum was intact. Indeed, among the fatal cases of puerperal fever, two hundredths of one per cent. represent the difference of death-rate in favor of *injured* perinæa, conclusively showing that the condition of the perinæum had nothing to do with either mild or severe cases of puerperal fever. Nor are figures wanting to show that this operation shortens the time of convalescence, for the cases of episiotomy that remained over fourteen days were twenty-one and two tenths per cent.; cases of ruptured perinæum remaining over the above time, twenty-six and nine tenths per cent; cases of rupture in spite of episiotomy remaining over the same time were thirty-one per cent. of the whole number. The percentage of all cases of injured perinæa remaining over fourteen days in the hospital was twenty-three and one tenth, while the corresponding percentage for episiotomy cases was twenty-one and two tenths. That is to say, the percentage of patients undergoing the operation of episiotomy, and who, without this operation, would have suffered rupture of the perinæum, whose convalescence necessitated a stay of more than fourteen days in the hospital, was less than that of ruptured perinæa requiring the same length of after-treatment.

To explain the cases of rupture in spite of episiotomy, twenty-nine in number, it is necessary to state the conditions present. Fifteen of these patients gave birth to children of over thirty-five hundred grammes (seven and seven tenths pounds), four suffered from vaginitis granulosa, three underwent forceps operations, and in one case the blades were badly placed. Of the remaining fourteen cases, three were vaginitis granulosa, three syphilis, one was an anterofrontal presentation, one a case of hydrocephalus, two tears were caused by the shoulder, thus leaving four cases in which rupture took place after incision, which only shows that in these four cases the incision was not long enough, and is in no case to be considered an argument against the operation.

No further argument seems to be necessary to show that incision is preferable to spontaneous rupture.

To demonstrate the effect of the operation upon the frequency of rupture, the statistics of one thousand cases of primiparæ, delivered by five successive assistants at Leipsic, are here given:

	Percentage of Incisions	Percentage of Ruptures
First assistant	10·3	20·7
Second "	20·4	11·8
Third "	26·3	11
Fourth "	28·5	7·4
Fifth "	32	7·2

From this the conclusion may be drawn that, as the operation of episiotomy becomes frequent, in just the same ratio do perinæal ruptures become infrequent.

1050 Lexington Avenue, *January*, 1885.

Note. Since the foregoing was written, an article on this subject, by Dr. W. P. Manton, has appeared in the

* *Op. cit.*, p. 210.
† Credé u. Colpe, *op. cit.*, S. 151.
‡ Klemwachter, *op. cit.*, S. 305.
‡ *Op. cit.*, pp. 210, 211.
‖ Ballantin, quoted by Credé, *loc. cit.*, S. 152.
△ *Op. cit.*, S. 726.
◊ *Op. cit.*, p. 93.
‡ C. v. Braun, *op. cit.*, S. 726.
‡ *Op. cit.*, p. 210.

"American Journal of Obstetrics," vol. xviii, pp. 225 *et seq.* It is hoped that others may study out this operation, until the attention of American obstetricians has been called to its value.

TYPHOID OR ENTERIC FEVER.

(ABORTIVE TREATMENT.)

By EDWIN R. MAXSON, M. D., A. M., LL. D.,
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Definition.—*Typhoid* or *enteric* is a continued fever, and, when not arrested, is liable to be of long duration, may be attended with diarrhœa, and is usually characterized by intestinal lesions, an eruption of small rose spots, sudamina, and often enlargement of the spleen and mesenteric glands.

Symptoms.—At first the appetite may fail, the tongue become furred, and very soon there is headache with general depression, and muscular weakness with wandering pains, the patient being indisposed for exertion of any kind, mental or physical.

After an indefinite prolongation of these premonitory symptoms there may be chilliness, more or less marked. The headache increases, being sometimes attended with epistaxis. The prostration becomes greater, with sensations of chilliness along the back, alternating with flushes of heat.

If typhoid fever is prevailing in the vicinity, or the patient has been exposed to the causes known or supposed to produce the disease, the physician, if a person of ordinary sagacity and diagnostic ability, will suspect the disease. If the suspicion is well founded, in addition to the symptoms already stated, there will be found the usual symptoms of the febrile state. The pulse is increased in frequency; the temperature rises; the tongue is coated of a white or yellowish color, of various degrees of thickness; and the urine is diminished in quantity and high colored, as a rule.

If, on further examination, no local inflammation can be found to account for the pyrexia, and the patient looks heavy and oppressed, being more prostrated than the duration of the illness, without the influence of the typhoid poison, would be likely to have caused; and if the abdomen is tumid, with slight tenderness over the right iliac fossa, or even if there is not, with the other typhoid or enteric symptoms—the physician of discretion, prudence, and common sense will not need to wait for further symptoms, which will, of course, be developed at a later stage of the disease, the result of a *continuance* rather than essential symptoms of the disease, but will resort to proper means for its arrest. For he may thus destroy the poison, reduce the temperature by gentle perspiration, subdue the intestinal incipient disease, equalize the circulation, sustain the sinking powers of the system, and very generally thus arrest not only the local but the general disease.

But when these plain indications are not fulfilled, or if the attempt fails, as may sometimes happen as the disease progresses, other symptoms are developed, as might be expected.

The temperature rises from day to day, being from one to two degrees higher in the evening than in the morning, by the third or fourth day being 103° or 104° F., perhaps, as a rule. And by the end of the first week there will have been developed the symptoms peculiar to the *continuance* of the disease, as the flushed face, pulse from 80 to 120, often a cough, tumid abdomen, a gurgling of liquid with gas, and slight tenderness in the right iliac fossa, with either constipation or diarrhœa, turbid urine, and sometimes the appearance of small rose spots of the size of a pin-head over the abdomen and chest.

By the end of the second week sudamina will usually have appeared. The patient may lie mostly on the back, red patches being on the cheeks. The hands have become unsteady, delirium may attend, and the sudamina may have extended over the chest, neck, and other parts of the body. The spleen may become enlarged, and the diarrhœa, if present, more troublesome; and from the latter part of the second week onward various complications, as pneumonia, hæmorrhage, or perforation from intestinal ulceration, may occur.

By the end of the third week the patient may be deaf, dull of comprehension, and half unconscious. The body becomes emaciated, the skin harsh, the muscles wasted, the tendons contracting or rising up, and, if the disease passes on uncontrolled, the tongue becomes dry and dark, the pulse indistinct, the heart weak, the abdomen distended, the stools involuntary, and the patient generally, either with retention or incontinence of urine, passes on to dissolution, either by asthenia or else from some local lesion or complication, as hæmorrhage, perforation, peritonitis, albuminuria, pneumonia, pulmonary gangrene, pleurisy, thrombosis, embolism, or suppurative parotitis, which may have supervened.

But, should the patient rally, the temperature gradually falls, the pulse becomes less frequent and more distinct, the tongue cleans, the abdomen subsides, the diarrhœa ceases, and the strength gradually returns, subject, of course, to relapse and various accidental complications that may arise.

Diagnosis.—When typhoid or enteric fever is prevailing in a locality especially, or, when it has not been prevailing, if the patient has been exposed to influences known or supposed to produce the disease, and there are symptoms of unaccountable weakness, with loss of appetite and a look of illness and prostration not dependent upon some local inflammation and altogether disproportionate to any assignable cause other than the typhoid poison, the disease should be suspected.

If on a careful examination, now, not only local inflammations, but tubercular meningitis, acute pulmonary tuberculosis, gastro-intestinal catarrh, pyæmia, ulcerative endocarditis, etc., can be excluded, and, in addition to the symptoms already enumerated, the patient has a severe headache with epistaxis, and a temperature of 101 or 102° F. in the morning, or at evening 103 or 104°, the case may very safely be regarded as typhoid or enteric fever; and an effort should be made for an arrest of the disease.

If the disease can be arrested at this stage, no further symptoms peculiar to it need be developed. But, if not arrested the first week, there may be a diarrhœa, tympanites, the rose-colored eruption by the tenth and sudamina by the

fourteenth day, obtuseness of hearing, delirium, coma, getting down in bed, *confirmatory* but not necessary for correct diagnosis, being rather consequences of a *continuance* than necessary symptoms of the disease, if arrested during the first week. Taking, then, all these precautions, it is my opinion that very few, if any, mistakes need be made in the early diagnosis of typhoid or enteric continued fever.

Causes.—It is probable that a multitude of causes may operate in *predisposing* to typhoid or enteric continued fever—such as hereditary predisposition, age, violent physical exertion, damp sleeping-rooms, impure confined air, insufficient clothing, scanty or unwholesome food, impure water, filth, great depression of spirits, taking food at unseasonable hours, the use of tobacco, drunkenness, and the entire train of depressing influences whereby the system may be reduced to a condition in which the fluids and solid tissues of the body are in a more or less abnormal state, deranging the cutaneous, alimentary, and other functions.

The *exciting* cause of typhoid or enteric fever, doubtless, consists of a poison generally derived from a pre-existing case, probably the *typhoid bacillus*, which has been found in the lymphatics, blood, and tissues, but sometimes arising, as all contagious diseases did originally, from an equivalent poison, "generated anew by the decomposition of sewage" and "of other forms of animal filth." In either case the typhoid poison is "reproduced in the system during the fever, and it appears that its chief, if not exclusive, outlet is in the intestinal discharges."

But while, however, the *contagium* may doubtless be present in the fæces when voided, its virulence appears to be heightened by exposure, warmth, stagnation, and accumulation, probably by a sort of fermentation, which may go on indefinitely, the product becoming mingled with water, milk, and other liquids and even solids, thus producing, especially in towns, quite a general prevalence of the disease. It is probable, however, that the *contagium* may be generated by the "fermentation of fæcal matters, independent of any specific germ introduced in typhoid evacuations," precisely as in the first cases which occurred at the origin of the disease, as already suggested.

The most common vehicle of the poison appears to be drinking water, contaminated through sewage, either when drank alone or with milk with which it has been mixed.

Anatomical Characters.—While the "primary change is in the blood," and in most fatal cases local congestions and inflammations are met with in the lungs and other organs, the "special and characteristic lesions are those taking place in the intestines and mesenteric glands."

The intestinal mucous membrane of the ileum usually "presents the appearance of acute catarrh," the chief seat of morbid changes, however, being in Peyer's patches, consisting of an infiltration of the glands, followed by ulceration.

It appears probable that the first few days of the disease are attended with *congestion and irritation*, with, perhaps, slight *infiltration*. Afterward, if not arrested, infiltration goes on into incipient *ulceration*, and ultimately to extensive *ulceration* or *resolution*.

These stages, perhaps, occupy, as a rule, about a week each in cases not arrested. And it appears that the patches first affected are those "at the lower end of the ileum, near the ileo-cæcal valve," the lesions here being the most extensive and farthest advanced. The ulcerations may involve only the superficial layer of the mucous membrane, or its entire thickness, and in some cases the muscular and even peritoneal covering may be implicated, with or without perforation. Small points of extra-glandular ulceration may also be found scattered along the mucous membrane of the *small* and even *large* intestines. The mesenteric glands are also more or less enlarged, being firm and of a pinkish color. The spleen may also be found enlarged.

Pathology.—Taking into account an hereditary or accidental predisposition, the typhoid poison from a previous case, or generated anew from animal filth, sewage, etc., introduced into the system in drinking-water or otherwise, once in the blood, doubtless not only directly depraves that fluid, but, being carried by it through the brain and all the tissues, prostration—attended with more or less chilliness, and this followed by fever, headache, a torpid skin and liver, with consequent gastro-intestinal irritation, congestion, inflammation, and, if not arrested, ulceration—may be the result, the symptoms, developed during advanced stages of the disease, being a result of its *continuance* rather than essential to the disease if arrested.

Prognosis.—While the poison of typhoid or enteric fever, operating upon a system fearfully predisposed, may, in some cases with bad surroundings, so far deprave the blood, depress the nervous system, and derange the various functions as to render an arrest or even ultimate cure of the disease beyond the power of human skill, I can readily believe, especially if neglected during the early stages, two of which I have had the painful experience of treating during the past ten years; I as firmly believe, from careful observation during that time in a large number of cases, that, with good surroundings, proper care, and judicious treatment in season, nearly every well-marked case may be arrested so as not to require further personal attendance within one week, and on strictly rational, common-sense principles.

Treatment.—On diagnosticating a case of typhoid or enteric continued fever, the blood is found poisoned, the nervous system prostrated from the poison and inefficiency of the depraved blood, the skin and liver are torpid from the same cause, and, as a consequence of all this, the thoracic, abdominal, and pelvic viscera, including the gastro-intestinal mucous membrane, and especially Peyer's glands, from the ileo-cæcal valve upward, are in a more or less congested, irritated, and inflamed condition; and, from a want of due exhalation from the skin, animal heat accumulates, raising the temperature to from 101° to 104° F.

The indications, then, are plainly: to destroy or neutralize the poison in the blood; unload the liver; call the skin into action, thus reducing animal heat; to call the circulation to the extremities; to sustain the powers of the system; to subdue abdominal, thoracic, and other irritations, and especially gastro-intestinal; to suitably nourish; and to keep the patient properly encouraged.

Now, while there are many agencies by which some of

these indications may be fulfilled, I will state only the means which I have found the most convenient and effectual, and by which I have succeeded in arresting within one week nearly every case clearly diagnosticated as typhoid or enteric fever that I have treated during the past ten years.

To destroy the poison in the blood I give to an adult four grains of the sulphocarbolate of sodium every six hours—at 6, 12, and 6 o'clock—dissolved in a teaspoonful of water.

To sustain the sinking powers of the system, and as a further antiseptic, two grains of cinchonidine with ten drops of the muriated tincture of iron are given every six hours, alternating with the sulphocarbolate, in four ounces of warm crust-coffee without milk; and these medicines are continued for at least a week after discontinuing my visits, the doses being gradually diminished at the last.

To unload the liver I give an improved compound cathartic pill at first, and then give one a day if the bowels are confined; but, if not, a grain pill of leptandrin instead till the tongue cleans off, and afterward one only of either, as required for constipation.

To call the circulation to the extremities and the skin into action, thereby reducing animal heat, as it becomes latent in the evaporation of perspirable matter from the surface of the body, a warm foot-bath is used morning and evening till the fever is arrested and the skin becomes soft and of a normal degree of heat, as it generally will within three days by the aid also of warm drinks required for nourishment, and a strict avoidance of everything cold, internally and externally.

But should the headache continue in spite of all this, which is rarely the case, a teaspoonful of blood is taken from the back of the neck by cups, and repeated if necessary, or blisters applied back of the ears or neck.

To subdue thoracic, abdominal, and other irritations, I apply daily from the very first warm sinapisms over the chest and entire abdomen mornings and evenings, taking care not to blister but to keep as near to it as may be necessary, and continue them till every symptom of the local and general disease has disappeared.

Avoiding cold, the patient takes only warm crust-coffee, one half milk, for drink and nourishment, thus favoring the sensible and insensible perspiration; plain nourishing food, at meal times only, when tolerated, being allowed with tea if desired.

To keep up the spirits, the patient is kept dressed and out of bed days as far as consistent with safety, being allowed to recline on a lounge or to occupy an easy-chair, thus securing better sleep nights.

Here, then, my abortive treatment of typhoid or enteric continued fever really ends. But should a case, from neglect, bad surroundings, or inefficient early treatment, continue on for more than a week, I would treat such local inflammations as might have arisen before or in spite of treatment by cups, blisters, etc., and the gastro-intestinal disease especially by blisters to the epigastrium and abdomen if necessary. And the only addition I should make to the abortive treatment already suggested—except to meet emergencies, as diarrhœa, hæmorrhages, etc.—would be to give with the iron and cinchonidine eight drops of turpentine, in emulsion, as an alterative for the gastro-intestinal disease, and two drops of the tincture of nux vomica with the sulphocarbolate, as a tonic for the digestive organs and nervous system, meeting, of course, any other indications that might arise from a continuance of the disease on strictly rational common-sense principles.

Concluding Remarks.—It may not be improper to add, in conclusion, that the treatment of typhoid or enteric continued fever here suggested has been arrived at by careful observation for a term of years, my success in arriving at the abortive treatment having been largely due to my observations with Prof. Lister, in the Royal Infirmary of Glasgow, in 1867, bearing on antiseptics, before the typhoid bacillus was known as the probable cause of the disease, though according admirably with that view as now generally held.

I have found, however, that, in order to succeed in the abortive treatment, the warm foot-baths must be regularly had and continued each time till there is a gentle perspiration, the sinapisms being kept on long enough each time to insure a continued redness all over the abdomen and chest; also to guard against pulmonary complications as well as to arrest the intestinal disease, though short of blistering; and that the drinks must be restricted rigidly to warm crust-coffee, half milk, with warm tea at meal hours, if desired, half milk; absolutely nothing else to be taken into the mouth except such suitable warm digestible food as may be proper at meal hours only, as eggs, toast, etc., and the plain antiseptics, tonics, and laxatives suggested, or their equivalents, though I have found these remedies the most convenient and successful, and therefore recommend them. Finally, I may state here that I have found a corresponding course of abortive antiseptic treatment available in all putrid fevers—as typhus, diphtheria, spotted fever, etc.—and cutting short scarlet fever and measles nearly one half.

No. 208 Madison Street, Syracuse, N. Y., *May 25, 1885.*

ON THE CORRELATION OF ALCOHOL RHEUMATISM, AND PHTHISIS.

By TANDY L. DIX, M. D.,
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Owing to the feverish state of the public mind as touching the temperance question, he who approaches any proposition looking to the encouragement or supplying an excuse for the use of alcoholic drinks is regarded as perpetrating an act of temerity. But science is positive in presenting facts which, as well as the laws pertaining thereunto, must be strictly observed; and, however desirable it may be to retard the devastation which is being wrought in our midst by the abuse of alcoholic drinks, science can not compromise herself for the sake of expediency, as some moralists do when they teach that the wine mentioned in the Testament was not an intoxicating drink. And he who follows the teachings of science can not err. It is not our intention to produce arguments either for or against temperance, but strictly in the interest of science. The medical man who lets his predilections influence his views in regard to the

chemical and physiological action of alcohol within the human economy is more dangerous to the community than alcohol itself.

In the course of my professional duties my attention was specially called to this subject, and, upon reflection, several reasons presented themselves which favored the proposition that those who use alcoholic drinks enjoy, to some extent, an immunity from rheumatism and phthisis. In order to learn whether facts would tend to confirm or refute this proposition as regards rheumatism, I have considered every case of indulgence within the scope of my acquaintance and memory, and have drawn upon the experience and observation of as many physicians and laymen as my opportunity and acquaintance would permit. I have also considered cases of rheumatism as regards the habits of the patients. In the reckoning, drinkers who suffered with rheumatism which was attributable to specific causes have been omitted.

In gathering information concerning this topic, it is necessary to make close inquiry, and to consider the views which the informant may entertain in regard to the liquor traffic. A bartender can not discover rheumatism among his customers, and the extreme temperance man can discover rheumatism in every one who indulges. The information that I have been able to obtain confirms the proposition, and, if the proposition is true, it must be founded upon physiological and chemical facts which I propose to consider as follows.

In approaching this topic, the first inquiry that engages our attention is the physiological and chemical origin and elimination of the very complex substance—*fibrin*. Fibrin is found in its most perfectly developed state as its exists in the muscles and fibroid tissues, and is held by the blood in solution as a product of both progressive and retrogressive metamorphosis. The following ultimate constituents of *albumin*, *fibrin*, and *casein* show a successive increase of oxygen as we pass from the former to the latter, and a decrease of sulphur and phosphorus. This is the result of the oxidation to which reference will be frequently made as we proceed with the argument:

	Albumin.	Fibrin.	Casein.
Carbon	55·46	54·45	54·66
Hydrogen	7·20	7·07	7·15
Nitrogen	16·48	17·21	15·72
Oxygen	18·27	19·35	21·55
Sulphur	2·16	1·59	·92
Phosphorus	·43	·33	

In the retrogressive metamorphoses the sulphur and phosphorus are converted into sulphuric and phosphoric acids. This is the source of those acids which are found in the urine and perspiration of rheumatic patients. The sulphur and phosphorus being thus extracted from the fibrin, the gases are left to arrange themselves into other forms known to chemistry as osmazome, creatin, creatinin, uric acid, and urea. These transformations are the conditions through which the nitrogenous matters are to pass in order to be eliminated from the system. These successive formations, and perhaps others unknown to chemistry, may be either intra- or extra-vascular—*i. e.*, in the latter case, take place in the muscles or fibroid tissues, where they act as irritants to which may be ascribed the pain and inflammation of rheumatism, and the consequent thickening of the tissues affected and the stiffness of the joints which so commonly attend this disease.

Another product of fibrinous metamorphosis is a low form of protein compound capable of being deposited in all, or nearly all, the tissues of the body, but finds the lungs to be its favored site, and is known to the pathologist as *tubercle*. In support of the view that tubercle is the product of the metamorphoses of nitrogenous matter, whether originating from fibrinous blastema or from fibrin itself, Rokitansky says: "Many blastemata, distinguished for their coagulability, do not rise above the lowest grade of form development, and not alone do they stop at the grade marked out by the process of coagulation, but their ulterior tendency is to liquefy. An example is afforded in tubercle." . . . "Chemically considered, all blastemata for pathological new growths are protein compounds, for the most part in various degrees of oxidation." Again: "In the first place, the ground-work of rapidly solidifying tubercle blastema is, without the least doubt, *fibrin*." And Dr. Glover, in his analysis as quoted by Dr. Aitken, says that very little difference in ultimate composition has yet been detected between recent tubercle and the other so-called compounds of protein.

Upon the hypothesis that tubercle finds its origin in fibrin, an intimate relation between the fibrin-crasis and tuberculosis must necessarily subsist; consequently, an inquiry into some facts and circumstances attending the fibrin-crasis may be made with a hope of finding not only the cause of tubercle, but also a remedy for the evil. And, in addition to these, we may find some interesting facts which pertain alike to tuberculosis and rheumatism. With this threefold purpose in view, we will consider the two diseases in their correlation with hyperinosis, as follows:

1. The two diseases are attended with hyperinosis.

2. The two diseases have a common origin in the causes which produce hyperinosis.

3. The two diseases result from retrogressive metamorphosis of the fibrin.

4. The two diseases find a common remedy in those means which correct the hyperinosis.

In regard to the *first* of these, it is not necessary to adduce evidence of a fact which is already established.

2. That *the two diseases have a common origin in the causes which produce hyperinosis* finds a solution in the conditions and circumstances which surround those who are engaged in pursuits that require great muscular exertion. Among these may be recorded "tumblers," men who perform in the circus-ring, mechanics, miners, and operatives in mills. Now, it is worthy of note that these classes, as a rule, enjoy an immunity from tubercle while most actively engaged in their business; but when their health declines, so that they can not labor so hard, or when, from any cause, they cease to labor in any degree, or change their manner of life from active to sedentary habits, *tubercle finds its most favored opportunity of presenting itself*. We find a most beautiful and convincing illustration of this

principle as it obtains among wild animals when in captivity. These animals, when in their native lands and enjoying a mode of life that is natural to them, are comparatively exempt from tubercle; but when in captivity, they are prone to this disease. "The Austrian runners," Dr Aitken says, "are another class who are instances of breaking down by over-exertion in running at ages unsuited for their strength. They seldom live beyond three or four years, and gradually die of consumption" ("Remains of Mrs. Trench," p. 72). This same thing occurred in the person of a little girl, a near relative of the writer. Her father conceived the idea that his daughter should be actively exercised in the open air, and to this end he would take his daughter on long and fatiguing walks. The result of this vigorous exercise was phthisis pulmonalis. In this case there had not been a trace of tubercle on the mother's side (and the ancestry was known for several generations), and none, so far as the writer has learned, on the father's side. This case may be safely placed to the credit side of muscular exertion.

Another evidence that fibrin is intimately associated with tubercle is found in the well-known fact that mothers afflicted with phthisis pulmonalis enjoy an abatement of the disease during pregnancy; but after childbirth the disease assumes a fresh impetus, and the mother finds in the grave an early termination of her sufferings. This temporary relief is obtained by a consumption of the fibrin in fœtal construction. And, again, there are three periods of life most favorable to tubercle: *First*, in early life, including intra-uterine existence, when the vital forces are exerting themselves in fibrin construction; *second*, when the body has about obtained its growth and there is a surplus of fibrin; *third*, in the declining periods of life, when there is an absorption of fibrinous waste. Dr. Bennett places "hard work" among the causes of tubercle. In confirmation of this, all of the five thousand six hundred and twenty-seven persons affected with phthisis, as tabulated by Dr. Aitken, were working people.

"On the other side," says Rokitansky, "the pre-eminent immunity afforded by exquisite venosity and cyanosis, against fibrin-crases, more especially the higher (croupous) grades, and most particularly against tuberculous crasis—taking, we say, all these circumstances duly into account, we are forced on to the momentous conclusion that *arteriality*—that is, *the arterial development of fibrin—pre-eminently constitutes the cardinal character of tuberculosis.*" He says again: "There exists undeniably a habit, expressed in a delicate construction of the soft parts, in imperfect development of the muscular, with preponderance of the vascular, system, and in a so-called phthisical build of the thorax, commonly deemed ominous of pulmonary tubercle. It is essential, however, that this build should not, according to the vulgar notion, be imputed to the smallness of the lungs within a seemingly insufficient thorax, but rather to very voluminous lungs within a thorax the obvious narrowness of which, in its antero-posterior diameter, is amply compensated for by its length, with a relatively small abdominal cavity and small abdominal viscera."

Active muscular exertion induces an expansion of the breathing capacity, increased arterial circulation, and, consequently, increased arterial development of fibrin. This increase of fibrin finds a reservoir in the developed muscles, thus far filling the conditions most favorable to tubercle, which will obtain when there is a cessation, in some degree, from muscular exertion. This will cause a quantity of fibrin, when in the process of retrogressive metamorphosis, to be thrown into the blood-mass, and supplies the tubercular pabulum. This pabulum is supplied to the blood by whatever circumstance may cause the fibroid tissues to break down; and, as this obtains in inflammatory fevers and wasting disease, we have tubercle as a consequence.

In the habit, as just quoted, the delicate construction of the soft parts seems to be due to the accompanying preponderance of the vascular system, which retains, as it were, the fibrin, and thus prevents its assimilation, and the development of those tissues into which fibrin enters so largely; hence, "a delicate construction of the soft parts"; and the fibrin, instead of performing its proper function in the construction of tissue, is converted into tubercular matter.

3. The retrogressive metamorphosis of fibrin into tubercle, as well as in rheumatism, consists in oxidation. And the first results of this oxidation is the conversion of the sulphur and phosphorus of the fibrin into their respective acids. In this we have a sufficient explanation of two conditions which usually attend patients with incipient phthisis—viz., *first*, an acid condition of the system, especially of the digestive organs; *second*, an aversion to fatty ingesta. The latter is due to the fluids which emulsify the fats preparatory for digestion being rendered neutral or even becoming acidified instead of retaining their normal alkalinity. When the fibrin is freed of its sulphur and phosphorus, it must undergo further oxidation in order to become tuberculous matter. In this transmission the caseous matter assumes a taint just as fruit does when undergoing oxidation or rotting; and, as this taint is capable of being communicated to other and yet healthy fruit, so this tubercular taint is capable of being communicated to other and yet healthy fibrin.

This taint may find its origin in an individual from one of the following four causes: *First*, it may be transmitted from parent to offspring; this obtains when tubercle appears in the fœtus or in infancy; *second*, in cases of excessive lung capacity, and a preponderance of the *arterial* over the venous system—these conditions of the organism may be congenital, or acquired by following such pursuits as will increase the lung capacity; *third*, by local oxidation, as when phthisis pulmonalis follows fistula in ano, or tubercular inflammation of a joint—these form foci from whence tubercle is disseminated to other and distant parts of the body; *fourth*, by a healthy person inhaling the breath of a consumptive patient. This obtains by constant and intimate association of a healthy person with a consumptive patient.

In the latter case, it is reasonable to presume that the taint is carried by the micrococci of Koch. These micro-organisms may be considered as a product, as mildew or fungus is the result of organic matter being exposed to oxidation.

4. The two diseases find a common remedy in those means which correct the hyperinosis. This proposition necessarily involves the treatment of the two diseases. As much of that which can be said of the one is alike applicable to the other, we will, for the present, speak of tubercle; and the treatment may be considered under two headings, viz.:

1. Preventive.
2. Curative.

In considering the preventive means, we are met on the threshold with a very pertinent question—viz., How are we to prevent hereditary phthisis? In answer to this, only a like pertinent response can be made, which is: If the parents can not be cured, then *forbid them bearing children.*

Aside from an inherited taint, an organism which is conducive to tubercle may be congenital—viz., large lung capacity and arterial predominance over the venous system. A person with such an organic construction should strenuously avoid vigorous exercise, and those circumstances and pursuits which occasion deep and prolonged inspirations. His diet should be of the carbohydrates; and as these belong, almost without exception, to the vegetable kingdom, and constitute the non-nitrogenous food, his diet should be vegetarian and not of meat. He should avoid the inhalation of an atmosphere laden with dust of any kind, as well as the breath of other people, inasmuch as this contains highly oxidized matter from the lungs. Such unwholesome atmospheres are found in crowded sleeping apartments, schools, and places where many people are assembled. But all the means of avoiding the inhalation of large quantities of air should be adopted. To this end the corset or moderate lacing is beneficial if not carried to such an extent as will interfere with the stomach and liver in the performance of their functions. Another and a most efficient means of lessening the amount of air taken into the lungs is to live in a warm climate. This constitutes the sole benefit that consumptives derive by going to Florida or other warm climates. There the atmosphere is rarefied by the higher temperature, so that less air is taken into the lungs at each inspiration. There are also two other circumstances to be met with which are important to the consumptive; viz., *first*, the higher temperature produces a lassitude which prevents so much exercise being taken—consequently less breathing; *second*, the diet consists more of fruits and vegetables and less of meats than in the more northern States; thus the fibrin is diminished. In this we find an ample solution of the problem involved in the rheumatic and consumptive patients declaring themselves greatly benefited by a winter spent in the Southern climes.

2. The curative treatment will involve a continuation of the preventive means as just enumerated. The next urgent matter to be considered is the acid state of the system which usually accompanies tuberculosis. A most efficient means of meeting this is the administration of one drachm of saccharated lime-water, and one grain each of hypophosphite of lime and of sodium, to be taken half an hour before each meal, dissolved in as much water as the patient can conveniently drink. The next important step is the correction of the taint. The means best adapted to this end lie in the use of the carbohydrates. The most prominent are alcohol and cod-liver oil. In order to obtain the greatest benefit from these, it is necessary to observe the condition under which they are administered. If the system is not freed from its acid condition, the oil can not be digested. And the object of administering the alcohol and oil would be defeated by advising the patient to take more exercise than is actually necessary, as it would be a great folly to give these agents to consume the oxygen and then direct the patient to inhale more oxygen by taking excessive exercise. In exercising, the patient should be as passive as possible—as in riding in a carriage or light horseback exercise. The use of alcohol and the oil will prove more efficient where the patient is strictly kept upon a pure vegetable diet. These agents act in preserving the fibrin from oxidizing in a manner similar to preserving fruit by keeping it free from the influence of oxygen; *i. e.*, by combining with the oxygen instead of the fibrin.

The parallelism of rheumatism and tubercle subsists in the hyperinosis and oxidation, and ceases with the latter. In rheumatism this consists in the oxidation extending only so far as the conversion of the phosphorus and sulphur into their respective acids; and not so far as to change or to rearrange the remaining elements of the fibrin into the form of caseous matter, but leaves it to pursue a more normal course in its metamorphic processes.

As the treatment of the two diseases in detail does not fall within the scope of this paper, it only remains to observe that, inasmuch as oil, alcohol, or a non-nitrogenous diet lessens the quantity of fibrin in the blood, the foregoing sufficiently demonstrates the proposition that drinking men, under ordinary circumstances, enjoy an immunity from rheumatism and tubercle.

Book Notices.

Manual of General Medicinal Technology, including Prescription-Writing. By EDWARD CURTIS, A. M., M. D., Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons, etc. New York: William Wood & Co., 1883. 32mo, pp. viii–234.

DR. CURTIS has made a very systematic and useful little book and a very accurate one. The information it contains should be in every work on materia medica and therapeutics, and yet usually the subjects handled are very scantily treated of in such books. The technicalities of prescription-writing are discussed at considerable length. The naming of medicines, their forms, and the determination of the quantities of medicine to be used, are all carefully discussed. The methods of medication and dosage receive appropriate treatment. The questions of compatibilities of drugs, both chemically and physiologically, are also discussed. The book is for students, and is calculated as a reminder. The United States Pharmacopœia is followed, and the metric system is given a place.

Student's Manual of Electro-therapeutics. By R. W. AMIDON, M. D., etc. New York: G. P. Putnam's Sons, 1884. Pp. v–93.

DR. AMIDON'S book contains a very clear and straightforward account of the physical principles which underly electro-thera-

peutics. Indeed, we do not recollect having anywhere seen condensed in so concise and yet satisfactory a shape the laws governing electrical currents, and the facts regarding the physiological and pathological reactions of the human organism to electricity. The electro-therapeutical deductions from these facts are given very briefly and are mainly drawn from the author's personal experience, and are hence perhaps more valuable—certainly more authoritative—than if taken from hearsay or at second-hand.

The book is well adapted to its purpose—namely, to supply to the student of practical electro-therapeutics some elementary notions upon the subject; enough to enable him to employ a battery intelligently and understand the reactions which are involved.

Chemistry: Inorganic and Organic, with Experiments. By Charles Loudon Bloxam, Professor of Chemistry in King's College, London, etc. From the fifth and revised English edition. With two hundred and ninety-two illustrations. Philadelphia: Henry C. Lea's Son & Co., 1883. Pp. xxvii–33 to 738, inclusive.

This, the fifth, edition of Bloxam's well-known treatise has been subjected to careful revision, and the sections occupied with the principles and theory or *science* of chemistry have been brought "into harmony with modern views." The fundamental conceptions of chemistry relating to the constitution and properties of matter are amply and clearly, yet withal briefly, presented to the student in their most developed forms. Still, we miss any consideration of the import and relations of heat to molecular exchange, a growth of modern physics which promises to absorb the entire philosophy of chemical science.

As a practical treatise, responding to the demands of the medical student and working chemist, the present work will make secure the place won by previous editions.

BOOKS AND PAMPHLETS RECEIVED.

Outlines of Psychology, with Special Reference to the Theory of Education. A Text-book for Colleges. By James Sully, M. A., Examiner for the Moral Sciences Tripos in the University of Cambridge, etc. New York: D. Appleton & Co., 1885. Pp. xxiv–711.

A Text-book of Physiology. By M. Foster, M. A., M. D., F. R. S., etc. Third American, from the Fourth and Revised English Edition. By Edward T. Reichert, M. D., Demonstrator of Experimental Physiology in the University of Pennsylvania. With Two hundred and seventy-one Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. 911.

Poisons: their Effects and Detection. A Manual for the Use of Analytical Chemists and Experts. With an Introductory Essay on the Growth of Modern Toxicology. By Alexander Wynter Blyth, M. R. C. S., F. C. S., etc. With Tables and Illustrations. Volume I. New York: William Wood & Co., 1885. Pp. xxxiv–333.

Tracheotomy in Laryngeal Diphtheria; After-treatment and Complications. By Robert William Parker, Surgeon to the East London Hospital for Children, etc. Second Edition, Revised and Considerably Enlarged. London: H. K. Lewis, 1885. Pp. xvi–124.

Medical Thoughts of Shakespeare. By B. Rush Field, M. D., Member of the Shakespeare Society of New York. Second Edition, Revised and Enlarged. Easton, Pa.: Andrews & Clifton, 1885. Pp. 86.

Lectures on Pulmonary Phthisis. By Ernest L. Shurly, M. D., etc. Reprinted from the "Medical Age."

Minutes of the Thirty-second Annual Session of the Medical Society of North Carolina.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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NEW YORK, SATURDAY, AUGUST 15, 1885.

FERRÁN'S FIASCO.

It would be wrong to jump to the conclusion, from the utter collapse of Dr. Ferrán's vaunted procedure in the preventive inoculation of cholera, that inoculation may not yet be so carried out as to answer the purpose. But the tendency is a natural one to settle down into the stagnation of such a conclusion whenever a grand scheme of any sort is proved to be a bubble, and especially when, as in this instance, its promoter takes a position where he shows himself rather a seeker after pecuniary reward than a devotee of either science or humanity. It is of little consequence to the world when a person who has posed for a time as a great discoverer and a benefactor of the race drops to the level of a charlatan, except that the occurrence tends to create a disinclination on the part of competent and well-balanced men to enter upon a path which, whatever promise it might otherwise have seemed to hold out, has been in a certain sense defiled. To be sure, this feeling of aversion is always outgrown in time, but results that, but for its existence, would in all probability have been arrived at with rapidity are postponed many years, to the great detriment of progress.

If failure had been all that was to be chronicled of Dr. Ferrán's process, that in itself would not have brought him down to the station he now occupies in the eyes of the profession; he would simply have been set down as one who had generalized from insufficient data—a proceeding not unheard of in men who have nevertheless continued to enjoy the respect of their fellow-laborers, and even done subsequent solid service to science. Nor would his reserve—to use no harsher term—as to the details of his laboratory work, if indeed he has done anything worthy of the name, have aroused any special distrust, provided it had gone before his bold announcements. He might have been as silent as the tomb, and sported his oak like a miser, so long as his project was in that part of the experimental stage which ought unquestionably to have been worked out to the last detail before inoculations of human beings were resorted to as the final test; and it could not reasonably have been objected that he was straying from the legitimate course. But, when he appeared, so to speak, vaunting a perfected process with one breath and smothering investigation with the next, the weakness of his position was all but demonstrated.

It was natural, too, that he should look forward to a pecuniary reward when he had satisfied the world of his success. And under such circumstances, beyond all question, the recompense would have been forthcoming, and it would have been a handsome one. Jenner not only accepted, but took means to obtain, a substantial recognition of his great services to mankind,

and the fact has never dimmed the luster of his fame. His countrymen were glad and proud to afford him a tithe of the money that his discovery had saved, to say nothing of its other beneficent consequences, although the whole world gained by it as well as themselves. But Jenner worked patiently for years before he even announced his conclusions, and he countenanced no movement looking to a pecuniary recompense until all civilized communities had had the soundness of his doctrine and the utility of his practice demonstrated to them over and over again and on a large scale.

As matters stand, however, a practice abundantly shown to be well-nigh if not altogether useless, secrecy as to details—not for purposes of undisturbed study, but apparently only for mystification—and a hand held out after the manner of Artemus Ward's showman when he said to a would-be dead-head: "You can pay without going in, but you can't go in without paying"; all these features make the contrast sharp between Dr. Ferrán's case and that of any one of the world's few great discoverers. Let us hope that this very pointedness of the contrast may to a certain degree rob his fiasco of the retarding influence it might otherwise have had on researches in the preventive inoculation of cholera.

MINOR PARAGRAPHS.

ARTIFICIAL VIABILITY.

PERHAPS this term may properly be applied to the results which seem capable of achievement by following certain devices that have been brought forward by the Paris obstetrician, M. Tarnier. Until lately, it was the practical difficulty of maintaining them at a uniform temperature of the required degree that made the survival of children born on the bare attainment of viability so decidedly improbable. M. Tarnier's success in doing away with this obstacle, by means of the *couveuse*, is well known to our readers. But this is not all. At a recent meeting of the *Académie de médecine*, as we learn from the "Progrès médical," M. Tarnier insisted upon the necessity of forced feeding (*gavage*). Through a urethral catheter passed into the stomach, and provided with a glass funnel at its free end, a nutritive liquid is to be poured, preferably human milk. In the case of very young infants, two drachms of milk are injected every hour, and, after a time, the breast is given in alternation with these injections. The cautions are mentioned that the catheter should be withdrawn rapidly after the milk has reached the stomach, and that care should be taken not to throw in too much at any one time. By resorting to these expedients, it is thought, children born so early as the sixth month may be reared.

A FRENCH VIEW OF THE AMERICAN TRADE PROPENSITY.

"LYON MÉDICAL" has noticed an advertisement of an American device termed a "menstrual receptacle," and, under the caption "On s'arrêtera l'industrialisme américain?" remarks that the advertiser has devised a little cup which, embracing the cervix uteri, is intended to receive the catamenial dew without the loss of a drop. The dimensions of the shank which supports the cup give rise to reflections, says our contemporary, the first of which is, that it is surely impossible to push progress further—or deeper.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 11, 1885:

DISEASES.	Week ending Aug. 4.		Week ending Aug. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	27	5	14	4
Scarlet fever	23	4	8	2
Cerebro-spinal meningitis	2	2	2	1
Measles	21	4	16	2
Diphtheria	33	17	20	14
Small-pox	2	0	1	0

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, August 4th. *Acapulco, Mexico.*—For the week ending July 19th: Free from epidemic diseases. *Cape Haytien, Hayti.*—For the week ending July 25th: Free from epidemic diseases. *Cardenas, Cuba*, and *Laguayra, Venezuela.*—For the week ending July 25th: Free from epidemic diseases. *Callao, Peru.*—For the week ending July 4th: One death from yellow fever and one from small-pox. Fever reported as declining in the town. Small-pox prevailing very generally among the lower classes. *London, England.*—For the week ending July 20th: 118 cases of small-pox admitted to hospital during the week; 15 deaths reported. Total number of cases in hospital at the end of the week, 782; deaths from diarrhœa and dysentery, 210, and from simple cholera, 4. *Paris, France.*—For the week ending July 25th: No cholera or small-pox reported. *Nice, France.*—For the two weeks ending July 15th: Free from small-pox and cholera. *Barcelona, Spain.*—By cable, August 4th, the consul reports cholera present, but not officially declared. *Denia, Spain.*—July 28th: Cholera officially declared; there are from 3 to 6 deaths daily. *Gibraltar, Spain.*—August 9th: 1 death from cholera at the civil hospital. *Malaga, Spain.*—August 7th, the consul reported 4 cases of cholera; on the 11th the civil authorities announced that the cases reported on the 7th were not cholera. *Genoa, Italy.*—For the week ending July 12th: Free from epidemic diseases. *Venice, Italy.*—For the week ending July 11th: 2 deaths from small-pox. *St. Petersburg, Russia.*—For the week ending July 18th: 3 deaths from small-pox. The presence of yellow fever at *Vera Cruz, Mexico*, has been announced by telegram from the consul, but no further information has yet been received.

The Mount Sinai Hospital Training-School.—We learn that Miss P. B. Washburne, the principal of the school, has resigned, and that Miss A. F. Jones, who lately resigned the position of superintendent of nurses at the Charleston, S. C., City Hospital, is to succeed her. Both ladies are graduates of the New York Hospital Training-School.

Medical Department of Yale College.—It is reported that Dr. F. E. Beckwith has resigned the chair of Obstetrics and Diseases of Women and Children.

Carney Hospital, South Boston, Mass.—Dr. William A. Dunn has been appointed visiting surgeon, and Dr. G. H. Monks and Dr. H. W. Cushing have been appointed surgeons, to the out-patient department.

The Illinois Register of Physicians and Midwives.—The Illinois State Board of Health gives notice that it is now engaged in revising the "Register," and that it will regard any notification of changes, omissions, or errors as a favor. Corre-

spondents should address: "The Secretary of the State Board of Health, Springfield, Ill."

The Death of Dr. George A. Bates, of Worcester, Mass., occurred suddenly on Saturday, August 8th, in his sixty-fifth year. He was graduated from Harvard Medical School in 1844, and the greater portion of his professional life was spent in Worcester. He was a member of the Massachusetts Medical Society.

The Death of Dr. Joseph R. Draper, of South Boston, Mass., took place on Wednesday, August 5th, in his fifty-fifth year. He was a native of Wayland, Mass., and was graduated from Berkshire Medical School in 1863. He was a member of the Suffolk District, and of the Massachusetts Medical Societies.

The Death of Dr. William Wood, of East Windsor, Conn., took place on Sunday, August 9th, at the age of sixty-three. He was a native of Waterbury, Conn., and was graduated from the Medical Department of the University of the City of New York in 1847. He was a member of the Hartford County, Conn., Medical Society, the Lyceum of Natural History of Williams College, and a corresponding member of the Nuttall Ornithological Club of Cambridge, Mass., and was a recognized authority in ornithology.

The Death of Dr. Thomas B. Jewett, of Birmingham, Conn., took place on Sunday, August 9th, in his thirty-seventh year. He was a son of the late Dr. Pliny A. Jewett, of New Haven, and was graduated from the Medical Department of Yale College in 1879.

The Death of Professor Milne Edwards is announced in the "Gazette hebdomadaire de médecine et de chirurgie." He had reached the age of eighty-five years, and had been a teacher for many years. At the time of his death he was a member of the *Académie des sciences* and of the *Académie de médecine*, honorary dean of and professor of comparative physiology in the *Faculté des sciences*, and professor at the Museum of Natural History. Early in his career he made numerous contributions to practical medicine, but the greater part of his life was devoted to physiology.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 2, 1885, to August 7, 1885:*

Brown, J. M., Surgeon; Ewen, Clarence, and Taylor, A. W., Assistant Surgeons. Ordered to rejoin their proper stations in the Department of the Platte. G. O. 7, Division of the Missouri, August 1, 1885.

Edie, G. L., and Black, C. S., Assistant Surgeons. Ordered to rejoin their proper stations in the Department of Texas. G. O. 7, Division of the Missouri, August 1, 1885.

Powell, J. L., Captain and Assistant Surgeon. Assigned to temporary duty at Fort Leavenworth, Kansas. S. O. 140, Department of the Missouri, July 30, 1885.

Deitz, William D., First Lieutenant and Assistant Surgeon. Ordered from Fort Selden to Fort Stanton, New Mexico. S. O. 111, Department of the Missouri, July 31, 1885.

Society Meetings for the Coming Week:

Monday, *August 17th:* Hartford City, Conn., Medical Association. Chicago Medical Society.

Tuesday, *August 18th.* Medical Society of the County of Kings, N. Y. Ogdensburg, N. Y., Medical Association.

Wednesday, *August 19th.* New Jersey Academy of Medicine (Newark).

Thursday, *August 20th:* New Bedford, Mass., Society for Medical Improvement (private).

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 21, 1885.

The President, Dr. A. Jacobi, in the Chair.

Observations on the Treatment, Medical and Surgical, of Acute Peritonitis.—Dr. T. H. Buchard read a paper on this subject. [See p. 169.]

Dr. A. L. Loomis did not believe in idiopathic peritonitis; for five or six years he had searched diligently at autopsies for a case in which no local or constitutional cause of the peritonitis could be recognized, but he had found none. As the author had stated, we could group all cases under three heads—those in which the cause was constitutional and dependent upon blood poisoning, those arising from extension of inflammation from neighboring parts, and those dependent upon perforation or rupture of some form. He had yet to see a case of peritonitis end in recovery in which there had been unmistakably an escape of intestinal gases into the peritoneal cavity. He recognized the escape of the intestinal contents into the peritoneal cavity as one of the most fatal of accidents. It was not always possible to determine just what part of the gut was involved, even in cases in which the symptoms were localized, for previous adhesions, etc., might have caused a displacement of the several portions of the intestine. But, if the commencing point of peritoneal inflammation could be determined exactly, he would most heartily indorse all that had been said in favor of laparotomy. He had seen more than one such case. Where there was perforation of the vermiform appendix there often existed localized peritonitis, with fixed pain, increased on firm pressure, arrest of abdominal respiration, and feebleness of heart power which did not correspond to the amount of pain or the apparent gravity of the disease. When such symptoms came on rapidly or suddenly, he thought we were justified in resorting to surgery, or, if the symptoms did not yet point positively to perforation, the physician should stand by his patient prepared to perform the operation when the first signs of perforation should appear. He had on several occasions pointed out to surgeons the indications for the use of the knife in acute peritonitis. Experience had shown that the peritonæum was not such a dangerous membrane to invade as it had formerly been regarded. If, however, general peritonitis had developed, with shock and collapse, the pulse at 160, and the respirations altogether thoracic, an operation offered but little chance of success. It was in the early stage that the operation should be done, to give the best chance of recovery. He believed thoroughly in the opium treatment of peritonitis, but with restrictions, such as had been pointed out in the paper. For a long time he had guarded his first doses of opium with atropine; later on in the disease it was not so necessary to combine atropine with the opium.

Dr. R. F. Weir thought that during the past ten or fifteen years surgeons had taken a long stride in advance in the treatment of diseases and injuries of the abdomen, especially the latter. Dr. Loomis, he thought, had struck the key-note when he stated that there was no such thing as idiopathic peritonitis. In no case of peritonitis should the patient be allowed to die without receiving the benefit of an exploratory operation. He agreed with Treves that there was no mesocolon which led to connective tissue behind the peritoneum; perforations always took place inside the peritoneal cavity. He called attention to the importance of earlier interference in so-called perityphlitic abscess; surgeons should not wait until they were able to withdraw pus with the aspirator needle before cutting down and

establishing drainage. In traumatic cases it was difficult to determine whether the patient was simply in a state of collapse, whether there was escape of the intestinal contents, or whether there was hæmorrhage. But the comparative safety of exploratory incision of the abdominal cavity justified us in such cases in opening the peritonæum. He referred to the success of two operations under such circumstances, one being performed by Mikulicz and the other by Kocher. He was entirely in accord with the author of the paper as to the importance of an early operation.

The PRESIDENT said it was a question with general practitioners whether in every case of perityphlitis an early operation should be resorted to. He believed that we were not all fully prepared to operate at once, even though the diagnosis might be satisfactorily made, and for the reason that in a large number of cases the local inflammation did not extend. We knew of recoveries, too, in cases in which a perityphlitis had become a general peritonitis. For the general practitioner, it certainly was a responsible position to decide the question whether or not an operation should be done at once, or whether we should wait for some time. He had met with just such a case within the last two weeks, that of a boy fifteen years of age who gave a history of perityphlitis—sudden pain, local swelling in the right inguinal region, some dullness on percussion, slight elevation of the thigh, a moderate amount of fever, and absence of collapse. In such a case, then, the question would be raised, Should an operation be performed at once? The patient was given morphine with atropine, and they applied ice, ice, ice! The peritonitis became general, but the symptoms were not urgent; the temperature rose above 103° only once; there was pain over the abdomen, with thoracic respiration. He hesitated to recommend an operation, because the general condition of the patient seemed to justify a little more waiting. If in such a case death should occur, perhaps the physician might be reproached with not having proposed an operation. He heartily agreed with the statement that there were hardly any cases of idiopathic peritonitis. He was not prepared to say, even after hearing this paper and the discussion, that he would at once propose laparotomy in the class of cases mentioned, but he would propose it if peritonitis had set in suddenly after an attack of perityphlitis, and extended very fast. Dr. Loomis had said, Operate when the first sign of perforation makes its appearance; but perforation was frequently the first thing which occurred.

Dr. LOOMIS thought he had said that the surgeon should be prepared to operate in all of these cases as soon as the evidences of perforation became known. He would beg to question the statement that perforation was the beginning of a perityphlitis. He mentioned a case in which he saw the patient on a Thursday, when there were localized symptoms in the right iliac region, not severe, but the facies pointed to some serious trouble. On Friday the patient felt well and got up, but on Saturday there was sudden collapse, and death occurred with general peritonitis. Autopsy showed lymph about the local trouble, of two or three days' formation, and evidence of subsequent perforation and general peritonitis. Had an operation been done at first, the patient might have recovered.

Dr. WEIR remarked that in speaking of an early operation he did not mean that it was necessary to resort to laparotomy, but to the ordinary operation for perityphlitis, with the insertion of a drainage-tube.

Dr. LOOMIS had stated at the beginning of his remarks that there was no cause of peritonitis which was so fatal as the escape of the intestinal gases into the peritoneal cavity. He could understand how the vermiform appendix might be plugged at its opening into the intestine, and ulcerations occur further on which might set up an inflammation in the connective tissue, give rise to hardening, etc., and recovery finally take place; but, when the ulceration was situated near enough to the intestine to cause an escape of the intestinal gases, he could not see how it would be possible for the patient to escape acute general peritonitis.

Dr. BUECHARD, in closing the discussion, said he had seen six cases of perityphlitis attended by perforation, in five of which he made a post-mortem examination and verified the diagnosis. It was a peculiar fact in these cases, and was commonly true, as had been pointed out in the discussion, that prior to the perforation which caused death there had been one or more attacks of perityphlitis, and that he considered a very strong diagnostic mark. If we found a patient in complete or partial collapse who had had preceding perityphlitis, he thought we were justified in concluding that there was perforation, and particularly if there had been previous constipation and the patient had been taking an active purge. If there was but very little collapse, he thought we were justified in concluding that, if there was perforation at all, it was so minute that it could not be diagnosticated. If the collapse was profound, as it was in most cases, and developed rapidly, we were justified in inferring that there was perforation.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of June 11, 1885.

The President, Dr. E. O. SHAKESPEARE, in the Chair.

The Relative Malignancy of Different Forms of Sarcoma.—Dr. H. R. WHARTON presented a large tumor which had been removed from the posterior portion of the thigh of a patient in the University Hospital, under the care of Dr. Ashhurst. The patient was a man, thirty-two years old, who, some eight years ago, had first noticed a small tumor of the posterior portion of the left thigh, about six inches above the popliteal region. Since that time it had gradually increased in size, and at the time of his admission it was larger than a man's head and oblong in shape. Its growth had been accompanied by paroxysmal attacks of severe pain. The patient did not remember any injury of the part. The tumor was enucleated without difficulty, laying bare about six inches of the sciatic nerve, which was directly in contact with the capsule of the tumor, over which also portions of the semi-tendinosus and biceps muscles were stretched. The tumor was found to consist of one large cavity containing a reddish-brown fluid, surrounded by a fibrous wall varying in thickness from an inch to two inches, and in places presenting numerous points of calcareous degeneration. The inner surface of this wall was lined with irregular flocculent masses. Microscopical examination showed the growth to be a spindle-celled sarcoma with scattered areas of calcareous degeneration. The chief points of interest in the case were the large size of the tumor, its slow development, and the ease with which it was removed without injury to adjacent structures.

Dr. TYSON thought it would be interesting to determine if this cyst—which was a typical example of cyst-formation by softening—had an endothelial lining. He also asked as to the nature of the liquid contents.

Dr. DE SCHWEINITZ replied that he had been foiled in his efforts to make satisfactory sections, from lack of time to decalcify the growth. He had determined, however, that it was unquestionably a spindle-celled sarcoma. The contents of the cyst had been spilled during the operation; they were of a chocolate color.

Dr. BARTON said that at the previous meeting Dr. Nancrede

had shown two growths with a similar clinical history and of analogous histological characters. It would be interesting to examine both growths with reference to the state of the walls of the blood-vessels, as suggested by Dr. Nancrede, to ascertain if any light could be thrown on the question of the non-malignancy of the so-called recurrent fibroid tumor of Paget.

Dr. Nancrede remarked that at the previous meeting he had specially called attention to the fact that the *so-called* recurrent fibroid of Paget was a small-spindle-celled sarcoma. The position which such growths occupied—viz., in the subcutaneous connective tissue—did not seem to him, as had been suggested by Dr. Simes, a satisfactory explanation of their non-recurrence. He was under the impression that a careful study of the histology of their vessel-walls would demonstrate that they more closely resembled those of a fibroid tumor than those of other sarcomata in not being merely channels through the tissue, directly or almost directly in contact with the tumor-cells. He thought that "recurrent fibroid" was a good clinical term, as applied to a certain class of sarcomata, since other tumors much resembling them in histological character pursued a far different course.

Dr. Tyson said that he had early made a study of the growth first known as the fibro-plastic tumor of Lebert, and afterward named by Paget recurrent fibroid, but now correctly included among the sarcomata of Virchow. He thought that the explanation of its non-malignancy was to be found in the fact that the physiology of sarcomata varied greatly in this respect, some being scarcely more malignant than certain fibromata, while others vied with the worst cancers in this characteristic. The former were represented by the hardest of the sarcomata, which, again, were the small-spindle-celled growths and might be said to be the type of the recurrent fibroid of Paget. He agreed with Dr. Nancrede that the term was a good one clinically, designating a small-spindle-celled sarcoma recurring *in loco*, but seldom by metastasis.

Dr. Formad said that no true tumor ever had arteries or veins; their blood-vessels were merely blood-channels without muscular walls, even in fatty tumors. The cancers were an exception to this; they had true blood-vessels and nerves, and hence were painful.

Dr. Nancrede replied that, as Dr. Formad's statements were totally at variance with those of all reliable observers, he was not prepared to accept them at present, and still thought that careful study of the histology of the vessel-walls in the various sarcomata might reveal something of practical interest.

Dr. Formad said that, to him, the relative non-malignancy of these growths was plain; spindle cells could never move from their position, especially if the blood-vessels were small. The small-round-celled sarcomata had small cells and were more vascular; hence they were very malignant by metastasis. Giant-cells never traveled.

The President remarked that the suggestions of Dr. Nancrede and Dr. Barton, as to a possible difference in the blood-vessel walls of sarcomata of differing malignancy, were doubtless based upon the well-known fact that these growths became generalized through the blood-channels. This seemed to him a matter of interest, and it also raised a point which might be found of importance, if properly investigated, as explaining the clinical differences. It was indeed true that the tendency to malignancy by metastasis was due in large part to the ease with which cells could be detached from their place, and this had as much to do with metastasis as the supposed mobility of the masses. As to the condition of the vessel-walls in recurrent fibroma, he was very sure that, in the primary tumors which had been diagnosticated, after removal, as pure fibromata with numerous endothelial cells along the bands of fibrous tissue, recurrences had shown a change of type to that of perfect sarcomata; yet the blood-vessels in the first were those of connective tissue, while in the second they had the character of simple blood-channels.

Dr. Hughes would call attention to a theory of a recent German observer, that all sarcomata arose from the endothelia of blood-vessels. On that supposition it could easily be understood how they became generalized; these cells set up the same change in the endothelia wherever they touched them, while cells derived from other structures had no effect. This distinction might be made between sarcomata that remained local and those that became generalized—that the former arose from fibrous tissue, and not from endothelium.

Dr. Nancrede was of course perfectly familiar with the fact that mobility of cells had much to do with malignancy, but he felt compelled to deny positively, upon the basis of experience, the so-called fact, so positively asserted by Dr. Formad, that large-spindle-celled sarcomata never could become generalized, because their cells, from their form, must "stick" in the vessels. Some years since he had presented to the society a specimen of the most malignant growth he had ever had the misfortune to deal with. (Here he repeated its history.) He thought that Dr. Formad had examined that specimen at the time, and had not then dissented from his opinion. He would relate other instances presented to this society, but further remark was unnecessary, since all observers except Dr. Formad had repeatedly called attention to the special malignancy of large-spindle-celled sarcomata, save in certain situations. He would suggest that positive statements founded on any one observer's experience were apt to be delusive.

Specimens from an interesting case of pneumonia in a child, with extensive consolidation, were shown by Dr. M. H. Fussell, and Dr. G. de Schweinitz showed two specimens of sarcoma of the choroid.

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M. D.

The Influence of Temperature upon the Life of the Fœtus, and upon the Progress of Gestation.—Doré ("Arch. de tocol.") has made three series of experiments upon animals bearing upon this subject. He compares these and their results with similar investigations which were made by Runge, with whom he disagrees in most respects. His conclusions are as follows: 1. The first conclusion of Runge can not, with our present knowledge, be refuted—namely, that the temperature of the fœtus is always higher by some tenths of a degree than that of the mother even when the latter is above the normal. 2. No well-conducted experiment has ever proved that the fœtus dies a long time before the mother. [Presupposing that the mother is in a dying condition, from whatever cause.] When the mothers were opened after death the fœtuses were invariably found dead, but when this operation was performed before death, even though the mothers were *in extremis*, the fœtuses were found alive. 3. A temperature of 41·5° C. is not always lethal for the fœtus. Runge thinks that when maintained at this point for a few minutes it is necessarily fatal. The author's experiments showed that it might in some cases be continued for four hours without producing death. 4. A temperature of 43° C., if arrived at by slow and cautious elevation, may be endured for a short period without interrupting the pregnancy or affecting the vitality of the fœtus. 5. Excessive elevation of temperature *alone* is insufficient to produce abortion or premature parturition. In all of the author's experiments, whether the mother succumbed to the heat or successfully

resisted it, this proposition was sustained. 6. There is great difference, even with animals of the same species, in the normal temperature point and in the rapidity with which hyperpyrexia is acquired, the same rate of increase of external heat being observed in all cases.

The Influence of Age upon Labor in Primiparæ.—Kleinwächter ("Ztschr. f. Geburtsh. u. Gynäk."), after analyzing the statistics of nine hundred and twenty primiparous cases, which were recorded at the Innsbruck clinic, the patients varying in age from sixteen to forty-one years, draws the following conclusions: 1. As a rule, the greater the age at which conception occurs for the first time, the older the individual when menstruation began. 2. The reason of this is to be found, at any rate in part, in precedent disturbances in the ovulation process. 3. Pain occurring either with the first menstruation, or in a subsequent one soon after it, among those who begin to menstrute at a period which is later than the usual one; likewise irregular menstruation, and pain during coitus, which renders that act imperfect, are causes which tend to retard the period when conception first occurs. These factors are most potent in women of an advanced stage of life, less so in those who are midway in the child-bearing epoch, and least among very young women. 4. Pathological conditions which have no immediate relations with the pregnant state interfere with conception least frequently in young women, but very commonly in older ones. 5. The pain and annoyance attending the pregnant state are most common with very mature primiparæ, and less common with primiparæ of the middle than of the earliest stage. 6. Hæmorrhages during pregnancy occur most commonly among the young, least commonly among the old. 7. As to an increase in the quantity of liquor amnii, age does not seem to be a determining factor. 8. The duration of labor is most frequently prolonged beyond the normal time among old primiparæ. 9. Inexpulsive and ineffective pains are most common among primiparæ of the latest period. 10. The forceps is most frequently called for with those primiparæ who are more than twenty-nine years of age. 11. Though the duration of labor is longer with old primiparæ than with young ones, it does not follow that this is an inevitable and unvarying fact. 12. (This proposition simply qualifies its predecessor.) 13. The percentage of mortality in primiparæ following forceps operations increases in the same ratio with the age. 14. The older the primipara, the more likely is the perinæum to be torn. 15. The older the primipara, the greater the probability that post-partum hæmorrhage will occur. 16. Increase of age brings increased predisposition to kidney troubles. 17. The same rule applies in regard to œdema. 18. The older the primipara, the less the probability that she will suffer with inflammation of the breasts, or that she will be able to nurse her child. 19. Old primiparæ are most frequently the subjects of puerperal fever; least frequently affected are those who are between twenty and twenty-nine years of age. 20. The same rule holds in regard to puerperal mania. 21. Equally true is it in regard to morbidity and mortality with reference to puerperal diseases in general. 22. The same rule obtains in regard to spontaneous abortions; the older ones are most frequently the sufferers. 23. Abnormal presentations are most frequent with old primiparæ. 24. As to the narrow or deformed pelvis, age has no bearing upon the question. 25. The older the primipara, the greater the probability that the offspring will be a boy. 26. The children of old primiparæ are apt to be heavier and longer than those of young ones. 27. The older the primipara, the more likely is she to give birth to twins. 28. The same is true in regard to deformed offspring. 29. Also the rule applies in regard to the vitality of the offspring.

The Treatment of the Perinæum in Pregnant and Parturient Women.—W. A. Duncan ("Lancet") shows that an operation upon a ruptured perinæum is not necessarily an efficient cause of abortion in a pregnant woman by the narration of a case in which it was performed upon a woman in the third month of pregnancy. She had already borne two children, and the perinæum had been ruptured at each labor. The rent had been closed after the first accident, but not after the second, until the operation was performed by the author nine months after labor. Four deep wire sutures were used, and a sufficient number of superficial catgut ones. The operation was entirely successful, pregnancy was completed, and no accident occurred at the subsequent labor. In regard to supporting the perinæum during labor, the author thinks that the plan is sometimes a very good one, though accidents will sometimes happen in spite of all precautions. The plan which is recommended is to dilate the perinæum with the fingers closed in the form of a cone, and applied carefully when the head has reached the perinæum. He also approves of the plan of lateral incisions of a rigid perinæum, and thinks that the forceps, properly used, will prevent rather than encourage perineal rupture, on account of the dilating action of the blades. The supporting power of the perinæum to the pelvic organs is considered to be too important a matter, as regards the comfort and welfare of parturient women, to be overlooked or lightly regarded.

The Treatment of Placenta Prævia.—Murphy ("Brit. Med. Jour.") reports fifteen cases of this complication, in all of which the mothers recovered, recovery being delayed in one case, however, by an attack of phlegmasia dolens. Five of the children were born alive, but three only survived, and four of the others were dead when the patient was first seen. In regard to the causes which produce hæmorrhage (ante partum) in cases of placenta prævia, the author follows Matthews Duncan in considering that they may be (1) rupture of a utero-placental vessel, (2) rupture of a marginal utero-placental sinus, (3) partial separation of the placenta from accidental causes, as a jerk or a fall, (4) uterine pains from attempted miscarriage which is arrested at an early stage. Müller is quoted as stating that hæmorrhage is most frequent in cases of complete placental presentation between the twenty-eighth and thirty-sixth weeks; in the incomplete forms it usually comes after the thirty-second week. After such a warning as is given by hæmorrhage at this period, the sooner labor is induced the better the chances for both mother and child. The operation which will be required is the same in principle, whether labor has begun or not, and the author is very decided in his opinion that the vaginal tampon is *not* the means which is required. Immediate dilatation of the os is the end which is to be attained. Tents or the finger may first be used, and then Barnes's hydrostatic bags, or Steele's modification of the same. After a moderate degree of dilatation has been effected the finger should be passed into the uterus, and should separate all the placenta which is contiguous to the os internum. If uterine pains occur, the hæmorrhage will cease, the theory being that the vessels in the detached portion of placenta contract with the contractions of the uterus, and do not drag upon the vessels which are still intact as they did before the placental separation was effected. If hæmorrhage does not cease, ergot should be given. Dilatation being accomplished, the case may be left to nature. Rapid delivery may be effected with the forceps, but in the majority of cases version will be the most appropriate operation.

Defective Lactation.—Dolan (*Ibid.*) cites the following general principles upon this subject: 1. All therapeutical agents intended to act on the mammary gland must first enter the blood, or be capable of stimulating the blood supply in the mammary apparatus, the principle being that nutrition is dependent on blood supply. 2. Drugs from the families *Liliaceæ*, *Cruciferæ*, *Solanaceæ*, *Umbelliferæ*, etc., enter the blood and impregnate the milk, so that poisons in any of these classes must be administered with caution to the mother or nurse. 3. There is no true galactagogue, but jaborandi is the nearest approach to one. Its action is not persistent, however, and it affects the mammary secretion only temporarily. 4. Belladonna is an antigalactagogue. 5. In inaction of the mammæ the milk may be increased and influenced by medicines. 6. The salts of milk may be improved, as to quantity, by the action of medicines. 7. Various physiological actions, purgative, alterative, diuretic, etc., may be produced in the child by the administration of drugs to the mother. 8. Diet and hygiene must be regulated in order to effect improvement in the milk-secreting power. In regard to the causes of defective lactation: 1. They may be mechanical (*a*) through non-development of the lactiferous tubes; (*b*) through non-development of the cæcal terminations of the ducts; (*c*) through non-perfection of epithelium. These conditions can not be remedied. Plethora can be remedied by suitable, non-stimulating, nutritious diet. 2. Torpor of the mammæ may be overcome by repeated applications of the electric current, by irritation of the nipple, warm poultices, and the breast pump. 3. The commonest cause of defective lactation is anæmia, which is associated with constitutional deterioration. This vital defect is shown to be a very common condition, especially among the overworked and underfed laboring population in manufacturing communities. A degeneracy of the race, at least in so far as these classes

are concerned, is steadily progressing. One great remedy which is suggested consists in counteracting the vice of intemperance. The number of places of refreshment and entertainment for the poor should be greatly increased, and coffee, cocoa, tea, milk, soup, vegetables, etc., be furnished at low prices, the object being to displace with establishments of this character the present evil system of public-houses and dram-shops. The best mothers and the least amount of degeneracy are, says the author, in the middle classes. Woman's mission must ever be regarded in its association with motherhood, for the accomplishment of which important evolutional and nutritive changes must be undergone. If the forces which are involved in the process of reproduction are weakened, the result is necessarily a weakening of the race. Therefore the necessity of surrounding the function of lactation with proper safeguards can not be overestimated.

Miscellany.

The International Medical Congress.—Dr. D. Bryson Delavan, of New York, authorizes us to announce that he has declined to take part in the Congress as at present organized. The "Medical News" announces the withdrawals of Dr. Hunter McGuire, Dr. S. P. Moore, and Dr. James B. McCaw, of Richmond; Dr. Le Grand N. Denslow, of St. Paul; Dr. John L. Atlee, of Lancaster; and Dr. Joseph R. Smith, of the army.

The situation continues to be made the subject of comment by several of our contemporaries. The "Kansas City Medical Record" says: "In the June number of the 'Record' we partly gave way to our feelings regarding the outrageous action of a few supercilious nabobs, who have nothing to lose by any disturbance created in the medical profession. In our article we suppressed much of our disgust, with the hope that all dissatisfaction might be peacefully settled, and the profession appear as a unit in trying to make the international meeting what it should be—a well-merited credit to the American medical profession. It now seems that we are to be sadly disappointed in this our wish.

"The new committee appointed at New Orleans met at Chicago about the end of last month. A few members of the original committee met with them, but, of course, being in a hopeless minority, were forced to submit, which they did with apparent grace. Dr. Austin Flint, Sr., chairman of the original committee, sent in his resignation, which was quickly accepted. This showed the direction of the wind, which has nearly destroyed the Congress.

"Dr. Flint did the correct thing in resigning, as he was not the chairman of the new committee; but the committee did a very unwise thing in accepting the resignation. This first act of the committee was a direct blow at the original committee. The leading physicians of Philadelphia led off in their unqualified condemnation of the action taken at the Chicago meeting, and were soon followed by the profession of Boston, Baltimore, and other places. We are sorry to see this growing dissatisfaction, which, if it continue, will ruin the Ninth International Medical Congress. It may be noticed that the men whose names appear among the disaffected in the different organizations are the recognized leading members of the profession, who have always occupied a front rank in medical association meetings. Hence, with these men withdrawing from the committees, it looks very cloudy for the Washington meeting in 1887."

The "Cincinnati Medical Journal" says: "The fear that we expressed a couple of months ago bids fair to be realized; the Texas kick has 'overturned the fat into the fire.' In other words, the officers of the Congress as elected by the new committee, are very generally refusing to serve. Accepted such in the case with those from Philadelphia, Boston, Washington, Cincinnati, and Baltimore, while numerous other resignations have come in from other cities. Many of the most important positions have thus been left without officers. Five of the original committee of eight have resigned, including Dr. Billings, and the secretary-general has also declined to serve. Matters have, indeed, assumed such a shape that no one with any self-respect can afford to take the places thus left vacant. To be a *second choice*, even under the most favorable circumstances, is always sufficiently humiliating; but to consent to be such in the present crisis would certainly indicate an utter absence of professional pride. We are told of three London tailors who once met and 'Resolved, that we, the people of England,' do thus and so. It now looks as though about the same number of 'kickers' would gather themselves at Washington, two years hence, and call themselves an International Congress."

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"The cry against the 'new-code' men was all bosh. It was raised at New Orleans simply to divert attention from the real purpose of those who uttered it, on precisely the same principle as the matador flaunts his red flag in the face of the bull. A few sharp and unscrupulous politicians—who had no claim to recognition in the organization of the Congress, and had hence received none—used that cry as a means of foisting themselves into prominence. They succeeded in their *ruse*, but 'vaulting ambition o'erleaped itself,' and the Congress, under their management, is hopelessly fated. They have come to a realizing sense of this fact, and, anxious to stand from under, are now wildly endeavoring to make themselves, and others, believe that the blame for the failure must rest on those who have withdrawn! They may deceive themselves by such audacious claims, but surely no one else."

The "Medical Record" publishes an open letter addressed to Dr. John V. Shoemaker by Dr. Henry D. Noyes, of New York, from which we extract the following: "With the excisions and withdrawals of our ophthalmologists and of other medical men can we still offer inducements powerful enough to bring to us the men we want from Europe? Can I explain to my *confrères* in Germany, Switzerland, Paris, and London, who expressed their intention of coming and who loaded me with hospitalities—can I account for these withdrawals and exclusions in any way which will not bring disgrace upon our medical profession?

"The situation is profoundly critical, and failure is certain unless an absolute reversal of the present policy is quickly effected. The delegate idea must be abolished. The pledges given at Copenhagen must be carried out in good faith to the letter. This means that men who have been treated with indignity must be invited back. To do this is not pleasant to human nature, but it is manly, and it is imperative. The Congress must be free to all physicians of honorable standing. Better to have a sprinkling of unworthy men, or of irregulars, than to persist in the mischievous and suicidal course now causing disintegration. Nor can we long delay. To wait until next May is to multiply difficulties and aggravate evils. The officers of the American Medical Association and the new committee should take the responsibility of such measures as will be radical enough to restore confidence, to bring back harmony, and to counteract the distrust which will spread through Europe most rapidly and be counteracted very slowly."

The "Virginia Medical Monthly" says:

"We are not surprised, and must confess being glad, at seeing with what almost unanimous action on the part of the leading members of the profession the result of the Chicago session of the newly appointed committee has been met. The resignation of nearly every prominent appointee on the full committees and sections made at that session shows a feeling of dignity and self-respect; and the fact that so many physicians in different parts of the country have expressed their sympathy with that action is plainly indicative of a feeling that something is more than wrong in the position taken by the American Medical Association at its late meeting in New Orleans. The thing to be sorry for is not the fact of these meetings in different cities and the action there taken by the doctors present, but the fact that all this was made a necessity by the personal ambition of some men who felt that they had been slighted.

"The medical press of England has already referred in no complimentary terms to this last-mentioned subject, and the action of the association has not tended to increase the respect of our professional brethren across the water.

"It is most certain that, unless some new action is taken in reference to the committee formation, the Congress will be a failure—a thing which must not be allowed to occur, and, although we acknowledge the shortness of the time which will elapse between the 1886 meeting of

the American Medical Association and the 1887 meeting of the International Medical Congress, it seems to us the only thing now to do is at the next association meeting to wipe out by careful legislation all existing committees, and appoint an entirely new one—not on the narrow basis of a printed set of rules rapidly becoming obsolete by the advance of thought and charity—but on the broad platform of fraternity, honesty of purpose, and dignity."

The "Medical News" publishes the following preambles and resolution, adopted by the Dallas County (Texas) Medical Society, at a special meeting held July 25th:

"*Whereas*, The American Medical Association, at its meeting in Washington city, in May, 1884, recognized a general desire of the medical profession of the United States by adopting a resolution under which a committee was appointed whose duty it should be to extend an invitation to the International Medical Congress, shortly to assemble at Copenhagen, to hold its next meeting in 1887 at Washington city, D. C., and

"*Whereas*, The said committee, by the letter and spirit of this resolution, was fully empowered to act, not only as a committee of invitation, but as an executive committee as well, and

"*Whereas*, The said committee, in pursuance of the objects of the above-mentioned resolution, and duly exercising the unlimited authority delegated to it, enlarged its membership and otherwise provided for the successful holding of an International Medical Congress at Washington city, in 1887, all of which arrangements were considered by us as judicious, and, contrary to what has been charged by some, wholly disinterested as to personal or local aggrandizement, and

"*Whereas*, The American Medical Association, at its last meeting at New Orleans, did, in our judgment, unwisely and untimely, virtually rescind its former action, which reactionary movement has deranged, if not indefinitely suspended, the work of the original committee which was satisfactorily progressing, and created an indifference to the Congress among recognized leaders of medical thought and interest throughout the country, and

"*Whereas*, There are those who persist in urging the so-called justice of their claims for the organization of the International Medical Congress on a territorial basis, which unfortunate idea has been unwisely further extended by some members of the profession in Texas in a manner calculated to arouse a sectional prejudice, which has little if any existence in our State; therefore be it

"*Resolved*, That the Dallas County Medical Society deplores what must be considered the present interregnum in the affairs of the contemplated International Medical Congress, brought about, as we believe, by an ill-considered and hasty action at the New Orleans meeting before mentioned; that this society was fully satisfied with the work of the original committee, which was composed of able, eminent, and conscientious members of the profession; that this society repudiates any attempt to inject a sectional feeling into a purely professional matter which has reference to scientific investigations only, and that said attempt, if offered in behalf of the medical profession of Texas, is, in the opinion of this society, both unauthorized and gratuitous; and that, looking beyond a narrow-minded policy of personal aggrandizement and sectional interest, we heartily commend the recent action of Philadelphia and New York brethren, as well as those elsewhere, who have retired from the Congress until a more dignified and unselfish view of the arrangements can be had; and we pledge them our hearty support and good-will in their efforts to advance the interest of the American medical profession in future meetings of International Medical Congresses, where the truly representative medical abilities of our country shall be enlisted uncontrolled by geographical lines or personal preferences."

In its editorial columns, the same journal says:

"Rapid disintegration still characterizes the new organization of the Congress. This week we are called upon to chronicle more resignations, and the list includes one vice-president of the Congress, three vice-presidents of sections, and several members of councils. The very large number of appointees who have declined to accept office under the New Orleans committee are all old-code men, both in principle and practice, and for the most part they are members of the American Medical Association. They recognize the falsity of the issues which were raised at New Orleans, and they have promptly placed their emphatic seal of condemnation upon the most disgraceful piece of intrigue which has yet marred the history of that body, and which is in imminent danger of placing an ineffaceable stigma upon the good name of the whole American medical profession.

"Although the hollowness of the code cry has been fully exposed, we still find it being freely used by the new committee, and we learn that a circular, to which signatures are invited, has been extensively circulated through this State, expressing approval of the exclusion of the new-code men from membership in the Congress and applauding the work of the committee at Chicago, and it is headed 'The Action of the American Medical Association indorsed.' The first response it appears to have elicited was the resolutions condemnatory of the action at New Orleans, which were passed by the Alleghany County Medical Society and published last week, and this week we hear the echo from Texas.

"The profession recognizes that on account of recent events there is imminent danger of its not being able to meet the obligations which it incurred by the invitation extended in its name at Copenhagen, and its members naturally look around to see what means can be found to avert the impending disaster which threatens to defile its good name.

"The clearest and cleanest way out of the false position into which the profession has been entrapped by the plotters at New Orleans is for all appointees to discredit them completely by declining to accept office at their hands, and thus their organization must, of necessity, collapse. Already this has been largely done, and upward of one hundred and twenty of the most eminent of their appointees have declined to be tools in their hands, and the sooner the remainder follow suit the sooner will the way be opened to the profession to redeem its plighted honor."

The "American Practitioner," of Louisville, says:

"At its meeting in 1884, the American Medical Association selected eight of its members to visit Copenhagen and invite the International Medical Congress, then in session in that city, to hold its next meeting, in 1887, in the United States. The invitation was given by the association in the name of the profession of America. It was accepted, and the committee which conveyed it was at once adopted by the Congress as its own, and invested with the necessary powers of organization and all its *et ceteras*. The committee, while away, acquainted itself with the accustomed mode of organizing and the methods of work of the Congress. It was informed by the founders and chief promoters of the Congress that the work of this body was confined to science, pure and simple; that every other business was vigorously excluded; that its membership was catholic in the broadest sense of that term; that it knew neither geographical lines nor sectional lines, but embraced the workers of every clime and nationality; and, finally, that the only ethical test required of applicants seeking admission was that they should belong to the universal brotherhood of legitimate science. The committee returned home and entered without delay upon the discharge of the duties with which it had been intrusted. These duties involved much labor and great responsibilities. They were completed in season to present the result in detail at the meeting of the association in New Orleans in May. The plan of organization advised by the committee was that under which all previous sessions of the Congress had been held. In a word, the committee simply acted upon information derived while abroad. This information it embodied in its report. The report itself was modeled on that of every preceding Congress.

"When the secretary of the committee read this report at New Orleans, it met with the most extraordinary reception. It was not even accorded the common courtesy of being received. Instead, it was assailed on the floor of the association in language too coarse to be repeated, and the committee itself was openly charged with narrow-mindedness, partiality, selfishness, bargain, intrigue, and corruption.

"The committee, as originally composed, consisted of Austin Flint, John Billings, Minis Hays, H. F. Campbell, L. A. Sayre, George J. Engelmann, Christopher Johnston, and John M. Browne, of the navy.

"Acting under the resolutions which called it into existence, it had added thirty-four other members, representing names in every respect worthy of being associated with the foregoing. Of this committee, consisting now of forty-three members, but five were present when the handful of agitators bent on revolution rose in the association. The

names of none of these men had appeared in the organization of the Congress, as reported by the committee.

"Many persons profess to have seen in this omission the mainspring of their action. They spoke much and often and well. They appealed to sectional prejudice and were applauded. They indulged in endless personal animadversion. The air was made thick with charges against the committee which their authors could not have believed to be true, but which, serving their purpose for the hour, they used with no little effect. The most offensive of these was reiterated with great vehemence by one of the speakers. Not many days after it was proved to be groundless, and its author branded in the public prints as a deliberate falsifier.

"During the time just described the wildest confusion prevailed on the floor of the association. Cries of 'Order' went up from all parts of the house. Scores of men rose simultaneously to their feet in attempts to catch the eye of the speaker, or to clamor for the preservation of order. The gavel of the presiding officer fairly rattled, but in vain. There was no order. An eye-witness likened the hall of the association at this moment to pandemonium.

"It is reported that one of the more violent of the revolutionists expressed a desire to see certain officers of the Congress strung up by the neck, and declared himself willing to adjust the fatal noose.

"The secretary-general of the Congress finally succeeded in getting the floor. He made a plain and manly statement of the work of the committee, counseled conciliation, and gave a flat denial to every charge reflecting upon the honor, fair-mindedness, and integrity of the committee. But his effort to stem the current was quite unavailing. The sober-minded members present sat bewildered, and the association was hurried into the deplorable blunder of repudiating the report of the committee and practically impugning the motives of the committeemen.

"In the face of its own resolution passed the year before, and under the sanction of which the work of organization had been carried on, the association declared void every addition to its members made by the committee, and took the business into its own hands. It at once appointed a member from each State and Territory, and a representative each from the army and navy—in all, thirty-eight. It then clothed this new committee with the power to undo, if it thought fit, the entire work of the committee of 1884. It gave it no instructions.

"The committee organized at once by electing a temporary chairman and secretary. It held its first meeting for business at Chicago in June. There were present twenty-five of its own members and three members of the original committee. After electing the temporary officers to the same positions in permanency, they proceeded to eject the new-coders from office and fill their places with men loyal to the old code.

"They then lessened the number of sections, as created by the original committee, by merging here and there two sections into one. They subsequently cut out many names from the North and East which they replaced by names from the West and South. They added largely to the list from the latter portions of the country, and procured a representation from a much more extensive territory than had been embraced by their predecessors in the work.

"They withdrew the right of presidents of sections to have a voice in the selection of their co-workers and associates, whereby these officers were dwarfed into mere creatures of the committee. They finally denied representation in the Congress to such physicians as were not members of the National Association, or of societies in affiliation with it. The committee then adjourned. So much by way of history. The committee made no report of its work; but its operations soon came to be known.

"The business of the association left sixty days before was yet to be done. [illegible] There was a wide-spread feeling of misgiving and regret, except in [illegible] the hope that the Chicago committee would in some way atone for the wrong and injustice done the profession at large and the original committee at New Orleans. But its action instantly destroyed such hope and confirmed the gloomiest forebodings. The committee chose as its officers men who, whatever may be their talents, had left the association at New Orleans and secured themselves in office. Many physicians who had accepted position in the Congress from the original committee, despairing of the success of the undertaking in its new hands, determined to withdraw from the organization. Others, saying openly they would not serve under such officers, also withdrew.

"The meetings of the profession in Philadelphia, Boston, Baltimore, Washington, and Cincinnati, not to mention individual instances in other places, bear witness to the extent and earnestness of this feeling. Every day has brought fresh accessions to the list of those who decline to follow such leaders. And, as the facts of this unfortunate business become more generally known, it is safe to say that the list of those who distrust the leaders of the revolution inaugurated at New Orleans will grow apace.

"Much was said at New Orleans and elsewhere about the code question in connection with the Congress. Such gentlemen as have seen fit, for reasons, to withdraw from the Congress as at present organized, have been accused of being unfriendly to the code and supporters of the new code. Philadelphia was the birthplace of the code. There it was ingrafted on the constitution of the American Medical Association, and first offered as the creed of the profession in the United States; and there, if anywhere, is its spirit a living spirit, and does its letter carry the force of law. And yet Philadelphia physicians were the first to take up arms against the New Orleans movement; but the question of code was not in their minds. They well knew how adroitly and with what effect it had been used at the National Association, but, when they met to record their objections to the Congress passing into the hands of its present leaders, the code was never once mentioned. It was not thought of. The motives which influenced them and the causes which led them to decline to accept office in the Congress under its new organization were of another and very different kind. They raised no objection to the action of the committee on the code, though some of the more conservative of them may have doubted the wisdom of a step which turned upon a point that the Congress had never considered, and, from the very nature of its organization and the spirit by which it was guided, could but believe was beneath its dignity to consider.

"The Philadelphians were fully alive to the fact that, notwithstanding the war of the factions in New York, the code men continued to associate with the new coders in school, hospital, and society, and even meet them in consultation.

"When Dr. Leidy and Dr. Agnew, Dr. Da Costa and Dr. Stillé, Dr. Horatio Wood and Dr. Gross and Dr. Parvin and their coadjutors met, their purpose was to withdraw from the Congress for the simple reason of distrust in its new management. They felt aggrieved at the behavior of the association at New Orleans. They were dissatisfied with the action of the committee at Chicago, and they went to record to this effect.

"Whether the gentlemen who in other cities have come to book in similar resolutions were influenced by similar reasons is not germane here. Philadelphia led off in the movement. That this same feeling of distrust—not to use a stronger word—reaches to very many other places, no observant man will deny. That it exists to such degree, that it exists at all, affords cause for the liveliest apprehension. That it will acquire such proportions as may lead the National Association to call a halt and undo some of the work it did in such unseemly haste at New Orleans, remains to be seen.

"The conjecture is certainly grave enough to make such action reasonable. And if wisdom united to courage and the charities direct and control the association, it may still recover from the stab inflicted with its own hand at New Orleans, and bring the sessions of the International Congress in 1887 to a successful close. Otherwise the fate of the association, no less than that of the Congress when it meets on American soil, is easily read. The end of one will be disintegration and decay. That of the other will be mortifying failure. These are strong words, but sober withal.

"A medical man of Philadelphia, of enviable name, was asked a short time ago by the secretary of the new committee if he could suggest a way by which the differences between the profession and the association could be adjusted. He answered, 'By your resigning.' This may, or may not, afford a key to the situation. But it clearly signifies that certain things done both at New Orleans by the association and at Chicago by the new committee must needs be undone before

surcease can be had of the present discord. If this be not effected, those who have thrown up commissions derived from the new leaders will take neither part nor lot in the matter. And while it goes without the saying that this action will in no wise affect the coming of the Congress at its appointed time, it will surely rob the meeting of all international character, which, in the opinion of its founders and its friends, has been the chief and most valuable feature of the organization.

"One or two thoughts, growing out of events which have occurred since the association meeting in New Orleans, here suggest themselves. When it is considered that almost every man who has declined to serve under the present *régime* of the Congress is a member of the American Medical Association, does it not mean that there is a strong feeling of dissatisfaction with the action of the association? When this feeling is made manifest from Massachusetts to Maryland, from the District of Columbia to Missouri, from New York to Ohio, and from Pennsylvania to Kentucky, does it not mean that the feeling is a somewhat general one? Nor should it be lost sight of that there are many sections of country which have not yet expressed themselves on the subject.

"The question has been under discussion for now a full month. Both sides have had a hearing. How stands the medical press on the subject? Let the reader turn to his journals and see. Can any of these things be denied? Is the man not purblind who fails to see that the National Association has, by its conduct, imperiled its influence and usefulness, if not its very existence? There is a profession outside the association whose voice it would be well for the present managers of that body to give ear to. The invitation to the Congress was given in the name of the profession of the United States. Perhaps the association had no authority to do this, but it was done nevertheless. The membership of the association represents but three thousand of the forty thousand men who win their bread by the practice of medicine in America. The Congress, in whatever kingdom it has hitherto held its sessions, has thrown wide its doors to all respectable members of the profession throughout the world. Neither ethics nor the matter of membership in this or that society ever came before the Congress. Its plane of work was broader and better than that. It has hitherto represented the beneficent spirit of science and that only. It has remained to the National Association of the United States to set up a new standard for admission. Fortunately, it is not too late to remedy that blunder, and such part of it at least as affects the profession at large will be changed when the new committee meets in New York in September. This will add both to the membership and dignity of the Congress.

"What will be the outcome of this deplorable muddle it is altogether impossible now to say. The committee, aided by older and wiser heads than those who have hitherto directed its movements, may hark back and find a path which will lead the association out of its present dilemma, and up to the point of organizing a truly International Congress worthy alike of its noble aims and of the great guild which bids it come to our land. If the committee fails, especially if it fails through unworthy ambition, love of patronage, or, worse than all, through greed of office, it will realize before this business is finished that wreckers are sometimes wrecked, and revolutions are often fatal to their leaders."

The "Kansas City Medical Index" says:

"It seems too bad that sectional jealousies in the United States are so great that they may be the means of wrecking the next International Medical Congress appointed to meet at Washington in 1887.

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"We are exceedingly sorry the affair has assumed this shape. It appears to be the opinion of many that the American Medical Association at New Orleans acted rashly and hastily in interfering in the matter, and whether they had the authority to act at all is questioned.

"There will be two more meetings of the association before the International Congress meets, hence we hope there will be time to heal old sores, and everything be made harmonious."

In a pamphlet entitled "Shadows in the Ethics of the International Medical Congress," Dr. Levi C. Lane, of San Francisco, Professor of Surgery in the Cooper Medical College, says:

"For the information of readers who have not followed the International Medical Congress through its phases of change since it was decided to hold the next meeting in this country, it may be stated that the original committee of seven men, to whom the American Medical Association in 1884 gave the matter in charge, being invested, in accordance with the act creating the committee, with full powers to perfect such arrangements as would secure a successful meeting, proceeded to outline the work that was to be done, by the creation of nineteen sections, representing in detail every department in the science of medicine.

"This division of the work, copied mainly from the method pursued at the preceding sessions of the International Medical Congress, was assigned to a like number of committees, composed of medical men selected from different sections of the United States.

"The American Medical Association, at its recent session in New Orleans, declined to accept the work done by the committee appointed the previous year, and created a new one, with instructions to revise and change the work of the former committee in whatever way it might see fit. No impartial mind will admit that there was need of revision and change of the work done by the first committee; and it is greatly to the credit of nearly one third of the delegates at New Orleans that they strenuously opposed it. What a chaplet is this discord to place on the grave of Dr. Thomas, who, in the discharge of his duties as a co-laborer with the old committee, lost his life! What a recompense to Drs. Flint and Billings, through whose personal efforts at the last meeting the Congress was induced to hold its first session in the New World! Their scourging finds an analogue in the fate of Columbus, who was borne in chains over the ocean across which he was the first to lead the Old World. How edifying this spectacle to the eyes of the Pasteurs, Charcots, Virchows, Volkmanns, Esmarchs, Listers, and Pagets, who are expected to honor with their presence the coming Congress!

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"I am not now, nor have I ever been, connected with the new-code movement, either here or elsewhere; in fact, the subject has never been a matter of division on this coast. I am a member of the American Medical Association, and, as a duly accredited delegate, I represented that body not long since in the British Medical Association, and my mission was not dishonored by ostentatious show there or elsewhere, during a sojourn of over two years, during which I met the leading men connected with the medical institutions of Great Britain, Sweden, Russia, France, and Germany. I am a member of, and very recently president of, the State Medical Society of California, from which Dr. Cole was sent as delegate to New Orleans.

. . . . . .

"The honors conferred on me by the original Committee of Arrangements were given unasked for. I had already sketched out some work as a contribution on a topic of surgery, in which I have had much experience; besides, I was in negotiation with a man of wealth for the establishment of an international medical prize for researches upon typhoid fever. These facts are here mentioned to show that I had not entered on this labor with an idle hand."

The "Lancet" for August 1st says:

"We regret to have to inform our readers that the ill feeling which has been excited in the United States by the action of the committees appointed to carry out the preliminary arrangements are such as to imperil not only the success of the Congress in 1887, but the very existence of the Congress itself. We have already mentioned the main facts in the dispute. At the meeting of the American Medical Association held in Washington in 1884 a committee of seven was appointed to act as a deputation to the Congress in Copenhagen to invite the Congress to the United States for its meeting in 1887. The invitation was accepted, and the committee forthwith proceeded to carry out various preliminary arrangements, and, among other matters, to make nominations for the officers of the different sections in the Congress. At the meeting of the American Medical Association in New Orleans in May of this year, a resolution was passed repudiating this latter action of the committee as being *ultra vires*, and another and larger committee was appointed to make all the preliminary arrangements for the Congress. This committee was nominated largely on a geographical basis, each State sending a representative. Very naturally this action of the association gave great annoyance to the members of the earlier committee and to their associates in the earlier stages of the proceedings. The larger committee recently met at Chicago, and issued a long list

of officers of the various sections in the Congress and of the members of committee. Many of the names on the earlier list are not to be found on the later, and it is stated that the new list contains the names of some men introduced for geographical reasons rather than on account of their high scientific attainments—that an attempt has been made to have the officers representing as much as possible all parts of the Union. Into the merits of this question we can not enter. And now we learn that many of the leading practitioners in New York, Washington, Boston, Philadelphia, and Baltimore are so offended at the action of the American Medical Association and its new committee that they have publicly severed themselves from the Congress, and allege that they will have nothing to do with the meeting in 1887 if the arrangements for it are to remain in the hands of the present committee. We can not discuss the merits of this far from edifying quarrel, but we are too greatly interested in the International Medical Congress not to raise our voice in protest against a state of matters which is both a professional scandal and a serious peril to the continued existence of the Congress. Hitherto it has been considered binding upon all participating in the Congress that medical politics shall be entirely excluded from all its proceedings. But, apart from that, we must impress upon our American friends the simple consideration that, unless the whole profession in the United States combine cordially in the work of the Congress, the meeting in Washington is foredoomed to failure. Party spirit is so alien to the whole spirit of the International Congress that a large proportion of those who have previously joined in the meetings would certainly, and with justice, refuse to visit the United States to be the guests of a faction. But we have too high an opinion of our Transatlantic friends to believe that this unseemly quarrel, which is disgracing them throughout Europe, will be allowed to continue. We trust that moderating influences will be brought to bear upon both parties, and that, forgetting the past and their own personal predilections, they will cordially unite to promote the success of the meeting in 1887. If, however, the breach now formed is allowed to widen and deepen, it will be the duty of the officers of the Congress in Copenhagen to seek at once an invitation from some country in which the medical profession will not find it impossible to combine for international purposes."

The Health of Michigan.—We are indebted to the secretary of the State Board of Health, Dr. Henry B. Baker, for a summary of returns for the month of July. It appears that diphtheria was reported from sixty places, scarlet fever from thirty-four, and measles from fifteen.

Errata.—In Dr. Craig's article, published in our last issue, the following errors should be corrected: Page 155, in the formula, for "℥ iv" read ℥ vj; page 156, first column, twenty-third line, for "September 30th" read *September 3d.*

Phrenology and Traumatism.—"You have large imagination; you ought to write poetry," said a phrenologist to a man whose head he was examining. "I do write poetry," replied the individual, "and the bump of which you are now feeling was caused by a blow from an editor to whom I offered a poem. Please don't bear on so hard."

THERAPEUTICAL NOTES.

Odorless Iodoform.—Oppler ("Ctrlbl. f. Chir.") states that he has accidentally found that coffee completely masks the odor of iodoform. Roasted coffee should be very finely powdered, and mixed with the iodoform in the proportion of thirty, forty, or fifty per cent. The following formulæ are given:

Iodoform	2 parts;
Coffee	1 part.

Mix, with the aid of a few drops of Hoffmann's anodyne. [It is stated that the addition of the latter is not essential.]

Iodoform	3 parts;
Paraffin ointment	30 "
Coffee	1 part.

Mix; make an ointment.

The antiseptic power of coffee is mentioned as in itself an advantage.

Quillaia as a Substitute for Senega.—Kobert ("Ctrlbl. f. klin. Med.") has found senega open to certain objections as an expectorant, although its efficiency is undeniable. Its taste is disagreeable and it is apt to provoke either vomiting or diarrhœa. Its action, he states, depends on two glucosides, both of which are found in various proportions in different commercial specimens of the drug. Moreover, it is dear. The author has found that quillaia, which is much cheaper, contains about five times as much of the same glucosides, and in more constant proportion, while it is much more agreeable to the taste, and does not disturb the digestion. Clinical experience has shown him that its expectorant powers are unquestionable. He uses a decoction of 5 parts of quillaia to 200 parts of water, of which the dose is a teaspoonful for children and a tablespoonful for adults. Intestinal and gastric ulceration is a contra-indication to its use, as undue absorption by the ulcerated surfaces may lead to poisoning.

The Use of Cocaine during Labor.—Doléris ("Compt. rend. hebdom. des séances de la soc. de biol."; "Ctrlbl. f. klin. Med.") has used cocaine in six cases of labor, either in solution or in the form of a four-per-cent. ointment, with the view of mitigating the pain of the dilatation period or that of the expulsive period. In two cases the measure failed, probably because the cocaine was decomposed by the remnants of a corrosive-sublimate injection that had previously been thrown into the vagina.

The Use of Iodine in Diphtheria.—Adamson ("Practitioner") adds his testimony to the efficiency of the iodine treatment. He lost only two patients out of fifty-five treated with the tincture alone, although some of the cases were very grave. For adults he gives from five to seven minims every hour, and for children between six and twelve years of age from two to three minims every two hours. Special mention is made of syrup of quince for disguising the taste of the drug.

Hopeine.—This alkaloid, which appears to be different from the lupuline of Griessmayer, is described by W. T. Smith, of London ("Dtsch. Med.-Ztg."), who refers to previous investigations by Williamson and Springmühl, who gave it the name of hopeine. It is said to be most abundant in the American wild hop. It occurs as a white crystalline powder, or in the form of needles a third of an inch long. It is very sparingly soluble in water, but dissolves freely in alcohol, the solution having the most intense bitter taste and a pronounced smell of hops. Chemically, it bears a close resemblance to morphine. In its physiological action it is a pure narcotic, even fatal doses producing no irritant effect; but it contracts the pupil, raises the temperature, and increases the frequency of the pulse at first, but afterward diminishes it. The deep sleep which it induces is apt to be preceded and followed by peculiar hazy hallucinations. The author has used it as a hypnotic, in doses ranging from one third to six tenths of a grain for adults, and in his own person he found that three quarters of a grain produced symptoms of poisoning. He finds that the dose does not have to be increased on account of the system becoming habituated to the drug. He thinks that the "toxic dose" is not much above a grain and a half for adults, and not over nine tenths of a grain for children.

The Treatment of Puerperal Eclampsia with Hot Baths.—Breus ("Arch. f. Gynäk."; "Rev. méd. franç. et étrang.") reports that he has continued his experiments in the use of hot baths as a remedy for puerperal convulsions, and has now treated seventeen patients by that method, with only one death. If there is albuminuria, that, too, is favorably affected by the baths. He first puts the patient into a bath of about 100° F., and gradually carries the temperature up to 104° or 106°. He has not found that either abortion or hæmorrhage is favored by the treatment.

The Treatment of Acute Nephritis.—Aufrecht ("Berl. klin. Woch."; "Lyon méd.") advises the greatest caution in medication, and particularly the avoidance of diuretics and diaphoretics; at the most, he uses iron to combat the anæmia only after the lapse of several weeks. At the outset the patient must keep his bed, and be allowed only a minimum of nitrogenous food. Light vegetables are to be preferred, and it is only at the end of a fortnight that milk and broth are allowed. He cites the case of a child with scarlatinal nephritis who recovered under this treatment, although there had been suppression of urine for eighty hours.

Original Communications.

THE EARLY STAGES OF HUMAN DEVELOPMENT.

BY CHARLES SEDGWICK MINOT, M. D.,
BOSTON.

PART I.—OVA OF THE SECOND WEEK OF PREGNANCY.

THERE is no comprehensive account of what is at present known of the history of the human ovum during the first month of gestation. It is the object of the present series of articles to meet this want.

The only tolerable account of what is known of the very early stages of man's ontogeny is the very admirable review indeed given by His in the first part (pp. 147–166) of his great work on the "Anatomy of Human Embryos," a work which is a veritable masterpiece of accurate and thorough research. I take the more pleasure in speaking thus as Prof. His has recently been bitterly attacked by Haeckel in a manner equally unwarrantable and ungentlemanly. It is much to be regretted that the critic should have forgotten his own repeated falsifications, instead of recollecting that Prof. His was a model whose truthfulness his critic would do well to imitate. It will be found that, although Prof. Haeckel has written a large book upon anthropogeny, yet he has contributed very little of the slightest value to the science of human embryology, while Prof. His is one of those who have done most. It is therefore most unbecoming for the former to denounce the latter with such virulence as he has displayed. Haeckel's personal dislike is not likely to affect the recognition of the sound worth of Prof. His's researches. As I shall have occasion to frequently cite the latter, it seemed desirable, in view of the criticism alluded to, to express my estimation of His's work.

The two next best general accounts are: one given by Kölliker, in his smaller Embryology ("Grundriss der Entwickelungsgeschichte," 1884); the other by Allen Thomson, in the ninth edition of Quain's "Anatomy." These authors give, I think, only inadequate summaries of our present knowledge, which is much more extensive than appears in their writings. As regards Kölliker, it should be remembered that his book is chiefly occupied with a presentation of his own observations and bears largely the character of a series of original investigations, and gives, therefore, less attention to summarizing the writings of others than might be considered desirable in an avowed text-book. The embryology in Quain, on the other hand, is professedly a summary, so that it is specially to be regretted that the distinguished author did not prepare an exhaustive revision of the literature of the embryology of the first month. The other "embryologies" appended to various "anatomies" and "physiologies" are, for the most part, second- or third-hand compilations, none of which, so far as I know, call for further notice.

Having myself undertaken to prepare a "Treatise on Human Embryology," to be published, before very long, by Messrs. Appleton & Co., it became necessary to go over the literature of the subject afresh. This study leads to results in many respects widely different from the statements which have found general currency, so that, pending the appearance of the treatise above mentioned, it has been thought desirable to publish a review of all that is at present known as to the course of development of man during the first month, adding at the same time a sufficient number of illustrations to fully elucidate the meaning of the text. This review will form a short series of articles in the pages of this Journal.

We may begin by stating that the known human ova may be divided into two categories—(1) those before, and (2) those after the appearance of the embryo. The number of the former is very small, only seven observations of any value being known to me. No ova are known which show the manner in which the embryo arises from the blastoderm, and no satisfactory description exists of any embryo younger than His's embryo L1, in which the neural tube was already formed and the brain marked out, the auditory vesicle present, etc. In fact, we possess an extremely insufficient knowledge of ova under three weeks, and it is a matter of rare interest and importance to secure and properly investigate more specimens of this period. A certain number of these come into the hands of practicing physicians; I therefore earnestly exhort the members of the profession to bear the needs of science in mind and to preserve material which none but them can secure. It may assist those who are willing to thus aid science to have some guide for finding and keeping the desired specimens; therefore a few brief directions are given below. I need hardly add that I am very desirous of obtaining young ova and embryos for purposes of research, and shall feel under deep obligation to every one who contributes material for my studies in this field. Of course I shall be happy to meet any expenses which may be incurred in sending specimens.*

1. HOW TO OBTAIN AND PRESERVE YOUNG HUMAN OVA AND EMBRYOS.

It is probable that pregnancy usually begins with the first menstruation omitted. If a woman, in whom pregnancy may be expected, and who, being otherwise in good health, has been menstruating regularly, skips a period, it is an indication that she has become pregnant. It is by no means rare that at some time after the omitted period a discharge of blood occurs, and such discharges are frequently accompanied by abortions. If, therefore, a patient, suspected of pregnancy and having uterine hæmorrhage within two months of an omitted period, be carefully watched, there is a probability of finding an ovum or an embryo among the discharges from the uterus, and all such discharges of blood or decidual tissue should be carefully examined.

If the disturbance occurs within fourteen days of the omitted period, search should be made for a small, flesh-colored vesicle, either with short villi or with a partly or wholly smooth surface. The vesicle will be from one ninth

* Dr. Minot's address is: Harvard Medical School, Boston, Mass.—EDITOR.

to one fourth of an inch in diameter (3 to 6 mm.). It should be treated with the greatest care, and on no account be placed in water or opened. If the disturbance occurs after a longer interval, a larger vesicle must be looked for, with the villi much longer and more ramified. As long as the vesicle measures less than three fifths of an inch (15 mm.), it should be preserved *unopened*. If the ovum is larger than this, it should be carefully examined to ascertain where the embryo is attached to the walls (chorion) of the vesicle, and then the opposite side of the vesicle slit open with fine scissors, to allow the preserving fluids to penetrate.

To Preserve Ova and Embryos.—Above all, NEVER place them in water or in strong alcohol; when possible, put a little cotton-wool in the preserving fluid for the specimen to lie upon. If it is necessary to carry it a short time before the preserving agents can be obtained, wrap up the specimen in a damp, soft cloth, taking care to avoid all pressure upon it.

The best method of preservation is, on the whole, by Kleinenberg's picro-sulphuric acid, which is made by dissolving 0·1 gramme of picric acid in 100 c.c. of water, and adding 0·6 cubic centimetre of concentrated sulphuric acid. Leave the specimen in this solution for one or two hours, according to its size, wash it for a few minutes in alcohol of 30 per cent., place it for an hour in an alcohol of 50 per cent., and then transfer it to alcohol of 70 per cent., in which it may be kept permanently; but the alcohol must be renewed until it is no longer discolored by the picric acid.

A good method, and much simpler, is to put the embryo or ovum for five minutes (but on no account longer) in a mixture of one part of concentrated nitric acid with ten parts of water. Then transfer to 70-per-cent. alcohol.

The third and simplest method is to place the embryo directly in 60-per-cent. alcohol, in which it may be kept, or, better, placed after two days in alcohol of 70 per cent.

Apothecaries can furnish alcohols of the desired strengths. All these methods require care; but the value of the specimens fully repays the trouble.

In sending or transporting the specimens, the jar or bottle should be very lightly stuffed with fine cotton-wool, and it must be remembered that a very slight pressure of the wool will distort the specimen. All that is needed is to prevent the specimen from shaking about.

2. KNOWN OVA OF THE SECOND WEEK.

Reichert's ovum (1) is to be considered the youngest normal human ovum hitherto described. It was thought by Reichert to be twelve to thirteen days old, and probably correctly so, as it was obtained at a post-mortem examination of a young German girl under circumstances which render the estimate of the age quite trustworthy. The ovum itself was very imperfectly examined by Reichert, whose very lengthy memoir deals largely with cognate subjects and contains much speculative matter. The actual description of the ovum is brief (pp. 25–28); but, as far as he went, Reichert worked with exemplary accuracy, and this renders his research valuable.

The ovum in question was a flattened sphere, with a short diameter of 3·3 mm. and an equatorial diameter of 5·5 mm.; smooth around both poles, and with a marginal or equatorial zone of villi separating the two smooth areas.

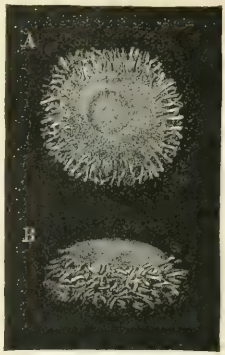


FIG. 1.—REICHERT'S OVUM. Two views engraved from the original plate.

The smaller and flatter of these two areas faced the uterine wall and bore on its inner surface (*i. e.*, within the ovum) a small accumulation of rounded cells. The opposite area was more convex. The villi were short (0·2 mm.), thick cylinders, with rounded ends and no branches. The walls of the vesicle consisted only of epithelium, which also formed the simple hollow villi. The contents of the vesicle were: 1. The inner cell-mass, lying, as before mentioned, at one pole. 2. A network of threads, apparently the result of coagulation of the contained fluid, for no nuclei were found in it. Kollmann (7, 294) thinks that Reichert's ovum must have had really two layers forming the vesicular walls —an inner one of mesoderm (young connective tissue), and an outer one of true epithelium; further, that the true epithelium had been lost, and that only the connective tissue remained, which Reichert mistook for epithelium. This supposition is, I think, not probable. Reichert's ovum is, presumably, younger than any other hitherto described, and may well have been in the stage before mesoderm had grown over the chorion. The villi are described as hollow by Reichert—a statement not compatible with the supposition that he mistook a solid core of mesoderm for the hollow shell of ectoderm. Indeed, it is probable that the young villi contain no mesoderm at first.

Breus's ovum (2) must be considered further advanced than Reichert's, although the author fixes its age as presumably ten days. The total diameter of the ovum, including the villi, was only 5 mm., and, as the villi were about 1 mm. long, the diameter of the chorionic vesicle must have been about 3 mm. The villi, some branched, but mostly without branches, were thickset, but left one spot bald, agreeing in this with Jones's ovum (see below). The chorion was smooth on its inner surface, and consisted of (1) an outer epithelial layer, and (2) an inner connective-tissue layer, which sent out extensions partly filling the villi. The ovum contained a thready mass which Breus thinks was probably a product of coagulation, and an inner cell-mass about 1 mm. long and 0·5 mm. wide. The presence of villi

and the existence of the mesodermic layer of the chorion, contrasted with the absence of any embryonic structure, led Breus to consider his ovum abnormal. But it is rather the contrary conclusion we must draw, since all our knowledge points to the deduction that, as compared with the embryo, the development of the chorion is very precocious in mammalia. I deem it therefore probable that Breus's ovum was normal.

Wharton Jones (3) long ago described briefly a human ovum the chorion of which measures in his figure (said to be natural size) 6 by 4 mm.

The following is all that can be gathered from Jones's description: The ovum was already covered by the decidua, and bore shaggy villi on the side *toward* the uterus, while the other side was bald. "The whole cavity of the chorion was filled with a fine gelatinous cellular * tissue, imbedded in which, toward one extremity of the ovum, was a small round body; it was evidently the vesicular blastoderma. On being taken out and examined under the microscope, it presented the same friable, globular structure found in the vesicular blastoderma of the rabbit in the preceding observation. There was no vitellary membrane to be seen." To judge from the minute figure given, the villi were already branched; in Reichert's ovum they were still simple.

Ahlfeld's ovum (4) represents, perhaps, the same age as Jones's, but he does not give its diameter, which appears, from incidental references, to have been about 5 mm. The author's description is not exhaustive by any means, but he mentions two points of great interest—*first*, the presence of a layer of connective tissue (mesoderm) underneath the chorionic epithelium, and extending into, but only partiallly filling, the villi of the chorion; *second*, the character of the villi, which are slightly branched and are constricted at the base; only their tips touched the surface of the decidua (reflexa and serotina). He also states that the epithelium of the villi precedes in its growth the connective tissue. This ovum was supposed to be fourteen to sixteen days old (?). Owing to an accident, no observations of its internal contents were made.

Beigel's ovum (5), of which he maintains that it is the third smallest known, is, if we may judge from his plate, certainly abnormal to an extreme degree. I hold it to be a malformed ovum of the fifth or sixth week. The ovum described by Beigel and Löwe (6) is of an even more questionable character. Moreover, their account is considered by Breus and Ahlfeld to be very inaccurate. It is noteworthy that Beigel and Löwe have also noticed the early presence of the mesoderm under the chorionic epithelium. Löwe (6 A) defends himself against Ahlfeld's attack, and insists, with justice, upon the presence of connective tissue on the inside of the chorion in ova of the second and third week.

Kollmann's memoir (7) is by far the most valuable which has hitherto appeared upon the structure of very young human ova. He describes two ova, *a* and *b*, both preserved in the anatomical collection at Basle. Ovum *a* had been placed in glycerin and water, which preserved the form of the specimen but ruined it histologically; nothing was made out as to the contents of the chorionic vesicle. The vesicle itself measured 5·5 by 4·5 mm., and, therefore, was slightly flattened. This measure does not include the villi, which were from 1 to 1·2 mm. long, and repeatedly branched. Ovum *b*, 5·5 mm. in diameter, was well preserved in alcohol; the villi were somewhat branched; the contents of the ovum were lost. On the other hand, the uterus belonging to this ovum was also preserved, and forms the basis of a very valuable description of the uterus in early pregnancy, to which I hope to recur on another occasion.

Kollmann's two ova are both much more advanced than those of Reichert, Breus, and Jones, as is shown by their greater size and the branching of the villi. It is a matter of profound regret that only the chorion was left, but, fortunately, Kollmann has taken good advantage of his opportunity. His paper also gives an excellent critical analysis of nearly all the previous literature.

He points out that the two primitive layers of the chorion are probably normally present at this age. The chorion of his ova, he says, consists of "einer Lage jugendlichen, embryonalen Bindegewebes, das zahlreiche Rund- und Spindelzellen enthält, und das bedeckt wird von einer einfachen Lage platter Zellen" (p. 293). He then passes the literature in review and insists strongly upon the fact that the two layers have been distinguished in nearly all the very young human ova known except Reichert's. Kollmann, therefore, as was mentioned above, questions, I think, without sufficient foundation, the accuracy of Reichert's account. Concerning the connective-tissue layer Kollmann says but little. As regards the epithelium, he points out that the nuclei occupy a basal position, so that the outer parts of the cells form a granular stratum, which some authors have considered a distinct membrane. The author supposes this granular stratum to become the cuticula described in later stages. Jassinsky (9) has given the extraordinary name of *tunica propria* to this cuticula—extraordinary because "tunica propria" is used technically to designate the connective-tissue layer upon which an epithelium rests, and never for an external cuticula. For his supposition Kollmann gives the reason that in an ovum of four weeks he found that the layer had become thinner, more resistant, and less granular—in short, had assumed something of a cuticular character.

Finally, Kollmann adds (p. 297, ff.) observations on the growth of the villi in ova of the fourth week. The outgrowth of branches is very rapid and occurs with every degree of participation of the connective tissue. There are two extremes: 1. A bud, consisting wholly of epithelium, which may stretch out into a process with a long, thin pellicle and a thickened end, the whole remaining until it has become quite large without any connective tissue. 2. A thick bud with a well-developed core of connective tissue; such a bud probably grows out as a nearly cylindrical branch. Between these two extremes every intermediate state can be found. The various forms of growing branches may lie close together. Probably this complex mode of growth persists in older villi, which would explain the multiplicity of forms in the villous branches.

* This was written in 1837. "Cellular," of course, does not refer to cells in the sense of the term as used in modern histology.

Schwabe (9) has described an ovum which he considers thirteen to fifteen days old, but he is certainly mistaken, since both the data he gives as to the age and his account of the embryo show that it is more advanced, and belongs distinctly in the third week.

In connection with Kollmann's observations we must notice those of Orth (10), who has shown that at all ages, even at full term, the villi of the chorion in the placenta have epithelial buds, which are at first hollow and are afterward filled up with a vascularized ingrowth of connective tissue. *Apropos* of this observation Orth discusses Boll's theory of growth, making the point that in this case the shaping of the parts depends primarily upon the growth of the epithelium. Boll had maintained as a general principle that in the development of organs the shaping is dependent on the co-operation of the epithelial and connective tissues. Against Jassinsky (9) Orth observes that the epithelium covering the chorionic villi has only a single layer. There can be little doubt that Jassinsky was in error in stating that at certain stages the villi are covered with two epithelia, one right over the other. This mistake agrees with the false notion that the villi are covered by maternal tissue, for it might be assumed that one epithelial layer was derived from the uterus. All the best observers agree that the villi have only a single layer, the chorionic epithelium, on their surface. It is easy to verify this observation.

Summary.—From the preceding review the following conclusions may be drawn: The result of segmentation of the human ovum is the production, by the twelfth or thirteenth day, of a rounded sac of epithelium, three to four mm. in diameter; at one point there lies against the inside of the vesicle a little accumulation of rounded cells, which, from analogy with the ova of mammals, must be considered as marking the germinal area out of which the embryo is to be formed. The epithelial sac, to which the name of chorionic vesicle may also be applied, bears an equatorial zone of short villi. This stage is represented by Reichert's ovum, Fig. 1.

In the next stage the villi have spread over the germinal area and have become slightly branched; the villi next appear over the opposite pole of the ovum and rapidly increase their length and ramifications. The germinal area faces the uterine wall (Jones's ovum).

By the time villi are present over the whole vesicle there is probably always a layer of connective tissue underlying the epithelium (Breus, Ahlfeld, Löwe, etc.), but no embryonic structures have been recognized. The ova of twelve to fourteen days are already completely inclosed by the decidua (reflexa and serotina); only the tips of the villi adhere to, or are even in contact with, the decidua; this is the only connection between the maternal and fœtal tissue, for neither does the uterine mucosa grow in between the villi, nor do the villi penetrate the cavities of the uterine glands.

The epithelium of the chorion and villi is only imperfectly marked with boundaries for the single cells; its nuclei all occupy a basal position, leaving a distinct outer layer, often mistaken for a separate structure. The epithelium forms buds, which become branches of the villi. These buds may grow out to a considerable size without connective tissue (hollow villi), or the connective tissue may penetrate into them from the start (solid villi).

The human ovum, then, is remarkable for its precocious development of the chorion, both as regards the villi and the connective tissue or mesodermic layer, and for its early complete encapsulation by the decidua. All these events (according to the scanty observations yet made) precede the appearance of the embryo. It is also noteworthy that the villi are first developed around the equator, next over the germinal area pole, and, last, over the area of the opposite pole.

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PROFESSIONAL ETHICS.*

By the Hon. W. H. H. RUSSELL.

Mr. President and Gentlemen: When our efficient and ever-zealous brother, Dr. Brill, notified me a few days ago that at this meeting you would expect a paper from me, the inquiry at once arose in my mind as to what *theme*

* Read before the Society of Medical Jurisprudence and State Medicine, May 14, 1885.

would best suit the *complex* mental equilibrium of the members of this association (the term complex is good, because Southworth well observes, "The parable of the wedding supper comprehends in it the whole complex of all the blessings and privileges of the Gospel"). So the complex mental equilibrium of the professions of medicine and law comprehends all there is of worth and glory in those two professions to the outer world, when practically exemplified. We looked over the subjects and titles of the previous productions, and came to the conclusion that perhaps a few thoughts upon *Professional Ethics* might interest and entertain you, and, perchance, awaken new and more vigorous interest in the objects of this and kindred associations. And, after listening to the very able and eloquent address of Parke Godwin the other evening at Association Hall, upon the problems of social science, under the auspices of the "*Institute of Social Science*" (of which he is president), I am pleased with this opportunity of offering a few comments that may at least provoke a discussion on your part and engender a spirit of strict professional pride in the great callings in which the members of this society are battling the stern realities of life.

On the 3d of March, 1883, this society was regularly incorporated under the laws of the State, under the *name* and title, "*The Society of Medical Jurisprudence and State Medicine*," with this significant declaration in its charter and by-laws: "*The object of this society shall be the investigation, study, and advancement of the science of medical jurisprudence and State medicine, and the attainment of a higher standard of medical expert testimony.*"

A most laudable purpose, with a most glaring public necessity for the complete success of its mission.

How can its objects be fully attained? is the question which should most interest its founders and members. As this world goes to-day, most men are actuated by motives of gain, either of a financial or popular nature, and the impatient *push* of business life leaves little inclination or time for calm, reflective, philosophic thought or action. And the standard nowadays by which men are gauged is the accumulation and possession of wealth and the display thereof. Money is the sovereign power before the golden throne of which men and women of genius, talent, and culture must bow, as if involuntarily drawn by her magical wand.

Success in money getting and saving is the best evidence of merit and success, say the neophytes of popular praise and ambition, and the man who clips his coupons and counts his thousands is courted and favored, while the brain worker of true merit struggles along the rugged journey, necessarily content with a bare pittance of subsistence. Parke Godwin's theories and suggestions as to the solution of the difficult problems of social science were very clever and plausible, and, if that learned and cultured gentleman can make his eloquent sayings and doctrines practiced through the medium of the organization which he inaugurated on the evening of the 7th inst. by his very able and interesting address, he is indeed one of the greatest philosophers and philanthropists of the nineteenth century.

All reforms and great remedies must be founded in the proper education of the people as a mass, and all praise and success to his noble enterprise.

Many years ago the "American Medical Association" was organized and founded in the old city of Philadelphia (patriotically known as the cradle of American independence), and, from the various "codes" of "medical ethics" down to that of most recent date, we would naturally infer that the standard of *professional ethics* in that learned profession is fully established and recognized. Section 1, Article I (under the caption), "*Of the Duties of Physicians to Each Other and to the Profession at Large, and Duties for the Support of Professional Character*," third edition, 1882, provides as follows: "*Every individual on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness . . . .*" If that provision was practiced and enforced, there would be no quacks, no charlatans, and no frauds in this great science, which Æsculapius, long centuries ago, would have made the pride and glory of his age and the generations to follow.

On July 1, 1878, some of the most eminent lawyers in this country—William M. Evarts, of New York, Benjamin H. Bristow, of Kentucky, George Hoadley, of Ohio, Henry Hitchcock, of Missouri, Charlton Hunt, of Louisiana, Richard D. Hubbard, of Connecticut, Alexander R. Lawton, of Georgia, Richard C. McMurtree, of Pennsylvania, Stanley Matthews, of Ohio, E. J. Phelps, of Vermont, John K. Porter, of New York, Lyman Trumbull, of Illinois, Charles R. Train, of Massachusetts, and J. Randolph Tucker, of Virginia—issued a call to distinguished members of the Bar to meet at Saratoga in August of that year for the purpose of organizing an "*American Bar Association.*"

The meeting was held, and a constitution and by-laws were adopted, with the name and object declared, as follows:

ARTICLE I. "*This Association shall be known as 'The American Bar Association.' Its object shall be to advance the science of jurisprudence, promote the administration of justice and uniformity of legislation throughout the Union, uphold the honor of the profession of the law, and encourage cordial intercourse among the members of the American Bar.*"

Thus, in a national sense, these two professions have proclaimed, by organic provisions, the promotion of *jurisprudence* and a *higher standard* of professional honor and ethics in the United States. State and local organizations of the same character have been established in every section of the Union, and there can be no question but that, if the objects as declared were carried into effect, we would to-day behold a very different status of professional life and standing in every community. By organized unity of purpose and action, men and people may be educated to recognize the force of discipline and the worth of true merit and character.

For instance, if in the profession of the clergy there could be found the high-toned elements of courteous and genial deportment, in that all their efforts were in harmony with one great purpose, and that the unbounded happiness of the human family, irrespective of any particular

creed or sect, what a halo of glory would mantle every temple of worship that lifts its spires heavenward! If every student, scholar, and expert in medicine were to practice the profession with one common purpose, and that the true relief of suffering humanity, what a world of pleasure this might be! And if every lawyer and disciple of the great Blackstone, Story, and Kent were to exemplify the true principles of law, equity, and justice, what a magnificent system of jurisprudence we would have in this country! Government, society, and religion would then triunize and glow more beautiful than the prospective electric light which is to gleam and glitter from that noble gift of warm-hearted France which is soon to ornament our harbor as the ideal statue of "*Liberty enlightening the World.*"

Professional ethics, if developed, practiced, and encouraged in America, can do more for the future perpetuity of our republic and institutions than any other element in the social fabric.

Necessarily the toilers in the other vocations of life look up to the professions for examples of true manly character, and in the three great professions of *divinity*, *law*, and *medicine* you may find the framers of laws, customs, and usages of society. The moral maxims and the elements of true civilization are more or less formulated, crystallized, and promulgated from these three channels of intersocial and state life. The records of the National Congress of the State and municipal governments show that in the legislation of the country they have been the foremost workers in reforms and great measures (*i. e.*, the true ones of the professions), and they have always been found upon the side of good government as against the false ones of their respective callings.

During the fourteenth century, nearly five hundred years ago, the profession of the law was guarded by special acts of Parliament, which provided, among other prerequisites of admission to the Bar, that none but "*good* and *virtuous*" *men*, "*learned* and of *good fame*," should be sworn as attorneys, and that before their names could be put upon the roll they should be examined by the justices; and that, "*if any such attorney be found in any default of record or otherwise, he shall forswear the court and never after be received to make any suit in the courts.*"

If such a law was in force in this country to-day, what a weeding out there would be! In those days the employment of attorneys was *pecuniary*, *i. e.*, they were entitled to fees, while that of *barristers* was honorary. Attorneys could recover their fees *in assumpsit*, while barristers could claim nothing, at law or in equity. Attorneys were liable for neglect of ordinary care and diligence of their clients' interests.

The attorney could confer directly with his client; the barrister could not. The attorney prepared the facts and the brief, and the barrister took charge of the cause in court; and to a certain extent the same system prevails in England to-day. This system has never been introduced into this country, although Judge Story, who was the exemplar of the exalted functions of the Circuit Court of the United States for the little State of New Hampshire, did confer the degree of Sergeant-at-law upon Jerre Mason and Judge Smith, and that of Barrister-at-law upon Daniel Webster.

It must be admitted, by those familiar with the system of English jurisprudence, that to-day there is greater protection to *life*, *liberty*, and *property* in Great Britain than any other section of the civilized world, and that an English subject is protected in all quarters of the globe. I remember well, while in London in 1871, the impressions then made while in the Mansion Court of that great city. Two boys, about twelve and fourteen years of age, were called up before the magistrate for the violation of some city ordinance; the magistrate was a man of about fifty years of age, and looked the personification of a *human* judge. After the officer who had arrested the boys had given his evidence, the justice told the boys to stand up, and then asked them what they were doing when the officer had found them. The oldest boy replied that they had started for the country, and had got that far, and, not having any money, had crawled into the boxes to sleep during the night. The justice, who was able at a glance to distinguish between a bad boy and an unfortunate one, said: "Boys, go into the country and stay there; work in the fields, and stay away from the great city"; and, turning to the clerk of the court, he said: "Mr. Clerk, give those boys a shilling apiece"; and then, looking at the officer who had arrested them, he said: "And you, Mr. Officer, see them well on their way to the country before you leave them."

I wish some of our American magistrates could have seen the expressions upon those boys' faces as they left that court-room.

It was worthy of the finest touch upon canvas and the most exquisite and delicate chipping of the greatest sculptor. If our court-houses were, indeed, *temples of justice*, what a sublimity there would be in the practice and *magistracy* of the *law!* If the high-minded and good men of the learned professions of medicine and law, and I may add the ministry, would strike hands and say there shall be a higher standard of *professional* ethics in the United States, we would not read of such scenes as occurred the other morning in one of the courts of this city, where the justice from the bench, in open court, rebuked a *pseudo* medical expert by saying: "The city ought to put another such a doctor upon the pay-roll."

NUMBER OF LAWYERS, MINISTERS, AND DOCTORS IN THE UNITED STATES.

It may be of interest to know the proportions of the great professions in this country to each other and the community at large.

In 1850 there were in the United States 23,939 lawyers, 26,842 clergymen, and 40,564 doctors. In 1880 there were 64,137 lawyers, 64,698 clergymen, and 85,671 doctors—in all, 214,506. In the thirty years from 1850 to 1880 the professions more than doubled in membership. In 1850 there was one lawyer to 964 people, one clergyman to 864, and one doctor to 569. In 1880, one lawyer to 782 people, one clergyman to 775, and one doctor to 585.

Of these 214,506 professional brain workers in 1880, there were of the 64,137 lawyers 75 females, of the 64,698

clergy 165 females, and of the 85,671 doctors 2,432 were females; 64 of the 75 female lawyers were under sixty years of age and 11 over; 140 of the female clergy were from sixteen to sixty years of age and 25 over; 2,268 of the female doctors were between sixteen and sixty years of age and 164 over. Of all the three professions, 193,294 were under sixty, and 21,212 over sixty years of age. If the *pro rata* increase of population continues in the next century as in the past, there will then be a population of over 200,000,000, and over 200,000 lawyers, ministers, and doctors, in proportion as before.

Cast your horoscope of thought over the progress in this country for a hundred years to come and, if possible, calculate the effect upon the people at large if every lawyer, doctor, and minister would be true to his calling. If there was a code of ethics with the clergymen of this country which would harmonize with the great doctrines taught by the Founder of their faith, before whom it is said the wise men of the East bowed with reverence and consecrated the lowly manger as the cradle of Christian civilization, there would be no occasion for a congress of churches.

The true and noble-hearted Dr. Howard Crosby, of this city, in his excellent paper before the Congress of Churches at Hartford, on the 11th inst. (as reported in the "Herald" of the 12th), gave three substantial reasons why a code of ethics should be established among the ministry of this country; and, if his suggestions were adopted by every fair-minded worker in that exalted profession, America might become the imperial jewel in the progress of Christian civilization. All praise to his philanthropic efforts.

If in the profession of the law there was a well-established, recognized code of *legal ethics*, there would be no *shysters* and *scapegoats of unscrupulous villainy*. For, as England's great premier, Mr. Gladstone, well said, in a recent address: "Considered as a mental training, the profession of the Bar is probably of its kind the most perfect and thorough of all professions."

If, as a profession, it is followed and practiced in the true spirit of the law and of justice, every conscientious lawyer must be true to the State, the people, his clients, and his cause. He must be as the great Blackstone (the father of the common law) once poetically wrote:

> "To Virtue, and her friends, a friend,
> Still may my voice the weak defend.
> Ne'er may my prostituted tongue
> Protect the oppressor in his wrong,
> Nor wrest the spirit of the laws
> To satisfy the villain's cause."

And yet it is the most abused of all professions, and people are apt to think that a smart lawyer must necessarily be unscrupulous, that his conscience must be as plastic as a rubber band, to contract or expand as the case requires; and history affords some latitude for such insinuations.

It is said that when Peter the Great visited Westminster he saw many oddly appareled persons, whom, upon inquiry, he learned were lawyers, and he was so amazed that he exclaimed: "What, all these lawyers? I had but two in all my dominion, one of whom I hung, and I intend to hang the other as soon as I get home." It is not recorded that he kept his word, and, in fact, it is seldom if ever that you read or hear of a lawyer being hung, while it is not an uncommon event of late years to read of a doctor being executed. It should not be forgotten that the cradle of the resurrection was a lawyer's grave, and that a lawyer was the only man in all Jerusalem who had the moral courage to approach Pilate and demand that the body of the Saviour of mankind should be taken down from between the thief and the robber and placed in his own sepulchre. And, on another occasion, it was a lawyer who, by his undaunted courage and eloquent appeal, saved the Disciples from being set upon by a mob and slain, and thus the greatest authors of the New Testament were saved.

Shakespeare presents us with the ideal advocate in the play of the "Merchant of Venice," and Dickens, the greatest characterizer of later years, gives us his typical jurist in the personage of the "little judge" who presided in the famous case of Bardell *vs.* Pickwick, who was so exact in the rigor and spirit of the law that he would not excuse the chemist whose assistant did not know the difference between oxalic acid and Epsom salts. If some of the druggists of today would remember that fact there would be less danger of poison from drugs.

Nice and elegant distinctions should not be made to the detriment of the profession at large—as in the instance of Prof. Huxley, who relates of a distinguished surgeon who (being irritated by the pretensions of some physicians) was asked if he meant to bring up his boy to his own calling, replied: "*No, my son is such a fool I mean to make a physician of him.*" Or as, on another occasion, two gentlemen were discussing the old proverb, "*At forty a man must be either a fool or a physician,*" when the other replied: "*True, but don't you think he may be both?*" Or that of the Irish physician who, while dining with Theodore Hook (who remarked: "I should like to place over my door an inscription, either in Latin or Greek, borrowed from one of the great authors"), at once suggested, "Give Italian the preference; nothing can equal that verse of Dante's, '*Abandon hope, all ye who enter here.*'" Sir Astley Cooper, the great surgeon, openly discredited the science of medicine "*as one founded upon conjecture and built upon murder.*" Or as the German wit said: "*Physic always does good, if not to the patient, at least to the apothecary.*" And in France the young medical graduate is spoken of as "*licensed to kill.*"

When a man dies suddenly, without having been attended by a doctor (says a humorous writer), the coroner has to be called in and an inquest held to ascertain the cause of death; but, he adds, when he dies after having been attended by a *doctor*, then *everybody knows why he died*, and an inquest is not necessary.

Or as a German paper has it in humorous dialogue shape, the child going to inform the pastor of the death of its father:

Child.—"Herr Pastor, my mother sends me to tell you that father died to-night."

Pastor.—"Did you send round for the doctor?"

Child.—"No, Herr Pastor, father died of himself."

And again as illustrated by the nurse in the hospital

in reporting to the physician in the morning: "*Six of the fever patients have died, sir.*"

"Why, I wrote prescriptions for seven," mused the doctor as he passed on into another ward.

"Yes," said the faithful nurse, "but one of them wouldn't take his."

In Russia they say the doctor seldom takes physic, and in Spain proverbial aphorisms are numerous, such as "The earth covers the mistakes of the physician," "The doctor is to be feared more than the disease," "Physic is a curse to humanity," "It is God that cures, the doctor gets the money." And one of the most common sayings in Portugal and Spain is, "*If you have a friend who is a doctor, take off your hat to him and send him to the house of your enemy.*"

Or like one of our doctors who upbraided some of the workmen the other morning for the careless manner in which they were replacing the earth over the gas and telephone pipes in the city, one of them looked up and good-naturedly said: "*Faith, Doctor, ours are not the only mistakes the earth covers.*"

These instances are recited for the purpose of showing that the doctors are subject to frequent abuse and unjust insinuations. If the prescriptions and remedies cure, their services are cheerfully rewarded; but if the patient languishes and dies, then follow too often dissatisfaction and unjust abuse. Some other doctor may say that there was not a proper diagnosis, and that from his prognosis the patient might have lived. Professional ethics forbids such deportment, and we believe that if the medical colleges and schools would establish one common medical *curriculum*, with fixed grades of graduation, and then the profession at large would enforce a uniform code of medical ethics, there would be better doctors, physicians, and experts, and less abuse. If the colleges, schools, and societies unite and work together, and the doctors, as a profession, regulate the ethics of practice, you can secure laws in every State that will protect the people from imposition and the profession from quacks and renegades.

An eminent English author, Mr. Palgrave, in his excellent work, "Rise and Progress of the English Commonwealth," says: "Man never begins by introducing any law which is entirely unreasonable, but he frequently allows a law to degenerate into folly by obstinately retaining it after it has outlived its application."

And Goethe in "Faust" thus poetically exclaims:

"Laws, like inherited disease, descend;
They slyly wind their way from age to age,
And glide, almost unseen, from place to place.
Reason to nonsense grows, a benefit to plague.
Woe unto thee, that thou a grandson art
Of inborn law, to which each man has right;
Of that unfortunately there is no question."

It can not be doubted or questioned but that there is need of great reforms in law and medicine. And, if the members of these two professions were guided and governed by well-established *codes of ethics*, they could accomplish any reforms they might wish.

And then we should have medico-legal societies that would produce experts who would be ornaments to the professions and the homes of our country, and an honor to the age. Can we have them? Yes!

The ideal lawyer, as presented by that distinguished Nestor of the New York Bar, David Dudley Field (in his recent address before the law students of Dalhousie College, at Halifax), "*is one who is master of the laws of his own country and a student of other laws as they may serve to elucidate or improve his own; a faithful adviser, a fearless defender, prompt to make use of his learning and opportunities, not only for the protection of his own clients, but for the improvement of the laws themselves, whenever he finds them the instruments of injustice.*"

And may we not look beyond the disc of his immediate orbit and say, in addition, that the ideal lawyer is he who, while faithful to the principles of his profession, does not delay justice by unfounded objections, nor increase the expense of litigation by imposing unjust costs and hindrances?

The present system of costs in this State is one of the most iniquitous ever tolerated in any civilized community; it is in many respects extortion, and almost robbery. It takes from the pockets of the unsuccessful litigant money—not to defray the necessary and legitimate expenses of the court, but to line the pockets of the counsel of the prevailing party; and the Courts have recently held that the attorney has a lien upon the costs as against all equitable offsets or counter-claims. The lawyer should not be entitled to the costs of the case; they should be light and go into the county treasury for the necessary expenses of the courts, in paying the salary of its officers, and the jury-fees. The lawyer should, like every other citizen, make his contract with his client, and stand upon that contract without the aid of the Courts and the machinery of justice to facilitate him in making the costs unjust and burdensome to the litigant and citizen.

Some of you may have noticed the other day, in one of our most enterprising papers, a statement to the effect that a citizen who brought suit on a $400 claim realized $190 on the property sold under execution, and thereby became liable for over $1,200 costs which had accrued in the case during the process of litigation. A code of legal ethics would not permit of such infractions upon the fundamental principles of justice.

The very able paper by Judge Hull upon expert testimony, read before this society, clearly illustrated the necessity of concerted action in the two professions for complete codes of professional ethics.

And the somewhat noted will case now under investigation in the Surrogate's Court reveals the fact that a pretentious lawyer, who, as reported, was a pawnbroker a few years ago, wants $3,500 for the original draft of a will, and $3,500 for attending the contestant in a police court. And the expert in the case, on Tuesday last, when asked by a distinguished substituted counsel if he had prescribed for mania, said, "*Yes; I don't remember what I prescribed, how much I prescribed, or anything about it.*" And then, being asked if he was a mad doctor, replied: "No more than a horse-chestnut is a chestnut horse."

A high standard of professional ethics in the professions

of law and medicine, enforced by such organizations as this, and the Bar and medical associations of the country, would bring about a better class of experts and a more honorable and respected status of the professions.

Lord Mansfield, one of the brightest and greatest of England's jurists, said: "*Jurisprudence is a rational science, founded upon the universal principles of moral rectitude, but modified by habit and authority.*"

What we need to-day in this country is *reform in legal jurisprudence* and *reform in medical jurisprudence*, so that when a man dies, if he is fortunate enough to possess millions, his life and his memory may not be shadowed by the unlicensed latitude of unscrupulous lawyers and doctors, who do not comprehend the domain of decency nor understand the first principles of medico-legal jurisprudence. We could then say, in fact, The true physician is he who has a proper conception and estimation of the real character of his profession; whose intellectual and moral fitness give him weight, standing, and character in the consideration and estimation of society and the public at large. He is to a certain extent the servant of the community in which he resides; he is subject to the call of the sick and suffering in the humblest and lowest walks of life, and even the bedside of the most penitent and worldly may command his presence, his skill, and aid. From the lowly, languishing couch of the weary, wanton, unfortunate waif of society to the sacred sanctum of marital purity he will be summoned at all hours of the day and night to relieve and alleviate the pains of suffering humanity.

His privileges and powers for good or for evil are great; in fact, no other profession, calling, or vocation in this life occupies such a delicate relation to the human family.

In every household, at every fireside and in every chamber, the good and true physician is a welcome visitor; his genial face, his kind and courteous treatment, and his manly deportment will always secure for him the blessings of the domestic circle. The domain of the sacred home is the empire of his glory.

The fond and affectionate mother, in that tenderest and most delicate of human reality, will intrust to him not only her own safety and welfare, but that of her offspring (the brightest jewel of ennobled womanhood); and then, in after years, when the cares of life are over and the mystical spark is about to leave the earthly tenement of frail mortality, the family physician will be called upon in the last moments to close the once beaming eyes that were the windows of the soul, and impart the information to the weeping children and friends that death is triumphant beyond his skill or power; and thus, from the cradle to the threshold of eternity, the *true physician* becomes the ministering angel of wasting mortality. He can not overestimate the responsibilities of his profession as physician and humanitarian. The American *nation* proper are greatly in need of such medical advisers. Fashionable society, in the mania for light of popular display, is pressing out the fountain life of true maternity and healthy progeny.

Conceptive preventives and abnormal deliveries are of too frequent use and occurrence for healthy *national growth* and perpetuity. If the family can be limited to one or two children, and perhaps none at all, elegant society is delighted and satisfied.

Child-*birth* and *nursing* have become the dread and horror of the votaries of fickle fortune, whose gods and goddesses live only in the present.

The great physician should and will stand forth in the true light of the science of his profession as the promoter of health and happiness, and the protector of family life and professional honor.

The people love justice and fair play, and the lawyers and doctors who practice with fidelity the great principles of their profession *must* be honorable in their relations to each other and the community at large. As the stars move in harmony with this world and the planetary systems, and reflect their light and beauty in the shadows of darkness, so do the true votaries of these great professions, in their intercourse and contact with struggling and wasting humanity, reflect the light, the glory, and the wisdom of their callings. And if we could only exclaim,

"Could a man be secure
That his days might endure,
As of old, for a thousand of years;
What things he might know,
What deeds he might do,
And all without hurry or care!"

By professional ethics we mean the science of duty as established and recognized in a system of principles and rules governing all licensed lawyers and doctors, and enforced and respected by high-toned and cultured gentlemen —a standard of professional honor so sacred and inviolate that no graduate or regular practitioner will ever presume or dare to violate it.

Can such a standard be established? We say Yes; and you ask How? In the profession of the law the courts are always open and ready to disbar any lawyer who is guilty of unprofessional conduct; and they can do it by summary process, as, in a recent case in Chicago, they compelled a shyster attorney to take down his sign and discontinue his advertisement of "*Divorces obtained with secrecy and dispatch.*" And similar ones have been discontinued in this city. May I suggest how this can be accomplished in the medical profession, so that glaring cards in the papers and distasteful and unprofessional circulars can be stopped and prohibited?

If the medical societies will provide in their codes of ethics that none such shall be recognized in the fraternity, and then some of the leading physicians of this city and State prepare a bill to be introduced in the Legislature providing for a medical commission, with power to sit, hear, and determine all grievances of that nature, and, in cases of guilt, to revoke licenses, and that no one shall be permitted to practice medicine without a license registered in the County Clerk's office, you will have a complete remedy against all the ills of *abortionists*, *quacks*, and *charlatans*. It is the sacred duty of good doctors to see that such remedies are provided at once.

These are times of needed reforms, and, if the great professions will inaugurate complete systems, we may look for better times in legitimate practice and a higher grade

of public morals and professional honor, and, with Hooker, agree that "of law there can be no less acknowledged than that her seat is the bosom of God; her voice the harmony of the world; all things in heaven and earth do her homage; the very least is feeling her care, and the greatest is not exempt from her power, though angels and men and creatures of what condition soever, though each in different sort and manner, yet all with uniform consent admiring her as the mother of their peace and joy."

Such law, properly enacted and wisely administered and enforced, will bring contentment, prosperity, and happiness.

Lord Brougham, one of England's most eloquent jurists, in advocating a great reform in her jurisprudence for the good and benefit of the people, inspiringly said:

"It was the boast of Augustus that he found Rome of brick and left it of marble; but how much more glorious will it be for that sovereign who can have it to say that he found law dear and left it cheap; found it the patrimony of the rich, left it the legacy of the poor; found it a sealed book, left it an open page and a living letter; found it the two-edged sword of craft and oppression, left it the staff of honor and the shield of innocence!"

Note.—A committee, consisting of Dr. Spitzka, the Hon. William Barnes, and Dr. McAuliff, was appointed by the society, to take into consideration the suggestions, and report at the meeting in October.

IS EXPERIMENTAL MEDICINE JUSTIFIABLE?*

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Gentlemen, I think it is. I go further. I say that medicine, whether it be a science or the empiric's art, is essentially experimental. This is a proposition I shall seek to prove to your satisfaction. I should say that some men reap the benefit, in their daily medical practice, of the experiment of others. They may not know this fact, having acquired their knowledge by the art of thumb-nail note-taking, but the fact remains. Some men learn their medical practice at the bedside. These men experiment.

Some men attempt to reproduce in their physiological research-rooms phenomena they find in clinical practice, and then strive to remove the morbid conditions; or, it may be, learn how, in the coming time, to protect men, women, and children from the lethal effects of a dread disease. These men experiment.

I hope to show you that, as the footsteps of medicine have traversed the sands of time, they have all along been guided by the staff of experiment, the light of inductive research. That staff, indeed, may have bent and grown warped when its fibers were overtaxed by headlong haste over rugged paths; but it is supple, it straightens itself, and saves the tottering load from falling. That light, too, may flicker, its luster may grow dim amid the scintillations of an *ignis fatuus* which we moderns call quackery, but it shines again bright and steady when it is taken into the darkness of the unexplored regions of the unknown.

With your permission I will state what I include under the term "medicine." I will define experiment, and will attempt to formulate the grounds which appear to me, by the common consent of civilized men, to be taken as sufficient for justification of an act.

Medicine, in this connection, I take it, implies a knowledge of the

1. *Causes* of diseases—ætiology.

2. The knowledge of how best to counteract these causes and so prevent the onset of disease—*i. e.*, state or preventive medicine.

3. The art of recognizing with what disease we are confronted—*i. e.*, diagnosis.

4. As well as the clear knowledge of the train of symptoms which will, in due order and course, supervene. It will be necessary to recognize not only that the disease runs such a course, and that at one particular time we may anticipate this or that emergency, but it is requisite that we should know what consequences may accrue from it, and, by due precaution, obviate the occurrence of the sequelæ. This includes clinical medicine in part.

5. We have yet to include the therapeutic treatment of disease, a branch of medicine of especial interest to us in this connection.

6. To anticipate the issue of a dangerous illness is also the business of medicine as an art. This, the practice of prognosis, has a most important bearing upon human happiness and prosperity. Such, then, is the scope of the science and art of medicine.

Experiments undertaken to further any of the aims and objects I have indicated above will constitute a portion of my theme to-night, and will have to be passed under your judgment, that you may say not, Is this or that individual experiment justifiable? but, Is the principle of applying the experimental method to medicine one which we, first as men, then as practitioners of medicine, can look upon as right and, in the highest sense of the word, legal? It is indeed hard to say what others will allow to constitute justifiability. It may not, indeed, be difficult to invent a wordy law, but this, gentlemen, is useless; old as the days of Butler was the truth that

"He that complies against his will
Is of the same opinion still."

I submit, then, that, for lack of a more comprehensive system of ethical morality, we may hold that those acts are justifiable which tend to promote the well-being of the greatest number. If a member of the intelligent and much-be-sat-upon minority claims attention to the sufferings of the few, with sorrow must I confess that his case is hard but hopeless. If the majority gain benefits from experimental medicine, I submit experimental medicine is not only justifiable, but its pursuit is an honorable duty.

Now, gentlemen, may I remind you that my task here commences? It is incumbent upon me to show that medicine has ever derived advantage from experiment, and, as practiced to-day, is being, week by week and month by month, enriched with new facts, established in sound gener-

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alizations, lopped of mushroom growth of unsound theories and practices of superstition, and that all this is due to the experimental method.

And here may I digress? I would have you to consider the ultimate uses of watch-springs and block-brakes as applied to mineral trains.

If the keen-eyed rhetorician, who is, I hope, ready to belabor my arguments and confute my contentions, should inquire what possible relation watch-springs and block-brakes have to experimental medicine, I would answer, Much in every way. Watch-springs are apt to uncoil with startling and unpleasing celerity when your escapement is out of gear, while brakes are used to stop or check progress. Philosophers tell us that the sum total of human progress is ever increasing, and men of genius, watch-spring like, hurry on this mental advance-guard. Here, then, comes into use the human brake—the Huns, the Vandals of days gone by, the anti-dissectionists of Vesalius's era, the anti-vaccinationists and anti-vivisectionists of the year of grace 1885—and enforces upon the pioneers thoroughness of work and readiness in intellectual combat. I regard the noble Attila, the Hun, and Mr. Hutton as most valuable persons, and daily return thanks for their institution? Can one, gentlemen, conceive any more appalling apparition than that of a man a century ahead of his neighbors? Lully only pretended to transmute copper into gold, but the indiscriminating inhabitants of Africa stoned him. Had he contented himself with the converse process, how great a demagogue he might have been!

Medicine has a long history; it is one which would bear out my main point of contention were it possible for me to bring before you its changing scenes and characters. It would best answer my purpose to permit the story of how medicine has slowly but surely advanced from the feudaldom of mere leechcraft to the epoch of reason which could produce a Laennec, a Louis, a Virchow, or a Jenner. It is a far cry from the mystic incantations of the priests of the Egyptian deity Isis to the systems of medicine which rest on the shelves of every practitioner of to-day; and so it will be impossible for me to do more than indicate a few of the main advances in medicine which have, as it were, marked epochs in the history of its philosophy. I will attempt this. I will strive to set forth how far these advances were due to the experimental method, and, in conclusion, I hope to lay before you the proposition which, coming last, is not the least important part of my argument.

It is difficult for us, who habitually compress into a meager curriculum of four or five years, the subjects which are kindred to medicine and surgery, to comprehend how deeply and inextricably interdependent are these sciences. It is hard for us to realize that in the old days men spent a lifetime in mastering those facts in anatomy which nowadays scarcely insure a student's passing his examination for the College of Surgeons.

Physiology, again, in spite of the work of such men as Vesalius, Servetus, Fabricius, and the long and illustrious roll of the Padua School, can not be said to have commenced until Harvey promulgated in 1619, before the Royal College of Physicians in London, the result of his experiments made three years anterior, and which proved to demonstration the circulation of the blood.

Comparative anatomy, the most important aid to the physiological physician, was studied earlier and more fully than human anatomy. Galen, who, from the pinnacle of the knowledge obtainable in the second century, could deride — which he did *con amore* — the mistakes of the older physicians, learned his anatomy and physiology from the dissection of apes. Nor is the reason for this far to seek. The ancients were as opposed to dissection of the human body as were our forefathers before the passing of the Anatomy Act, and apes in those days were held of little worth. Possibly the assent given to the evolution theory sways, and I think justly, the minds of antivivisectionists of this generation. It was not long ago that we were asked to consider how necessary to medicine is physiology. I am so thorough-going a believer in the absolute indissolubility of these sciences that I think the medicine of to-day is either physiology applied or it is quackery. So that if Galen and Harvey and their following learned their physiology from the story unfolded by experiments, I say these men used the experimental method to gain knowledge of the devious paths of medicine. It will at once be said that none nowadays object to the dissection of the bodies of defunct dogs and cats, or even of paupers. Provided the corses of honest men who die well to do, and of criminals, be respected, scalpel and scissors may run horrid riot as much as anatomists will. I may not pause to expose the shallow sophism of this argument. I will only say that anatomy is tolerated, being preferable to body-snatching, and that for my purpose I must be allowed to show that experiment, whether upon the cadaver or the living body, is equally important for a true knowledge of medicine.

Lizars, the well-known anatomist, dedicating to King George IV, says:

"It is impossible for me, or for any other teacher, in this department of professional education, not to regret, most painfully, that, through the increase of certain prejudices, as illiberal as they are alien to true philanthropy, obstacles are daily arising in your Majesty's United Kingdoms to the prosecution of anatomy. It is equally impossible not to believe, what ample observations demonstrate, that the magnitude to which they have already attained is, in its infallible and invincible operation, signally and seriously injurious to your Majesty's subjects, both in the public service and in all the ranks of private society. Many more of these than unsuspecting benevolence could have imagined are doomed, it were easy to prove, to a premature grave by the consequent deficiency in this requisite science on the part of those to whom the care of life and health is committed. And I will state most respectfully to your Majesty, in evidence of this alarming truth, well known and universally deplored as it is in the schools of medical learning, one circumstance of political importance enough, independently of humane considerations, to justify the freedom which I thus assume.

"In France, in Germany, and in Denmark the prosecution of anatomy is protected by their respective governments, and in them every facility is afforded for its com-

plete and satisfactory study. Hence, in great degree, it is of late years such of the medical youth among your Majesty's subjects as are enabled by their circumstances proceed to these foreign kingdoms in search of information of the most valuable kind, being compelled thereto by the dread of entering on the practice of their profession while ignorant of some of its fundamental principles, and of having, through the unavoidable fault of a merely British education, to collect, by repeated failures in their treatment of the living, that knowledge which they might have early and safely and ably acquired from intimacy with the dead."

These plates comprise within their range anatomy, physiology, and pathology, and what Lizars said of the study of the cadaver may well be repeated to-day of the study of physiological medicine upon the living organism. If experiment be eliminated from our methods, what will result? Instead of well-ordered and carefully planned trials, elaborated and calculated beforehand, and executed by hands deft in practice and ready of resource, we should have bungling and blind empiricism, *a priori* reasoning, and the havoc wrought of unrecognized experiments made by unskilled operators—operators, indeed, who may be serenely unconscious of the fact that they are executing experiments galore upon their patients. We will, however, return to this later on.

My next position is as follows:

To learn medicine we must adopt one of the following plans of study; that which is the best for the greatest number is, I venture to assert, the most justifiable. We must wait for inspiration and miracles; we must wait for accidents, such as when a bull gores a hole in some unhappy person's abdomen and establishes a gastric fistula, as occurred to Dr. Busch's patient, so enabling him to study the action of certain bodies upon the gastric mucous membrane; or, to take another "accident," we must observe the death agonies of some unhappy victim of rat-poison, and learn that strychnine produces tetanus; or (for a third course is open) we may prearrange certain conditions, and then observe the results of various alterations of such conditions—alterations likely prearranged and submitting themselves to our absolute control; we may, in fine, use experimental medicine. May I here again select an illustration?

I would choose the somewhat hackneyed case of nitrite of amyl. The drug was found to dilate capillaries, and hence to bleed the body into itself. The peculiar agony of *angina pectoris* being accompanied with harrowing spasm of the arterioles, was it not justifiable to employ nitrite of amyl for the relief of angina pectoris? I submit it was.

Now, of these three methods—which I will for brevity's sake call the (1) method by supernatural interference, (2) the method of accidents, (3) the experimental method—which is the best? Let us seek an answer in the experience of the past and the practice of the present.

The supernatural method is distinctly a prehistoric mode of going to work, but one that a certain prehistoric sect still extant in our midst confidently practice and preach. Most thinking men accept the wholesome tenet that the Almighty helps him who helps himself. Sir William Hamilton it was who adopted as his favorite aphorism,

"In the universe there is nothing great but Man;
In Man there is nothing great but Mind."

Hence may we, I think, fairly reason that man being endowed with a mind, points out that that mind should, in all humility, work out the ends of science and expect not inspiration and supernatural interposition in matters medical, although it may deeply and fervently be thankful if such unlooked-for aid comes.

There was a flourishing school of medicine in Egypt, over which presided a large sprinkling of demigods, and even the Egyptian Apollo graced the faculty with his company. The priests, male and female, were herbalists, but mainly relied upon superhuman aid. Herodotus said of Egypt: "Every place is full of doctors." Herodotus, had he lived a few centuries later, might, I think, have made the same remark of England. The institution of the school of Alexandria was subversive of the superhuman aids to medicine in Egypt. The accidents methods then came into vogue. All was vague and uncertain, for the method of experiment was as yet practically untried. I desire to avoid wearisome narrative; but it is worth your while, I think, to spare time and thought concerning the growth of medicine. It has convinced me of the justice of the cause I am defending, and I believe it will convince you also. We all know that the Jews were accomplished in many branches of physic. They, like many who flourish among us, believed in hygiene, and were often content with a happy diagnosis, leaving therapeutic details to take care of themselves. I have often heard, and not many miles from this building, the strange formula uttered: "Oh, give him a *placebo;* anything will do; and keep him under observation!" So, in my fancy, I can see the stately Levite, arrogant in his knowledge, diagnosticating "the emerods," "the botch of Egypt," "a withered hand," or "epilepsy," and then dismissing the "botch" patient with directions for a fig plaster. History repeats itself. Before I leave Egypt and Jewish physic lore I must say, in a parenthesis, that, in the first-named country, specialists were rife as now; even limbs and portions of limbs had their individual physicians! How long before a Rameses sits upon the throne of the Guelphs?

India, that profound enigma of buried civilization, knew medicine as she knew the most perfect system of philosophy, while Europe was in the most outermost of outer darkness. But even India seems to have leant solely on inspiration and accident for her medicine lore, and so she, too, never made any sensible progress beyond incantation and herbalism.

China was as inexact. Her physiologists thought that the human body was composed of water, fire, wood, metal, and earth. Even now I have heard it remarked that a common belief obtains that some portions of some human bodies owe their density to wood.

In Greece, medicine in the hands of Hippocrates is commonly held to have commenced its existence as a science. To his efforts in part we owe the first step toward the emancipation of medicine from the espionage of metaphysics and religion. Hippocrates marks a most important epoch, and his mistakes have importance not easily overestimated in our discussion to-night. He used purgatives; he talked of

crises and the *vis medicatrix naturæ;* indeed, the practice was much the same as that of a far more recent medical luminary. But remember, Hippocrates only experimented upon his patients. This he did freely, and cured many. He has, however, as far as a somewhat hasty search has assured me, omitted to put upon record his rate of mortality.

Confessedly a successful practitioner, he failed to lead the oncoming generations in the right way; he taught his humoral theory because his hands knew not the methods of research and his mind was warped by incomplete observations; therefore Hippocrates hindered the progress of scientific medicine for centuries. I have lingered here to show that, for lack of scientific methods of research, a transcendent genius went utterly astray. More than two thousand years have sped since Cos begat her philosopher, and are we endowed with more colossal brains than his? can we afford to throw away methods of which an Hippocrates stood so sorely in need? As the natural upshot of Hippocrates's transgression of his own canon—that no theory should be accepted unless based upon the most reliable of observations—his disciples for generations accepted his conclusions with a faith worthy of a better occasion. For centuries to come medicine was not; herbalism rose rampant, while slowly but surely was growing the foundation of a scientific basis for medicine.

Anatomy was prosecuted with more or less exactness. However, the main object of the physicians of those days was to show how futile was the teaching of their brethren, how ridiculous their practice. How different from the faculty of to-day!

"Blest, thrice blest, the Roman
Who sees Rome's brightest day."

And, as far as medicine is concerned, Celsus was blessed thrice, for it can not be said to have been extant until he undertook its exposition. All, however, who have read Celsus, although impressed by that great man's acumen and remarkable power as a clinical observer, will not fail to find in his writings a great want. Celsus knew naught of physiology; his wildest dreams never carried him beyond the method of experimenting upon his patients. With Celsus may be said to close one epoch, and with Galen to commence another. I have already traced the onward progress of physiology and anatomy through the very dark times of the mediæval ages; it yet remains to learn whether medicine, an older science, had advanced beyond these. Clearly if medicine be a science which can be studied independently of experiment, it should have advanced as facts were observed and classified. But medicine not only made no advance; it even retrograded. Men were for the most part more anxious to kill one another than to cure. Among the Arabs the lore—for we can not give it a more dignified epithet—was cherished.

I am coming now to Saxon medicine, a science somewhat behind what we would have it, but not one whit less fantastic than the practice of him who refuses to avail himself of scientific methods of research. I will offer a few excerpta from a quaint old book called "Leechdoms, Wortcunning, and Starcraft of Early England." For fever it is recommended that a long (? canine) tooth of a black dog be applied; or, failing this, recourse was to be had to a live wasp, which insect it was requisite to tie to the fever-stricken patient's person. Among hæmostatics was the following incantation: "Stupid on a mountain went, stupid, stupid was." Again, colic, we are told, yielded at once to the thrilling words uttered in a low tone: "Stolpus tumbled out of heaven." I do not know who Stolpus was, and, having never tried the remedy, I can not vouch for its success. It would be tedious to wade through more stuff of this sort; we may understand in what the practice of physic consisted in those days, and we can see that in it is another example of how medicine fares when dissevered from experimental research.

Strange companions was poor Dame Medicine to have before she attained her majority—an epoch I place at the time when men wittingly commenced to introduce the scientific spirit of experiment and research into her service. In the seventeenth century medicine was a puny child, supported and overruled by astrology. The science was simple in theory. Herbs were used largely, but only by him who knew the stars in their courses, and had, by toilsome watching and coquetting with the black art, learnt what times and seasons were opportune for each simple. I give the following as an example:

It is "good to purge with electuaries the moon in Cancer, with pills the moon in Pisces, with potions the moon in Virgo," etc.*

The book from which I quote was published only one year before John Evelyn wrote in his "Diary": "16th July. There died of the plague in London this week 1,100, and in the week following above 2,000."

But light was breaking. The alchemists, whose writings are so fascinating from their plausible plans of performing impossibility, were breaking the ground for chemistry. In 1774 came Priestley's discovery of oxygen, and from that date we may trace the steady, if slow, progress of medical chemistry. From hence the test-tube and the crucible were called into requisition as exponents of the probable action of drugs in the human body. But even such learned pedants as Elias Ashmole (1681) were credulous, for I find him curing his ague as follows: "April 11th. I took early in the morning a good dose of elixir, and hung three spiders about my neck, and they drove my ague away. *Deo gratias!*"

Harvey, as I have said, by his experiments actually broke up the systems of previous medical thought, all more or less erroneous, because based upon *a priori* grounds. The inventors of these systems were innocent of experimental methods of research, and hence, when Harvey dared to fly in the face of their pet theories, they declaimed him as infidel and madman. It was as in the story of Galileo. The earth did move and the blood did circulate. Malpighi, looking down the tube of his microscope, a poor enough affair but inexpressibly precious to him, saw little discs rolling and tumbling along. "Eureka!" he cried; the glorious theory was visible to the eye, and seeing was believing.

* "The Husbandman's Practice or Prognostications Forever," 1664.

Then the escapement gave way; mad, reckless experiment followed. Transfusion was practiced to an absurd extent. Stories are numberless of criminals resuscitated and the dead speaking. Even after such an impetus as Harvey's grand work gave, medicine made little progress. An age of unreason as bad as that of the astrologers followed upon the Paracelsian and chemical epochs. Newton's vast genius caused all the lesser lights to gravitate toward him, and led them to regard all the universe and its workings through mathematical spectacles. Those who, by a fine flight of fancy, deemed themselves physiologists, reduced that science to one of pure numbers. Each organ was duly calculated up, and its functions converted into logarithms. The heart was said to execute its movements by dint of a force of 180,000 pounds—that is, with the force of a small locomotive engine.

At this time the experimental method was being pushed by men whose names still linger in our midst and impart some element of historic interest to our hand-manuals, which, little thanks to the crude hurry of this generation, are usually written in as cut-and-dried and uninteresting a way as ever quill-driver could execute. Now flourished Lower, Malpighi, Bartholin and Steno, Swammerdam, John Mayhew, Raymond Vieussens, John George Wirsung, and Thomas Wharton, with Thomas Willis and Francis Sylvius. These names should be coupled with Glisson's, Scherner's and many others.

Sydenham, called England's Hippocrates, seems to have done little experimental work save in the domain of therapeutics. His clinical descriptions will, if you ever care to shake off the lethargy which induces so many of us to forget that we belong to an historical profession and should know its history, reveal how accurately he observed and how truthfully he delineated. Time, however, presses, and the story lingers mid many shallow places—shallows of thoughts and depths of ignorance.

The theory of Stahl need not detain us; he taught that the bodily necessities of the organism were presided over by the soul. Hence he advised an expectant treatment (this was the origin of the term), and sought to provoke the soul into reacting remediably upon the body. This, of course, is practically an excrescence from the supernatural system. Stahl, as one would expect, opposed the use of opium and cinchona bark, and pushed tartar emetic and the cupping dish.

Cullen it was who, collaborating the systems of Boerhaave and Hoffmann, reduced physiological phenomena to varying motions. The derangement in these internal movements normal to an organ constituted disease.

Cullen was confronted by Dr. John Brown, one of the ablest exponents of a hopelessly ridiculous system of therapeutics that ever retarded the progress of medicine. To his philosophy, disease was dynamic or sthenic and asthenic. His diagnosis, necessarily as often faulty as accurate, was followed by bleeding and purging to the *n*th, or stimulants pushed to a barbarous extreme. Dr. Erasmus Darwin next comes to point the moral of the preceding narratives. Like the humoral theory of Hippocrates, Stahl's, Hoffmann's, and Brown's each rushed headlong into a perfect quagmire of folly and illogical hypothesis, and all this arose from the fact that these men formulated theories, as ladies make patchwork quilts, from fragments left by others. Darwin, in spite of his bombast and inconsistency, was enabled to set these men right, because he, going to the fountain-head of knowledge, direct experience, showed by his own experiments that many of the premises upon which his predecessors based their theories were untenable.

William and John Hunter are worthy names to mark an epoch, and I need no evidence more emphatic than theirs in support of the proposition which stands at the head of my paper. With John Hunter there lived in the ties of the closest friendship one called Dr. Edward Jenner. The two Hunters and Jenner did more toward establishing the science of medicine than perhaps any triumvirate of contemporaries before or since. John Hunter tells us in very plain English that "my brother William" and I did experiments upon living animals. William Hunter's work upon absorption, in itself and through the subsequent research it excited, has produced results of the last importance to practical physicians. John Hunter's name is indissolubly united with the experimental method; nor can we esteem highly enough his colossal advances in comparative anatomy and physiology. One of his biographers records of him that he esteemed surgical as second to medical aid, "for," he said, "if we have to mutilate a body, which we do when we assume the knife, we fail in the primary object of our treatment to effect a cure."

Of Jenner and the introduction of vaccination what shall I say? To my mind, Jenner, the experimenter, stands out in glorious relief against the dark background formed by his detractors. Some will say that vaccination is not an unmixed blessing. Let us be open to conviction; but we should also remember that there are persons who conceive the earth is a flat surface; are such theorists to be treated as reliable?

Vaccination, involving as it did the whole theory of attenuation of morbific virus, as well as the practice of protection by the use of such attenuated virus, has opened a new research field, and one promising a most ample harvest. It is not too much to say that to Jenner we owe countless precious lives and happy homes; yet this man was an experimenter! Was he not justified?

And now we have passed the most barren part of our history and come upon times when men began to recognize the necessity of treating medicine from the standpoint of science. Floods of light began to be flung upon every page of medical lore. The pathologist no longer spoke in terms of a humoral theory; ceasing to waste time over spirits pervading nerves, he adopted the plain and only safe method of seeing first and believing afterward. Physicians passed beyond herbalism and began to inquire how disease could be explained and how treated upon rational principles. It is not necessary, nor does time permit me, to carry my narrative further. All who are here will readily in his own mind fill in the hiatus. I have attempted to trace the series of circumstances which led up to the introduction of the scientific method in medicine; that task accomplished, it will be not difficult for you to pursue the subject and determine

how far each subsequent observer increased knowledge by experiment and fortified clinical experience by an appeal to direct fact.

We have—I hope not too laboriously—waded through what has been done in the past by way of promoting the advance of medicine. We have seen that that advance has been made by the experimental method, and it has been open to us to appreciate a further fact—that when medicine has touched upon theoretical ground, unsupported by experiment, she has only too often been obliged to retrace her steps. The present aspect of the question has yet to be confronted. In our every-day practice we shall meet with diseases which are grouped according to our nosological systems, but which will, more or less, resist our book methods of treatment.

What are we to do?

Again, we shall daily learn the force of a great truth—that what our books teach us is inapplicable, is even false, when applied by the rigid law of rule of thumb.

What are we to do?

Those of us who care for more than hand-to-mouth work, and certainly those who care for successful treatment, will awaken then to know that all their true learning of medicine has yet to be accomplished, and has to be gained at the bedside of the patient. Nature will give them the problem ready for solution; the answer they will arrive at by themselves.

We shall, each of us, adopt one of two methods: We shall follow, as nearly as we can, in the steps of our teachers, and test, as far as we can, the truth of their statements concerning diagnosis and treatment upon our patients; or we shall soar farther and try fresh departures in diagnosis and treatment. The first method—the more usual one—is still an experimental one.

It will appear to you as clearly as the sun at noon-day that every time drugs are given, baths or what not applied, an experiment is performed, and the success of your treatment will depend upon the accuracy of your diagnosis and the proportioning of your doses. Take the B. P. If any one blindly follows its doses, do you think he would cure any one? The B. P. dose-list is a literary cow-catcher, instituted with the hope of preventing toxic doses being blindly given. No; you must give not only not an excessive dose, but equally important is it not to give an inactive dose. A friend of mine, when salicylates were not so commonly given as now, complained to me that his experience of willow bark was most unsatisfactory. He had seen the salicylism following full doses, and hence had given gr. iij three times a day. Acute rheumatism proved too much for him.

What are we to do? Our B. P. gone, we can only hang upon the lips of our teachers and hunt up stray prescriptions amid our manuals; failing these, we must search for tips in current treatises. No, I venture to say, none of these will suffice; you must learn how to experiment and push your remedies; you must do that which, until it is explained, seems so unhallowed and so cowardly; you must make your patient the subject of an experiment.

Now, see, there is no help for it; you will either experiment when you don't know it (and woe be to your patient), or, armed *cap-a-pie* with therapeutical lore, you will give him the best chance of benefiting from your skill. Now we go a step farther. All modes of treatment are based upon some general basis or ground for action, and it happens often enough that fresh departures in these modes of treatment seem demanded. Take an example. A large experience of fever showed that if the skin were cooled and its discharges removed, the well-being of the patient was insured. Cold water laved over head and arms gave relief; it was determined to try the cold bath. If you have seen—as some of you doubtless have—cases of hyperpyrexia, you will bear me out when I say, to me no case is so terrible, no patient wrings more one's heart-strings, than does the subject of that frightful condition. Is the cold-bath experiment justifiable? I believe yes. I have seen patients stricken with typhoid fever whose temperature, running up, has demanded heroic treatment. I have seen in some cases these poor people scream with fear and horror as they were lowered in the bath, and yet when they have been replaced in bed they have sunk into refreshing sleep and have rallied. That experiment was, I think, justifiable. If in the first cases of hyperpyrexia, the first cases of typhoid fever, the patients had died in spite of the bath, what would have been said?

Again, take drugs. It is a fact that many plants alike in botanical characters show a kindred action upon disease. To determine whether such is so in any case we have two plans to administer the drugs—to animals or to patients. The former method is highly deceptive, and can only be employed tentatively and as a preliminary to the administration to human beings. We are here discussing only the broad principle; there are many by-issues. The danger of the drug, the severity of the symptoms, would, of course, enter largely into the question of justifiability. In the cases above mentioned we have argued upon the question, Is it justifiable to experiment upon patients for their own good? and I have answered in the affirmative. What shall be said concerning the further question, Is it justifiable to experiment upon a man for the good of the community? Here I must adopt another answer. I should say that, at least as far as therapeutic research is concerned, the broad principle upon which we must work involves a negative answer. That there are exceptions I should be ready to admit; that researches which could involve neither risk nor ultimate inconvenience might justifiably be made I am prepared to believe. These cases I should expect would rest each upon its own merits. But that experimental therapeutics is justifiable when contingent dangers and inconveniences are fully put before the persons to be the willing subject of such experiments, I hold needs no championship of mine. Enough, I think, has already been said to show more than amply that the only true progress on the therapeutic side of medicine will occur as the outcome of such experiment.

Yet another side of this question has to be considered—one which ranks high in importance. To the few it occurs to learn medicine from observations of its results. In the dead-house, with scalpel, with microscope, with chemical test-tube, the scientist elaborates there a pathogenesis

which, with logical mind cultured in clinical records, leads him to a rational theory of disease. Now, to complete the chain of his reason, he needs to be able, by employing known morbific influences, to induce in his patient the pathological lesions he has seen and dissected. I can hardly take better instances than those of Ferrier's, Schafer's, and Horsman's experimental work upon brain areas; or, again, the last-named observer's splendid results in myxœdema.

The whole range of miasmatic and infective diseases, tuberculosis, splenic fever, chicken cholera, rabies, and perhaps we may add cholera, all have been elucidated, arranged, and brought within the scope of things understandable by experimental methods. It can not be said that these diseases have as yet been rendered amenable to treatment, but much has been done, and Pasteur has given earnest that in the future much may be done to obviate their occurrence. And, gentlemen, prevention is better than cure.

A CONTRIBUTION TO THE PATHOLOGICAL HISTOLOGY OF ACUTE AND CHRONIC CORYZA.*

By JOHN N. MACKENZIE, M. D.,
BALTIMORE.

In the "Philadelphia Medical News" of October 4, 1884,† I gave an account of the changes found in the different stages of intra-nasal inflammation, which was based upon the anatomical study of a large number of neoplasms removed from the nasal passages by means of the cold-wire snare. The object of the present communication is to call attention to some additional points in the pathological anatomy of that affection, which I trust may prove of general interest, both from a clinical and histological point of view.

The first specimen that I submit to your examination (Fig. 1) represents the microscopical appearances of a section through the inferior turbinated body of a man dead of Bright's disease, the result of long-standing mitral regurgitation and insufficiency.‡

Among the ordinary visceral changes usually found in such cases there were traces of old infarctions in both kidneys and spleen. The nasal passages presented the appearances commonly observed in the condition known as coryza, and in the permanent puffy condition found in more chronic inflammation, the most noticeable being intense engorgement of the cavernous tissue, especially well marked over the lower half of the middle and posterior portion of the inferior turbinated body. Upon cutting into the engorged bodies with a scalpel, the blood, which flowed freely, could be squeezed from them as water from a sponge. The mucous membrane of the maxillary sinuses was not in the slightest degree tumefied, and presented simply a more or less cyanotic appearance.

Under the microscope, the condition which at once attracts the eye is the enormous dilatation of the erectile spaces and the extreme tenuity of the intercellular walls. Here and there rupture of the latter has occurred from the enormous blood pressure, and two or more spaces in this way communicate. Along the inner walls of the dilated spaces are seen congregations of lymphoid corpuscles, and in some of them collections of fibrinous exudation.

The mucous membrane proper presents no noticeable pathological change. The epithelial layer is intact. At some places it seems slightly thicker than at others, but, beyond a moderate amount of cellular infiltration of the tissues beneath the basement membrane, there is nothing in the mucous layers to call for special remark.

Jutting out from and attached to the wall of the central sinus (in the diagram) is a well-formed parietal thrombus, to which I would like to call particular attention.

I bring this case before you for discussion as one of peculiar interest, for it is instructive in many ways. So far as I am aware, the histological appearances in acute coryza have never been investigated. In this specimen we have the probable microscopical picture of that disease. Here,

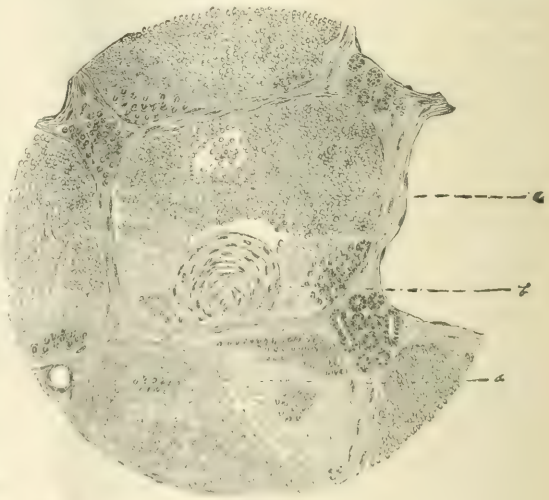


Fig. 1.

too, is illustrated the minute anatomy of the puffy condition or state of permanent dilatation of the erectile spaces which characterizes the second period of the simple inflammatory stage before hypertrophic changes have developed, and to which I have called attention elsewhere.*

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* Read before the American Laryngological Association, June 25, 1885.

† "Some Notes on the Pathology of Intra-nasal Inflammation."

‡ I am indebted to Dr. W. T. Councilman, Associate in Pathology in the Johns Hopkins University, both for the beautiful section and notes of the post-mortem examination upon which these remarks are based and for the accurate drawings which illustrate the text.

* See article referred to, and also a paper in the "Medical News" of April 4, 1885, entitled, "Notes on the Classification, Diagnosis, and Treatment of the Stages of Chronic Nasal Inflammation."

Of great interest, too, is the formation of the parietal thrombus, as illustrative of a mode of obliteration of the erectile spaces heretofore unrecognized.

In connection with the negative post-mortem appearances found in the maxillary sinus I would like to offer some suggestions on the relation of inflammatory affections of that cavity to intra-nasal processes.

While I am convinced that the chronicity of certain forms of nasal disease, the persistency of a fair proportion of neuralgic (and other reflex neuroses) affections of the head and face, are traceable to latent or unsuspected chronic antral inflammation, while it is doubtless true that affections of the maxillary sinus often run their course unrecognized during life, the *secondary* implication of that cavity in acute and chronic inflammatory processes originating in the nasal passages is, comparatively speaking, rare.

Inflammation of the maxillary sinus may result from congenital or acquired defect of the naso-antral aperture, or from its closure by the swollen and hypertrophied nasal tissue, polypi, crusts, etc., conditions which may favor the retention and decomposition of the antral secretion. Inflammation from this cause, however, occurs less frequently than is universally taught by inference from purely theoretical considerations. I base this assertion not only on clinical observation, but also on the results of post-mortem investigation. Those of you who choose to investigate the anatomical aspect of this question will be amazed to find how infrequently the mucous covering of the sinus participates in the inflammatory condition of the nasal fossæ. It is the rule to find the most marked hypertrophy of the nasal tissues, and even complete atrophy, associated with a normal condition of the sinus. What is the explanation of this fact?

On the nasal aspect of the naso-antral opening is a duplicature of the erectile tissue of the turbinated bodies, which in all probability serves the useful purpose of excluding from the cavity of the sinus, by means of the anatomical barrier involved in its erection, various irritants derived from the external world and nasal passages. This tissue ceases abruptly at the antral aperture. On the other side of the opening lies the peculiar loose, vascular membrane of the sinus. In the majority of cases this zone of erectile tissue constitutes the extreme anatomical limit of the nasal inflammation. The thin, loose, serous-looking membrane of the sinus differs essentially from the nasal mucous membrane, and especially that portion which surrounds the entrance into the maxillary sinus, and the abrupt transition of the one tissue into the other would therefore militate, on theoretical grounds, against extension of the inflammatory process into the antrum. In other words, I believe that the so-called extension of inflammatory action from the nasal passages to the antrum – the secondary inflammatory implication of that cavity – is of comparatively infrequent occurrence; and that, when inflammation of the sinus from extension is assumed, the condition will be found, on post-mortem examination, to be one of simple congestion, with possibly some accumulation and retention of the antral secretion from mechanical causes. Even if the amount of secretion be temporarily increased, the great power of absorption possessed by the membrane of the sinus will usually suffice to make it a matter of secondary importance.

I am inclined to believe that too much stress is laid upon the decomposition of antral secretion as a factor in the production of inflammation. Take, for example, a simple coryza. With the general erection of the turbinated tissues the orifice of the antrum is completely closed, congestion follows, with possibly an increased secretion of the antral fluid. Whether this secretion, thus hermetically sealed, so to speak, in the antrum undergoes decomposition before the patency of the opening is restored and the air gains admittance, is questionable; but, on the other hand, that decomposition does occur is beyond dispute, for, when the swelling from the acute rhinitis subsides, the aperture becomes free and, in some instances, the fœtid antral secretion is discharged into the nasal passages, a fact which accounts for the peculiar fœtor of the expired air from the nostrils which is sometimes observed at the close of a severe coryza.

In the second specimen (Fig. 2) are shown the microscopical appearances in the hypertrophic stage of chronic nasal inflammation before complete obliteration of the erectile spaces has taken place. Contrast the condition here



FIG. 2

with that found in the first specimen and in the acute and earlier stage of chronic rhinitis. Observe closely the little buds or bulbous processes which jut out from the walls of the cavernous sinuses, and which are made up of outgrowths from the newly formed intercellular connective tissue. In my anatomical study of this stage I overlooked these little buds, and my attention was subsequently called to them by my friend, Dr. Councilman, who had taken one of my sections for examination.

Projecting inward, they form bulbous processes or septa of varying thickness, which sometimes interlace, sometimes form bands which connect one portion of the sinus-wall with another, thus constituting another factor in the division and obliteration of the cavernous spaces.

Care should be taken not to confound them with the remains of a thinned and ruptured intercellular wall; in the latter case a similar projection will usually be found at a point diametrically opposite to that occupied by the projecting band.

We have, then, four modes of obliteration of the erectile spaces in nasal inflammation:

1. By the contraction of the newly formed intercellular fibrous bands.

2. By obliteration of their lumen by masses of round cells which resemble the white corpuscular elements of the blood. (See first article in the "Medical News.")

3. By the formation of thrombi in certain cases.

4. By the process of septa formation.

Book Notices.

The Ear: its Anatomy, Physiology, and Diseases. A Practical Treatise for the Use of Medical Students and Practitioners. By Charles H. Buenett, A. M., M. D., Professor of Otology in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With One Hundred and Seven Illustrations. Second Edition, Revised and Rewritten. Philadelphia: Henry C. Lea's Son & Co., 1884.

The first edition of Dr. Burnett's work, published seven years ago, was in every way worthy of the kind reception accorded it, and it has been a matter of surprise to many workers in the field of otology that so long a period has elapsed before the appearance of the second edition. The science of otology has in this period made very rapid advances, many of them of an exceptionally practical character. These have made necessary many alterations in the first edition, and some of the chapters have been practically entirely rewritten. The result appears in a handsome volume of nearly six hundred pages, printed in large, clear type on good paper, and with numerous illustrations in the text. Large additions have been made to the text, especially in the articles on Abnormities of the Auricle, on the Treatment of Chronic Otorrhœa, and the subject of Aural Polypi. The arrangement of the chapters is much the same as in the first edition, about two hundred pages being taken up with a description of the anatomy and physiology of the ear, and a discussion of the theory of sound and hearing, and the method of the examination of patients. There is a very satisfactory presentation of the subject of otomycosis and its treatment by the insufflation of germicide powders. There are some interesting pages upon Organic Disturbances in certain Diseases of the Middle Ear. The chapters on the Treatment of Chronic Purulent Inflammation of the Middle Ear and on the Course and Consequences of Chronic Purulent Inflammation of the Middle Ear are excellent, and throughout the entire work may be noted the painstaking care of the author in bringing the second edition abreast with the advances made in otological science up to the present time. From a careful perusal of the work in its new dress, it may be seen that the second edition is as worthy of a welcome reception as the first one was.

BOOKS AND PAMPHLETS RECEIVED.

A New England Conscience. By Belle C. Greene. New York: G. P. Putnam's Sons, 1885. Pp. 196.

Report on the Mortality and Vital Statistics of the United States as returned at the Tenth Census (June 1, 1880). By John S. Billings, Surgeon, United States Army. Part I. Washington: Government Printing Office, 1885. 4to, pp. lxiii–767.

Comparative Anatomy and Physiology. By F. Jeffrey Bell, M. A., Professor of Comparative Anatomy at King's College. Illustrated with 229 Engravings. Philadelphia: Lea Brothers & Co., 1885. Pp. xii–555.

Diseases of the Tongue. By Henry T. Butlin, F. R. C. S., Assistant Surgeon and Demonstrator of Practical Surgery and Diseases of the Larynx, St. Bartholomew's Hospital, etc. Illustrated with Chromo-lithographs and Engravings. Philadelphia: Lea Brothers & Co., 1885. Pp. viii–451.

Elements of Modern Medicine; including Principles of Pathology and Therapeutics, with many useful Memoranda and Valuable Tables for Reference, etc. Designed for the Use of Students and Practitioners of Medicine. By R. French Stone, M. D., Professor of Materia Medica, etc., in the Central College of Physicians and Surgeons, Indianapolis, etc. New York: D. Appleton & Co., 1885. Pp. xiv–368.

Second Report of the State Board of Health of the State of Tennessee, October, 1880–December, 1884. Nashville: Albert B. Tavel, Printer to the State, 1885. Pp. xv–600.

Lehrbuch der Physiologie für akademische Vorlesungen und Selbstudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg i/Pr. Siebente, neu bearbeitete Auflage. Mit etwa Zweihundertundfünfzig in den Text eingedruckten Holzschnitten. Sechste Lieferung. Hamburg u. Leipzig: Leopold Voss, 1885. Pp. 113 to 272, inclusive.

Medical Legislation: the Annual Address delivered before the Association of American Medical Editors. By Henry O. Marcy, M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Notes from the Physiological Laboratory of the University of Pennsylvania. Edited by N. A. Randolph, M. D., etc., and Samuel G. Dixon, etc. Philadelphia: J. B. Lippincott Co., 1885. Pp. 88.

Illinois State Board of Health. State Sanitary Survey. Sanitary Schedule, etc. Pp. 44.

The Scientific Transactions of the Royal Dublin Society, July and November, 1884, and February, 1885.

The Scientific Proceedings of the Royal Dublin Society, July, 1884, and January, 1885.

Experiments upon the Heart of the Dog, with reference to the Maximum Volume of Blood sent out by the Left Ventricle in a Single Beat, and the Influence of Variations in Venous Pressure, Arterial Pressure, and Pulse-rate upon the Work done by the Heart. By W. H. Howell, A. B., Fellow of the Johns Hopkins University, Baltimore, and F. Donaldson, Jr., A. B., M. D., Scholar in Biology in the same. [Reprinted from the "Philosophical Transactions of the Royal Society."]

Hints on Digestion. A Brief *Résumé* of the Latest Physiological Investigations. From various English, American, French, and German Physiological Writings. New York: The New York Pharmacal Association.

A Case of Primary Epithelioma of the Tonsil. By F. Donaldson, Jr., B. A., M. D., etc., Baltimore. [Reprinted from the "Medical Record."]

Association of the Alumni of the Albany Medical College. Proceedings of the Twelfth Annual Meeting.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D
NEW YORK, SATURDAY, AUGUST 22, 1885.

THE BRITISH AND THE AMERICAN MEDICAL ASSOCIATIONS.

BETWEEN the American Medical Association and its really great prototype, the British Medical Association, about as much resemblance may be traced as between "Punch's" little India-rubber effigy of the First Napoleon and the statue of Julius Cæsar, in the cartoon which represented Louis Napoleon vigorously inflating the former and remarking to the statue of the great Roman: "Aha, monsieur, I shall soon make him so big as you!" Faint as the likeness is, however, between the two associations, and rapidly as even the most ambitious aspirations of our American organization are being crushed out of it by mismanagement, it may not be amiss to reflect upon some of the difficulties which beset large bodies of men banded together, in spite of clever management. But, first, in order to set forth more precisely one phase of the difference between the British and the American associations, we will quote from certain comments by the "Medical Times and Gazette," of London, on the affairs of the British Medical Association. "The lamentable muddle into which the sister association in the United States has thrown the medical profession in that country," says our contemporary, "has come upon us as a revelation, to make us grateful for the policy which has kept our own association free, on the whole, from the machinations of self-seeking wire-pullers, and has kept a sufficient place of honor for the scientific leaders of the profession. Reading of what has recently happened across the Atlantic, we ought to be thankful that the powers of our own association have not been abused, as they might have been, to the forcing upon us of leaders whose only claim to leadership is skill in the lobby. An association, again, which can tolerate homœopaths upon its roll contrasts very favorably, in respect of discretion and liberal feeling, with one which, like the American association, ostracizes regular practitioners simply for claiming the individual liberty of holding consultation with whom they please."

But the "Times and Gazette" confesses that it can not help feeling that the success of the British association is "a little hollow," and it proceeds to show the great degree to which the prosperity of the association depends upon the excellence and the acceptable character of its publication, the "British Medical Journal." The article then goes on, in a manner most creditable to the journal in which it appears, to call attention to the pre-eminent ability of the editor of the "British Medical Journal." But the "Times and Gazette" hints that the very mainspring of its present prosperity, its journal, may yet prove a stumbling-block to the association. It fears what may happen with the journal in other hands, and states its conviction that the association "can not be declared to be an assured success until it has weathered, once or oftener, a change in the editorship of its journal."

We have no doubt that any one familiar with the work of editing a medical journal will appreciate the solicitude felt by the "Times and Gazette," even in the case of any important journal, and doubly in the case of one that, like the "British Medical Journal," has to cater at the same time to the demands of its readers at large and to the special interests of the association of which it is the organ. If there is occasion for such a feeling of insecurity with regard to a journal and an association both so well established as those in question, how much greater ground is there for guarding against the contingency of a change of editorial management in the case of the "Journal of the American Medical Association." That publication is still in its infancy; yet on more than one occasion efforts have been made to take it out of the hands of its present editor—efforts which we have always regarded as unwise, and against which we have raised our voice from time to time. If a change in its editorship would be perilous at any time, it would be tenfold more dangerous at a time when the journal is still undeveloped, and the association itself in a condition that has called down upon it the indignation of hundreds who in the past have been among its most efficient supporters, and who are now unable to see any reasonable prospect of its soon resuming the honorable position which it occupied a few years ago.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 18, 1885:

DISEASES.	Week ending Aug. 11.		Week ending Aug. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	4	23	6
Scarlet fever	8	2	25	4
Cerebro-spinal meningitis	2	1	1	1
Measles	16	2	31	3
Diphtheria	20	14	30	16
Small-pox	1	0	0	0

Yellow Fever in New York.—It is reported that, on Wednesday last, a sailor, recently arrived from Cuba, was found in a hall-way, in the lower part of the city, suffering from yellow fever.

Anthrax in Illinois.—A disease, said to be of the anthrax variety, is prevailing among the cattle in the neighborhood of Bloomington.

The Health of Chicago.—The "Condensed Statement of Mortality" for July, published by the Health Department, shows that there were 16 deaths from measles, 12 from scarlet fever, 31 from diphtheria, 13 from croup, 14 from whooping-cough, 2 from typhus, 79 from typhoid fever, 15 from cerebro-spinal fever, 19 from malarial fever, 456 from diarrhœal diseases, and 54 from other zymotic diseases. In 1884 the population, according to the School Census, was 650,000.

The Pension Board of New York City.—The Board of Examining Surgeons for this city has been re-organized by order

of the Commissioner of Pensions. The members of the late board were Dr. S. S. Burt, Dr. A. B. Judson, and Dr. W. C. McDonald. The new board is composed of Dr. W. C. McFarland, Dr. Ira Wilcox, and Dr. L. P. Walker. This action of the Commissioner is understood to be based on political grounds.

The University of Vienna. — The "Medical Times and Gazette," of London, learns from its Vienna correspondent that Prof. Bamberger has recently been elected Rector Magnificus of the university. This disposition of the honor, the highest in the gift of the university, is as much a compliment to the medical faculty as to the individual. The post is held for one academical year.

The American Dermatological Association will hold its ninth annual meeting at Indian Harbor Hotel, Greenwich, Conn., on Wednesday, Thursday, and Friday, August 26th, 27th, and 28th.

The International Medical Congress.—It is understood that the American Medical Association's new committee will hold a meeting in New York on the third of September.

The Death of Dr. Francis Ashhurst, of Mount Holly, N. J., took place on Monday, August 17th, in his forty-third year. He was graduated from the University of Pennsylvania, Department of Medicine, in 1867, and, in conjunction with his mother, founded the Burlington County Hospital at Mount Holly. He was a member of the Philadelphia County Medical Society.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 8, 1885, to August 15, 1885:*

Campbell, John, Colonel and Surgeon. Granted leave of absence for one month. S. O. 184, A. G. O., August 13, 1885.

Ives, Francis J., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty in the Department of the Platte. S. O. 184, A. G. O., August 13, 1885.

Azpell, Thomas F., Captain and Assistant Surgeon. Retired from active service August 10, 1885. S. O. 181, A. G. O., August 10, 1885.

Chapin, A. R., First Lieutenant and Assistant Surgeon. Granted one month's leave, to take effect when service can be spared by commanding general, Department of the Missouri, with permission to apply for one month's extension. S. O. 179, A. G. O., August 6, 1885.

Wales, Philip G., First Lieutenant and Assistant Surgeon (Fort Cœur d'Alène, Idaho). Ordered for temporary duty at Boise Barracks, Idaho. S. O. 130, Department of the Colorado.

Appointment.

Kendall, William P., to be Assistant Surgeon, United States army, with the rank of first lieutenant, to date from August 12, 1885.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine Hospital Service, for the two weeks ending August 15, 1885.*

Baillache, P. H., Surgeon. To proceed to Delaware Breakwater Quarantine as inspector. August 15, 1885.

Stoner, George W., Surgeon. Granted leave of absence for thirty days. August 10, 1885.

Society Meetings for the Coming Week:

Monday, *August 24th:* Boston Society for Medical Improvement.

Wednesday, *August 26th:* Auburn City, N. Y., Medical Association; Berkshire District, Mass., Medical Society (Pittsfield); American Dermatological Association (first day—Greenwich, Conn.).

Thursday, *August 27th:* Cumberland County, Me., Medical Society (Portland); American Dermatological Association (second day).

Friday, *August 28th:* American Dermatological Association (third day).

OBITUARY NOTES.

D. Colden Murray, whose death at the New York Hospital on the 17th of this month has brought distress to a large circle of friends, deserves more than a passing notice in our columns.

If such men as he were more numerous in the controlling boards of our hospitals and educational institutions, the future of medical education would cause us no uneasiness. Single-minded, liberal, broad in his estimate of his fellow-men, discriminating, just, there are few to replace him in the ranks where many such are needed. He entered the hospital as a patient because of the advantages of the proximity of the surgeons. His malady was a sarcoma of the bladder, and the operation which was performed gave only temporary relief, which was all that could be hoped.

He was born at the country seat of his father, Robert I. Murray, at Coldenham, N. Y., on October 10, 1821, and comes from Revolutionary ancestry, being a great-grandson of Cadwallader Colden and John Murray, of Murray Hill, whose beautiful wife kept the British officers at luncheon while Washington was crossing the river. He was also a grandnephew of the grammarian, Lindley Murray. The foundations of an excellent education were laid at Haverford College, to which he went at the age of fourteen. He began his business life in the shipping house of De Peyster & Whitmarsh, in this city, and was afterward connected with the firm of Hussey & Mackey, ship-brokers, at No. 62 South Street. This firm was subsequently changed to Hussey & Murray, and still later to Murray, Ferris & Co. The latter firm operated a line of steamers to Savannah, which was known as Murray's Line. The firm also had an interest in a line to Cuba, and owned many sailing-vessels. In 1879 Mr. Murray retired from the firm, and has done no business since, but has devoted his time to charitable objects.

Besides being secretary of the Society of the New York Hospital, succeeding his father, who served from 1824 until his death in 1858, he was treasurer of the New York Dispensary from 1856 to 1884, a director of the Sailors' Snug Harbor, a director of the United States Fire Insurance Company, and was connected with other insurance companies. He was one of the founders of the New York Club, and continued a member of it until a short time ago. He was a member of the Union League and St. Nicholas Clubs. For many years he was a warden of St. Ann's Church, at which his funeral took place on Thursday afternoon, when the Rev. Dr. Gallaudet conducted the services. The burial was at Delhi, where live the family of his wife, who survives him.

His interest and his strong protecting arm have done service which should never be forgotten. To him the Training School for Nurses at the New York Hospital owes its existence and prosperity; to him the Pathological Department of that institution is under the greatest obligations; and his interest in the welfare of the patients and doctors in the Chambers Street Hospital, the Bloomingdale Asylum, and the New York Dispensary has been as unfiring as it has been intelligent.

Many of our readers whose success in life has doubtless been in no small degree aided by a connection at some time with the New York Hospital will feel his loss most keenly.

Proceedings of Societies.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of May 22, 1885.

The Vice-President, Dr. AMY S. BARTON, in the Chair;

MARY WILLITS, M. D., Reporting Secretary.

Removal of a Lymphoma from the Neck; Recovery.—Dr. SUSAN P. STACKHOUSE reported the case of a woman forty years of age. Sixteen years ago she first noticed a small tumor just below the left ear; it caused no inconvenience except the projection of the ear-ring. On seeking medical advice, she was told that there was no danger attending the growth so long as it remained undisturbed. It increased in size gradually, and was attended with neither pain nor tenderness. The patient entered the Woman's Hospital of Philadelphia, and was operated upon October 17, 1884, by Dr. W. W. Keen. At the time of the operation the tumor extended from the ear to an inch below the cricoid cartilage, and was two inches and a half in width, its size affecting deglutition and respiration. The skin was not involved, but the veins were enlarged, and two pulsating vessels could be felt to enter the tumor. The growth was firm and inelastic, and movable to a certain extent.

After the patient was etherized, an incision four inches long was made, care being taken to avoid the external jugular vein, which crossed the growth. The hæmorrhage, which was quite profuse, was controlled by hæmostatic forceps and ligatures, it being necessary to ligate eighteen vessels. On account of the vascular nature of the growth, and its loose connections with surrounding structures, the adhesions were broken up with the grooved director. The tumor was intimately connected with the internal jugular vein for nearly three inches, and very careful dissection was required in order to preserve the integrity of that vessel. The wound was closed by wire sutures, after the introduction of a drainage-tube and a bundle of horse-hairs. The operation required one hour, and the patient became very much exhausted, but reacted very quickly after a hypodermic injection of brandy. The wound was dressed on the following day on account of there being considerable oozing of blood; the tube was then removed, the horse-hairs being left. After this the patient did very well; the temperature never reached 100° F., the only difficulty being some trouble in deglutition for three or four days. On the eighth day the dressings were removed scarcely soiled; the wound was closed with the exception of one small point. The patient was discharged from the hospital two weeks later.

Complete Retroversion of the Uterus from Distension of the Bladder.—Dr. STACKHOUSE also reported a case of this affection to which she was called July 22, 1884, it being said that the patient was dying. She found a woman, thirty-five years of age, with normal temperature; pulse 100, feeble and irregular; respirations gasping and rapid; face anxious and eyes injected. She did not complain of pain, but had a constant desire to urinate, and stated that she had passed urine repeatedly. Pressure upon the abdomen caused a slight flow of urine. The abdomen was greatly distended, the patient stating that the enlargement had existed for ten days, and had come on suddenly and without any previous illness. She did not think that she was pregnant. On examining the abdomen, its enlargement was found to be due to an oval, elastic tumor, extending from the symphysis pubis to within two inches of the ensiform appendix. It was regular in outline, and in no way resembled a pregnant uterus. An examination *per vaginam* showed that the tumor had no connection with the uterus, that organ being completely retroverted, the fundus being only a short distance from the vulval orifice, and the cervix behind the symphysis pubis. The uterus was somewhat enlarged and perfectly immovable. The patient insisted that she was not pregnant, and said that four months before her abdomen became enlarged suddenly, that she was unable to urinate, and that a large quantity of urine was drawn off by the catheter, which relieved her condition. A No. 16 (Fr.) male catheter was passed, and fifty ounces of very pale, clear urine were drawn off. The urine was neutral, with a specific gravity of 1·002, and contained a small quantity of pus, but no albumin. The relief was great, the respirations were no longer gasping, and the face lost its anxious expression. A soft-rubber French male catheter was passed into the bladder and kept in place by bands of adhesive plaster. The paralysis of the bladder was complete, and lasted for a week. It was found impossible to restore the uterus to its normal position by manipulation, and the patient was instructed to place herself in the knee-chest position for five minutes at a time frequently during the day. At the end of ten days she urinated without difficulty, and the uterus was restored to its normal position.

Asphyxia caused by a Plate of Artificial Teeth impacted in the Trachea; Death.—Dr. LOUISE S. BLUM reported a case and said that the literature of the subject of foreign bodies in the air-passages was exceedingly rich in rare and peculiar cases of extreme interest. Almost every physician had been called upon, at least once in the course of his practice, to remove some article from the air-passages of a child, who had made the mouth, instead of the pocket, a common receptacle. In such cases there had been found and removed pins, needles, marbles, fish-hooks, rings, buttons, button-molds, pebbles, sticks, pens, slate-pencils, ears of rye, wheat, or barley, fruit-stones, seeds, and numerous other articles. It seemed that this reprehensible practice was not confined to children, for a number of the articles mentioned, as well as some others, had been removed in the cases of men and women. Buckley, for instance, removed a copper umbrella-tip from the larynx of a man; and, in two other cases on record, a puff-dart* and a hard rubber tube were similarly removed. Instances of pieces of the various kinds of food entering the air-passages during deglutition were of such frequent occurrence that they received no mention. The fact that tracheotomy-tubes and corroded pieces of the same, hypodermic needles and various surgical instruments, or portions of them, broken off during operations, also unsecured corks used for keeping the jaws apart, leeches carelessly applied, sponges, etc., had all been found at various times in the respiratory tract, was of far more importance and interest to the medical profession. It was scarcely less interesting to read that matters vomited during anæsthesia, or unconsciousness during apoplexy or epilepsy, as also regurgitated chyme, curdled milk, worms from the alimentary tract, pus from tonsillar, post-pharyngeal, or epiglottic abscesses, necrosed nasal, palatal, and cranial bones and laryngeal cartilages, had all at various times acted as foreign bodies in the air-passages of man. Even a lymphatic bronchial gland, one inch in length, had been known to cause death by becoming impacted in the rima glottidis during a violent fit of coughing. A still more remarkable case was that recorded by Ruehle in "Kehlkopfkrankheiten," in which the epiglottis of a man was drawn into the upper orifice of the larynx during deglutition, where it became firmly impacted, and, acting as a foreign body, caused death. During operations upon the teeth and mouth, one or more teeth or crushed fragments of the same had frequently fallen into the windpipe. More rarely a number of artificial teeth connected by a metal band had become

* See this Journal, November 1, 1884, p. 487.

dislodged during sleep, and had been drawn into the larynx or trachea by the attempts made at respiration. This accident had also occurred during deglutition, although in that case they were usually swallowed with the bolus of food and entered the stomach. Still more rarely had this accident occurred where the teeth were attached to a plate. The only case of the kind on record, so far as Dr. Blum knew, was that reported by Mr. Henry G. Croly, of Dublin, cited by Prof. Gross, in which instance seven artificial teeth, set in gutta-percha, were arrested at the junction of the larynx and trachea. The case which formed the subject of Dr. Blum's paper was a parallel one, but was far more peculiar than the majority of such cases were likely to be, from the fact that the accident occurred in the course of an acute disease, and was not suspected until after the death of the patient.

On February 18, 1883, the doctor was asked to call upon Caroline N., a widow, aged twenty-five. The patient was examined carefully; temperature 104° F., pulse 128. Two calls were made on the following day and the temperature taken in the morning and in the evening, which, with the previous history of the case, confirmed the diagnosis of malarial fever of the remittent type.

February 21st the temperature was 103° F., pulse 115. February 22d, temperature 102° F., pulse 110. Within an hour after the last visit Dr. Blum was hastily recalled to the patient, the messenger saying that she was dying of hæmorrhage. The patient, with livid face and convulsed, was being held down by four people, and as the doctor reached the bedside she gave a few gasps and expired before anything could be done for her relief. With the last gasp of the dying woman and the consequent dropping of the lower jaw the loss of the teeth was noticed by the mother, who called the doctor's attention to the fact; but a thorough search of the room did not reveal them. A history of the patient's condition and actions just prior to death convinced Dr. Blum that the teeth had become dislodged and had entered the air-passages, thus causing death. A post-mortem examination was made on the next day, and showed that the heart and lungs, otherwise normal, presented the usual signs of death from asphyxia. The liver was congested and softened; the spleen was softened and much enlarged, thus verifying the diagnosis of malarial fever. All the other organs were found in a normal condition. The missing teeth were found in the trachea about two inches below the larynx. The plate was of the usual size, of vulcanite, and had four teeth attached to it, and was so firmly wedged that force little short of violence was required to remove it. In the vigorous efforts made to dislodge the plate, one of the teeth, which was imbedded in the walls of the larynx, was broken off and left behind.

Meeting of June 26, 1885.

Dr. Charles K. Mills in the Chair.

Mary Willits, M. D., Reporting Secretary.

Carcinoma of the Uterus.—Dr. D. W. Baer reported a case in which the patient had resorted to the "Faith Cure." Early in January, 1879, he was called to see Mrs. S., forty-six years of age. She had been suffering at intervals for several months from severe uterine hæmorrhages. A vaginal examination revealed a condition of affairs which involved the posterior and a portion of the anterior lip of the os, the vagina was not implicated. An operation was decided upon, and in the presence of Dr. C. A. Cutler and Dr. J. C. Hedbom, the cervix was thoroughly removed down to the body by means of an ecraseur. The wound healed kindly, and without any trace of local trouble, and for two years and a half the patient's health was good although she had several hæmorrhages. At the end of the third year some hæmorrhage occurred, and an examination revealed granulations of a specific character, apparently involving the entire endometrium. The whole surface was thoroughly cauterized with Vienna paste, and the symptoms were arrested for another year, making four years of vigorous health. Hæmorrhage again occurred, and an examination revealed a marked epithelioma involving the vaginal wall. The body of the uterus was enlarged and also evidently involved. Palliative measures were resorted to, but there was no hope of eradicating the disease. The patient was much alarmed, and, although there was neither pain nor hæmorrhage, she gave evidence of speedy dissolution. At this point she made arrangements for the "Faith Cure," sought the prayers of a circle and was anointed, after which she declared herself cured. Her general condition improved, and when Dr. Barr met her three months later he did not recognize her, because of the improvement in her appearance. Her health seemed good for about a year, when she again began to fail, and he was called to see her, after a day of severe suffering. He found a distended bladder, which was relieved by the catheter. An examination showed that the cancer had never been healed nor its progress in any way arrested, but that it filled the pelvic cavity, and the enlarged uterus reached above the umbilicus. This increase in size had taken place in about two years, the growth having steadily progressed notwithstanding the patient's apparent good health. She died soon after. The tumor in itself was painless through the entire period of its growth, death being induced chiefly from its pressure upon the neighboring vessels, firm adhesions having formed between the two.

Dr. Charles P. Turner said, in referring to the "Faith Cure," that he had known of several cases of nervous inertia that seemed to be cured by the influence of a strong will over a weak one, but the benefit was transient. He would believe in the "Faith Cure" when he saw a case of tuberculosis or cancer cured by that method.

Dr. E. E. Montgomery said that the class of cases the cure of which would convince one of the efficacy of the "Faith Cure" were the very ones that were not treated in that way. He instanced the case of a lady with organic disease of the heart who applied for treatment by this method, and was told that her case was not a suitable one for that form of treatment.

Reports on the Progress of Medicine.

OTOLOGY.

By Charles Stedman Bull, M. D.

Disease of the Nervous Apparatus of the Ear.—Kipp ("Arch. of Otol.") reports three cases presenting, in connection with Menière's train of symptoms, certain uncommon features. The first case was that of a man, aged forty-eight, who had been totally deaf in his right ear since infancy. In this case Menière's train of symptoms had been preceded by a febrile paroxysm and followed by neuralgia and erysipelatoid inflammation of the ear. The case resulted in partial recovery of hearing. The fact that the hearing of the left ear was very acute before the initial chill and that absolute deafness was rapidly developed without the slightest objective signs of disease of the middle ear make it tolerably certain that this case was one of primary disease of the nervous apparatus of the ear. The process was probably inflammatory, which started in the cerebral meninges at the base, and thence spread to the labyrinth and afterward to the Gasserian ganglion. This view of the probable seat of the disease is strengthened by the fact that the hearing for speech was partially restored, while deafness for low tones remained.

The second case was that of a man, aged forty-one, in whom Ménière's train of symptoms was followed by neuralgia and erysipelatoid inflammation of the face. It was impossible to say how much of the deafness was due to chronic middle-ear disease. There can be no doubt, however, that, after the attack of roaring in the ear, the hearing was rapidly destroyed.

The third case was that of a woman, aged fifty, in whom there was sudden, complete, and permanent destruction of hearing of one ear, following a tremendous roaring in the ear. Politzer's acoumeter was heard two inches from this ear when the other ear was open, but not at all when this was tightly closed. The watch was not heard when pressed against the auricle or the mastoid. Large tuning-forks of different pitch were not heard when held before the external meatus, but, when placed on the mastoid, were heard in the other ear. The hearing of the right ear was perfect. There was nothing abnormal in the external canal or the drum-membrane of either ear. There was no pharyngeal catarrh. The absence of marked vertigo was a noteworthy feature of this case, and would seem to make it probable that the disease was confined to the cochlea.

Caries of the Temporal Bone.—Sutphen (*Ibid.*) reports two fatal cases of this nature in which openings were made through the roof of the tympanum. The first case was that of a man, aged forty-four, who had suffered from otorrhœa for twelve years. The autopsy showed an immense abscess occupying nearly the whole of the anterior and middle lobes of the left hemisphere, containing a dirty-brown, fœtid pus. The opening made by the operation extended into the cranial cavity on the superior surface of the petrous bone, just in front of the superior petrosal sinus. In the depression just external to this a circle of dead bone appeared. To this the dura mater was attached, and perforated by a small circular ulcer. There was some localized meningitis. The instrument used at the operation had pierced the dura and entered the cavity of the abscess, but the flow of pus was prevented by the soft brain-substance or the dura itself acting as a valve.

The second case occurred in a man, aged twenty-one, who had had otorrhœa for ten years, with an acute attack of inflammation of two weeks' duration, which was evidently intra-cranial. The right external rectus was paralyzed, and there was choked disc in both eyes, with impaired vision. The patient lived ten days after being seen. On the day of his death an incision was made upward through the swollen tissue in the external auditory canal. A probe inserted through this cut passed over bare bone, slipped into a carious passage, and entered the cranial cavity. This bony sinus was enlarged with a trocar, but no pus escaped. The patient died comatose. At the autopsy the right lateral and superior longitudinal sinuses were found occupied by a large and partially organized clot; the walls of the sulcus were carious; circumscribed meningitis existed near the temporal bone, and there was softening on the surface of the middle lobe. The opening into the cranial cavity was found in the depression just external to the eminence for the superior semicircular canal, surrounded by carious bone. No accumulation of pus was found. The caries in the temporal bone involved the walls of the tympanum and the mastoid.

The Position of Reissner's Membrane in the Human Cochlea.—Steenbrügge (*Ibid.*) describes the results of his investigations upon Reissner's membrane in a very interesting paper. In a woman, aged thirty-four, who had died of tuberculosis, he found in the anterior lower wall of the left utricle, at the level of the lower margin of the fenestra ovalis, an elliptical perforation, measuring $1 \times 1\frac{1}{4}$ mm., which constituted a communication between the perilymphatic and endolymphatic spaces, which probably existed during life. In the cochlea of the same side, particularly in the second and third turns, there was a considerable deposit of hæmoglobin, with great dilatation of the vessels, which had ruptured at several places, causing extravasation of blood. There was also a peculiar condition of Reissner's membrane, which, owing to the draining off of the endolymph, sank down on the membrana tectoria and organ of Corti, in consequence of an excessive pathological stretching or relaxation. If the sinking down and apparent agglutination of this membrane had occurred during life, the function of the organ of Corti and of the membrana tectoria must have been impaired. If the elasticity of Reissner's membrane is acknowledged, the conclusion seems permissible that, in the human cochlea, a post-mortem relaxation of the vestibular membrane or loss of elasticity occurs in some instances, while in others it may be wanting or be present in a lesser degree. We thus see that the angle formed by Reissner's membrane in the pathological or histological specimen is in no definite relation to the curved shape it probably has in life.

The Terminal Cupule of the Ear.—Coyne and Ferré ("Ann. des mal. de l'oreille et du larynx") have been making some anatomical and physiological investigations upon the terminal cupule of the ear of some of the lower animals. The cupule is situated above the auditory crests and projects into the ampullæ of the semicircular canals. It appears like a brilliant, refracting corpuscle, of semi-hard consistence, at the posterior and superior part of the ampulla. Under the microscope it appears granular, refracting, and striated, presenting bands which are alternately bright and shaded. The number of terminal cupules found in a pyramid corresponds to the number of ampullæ. Their shape varies according to the shape of the auditory crests. The latter consist of several layers: 1. A layer of connective tissue traversed by vessels and nerves. 2. A special membrana propria. 3. A basement membrane. 4. An epithelial membrane formed of two layers. The auditory hairs play a double rôle of protection and of regulation of the ciliary vibrations through the medium of the terminal cupule. The entire apparatus seems to be one of accommodation for sonorous vibrations, and is also extremely well adapted for the perception of the irregular vibrations which constitute noise. The membrane of Corti is analogous to the cupule in its structure and relations, and it seems to act physiologically in the same way in regulating the vibrations of the cilia of the cells of Corti.

Traumatic Hæmorrhage into the Internal Ear.—Hardwicke (*Ibid.*) reports a case of this kind in a lad, aged seventeen, who was brought to the hospital at Sheffield completely deaf in one ear; the deafness had occurred four days previously from a blow on the side of the head with a cricket-ball. The watch could not be heard in the right ear, neither could the tuning-fork. Nothing abnormal was found in the pharyngeal mucous membrane or the middle ears. A diagnosis was made of hæmorrhage into the cochlea or semicircular canals. The treatment consisted in the application of leeches to the tragus, a blister behind the ear, and potassium iodide internally. The patient left the hospital cured on the eighth day.

Two Rare Cases of Mechanical Injury to the Organ of Hearing.—Moos ("Arch. of Otol.") reports a case of bilateral labyrinthine disease in a man, aged twenty-six, which was developed fifteen minutes after a stay of thirty hours in a diving apparatus. It manifested itself by nearly total deafness in both ears, tinnitus aurium, and vertigo, followed by staggering gait and inability to stand without support. It was caused by suddenly leaving the diving apparatus, after working in it, under a pressure of two atmospheres with but short intermission, for thirty hours. These symptoms were probably the result of a hæmorrhage in the labyrinth. The second case was in a man, aged thirty-four, in whom both drum-membranes were ruptured by the compression of air produced by the explosion of chlorophthallic ether during the making of eosine.

Loss of Hearing from Mumps.—Kipp (*Ibid.*) reports one case of this disease, in a young man aged eighteen, in which the total loss of hearing was in the right ear only, which was first noticed fifteen days after the commencement of an attack of mumps, while the patient was suffering from a metastatic inflammation of the left testicle. As all signs of irritation of the acoustic nerve were absent, it seems highly probable that the disease was limited to the cochlea. Whether the morbid process here was an inflammation with serous or hæmorrhagic effusion or embolism of the cochlear artery, it is difficult to say. Kipp thinks that an extension of the disease from the parotid gland to the ear along the facial nerve, or through the external canal and tympanic cavity, seems highly improbable. he thinks it much more likely that the inflammation of the parotid, the orchitis, and the ear affection are merely local expressions of the same morbid condition of the blood. Another case was similar to the first, except that there was no orchitis.

Chiseling of the Mastoid Process.—Hartmann (*Ibid.*) reports in detail the histories of fourteen cases in which it was necessary to open the mastoid process, and lays down rules for the performance of the

operation. The incision in the skin and the opening in the bone should be practiced at the line of attachment of the auricle, or at least immediately behind it. The possibility should always be borne in mind that in operating we may chance upon a sharp curve of the transverse sinus. The skin incision and the bony canal should be made so large that a free inspection of the wound cavity may be possible during the after-treatment. In order to keep the wound open, rubber tubes should be inserted immediately after the operation, to be replaced subsequently by thick and still later by thin lead ones.

Round-Cell Sarcoma of the Ear.—Green (*Ibid.*) reports an interesting case of this kind occurring in a man aged twenty-three. There had been a discharge from the left ear for seventeen years, following an attack of scarlatina. When the patient was first seen there was a muco-purulent discharge, and a spongy, very vascular, fleshy mass filled the left meatus, and seemed to be adherent to the wall. The left auricle was pushed outward and forward by a diffuse swelling over the mastoid, which had ruptured, and from the opening protruded a mass of fungous granulations two inches in length, dotted with spots of sloughing tissue, and bleeding freely on being touched. The meatus was filled with the above-described fleshy mass. Three days later the fungous granulations over the mastoid were removed, and the swelling was incised down to the bone, setting free a large amount of fluid and caseous pus. The bone was found extensively softened, and a large opening was made with a gouge in the mastoid antrum. The meatus was cleared from granulations, and carious communications were found to exist between the meatus and the mastoid. The case did well for a time, and then the bad symptoms reappeared, abscesses formed in the auricle and neck, and the growth returned and rapidly increased in size until it measured eight inches long, six wide, and four thick, and extended downward and in front of the auricle. Large masses sloughed away at times, giving rise to repeated hæmorrhages. The patient died from exhaustion about six months after the first operation.

Fracture of the External Auditory Canal by Contre-coup, with Rupture of the Drumhead.—Williams (*Ibid.*) reports an interesting case of this nature in a man, aged thirty-seven, who, while walking on a slippery sidewalk, lost his footing and fell backward, striking the back of his head against the ice with such force as to stun him. He remained for a time unconscious, vomited freely, and lost a large amount of blood from the ear. A splinter of bone from the auditory canal, not entirely detached, protruded through the skin. There was a stellate laceration of the membrana tympani. The piece of bone was removed with the forceps and measured 4 mm. by 3 mm. at its broader end, tapered to a point, and had a smooth periosteal surface on one side and a rough surface on the other. The patient eventually recovered, and the rupture in the drumhead healed. The fracture probably extended into the Glaserian fissure and terminated at the foramen lacerum medium. There was, no doubt, concussion of the entire labyrinthine contents, with a localized pachymeningitis.

Limited Caries of the Fundus as a Frequent Cause of Obstinate Otorrhœa.—Woakes ("Ann. d. mal. de l'oreille et du larynx") has a recent article upon this subject which may be summarized as follows: Certain cases of otorrhœa are very rebellious to treatment, and in these cases an examination will usually show the presence of granulations on the drumhead or in its immediate vicinity. This granulation tissue originates in the tympanic cavity, and by touching it with a probe there is felt a slight sensation of rugosity, the sign not only of simple hypertrophy, but of a carious process at some limited point of the bony wall. This explains the persistence of the otorrhœa. To combat this condition, Woakes employs a solution of sulphurous acid, with which he professes great success. The agent employed seems to dissolve the earthy salts in the particles of dead bone and to disinfect the diseased surface. It also acts as a stimulant to the process of cicatrization.

The Operative Treatment of Congenital Malformation of the Auricle.—Steiner ("Arch. f. Ohrenheilk.") reports in detail a case of deformity of the auricle as follows: The deformity consisted in the auricle being bent from above and behind downward and forward over the opening of the external canal so that no sound wave could enter the canal proper, which could only be looked into from below. The operation consisted first in dissecting up a triangular flap of skin, with the apex upward and the base on a level with the attachment of the auricle, and in dividing the subcutaneous cellular tissue by many small transverse incisions. It was then possible to lift up the apex of the auricle and to fasten it by sutures to the skin covering the squamous bone. To make this firm and lasting, two parallel incisions, 3 cm. long and 1 cm. from each other, were then made from the posterior surface of the auricle upward and backward toward the squamous bone. This flap of skin was then dissected carefully up with the subcutaneous connective tissue, and drawn forcibly upward, and by this duplicature of skin the new location of the auricle was made fixed and permanent. Both raw surfaces of this fold of skin, at the base and its further extension, were then united by sutures, and a firm bandage, with pressure on the helix, was applied. The result was satisfactory.

Diseases of the Ear in Typhoid Fever.—Bezold (*Ibid.*) recognizes three varieties of disease of the ear in the course of typhoid fever, viz.: 1. Hardness of hearing, without signs of inflammation and without any symptom in the drumhead or tympanic cavity, which seems to be due to some central changes. 2. Closure of the Eustachian tube with consecutive sinking of the drumhead. 3. Purulent inflammation of the drum-cavity, either without perforation or with perforation of the drum-membrane, and otorrhœa. The so-called nervous deafness is characterized exclusively by subjective symptoms, varying and moderate deafness, and tinnitus. As regards the affection of the Eustachian tube, he does not think that it occurs more frequently in typhoid-fever patients than in healthy persons. Both these varieties of disease are met with in the beginning of the fever, but the inflammatory disease of the middle ear occurs toward the end of the abdominal affection. The results of the autopsies were as follows: 1. A glairy mucus in the Eustachian tube was found in six cases. 2. Secretion in the drum in four cases. 3. Simple hyperæmia of the mucous lining of the drum in two cases. 4. Succulent swelling of this mucous lining in three cases. 5. Succulent swelling and extravasation of blood in a circumscribed spot of the mastoid cells in one case. 6. Extravasation of blood in the drumhead in two cases. 7. Perforation of the drumhead in two cases. 8. Nothing abnormal in two cases. Bezold considers that the purulent otitis media met with in typhoid fever may arise in three ways: 1. The direct propagation of the inflammation of the naso-pharynx through the Eustachian tube. 2. The introduction of septic material from the naso-pharynx directly into the middle ear. 3. Emboli of the vessels of the mucous membrane of the middle ear, from endocarditis and thrombus of the left side of the heart, or from purulent deposits at the periphery.

Clonic Spasm of the Levator Palati which produced a Rhythmic Ticking Noise.—Williams ("Zeitsch. f. Ohrenheilk.") reports a rare case of this kind in a well-developed girl of twelve years of age, in whom the affection was in all probability connected with chorea. The noise was probably produced by the vacuum which was caused at the moment when the upper surface of the velum separated from the roof of the naso-pharynx, with which it was brought in contact by spasmodic contraction. Williams had an opportunity to watch the velum during an attack of acute amygdalitis, and found that the ticking noise was absent, although the spasm of the levator was still present.

Miscellany.

The International Medical Congress.—The "Medical News" publishes the following letter from Sir James Paget, dated London, July 22, 1885:

"Dear Dr. Hays: I am very sorry to learn from some of your journals, as well as from letters which I have received, that there are serious differences of opinion among the members of our profession in your country as to the arrangements to be made for the International Medical Congress which it is proposed to hold in Washington in 1887. The deep interest which I feel in the Congress makes me venture to write to you in the hope of helping toward a right decision of some of the questions in dispute, and chiefly by stating what I believe to have been the custom at former meetings.

"I believe that a principal question relates to the authority, if any,

which was given by the Congress at Copenhagen in 1884 to the gentlemen who conveyed the invitation that the next meeting should be held in the United States of America.

"I believe that it has never been considered that the members at one Congress should give any formal authority for any part of the organization of the next. At each meeting some place has been named at which it was deemed desirable that the next should be held; and at the same time, or soon afterward, some persons of high repute in that place have been asked to take such steps as they might deem necessary or most likely to promote a successful meeting.

"Thus, after the Congress at Amsterdam in 1879, the president, Prof. Donders, wrote, in the first instance to Sir Joseph Lister and Sir William Bowman, and by them, and those whom they asked to act with them, the first and all the principal subsequent measures were adopted for the promotion of the meeting in London. Sir Risdon Bennett, the chairman of the Executive Committee, communicated to Prof. Hannover and Prof. Panum, of Copenhagen, the desire that the next meeting might be in one of the chief cities of Scandinavia; and those gentlemen, and others acting with them, began and had the principal part in all the arrangements for the Congress in Copenhagen.

"I fully believe that it was understood at Copenhagen that the same course would be pursued in the organization of the Congress to be held at Washington. I was at the general meeting at which, after some discussion, the majority of the members present expressed the wish that the next Congress should be in the United States; and I have no doubt that it was expected that the distinguished American gentlemen there present would obtain the co-operation of the most eminent of their professional brethren, and would, with them, make all the arrangements which they should deem best.

"Certainly it was not supposed that the Congress would be regulated, with any degree of exclusiveness, by the members of one medical association, however numerous; and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.

"I am sorry, also, to feel sure that if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who will attend it will be very few. And in this opinion, as well as in all that I have written here, I have the concurrence of several of the most influential of the London Congress with whom, before this writing, I consulted."

Editorially, the "News" says:

"We invite careful attention to a letter appearing in another column, which has been received from Sir James Paget, who, as the immediate predecessor of the lamented Panum in the presidency of the Congress, and as a member of the existing Executive Committee, speaks in reference to the organization of the next Congress with the highest authority. This letter commends itself to the thoughtful consideration of every physician who has the true interest of the American profession at heart, and it will give light to some who desired more authoritative information than they have yet possessed to guide correctly their future course of action.

"It has been asserted by the editors of one or two medical journals that the Executive Committee of the last International Medical Congress no longer exists, that therefore the Congress must meet next in this country, and hence that the American Medical Association plan must be adopted and supported. We have now information from members of the Executive Committee of the Copenhagen Congress that that committee is considered to be still in existence, that it still has work to do, and that it will by no means hesitate to assume the responsibility of ordering that the Congress shall meet in Europe instead of this country in 1887, in case it considers that such change of place of meeting would be for the interests of the Congress. And, if it does issue such a notice, there can be no doubt that it will be obeyed.

"Of this committee Sir James Paget is one of the most prominent and influential members, and hence his opinion demands the most serious consideration. This opinion is clear and straightforward. 'Certainly it was not expected that the Congress would be regulated with any degree of exclusiveness by the members of one medical association, however numerous, and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted. I am sorry, also, to feel sure that, if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who will attend it will be very few.'

"We consider it as now certain that the European members of the Congress have, through their Executive Committee, the power to prevent any material interference with the organization and work of the Congress itself, but, while this does away with our fears lest the progress and usefulness of these great international scientific gatherings should be checked by the action in this country, it increases our anxiety as to the effect of this discord upon our reputation abroad, and on our associations at home.

"The action of the original committee—of the American Medical Association—and of the new committee, is now generally understood; and there does not seem to be much use in further comment and criticism upon what is past. The important question now is as to the future. Is there any way by which the impending disgrace can be averted? If there is, it must be such as will induce those who have withdrawn from the organization to return and co-operate heartily. To the best of our knowledge and belief, derived from an extensive correspondence and from personal interviews, there is but one way to do this, viz., by dropping the code question entirely, confirming all the appointments of the original committee, and leaving to the enlarged committee which it created, including the presidents of the sections, the work of making additional appointments, completing the organization, and carrying out the work to its completion. If this be done, we believe that questions of appointments, etc., will be settled to general satisfaction, and that, although the difficulties of the work will be greatly increased, the Congress will be, what we all desire it should be, a great success.

"If this be not done, we do not believe that the Congress will meet in this country in 1887."

The "Boston Medical and Surgical Journal" says:

"It has been evident for some time that the prospect for a successful international congress in this country was very small. It is impossible to expect men of scientific attainments to cross the water to take part in a congress about which there is so much misunderstanding as in the present instance. It is exceedingly unpleasant to accept hospitalities in a house whose inmates are unable to agree as to the manner in which such hospitality shall be shown.

"We are permitted to-day to print a letter from a medical gentleman, well known on this side of the water, which expresses the attitude which men, interested in the science and not at all in the politics of medicine, must necessarily take. The letter is addressed to Dr. J. Collins Warren, and is as follows:

"'London, 13 Harley Street, *July 25, 1885.*

"'My Dear Collins Warren: I have seen in medical papers, and heard through private sources, that a serious disagreement has occurred in respect to the organization of the ensuing International Congress in Washington. A few of those who had been concerned in organizing the London Congress recently met to talk the matter over, for we feel that any failure which might attend the Congress in the United States would be little short of a professional disaster. I do not myself think, and most here would share my opinion, that a congress from whose ranks some of your best physicians and surgeons have determined to withdraw, and whose members are to be further restricted to such as belong, either directly or by affiliation, to one medical body in America, would be likely to be attended by many colleagues from this country.

"'Speaking from personal knowledge, an international congress can not be a success unless taken up in the warmest and most self-sacrificing manner by all the principal men in the country where it is to be held. I was present at the meeting in Copenhagen, where the invitation to meet in America in 1887 was given, and after some discussion accepted. I am sure it was present to the mind of every one there that the invitation was one from the profession of America, and not from any section of it, or any particular medical society in it. Otherwise, I I feel pretty certain Prof. Virchow's invitation to meet on the next occasion in Berlin would have been accepted.

"'Even now it would appear to me wiser to have that invitation renewed, or to meet in some other place, than to have a meeting in America, from which, so far as we may at present judge, many of the chief men on both sides of the Atlantic would absent themselves. You are at liberty to use this letter as you deem fit.

"'Yours very faithfully,

"'William MacCormack.'

"It is not easy to see how the matter can be remedied so as to counteract the disagreeable impression already made upon foreigners. What the committee may be able to accomplish at its extra meeting in September can only be conjectured, but we are very skeptical as to their power to accomplish any good results. Certainly nothing can be expected from men who consider the numerous resignations that have taken place as manifestations of a conspiracy, or as part of a game of bluff. We trust the editor of the 'Journal of the American Medical Association' will be able to comprehend, at least, that the opinion represented by the above letter is not the expression of those who have 'deliberately undertaken to obstruct the work of organization.'"

The "Progrès médical" says: "We learn by the 'Medical Times' that the organization of the International Medical Congress at Washington is meeting with certain difficulties among our *confrères* beyond the sea. The American Medical Association disapproves of the acts of the committee named at Copenhagen, although the latter had joined to itself a great number of members of the association. It preferred to replace the committee by another made up wholly of its own members. It would be ungracious in us to criticise the honorable medical association of the United States in any way, but it is incontestable that this way of acting is contrary to the usage followed by the International Medical Congress thus far, and, as the 'Medical Times' very justly says, it involves great risk of compromising the success of these international reunions for ever. What is none the less certain and none the less grave is, that thus many of the American members who are held in the highest esteem here, and enjoy the deepest sympathy, would be alienated from the Congress. However attractive it would be for us to extend the circle of our acquaintance and to contract new relations, we should be quite as well pleased to see again those whose names have long been known to us, and whom we are proud to call our friends. There is no doubt that any indignity put upon them will considerably chill the zeal of their Old-World colleagues in trusting themselves to the uncertain waves of the ocean."

The "Journal of the American Medical Association" says:

"Evidences are not wanting that the principal performers in the grand comic play of 'Much Ado about Nothing,' which was commenced so brilliantly on the 29th of June by twenty-eight prominent members of the profession in Philadelphia, are becoming weary of their work. Some who were induced to join in the play from the first impulse have already withdrawn, and others are evidently preparing to follow.

"Dr. John H. Packard, of Philadelphia, who was appointed secretary-general of the Congress by the Committee of Arrangements at the meeting in Chicago, and whose name was published as one of the twenty-eight who declined to accept any place in the revised organization, has recently withdrawn his declination and accepted the position. As an offset to the other twenty-seven who started the scheme of obstruction and factious opposition in that city, we have the names of seventy prominent members of the profession in the same city who have freely indorsed the action of the American Medical Association, and pledged their support to the organization of the International Medical Congress of 1887. Among them are the names of teachers and authors as eminent and as well known, both in this country and in Europe, as any of those who so hastily declined. To the same indorsement and pledge are appended the names of several hundred prominent and well known members of the profession in other parts of the State of Pennsylvania.

"For further evidence of public sentiment in the same direction, the reader is referred to the resolutions in the present number of the journal, passed by a joint meeting of the Northeastern and Northwestern Ohio Medical Societies, which embrace the profession in about forty counties of that State.

"The idea that the Committee of Arrangements will not be able to complete the work of preliminary organization at its coming meeting on September 3d, or that the vacancies in the several sections can not be filled with men of the highest standing and ability, is simply absurd. And, if the changes are made in the rules that were indicated in the journal of August 8th, there will not be left the vestige of a foundation on which opposition can rest, except that afforded by personal prejudice alone."

The British Medical Association and the American Medical Association compared.—"A statement was made in a recent issue of this journal," says the "Maryland Medical Journal," "that the profession in the United States greatly needed a national scientific association that was capable of meeting all the requirements of a vigorous and intelligent scientific organization.

"For some years past the American Medical Association has attempted to represent the interest of scientific medicine in this country. Quite recently the profession has been made aware of the fact that the American Medical Association is totally incapable of dealing with serious and important medical interests. Whatever value it may have to the medical profession, it is a serious fact that interests of the profession are not subserved by the association in a manner to give entire satisfaction. There are serious defects somewhere in its organization and conduct, and, unless these are plucked out, the association will remain a crippled and feeble scientific organization. The faults which exist in the plan and government of the association must, in our judgment, be corrected before it can take a healthy, vigorous, and intelligent grasp upon the profession, and before it can rise to the highest aims and purposes of a national medical organization. It is not our purpose to suggest remedies for the ill-health of the association, but we propose to show by way of comparison that the association is in an unhealthy physical and mental condition. We will permit some of our exchanges to make a diagnosis of the pathological condition which is undermining the vitality of the association and to suggest the appropriate treatment.

"We have before us the Annual Report of the Council of the British Medical Association, which was presented to this body at its fifty-third annual meeting, held July 28th, 29th, 30th, and 31st. From this report we are able to present a number of useful and suggestive facts relative to the highly prosperous and progressive condition of the British Medical Association, a scientific body which bears pretty much the same relations, ostensibly, to the profession in Great Britain that the American Medical Association claims to do to the profession of the United States.

"This report says that on July 1, 1884, the membership of this association numbered 10,826; of these, 123 have since died, and 162 have resigned; 708 members have been elected during the year, leaving a total of 11,249 members on the roll of the association on June 16, 1885. This report also states that the revenue of the association for the year ending December 31, 1884, was £22,256 and the surplus after paying expenses was £2,319. The total invested funds of the association, exclusive of trust funds, amounted to £19,541. The association owns and publishes the "British Medical Journal," a publication which enjoys not only a high reputation at home, but throughout the world. Apart from the valuable work the association journal is doing for the profession in Great Britain, the association expends a large sum of money each year in promoting original research and in advancing scientific medicine.

"The association has organized various branches in different sections of Great Britain, which add largely to its efficiency and prosperity. The various committees appointed by the association have charge of all questions which affect public and professional interests. It is safe to say that no medical organization is doing more to elevate the standard of scientific medicine and to promote the best interests of the medical profession than the one under consideration.

"As we see the machinery of the British Medical Association in operation and observe its movement, we are reminded of the power and effectiveness of thorough organization, and its vast possibilities when guided by intelligence and sound judgment.

"The British Medical Association owes its prosperity to the fact that its whole organization is based upon an active and intelligent principle. It exists for the entire profession in Great Britain, and its con-

duct is regulated by the highest aims and needs of the profession. Men who seek honors at its hands do so in obedience to high principles and motives. The association does not exist to give prominence to men who can only reach prominence through its agency. It is not a political or sectional body that flips about over the country at the bid of a few hospitable members. Its aim and purpose is strictly scientific. Its members take a pride in promoting its best interests from the fact that the association is promoting the very highest professional interests.

"Let us consider, by way of contrast, the American Medical Association.

"This association has been in existence since the year 1847. It has an average membership of less than three thousand. It owns little or no property. It has done but little to promote original research, and it has not been able to grasp hold of the various questions which interest the American profession. The association has a code of ethics, which has probably (?) done more for the profession than anything else, but, apart from this feature of regulating ethical questions, it has nothing to proclaim to the world as worthy of high respect or consideration. The annual meetings of the association may possibly do good in a social and semi-scientific way. These gatherings at times have been enjoyable reunions, and we believe tend to promote good feeling, to create friendship, and to elevate the professional tone. But we ask, Is there not a serious and important work for a national medical association to do? Are there not scientific and professional interests in the United States which can only be promoted by a national association? The medical profession in the United States now numbers between sixty and seventy thousand members—about double that of Great Britain, we believe. Many of these men are practicing medicine in the most ignorant and unscientific manner. The public and the profession is being ignominiously wronged by the herds of quacks that flood our land. With no organized power to deal with the important relations of scientific medicine to society, the medical interests of this country are annually going from bad to worse. We repeat, Shall we have a vigorous, intelligent national medical association, or shall we continue to follow the fortunes of the one which is ill from its own incapacity and sluggishness and which has, of late years, manifested little strength beyond that for log-rolling and wire-pulling for its high honors? Shall the American Medical Association be reorganized and thus be lifted out of the rut of degeneracy into which it has fallen, or will the scientific minds in the profession establish a national association capable of meeting the requirements of an enlightened and scientific body of medical practitioners? These are serious questions for professional consideration at this time. Who will answer them?"

Good Health results from Sanitary Work.—Under this heading, the secretary of the Michigan State Board of Health, Dr. Henry B. Baker, of Lansing, says:

"Sanitary authorities have maintained that the sanitary work which they have recommended to be done as a preparation for cholera—such as preventing and abating nuisances; attending to drains, sewers, privies, and cesspools; cleaning up generally, and unusual carefulness in regard to foods and drinks—would reduce the sickness and deaths from other diseases, even if cholera did not come. The weekly reports for July, 1885, to the Michigan State Board of Health, by physicians in different parts of the State, indicate that this is being realized in Michigan so far as relates to the lessened sickness—it having been lessened from nearly every disease, and greatly lessened from fevers and from diarrhœal and other diseases, believed to be especially influenced by sanitary conditions; and this is true notwithstanding the meteorological conditions in that month were rather more than usually unfavorable to health. It is proper to state, however, that the sickness in any month is influenced by the meteorological conditions in the preceding month, and that the meteorological conditions in June, 1885, were favorable to health.

"Observations in Michigan for many years have shown that in July the meteorological conditions especially unfavorable to health are, high temperature, excessive humidity of the atmosphere, and deficiency of ozone. The bulletin of health in Michigan, July, 1885, says: 'For the month of July, 1885, compared with the average of corresponding months for the seven years 1879-'85, the temperature was slightly higher, the absolute and the relative humidity were more, and the day and the night ozone were less.'

"'Compared with the average for the months of July in the seven years 1879-'85, remittent fever, intermittent fever, dysentery, consumption of lungs, cholera infantum, diarrhœa, cholera morbus, measles, and whooping-cough were less prevalent in July, 1885.'

"A large part of this decrease in sickness has undoubtedly been due to the medical and sanitary journals and the newspapers, which have constantly kept before the people the necessity for sanitary work and the facts as to the spread of cholera in Europe.

"It remains to be seen to what extent efforts for the exclusion of cholera from this country, and the general preparation for cholera by boards of health and the people, shall prove effectual; but, even if cholera shall not be entirely prevented, there will remain the belief that the measures which have so greatly decreased the sickness from other diseases can not but have had their influence in decreasing it; and, if cholera does not occur in this country, it seems quite probable that, by reason of the suffering elsewhere, there may be as many cases of serious sickness prevented in this country as there have been cases of cholera in Europe. But this may not continue without continued vigilance and effort."

Dr. Baker supports his remarks with the following tabular statement:

Health in Michigan in July, 1885, compared with the average in July for the seven years 1879-'85:

Diseases arranged in order of greatest diminution of sickness in July, 1885.	PER CENT. OF REPORTS STATING PRESENCE OF DISEASE.		Per cent. of reports more (+) or less (−) in July, 1885, than the average for July, 1879-'85.
	In July, 1885.	Average in July, 1879-'85.	
Remittent Fever	30	51	− 21
Dysentery	15	32	− 17
Intermittent Fever	65	82	− 17
Consumption of Lungs	48	63	− 15
Cholera Infantum	20	33	− 13
Diarrhœa	62	74	− 12
Cholera Morbus	39	49	− 10
Measles	8	17	− 9
Whooping-cough	14	22	− 8
Pneumonia	10	16	− 6
Typho-malarial Fever	10	15	− 5
Diphtheria	11	16	− 5
Bronchitis	41	46	− 5
Rheumatism	59	64	− 5
Inflammation of the Kidney	17	21	− 4
Scarlet Fever	11	14	− 3
Typhoid Fever	6	8	− 2
Membranous Croup	1	2	− 1
Small-pox	0	1	− 1
Inflammation of the Bowels	16	17	− 1
Influenza	18	19	− 1
Erysipelas	21	22	− 1
Neuralgia	58	59	− 1
Puerperal Fever	6	6	=
Inflammation of the Brain	6	6	=
Cerebro-spinal Meningitis	8	5	+ 3
Tonsillitis	36	32	+ 4

"It will be seen that there was less sickness than the average for July from nearly every disease reported. From only two, cerebro-spinal meningitis and tonsillitis, was there an increase."

Elastic Electrodes.—It is often convenient to use large surface electrodes, and it is desirable that they be so made as to adapt themselves readily to inequalities of the surface. Zinc, lead, and various other materials have been used for the purpose, and have been found to answer tolerably well, but they are simply flexible, and not elastic; consequently they do not recover their flat shape after being used, and some of them are open to the objection that they are uncomfortable for the patient to lie upon, while in others the metallic portion is quite small in comparison with the extent of sponge attached to them, so that the current is not so diffused as is sometimes desirable. To remedy these defects, Dr. James Craig, of Jersey City, has hit upon the expedient of using electrodes made of woven brass wire nickel plated.

Dr. Craig has shown us a set of these electrodes, and it is certainly to be said of them that they seem admirably calculated to do away with the objections we have mentioned.

Cholera in India.—Under date of July 6th, the Bombay correspondent of the London "Medical Times and Gazette" says: "I have again to notice a considerable increase of cholera in Quettah and the adjoining districts. The cantonments have had to be evacuated, and the troops placed in tents at a distance from the place. The works on the railway under construction have had to be suspended until the abatement of the disease. The cholera is now raging virulently at Kurrachi. It is all very well for the promulgators of the non-contagion theory to stick blindly to a view which can never hold for a moment where both sides of the question are duly represented. In the case of the Quettah epidemic there is little room for doubt that the cholera was carried *by human intercourse* from Bombay, which now may take rank as an 'endemic area.'"

The New York Post-Graduate Medical School and Hospital.—In the "Announcement," recently issued, we find the following gratifying statement: "The fourth year of instruction begins on September 12, 1885. The faculty have found their new building very well adapted to the purposes of a school for advanced medical instruction, a dispensary, and hospital. This large structure is situated in one of the healthiest locations in the city, very near to Gramercy Park, and accessible to the large hospitals. Since the last announcement, the wards and rooms of the hospital have been constantly occupied by patients, whose cases have been made available for instruction, while the dispensary has furnished ample material in ambulant patients. There are histological and pathological laboratories connected with the school, as well as one for physiological investigations. During the year a large sum of money has been given the hospital by a benevolent lady, through one of the lecturers of the school, for the purpose of fitting up and supporting a ward for the treatment of sick children. It is believed that similar gifts will enable the faculty at no distant day to fully support from endowment funds a large number of beds, so that a hospital sufficient for all purposes of instruction, except in general surgery and medicine, may be found within the walls of the school."

The Various Pharmacopœias.—On the authority of Kobert, "Lyon médical" gives the following statement as to the number of drugs recognized in the various pharmacopœias:

French	2,000
Spanish and Belgian [? each]	1,500
Russian	1,080
Greek and Swiss [? each]	1,040
United States	1,010
British	815
Swedish	740
Danish	720
Dutch	665
German	600
Austrian	560
Hungarian and Roumanian [? each]	545
Norwegian	530

The Failure of the Vivisection Bill in Pennsylvania.—The "Medical and Surgical Reporter," of Philadelphia, says:

"The Pennsylvania branch of the American Society for the Restriction of Vivisection has lately distributed several tracts and pamphlets in pursuit of its aims, and to influence the public in favor of its efforts. One of these is entitled 'Facts in regard to the failure of the bills presented to the Legislature for the restriction of vivisection.' The brunt of the statement bears heavily on Drs. H. C. Wood and S. W. Mitchell. They are accused of having promised the society to support a bill which, before the legislative committee, they threw cold water upon.

"A careful reading of the statement of facts" and we have not enough other sources of information will easily explain the position assumed by these gentlemen. Both of them, and for that matter all physicians are perfectly willing to support a bill restricting vivisection, provided that, a sensible restriction being admitted, the matter will end there, and no further agitation be begun to do away with it altogether. This was the assurance Dr. Mitchell asked, and that the society did not give. They say their committee was not prepared for the question. We ask, Are they prepared now to give an affirmative reply? We have good reason to know they are not. We have excellent authority for saying that the society intends to continue to agitate and appeal, with the hope of abolishing vivisection entirely. This is evident from their pamphlets, as well as their spoken utterances. Their name, 'For restricting vivisection,' is merely a disguise for their real intentions, and not an honest intimation of their final purpose.

"Such being the case, all must approve of the action of the gentlemen named. They did not intend to commit themselves to the projects of a society which declined to express its real designs, and merely wanted to use them as stepping-stones to results which they condemned.

"While disapproving of causing unnecessary pain to any organic creature, we acknowledge but little sympathy with the sentimental affection for brutes now so prevalent. To a well-ordered mind, no sight is less pleasing than to see a woman fondling and kissing some ugly cur of high degree, when her own children are lacking in physical or moral education, or when she is taking nightly precautions not to have children—and this sight is no rare one in our civilization."

THERAPEUTICAL NOTES.

Sulphide of Carbon.—In a recent number of the "Progrès médical" we find a *résumé* of a graduating thesis on this substance, by M. Sapelier. The writer insists on the importance of distinguishing between the commercial article and pure sulphide of carbon, the former being contaminated with sulphide of hydrogen in varying proportions, to the action of which the poisoning of workmen engaged in the manufacture is attributable. Sulphide of carbon is available in medicine as a rapid and energetic revulsive, and, in solution, it is one of the best of intestinal antiseptics, especially in typhoid fever. The same journal gives the substance of a recent communication on the same subject, made before the *Académie de médecine*, by M. Dujardin-Beaumetz, who gives the following formula for a solution for internal use (*eau sulfo-carbonée*):

Sulphide of carbon	375 grains;
Essence of mint	50 drops;
Water	16 ounces.

This is to be shaken and allowed to settle. From four to ten dessertspoonfuls of the solution may be given daily.

Nitro-glycerin in the Treatment of Interstitial Nephritis.—As opposed to the theory that a sufficient urinary excretion is kept up by the increased arterial pressure consequent upon the cardiac hypertrophy, Rossbach ("Berl. klin. Woch."; "Union méd.") adduces the results which he produced with nitro-glycerin in three cases of contracted kidney, in which the patients had increased arterial tension, albuminuric retinitis, uræmic asthma, and the general ill-health characteristic of generalized and advanced arterial sclerosis. In spite of the lowered tension produced by the drug, the uræmic symptoms were diminished, the urine was increased in amount, the albuminuria became less evident, and the retinitis grew less marked and less troublesome.

An Ointment for Intertrigo.—In a recent discussion at the Paris *Société de thérapeutique*, M. Campardon ("Progr. méd.") stated that an ointment made after the following formula had answered well in his experience:

Borax	30 grain;
Oil of wintergreen	10 drops;
Vaseline	7½ drachms.

A Calmative for Teething Children.—M. Vigier ("Gaz. hebdom. de méd. et de chir.") gives the following formula of a *sirop de dentition*:

Hydrochlorate of cocaine	1½ grain;
Tincture of saffron	10 drops;
Syrup	2½ drachms.

The painful gums are to be gently rubbed with this syrup several times a day.

Original Communications.

RHACHITIS.*

BY HENRY N. READ, M. D.,
BROOKLYN.

RHACHITIS, though a very common and important disease of childhood, has received, in this country at least, much less attention than it merits. Since I have been a member of this society I can not recall a discussion of or paper upon this disease. Occasionally, in the pathological societies of this city or New York specimens of this disease are exhibited, but they are usually confined to the grosser and later lesions of the disease. My object is, in this communication, to call attention to the earlier manifestations of rhachitis—those manifestations which are not infrequently overlooked in the treatment of cases, but which, unless recognized and treated, will often render nugatory all remedial measures adopted. One can not but be struck at the large number of fatal cases of the simple catarrhal diseases when looking over the mortuary reports of these two cities. In the cold months bronchitis and the warm months diarrhœa appear with great frequency as the causes of death in the statistics. These disorders, if simple and occurring in healthy children, do not excite alarm, and are very manageable. The mortality from them, therefore, means something more than appears on the faces of the death certificates; and, on examination, rhachitis will be often found as the silent factor in the production of the fatal result. A somewhat extended experience in the department of pædiatrics, both as a practitioner and as physician to public institutions in this city, has established the opinion in my mind that rhachitis is second only to tuberculosis, and indeed not very far second to this disease as a general or constitutional disorder of childhood—far more so, I believe, than either struma, syphilis, or simple atrophy. Rhachitis is never a congenital disorder, nor, strictly speaking, even a diathetic disease, if by diathesis we mean a *constitutional predisposition* to the development of a certain affection. It is rather a developmental disorder brought about by exterior surroundings, though, of course, it may be developed in those children who have an inherited tendency to other diseases. Its great frequency, its vicious modification of unimportant maladies, and its injurious tendency if not recognized and treated, render this affection, therefore, of peculiar interest to the practitioner. Rhachitis may be defined, then, as "a general disease," not hereditary or diathetic, "affecting the nutrition of the whole body; arresting natural growth and development; perverting and delaying ossification; retarding dentition; causing the bones to become soft and to yield to pressure, and the muscles and ligaments to waste; and in many cases producing alteration of the brain, liver, spleen, and lymphatic glands." To treat exhaustively of the ætiology and pathology of rhachitis would require an article of greater length than can be condensed into the limits of one of several papers of an evening, and I shall therefore briefly outline this portion of my subject, as I wish to speak principally of the earlier clinical symptoms of the disease—a recognition of which is of great importance. Rhachitis is produced by one, or the conjunction of several agencies. It is a direct consequence of malnutrition, and its causes must therefore be sought for in all the numerous agencies which injure the nutrition of the developing child. The prime ones are those which fall under the heads of improper food and defective hygiene. Insufficient and especially *unsuitable* food, and want of fresh air and *sunlight*, are the two causes to which rickets may be charged. The first two, by starving the body, and the last two, by rendering assimilation defective, produce, either together or alone, that condition which we know as the rhachitic condition. The majority of cases are found, of course, among the poor, but the disease is by no means confined to this class. A very considerable number of cases occur in the ranks of those denominated "independent," and not infrequently does it occur among the very wealthy and luxurious. Among the poor, if I should designate any *one cause* which I consider more potent than another in the production of rickets, I should undoubtedly indicate *want of sunlight*. Among the rich, or those in comfortable circumstances, *improper food* takes the first place. When the nursing child is weaned is the time usually for the commencement of rhachitis. The mother's milk is replaced by the starchy foods in such kind or quantity as to impair assimilation, and the morbid process is set up. Rhachitis may also be developed by too long a continuance of nursing, the mother's milk being, from age or impoverishment, unsuitable to the growing wants of the system. Rhachitic children from this cause may often be noticed where mothers who have borne children rapidly continue to nurse the youngest for a long time after the proper age for weaning has arrived, to prevent a new pregnancy. The location of the habitation, I have frequently noticed, produces a marked effect on the development of rhachitis. The basements of tenement-houses and the rooms on the northern side of a house will produce more rhachitic children, other things being equal, than rooms more favorably situated. The age at which rhachitis is produced must be noticed. It is seldom seen under one year of age, and almost never under six months. The cases of so-called "congenital rhachitis" are not true cases of the disease. Neither is there any connection between rhachitis and congenital syphilis, though Parrot has labored with no little ingenuity to show them to be identical. The period of its inception, therefore, shows a close connection with weaning, and naturally with the ingestion of unsuitable food. The tubercular diathesis, strange to say, seems to wield a protective influence against rhachitis. This is probably explained by the fact that children who are born tuberculous will, from the causes which develop rhachitis—viz., bad air and food—die of tubercular phthisis ere rhachitis can be set up. The pathology of rhachitis must be passed over briefly. The first and chief pathological change in this disease is the generation of lactic acid in the deranged digestive organs of children. Heitzman as-

* Read before the Medical Society of the County of Kings, June 16, 1885.

serts that this acid excites irritation in the osteoplastic tissue, and at the same time dissolves and helps to eliminate the calcareous tissue already formed. If, in addition, the food given the child be deficient in the lime salts, the rhachitic process, it is obvious, is hastened and made sure. The brunt of the disease falls upon the bony structures, though nearly all the tissues of the body are more or less affected, and some of them early in the disease. The bones are exceptionally rich in water, fat, and carbonic acid, but deficient in the lime salts—the normal proportions of these ingredients being reversed from 63 to 65 per cent. to 37 to 35 respectively, inverted, as it were, from the healthy standard. The bones become then of less specific gravity, and are softer and more easily bent or broken. The epiphyseal ends of bones are always enlarged, and the periosteum thickened, inflamed, very vascular, and with difficulty detached from the bony structure underneath. The microscopical changes in the osseous tissues consist, according to Kölliker, Virchow, and Müller, of a remarkable extension of the spongy layer, an abundant proliferation of the cartilage cells in the primary cartilage layer, in deficiency or complete absence of calcification of the osseous and cartilaginous substance, in disproportionate extension of the medullary cavity, and delayed alteration of the cartilage tissue. The formation of bone out of the cartilaginous tissue takes place irregularly, and the *zone of proliferation*, as the vertical columns of the corpuscular elements which are forming to receive the deposit of earthy salts are called, is not separated from the *zone of calcification*—the layer which has already received the deposit—by a well-marked line of demarkation as in healthy bone. The two zones are greatly thickened and ossification takes place irregularly, little spiculæ and islets of bone being found in the proliferating layer, and incomplete ossification in the calcified layer. According to a late observer, Strelzoff, the osseous trabeculæ, from this irregularity of formation, have an abnormal arrangement, and are disposed *radially* instead of *concentrically*. This arrangement is supposed to be an additional cause of weakness, therefore, in the bone, and to render it still less capable of resisting pressure or strain. The muscles in this disease are small, flabby, soft, and pale, the striæ being very indistinct. The brain is small and shrunken, and fluid is usually exuded to fill up the cavity of the skull, which is generally enlarged. For the reasons before mentioned, the pathology of the internal organs must be omitted, as well as those very interesting morbid changes which take place in rhachitis from mere mechanical causes, such as pulmonary collapse and emphysema, hepatic engorgement and fatty degeneration, etc. To speak briefly of the *prognosis* in rhachitis, before passing on to the symptoms, it may be stated to be good, provided the disease is recognized early. In none of the constitutional diseases, except the congenital syphilis of infants, do we get better results from proper treatment than in rickets; but to be managed successfully it must be recognized in the early stages. It is rarely a primary cause of death, but as a secondary cause it is second to few of the diathetic diseases. Vast numbers of deaths from bronchitis—simple and capillary—pulmonary collapse, diarrhœa, laryngismus stridulus and other disorders, are really due to rhachitis. The symptoms of rickets can be readily recognized, but are often in my experience overlooked or misinterpreted. The first symptoms are the sweating about the head, the feverishness at night, the tendency to kick off the covers on the part of the child, the indigestion, grinding of the teeth, diarrhœa alternating with constipation, pasty, dull complexion, circles under the eyes, and tumid belly. These cases are nearly always treated for worms before the real trouble is suspected. Next in order the child becomes fretful and cross, and cries if moved or dandled, evidently suffering pain from handling. He sits quiet and makes no attempt to move; will play with toys put into his hand, but makes no effort to go after them. The digestive derangements at first are limited to a lessening of the digestive powers; indeed, the symptoms pathognomonic of rickets are always preceded by those general symptoms which indicate simply impaired nutrition. Such have been mentioned. The stools are large, pasty in consistence, offensive in odor, and contain large quantities of undigested materials, as well as slime and greenish masses. Flatulence is common. The urine is very acid and causes pain in voiding. The sweating, slight at first, now becomes very profuse, and occurs principally during sleep. Beads of moisture stand on the brow of the child, and the pillow is usually wet in the morning. Following this commence the changes in the bones characteristic of the disease. The ends of the bones are enlarged and the shafts thickened. All the joints are notably increased in size, the wrists and ankles being peculiarly noticeable. Great tenderness is manifested not only in the bones and joints, but in the muscles also. The bones of the upper extremities are affected first, and first of these usually are the ribs. The enlargement of the sternal ends of the ribs is one of the most commonly recognized symptoms of rhachitis, and gives to the chest the well-known *beaded* appearance, as it is called. The whole thorax is altered later, the sternum being carried forward, and the ribs are driven in laterally in expiration, producing the deformity known as the "pigeon breast." It is in the skull, however, that the most important bone changes take place—most important because I believe that rhachitis may be recognized, or at least suspected, before other symptoms have become marked, from the appearance of the skull alone. *The skull* in the large majority of rickety children *is too large*. The method of obtaining the measurement of children's heads I published some years ago in "The Pathologist." It is easily done and is quite accurate, and, at the risk of repetition, I will briefly describe the method here. The plan follows the rules laid down by Dr. Samuel Gee, of London, in an article on the "Shape of the Head looked at in a Medical Point of View," published in the "St. Bartholomew's Hospital Reports for the Year 1871." Dr. Gee states the rule to be that "in the head of the healthy child the ratio between the *greatest antero posterior* diameter of the cranium and the *base line* is as six to five." In other words, the cranium is about one fifth larger than its base. This rule I have tested for some years, and have measured many hundred heads according to it. I have found it remarkably accurate. Two principal varieties of large heads are met with in children—

the *cyclocephalæ*, or round heads, and the *dolichocephalæ*, or long heads. The first, or cyclocephalic head, almost always belongs to the *tubercular* child, and the second, or dolichocephalic head, almost as invariably belongs to the rhachitic child. This fact, it will be readily seen, is of great use. A child with a dolichocephalic head may, *prima facie*, be suspected of rickets; if, in addition, there be delayed dentition, there are ten chances to one that rhachitis is present. In examining the heads of children it is important to remember two things: first, that *shape*, not *size*, of the head is of most value; second, that long heads mean increase of the solid contents of the skull, and that round heads mean increase of the liquid contents of the skull. To ascertain the base-line and greatest antero-posterior diameters of the cranium, only a pair of calipers and a tape-line are necessary. The procedure is as follows: One leg of the calipers is placed upon the glabella, the other just beneath the tuber occipitale; the calipers is then removed carefully without displacing the legs, and the distance between the two points of the instrument is carefully noted. This is roughly the base-line of the skull. One leg of the instrument is now placed on the most prominent portion of the frontal bone, and the other leg upon the most prominent part of the occiput; the calipers then being removed, the distance between the two points will give us the greatest antero-posterior length of the skull. These two measurements must be in the proportion of five to six to each other; a very simple sum in proportion will, therefore, enable us to tell whether the head is abnormal or not. The following case may serve as an instance: C. L., a large, fat, dull-looking child, was placed in the Sheltering Arms Nursery. She was twenty-two months old, and had been nursed till her admission. Had delayed dentition, and some digestive disorder, not very great. Seemed in good health. Head measurements gave *base-line* 4⅜ inches, and greatest length of cranium 6¼ inches. Applying the rule given, we find that in the normal head we have 5 : 6 :: 4⅜ (base of patient) : 5¼. Therefore the child's greatest length of skull should have been 5¼ inches, whereas it was 6¼—an inch larger than normal. She was pronounced rhachitic, and placed on appropriate treatment She got along well till about a month after admission, when she died of capillary bronchitis after less than twenty-four hours' sickness. The autopsy showed rhachitis existing, but apparently improving.

The symptom of craniotabes, described first by Elsässer, is found in a certain number of cases. It is, however, rare in my experience, though it seems to be frequent in Europe. It is a lesion of the bones of the skull, generally the occiput, and is detected by pressing with the tips of the fingers firmly on the head. If the condition be present, the bones yield slightly under the finger-tips, a small indentation being made. The spots where this change of bone takes place are small, and are due to imperfect ossification. The symptom may be met with as early as the sixth month, according to some authorities.

The last symptom which I shall notice is the delayed dentition. In a large majority of cases the evolution of the teeth is retarded till the tenth, twelfth, or fifteenth month, and after the teeth are cut they quickly blacken and crumble away. This symptom, however, unless accompanied by others, is of no great value, as delayed dentition depends on many other causes than rhachitis. The length to which this article has already extended itself will prevent me from dwelling on the treatment of rhachitis in detail. I shall, therefore, only outline briefly the management of this disease which I have found most successful. The treatment may be divided into the hygienic and the medical. Under the first head comes the supervision of the child's whole life. If the patient be at the breast, it should be immediately weaned if possible. The food should be personally inspected, both as to quality, quantity, and times of administration, no hearsay evidence being admitted; nor should the attendant confine himself to the giving of directions alone, but should see that they are properly carried out. If the starchy foods are given in excess, this should be corrected; if the variety of starch given be one difficult of digestion, another should be substituted for it, or a small quantity of malt added to the food, as is done in the Mellin's food. Finely chopped beef, fresh eggs, and peptonized milk should be added in suitable quantities to the child's diet. Saccharine matters should, as a rule, be avoided, as large quantities of sugar encourage fermentation and acidity and provoke diarrhœa, to which the patient is already too liable. Mutton-, chicken-, or clam-broth, with stale bread and fresh butter, may be allowed. The alvine discharges should be carefully inspected, and diarrhœa corrected by a small quantity of the bicarbonate of soda, administered in peppermint-water with a few drops of spirits of chloroform. This will also relieve the flatulency which is apt to occur. The clothing of the patient should receive the utmost care. Flannel should be worn next the skin winter and summer; in the latter a broad flannel bandage over the bowels is usually sufficient. The child should be bathed twice a day, and the body rubbed well with cod-liver or olive oil. The profuse perspiration may be checked by applying the tincture of belladonna—a teaspoonful to half a pint of water—several times daily to the skin. The patient must be taken into the open air regularly twice daily, no matter what the season is, provided it does not storm. It is far better, in my opinion, to take the chances of the child's taking cold than of his staying in-doors; very young or weakly children in cold weather can be wrapped up warmly and a bottle of hot water or a hot brick can be placed in the carriage with them, and they can be trundled about for an hour or so with safety on the score of getting cold. In the case of those who live in basements or northernly exposed rooms a change of residence is desirable. After indigestion has been corrected and the stomach gotten into good condition we may commence the exhibition of therapeutical agents. Cod-liver oil and the ferruginous tonics are the chief remedies to be employed. It is well to begin with a small dose of the oil, fifteen to twenty minims, as the power of digesting the fats is small in rickety children. This can be gradually increased. Iron, quinine, and the bitter tonics may be employed afterward as occasion demands.

ECLAMPSIA IN EARLY LIFE.*

By JOSEPH HEALY, M. D.,
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Diseases of children present peculiar difficulties to one who has studied the phenomena of disease in the adult. This arises from the fact that in the nervous system of the child the spinal predominates over the cerebral; and this is as it should be, since the different organs of the animal economy necessary to furnish nutrition for bodily growth and development are in active progress long before the infant formulates ideas, or really interprets fully the sounds that reach the ear, or the visions upon the retina.

The intense excitability of the nervous system in the healthy and robust child which gives to a trivial ailment symptoms of a grave disorder under the influence of enfeebling and chronic diseases, becomes diminished and disappears, so that we find a condition exactly opposite. Now, the nervous system has become insensible to the irritations of local ailments, and we search in vain for general manifestations. Ofttimes the local symptoms are so slight and obscure that they may easily escape our notice.

But, although a mere functional derangement may for a time excite such a tumult of disturbance in the general system as does a severe organic lesion, we must treat these general manifestations with a very careful appreciation of the susceptibility of the little organism to the shock.

And, on the other hand, we must consider the vital import of sufficient strength being furnished from without to the enfeebled one, who can not bespeak to the professional eye the expected manifestations of diseased action. Hence it behooves every person, who hopes to successfully treat the little ones in their many and varied ailments, to be cognizant of the dissimilarity of diseased action in the adult to the ever-changing and often contradictory phenomena of disease in children.

Let us consider for a few moments, and in a not far-extended or minute detail, one of the most common and often the most appalling morbid conditions in early life. I refer to eclampsia, or general convulsions.

The term "convulsions" is applied to different forms of spasmodic disease in which muscular innervation is deranged or perverted so that the movements become irregular and automatic and are no longer controlled by the will.

We may make several classifications of convulsions, according to our estimation regarding their nature or cause. Many of the French writers make three classes—idiopathic, sympathetic, and symptomatic.

The first two are not accompanied by any appreciable lesion of the nervous system, while in the third the convulsions indicate a sign or symptom of some disease of the nervous centers, as meningitis, tubercular disease, hydrocephaloid, etc.

With all due respect for the French school, a classification into two sections seems more reasonable and appropriate, namely, congestive and anæmic. Whatever the exciting cause, all convulsions may be classed under these two heads, and demand, if congestive, one line of treatment; if anæmic, another.

The susceptibility of the sympathetic and spinal nerves of early life to impressions and irritations of trivial character produce in a child of nervous temperament an ever-changing series of convulsions whenever the health becomes even slightly impaired; this susceptibility, as the brain becomes more and more developed and endowed with the control of later years, is gradually diminished and blunted, so that, as the years of infancy are passed, the effervescent display of nervous irritation fades into more stable manifestations of diagnostic value.

Even in the adult, when diseases producing hyperæsthesia of the spinal cord are present, all the varied reflex movements peculiar to the convulsed child appear.

In general, we may say that convulsions rarely prove fatal, yet every one who has practiced medicine has been summoned to his first case of a "baby in a fit." Perhaps his summons has filled him with apprehensions lest it prove his first certificate to sign, and render him open to criticism from the all-knowing neighbors in female attire. Should there be any before me who have not yet been summoned, let me say to him, Fear not, but go, and that, too, as quickly as possible; for, ten chances to one you will find the child first-rate, and hemmed in by ten or a dozen seemingly anxious individuals crowded around the poor unfortunate, absorbing all the oxygen the narrow bedroom may contain. If the convulsions have passed, even now you must do something and impress the bystanders with the importance of your presence. Give every one something to do and an opportunity to show their kindly interest and sympathy, while you see that everything is done to prevent a recurrence of the fit.

Should you find the child in the midst of the attack, act promptly and thoroughly; do nothing blindly, nor order any shot-gun dose to cover every possible cause of the disturbance.

First allay the spasm. Generally the relaxing properties of a hot mustard-bath will prove sufficient, with some pungent application to the nose, or the administration of the bromides, chloral or asafœtida, by the mouth or by enema. But, should the convulsions still continue and be severe, I invariably resort to the inhalation of chloroform and alcohol until the spasm be controlled and inquiries made in search of the cause, when the appropriate treatment may be chosen.

Many suggestions have been made as to the proper mode of treating severe spasms, each of which is claimed to be *the* one to follow. The above has proved adequate in my practice, but I can not but mention the hypodermic injection of chloral and the inhalation of nitrite of amyl with injections of morphia, in hopes that some one before me may have had experience with these agents that may prove of benefit for us to know.

There is no position in which a newly fledged M. D. may be placed, if he be possessed of a clear intellect and well informed and thoroughly disciplined in professional truths, where he may show the staying qualities of his judgment and tact as here, for the eyes of the neighborhood

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are upon him, and the verdict to be rendered will mean for him patronage or abuse.

First have confidence in your own ability, then you may inspire confidence in others. But the child still struggles. Let a hot bath be ordered, the room thoroughly ventilated, the pulse examined (if full and bounding, it will suggest congestion; while, if weak and feeble, anæmia or syncope), make inquiries concerning the attack, if this be the first, if the child has eaten anything unusual, if exposed to any malady, what acute specific diseases have been passed. Examine the head, whether cool or hot, the fontanelle protruding or retracted, the eyes congested or natural, the face flushed or pale, the gums red and swollen. Then strip the youngster and see if the legs are drawn up on the belly, the extremities cold or hot, the respiration deep or shallow, the belly tumid or lax.

By observing these different conditions, the line of treatment may be mapped out.

A pulse of 130, with accompanying headache, vomiting, and fever would indicate a digestive disturbance, and, if seen early, an emetic of ipecac, followed by a calomel purgative, will be of service, and later bismuth and soda. A slow and feeble pulse of 40 would suggest the advent of meningitis, where the bromides are of signal value.

If there has been diarrhœa, and the head cool, pulse weak, then a little brandy and water may be given; and even if the child be emaciated from disease, and the head be hot, the pulse rapid but small, we may still rely on brandy.

In some cases we find flatus in the bowels producing convulsions and the belly tumid; here friction with hot mustard-water, together with some carminative, as peppermint, anise, etc., should be given, rubbed up with sugar, and placed well back in the mouth.

As a rule, convulsions at the commencement of fevers do not indicate a grave prognosis, whereas if they occur later in its course they almost always suggest serious apprehensions.

In pertussis and diseases depending on a vitiated condition of the blood, where the convulsions follow closely one upon the other, our prognosis should be guarded.

When the fits are of short duration and moderate in intensity, with a natural, cheerful countenance soon returning, everything may be considered satisfactory; but if long-continued and occurring closely together, with a dull, heavy, anxious expression remaining, the danger is imminent.

Quite often much may be done when the attack is over to prevent a recurrence by avoiding the known causes, and by the soothing effects of the warm baths and bromides in children predisposed to this affliction.

But, notwithstanding the rapid strides in medicine, we may still have prodromata or none; the convulsions may be long or short, slight or severe, partial or general, recurring constantly or at long intervals, all of which points will require careful attention in each individual case, and tax our best endeavors to obviate, until we attain such perfect health that "there shall be no more an infant of days, nor an old man who hath not filled his days," but a blissful euthanasia await us all.

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THE SALICYLIC-ACID TREATMENT OF THE INTESTINAL CATARRH OF INFANCY.*

By WILLIAM A. NORTHRIDGE, M. D.,
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During the summers of 1882, 1883, and 1884, while physician resident at the Seaside Home for Children, Coney Island, I became greatly impressed with the value of salicylic acid in the treatment of the inflammations of the intestinal canal, so common among young children during "the heated term." I venture this paper with the hope that it will lead many of you to give this remedy a fair trial in this class of diseases. The time is most opportune, as these maladies are now appearing among the little ones; are even now commencing their annual ravages. No effort should be spared to check them, more fatal, as they are, than any one of the contagious diseases so much feared. The importance of the successful treatment of these diseases is brought clearly before us when we examine the vital statistics of any large city and note the large increase of deaths among young children from them during the third quarter of the year. The death-rate in this city for one week of July, 1882, was over 52 per 1,000. Of the 603 deaths for the week, 262, or over two fifths, were from diarrhœal diseases among children under five years of age. Whether the diarrhœa be due to teething, improper food, action of heat on the sympathetic nervous system, or to any or a combination of conditions as exciting causes, there seems to be very little doubt but that the proximate cause is a pathological condition, probably due to microscopic organisms. I will not go further into the ætiology of these diseases, but will at once state that in salicylic acid we have a remedy of great value in their treatment; of course aided by proper nursing, dieting, and hygienic surroundings, without which medication would be valueless. I do not wish to detract from the value of opium in these diseases, cautiously and properly administered; but I do wish to protest against the careless routine use of the drug, because of its tendency to aggravate the passive congestion of the brain and the serous effusion into its membranes, which so often occurs and is so fatal. Salicylic acid is absolutely harmless and safe; children bear it very well. It may be administered to a weak infant in comparatively large doses, say one grain and a half every two hours, without danger. The formula used at the Sanitarium is in the following proportions:

℞ Acidi salicylici..... gr. iij;
Cretæ preparatæ..... gr. ij;
Syrupi simplicis..... ℥ j. M.

This much at a dose to a child of six months or over every two hours. As with other remedial agents, the medicine must be supplemented by proper diet, nursing, and, above all, by removal from the disease-breeding atmosphere of the city to the pure, fresh air of hills or sea-side whenever possible. The patient will begin to improve after the ad-

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ministration of a few doses, and in twenty-four hours the case generally will be markedly better. It will be noticed that the passages diminish in frequency, the watery, greenish-yellow stools being replaced by those commencing to have consistency and to assume a more natural color. In severe cases the passages become gradually less frequent. There is rarely a sudden cessation of the diarrhœa. From ten or a dozen movements on the day of beginning treatment, a reduction will be observed on the next day to five or six, with improvement in character. On the following day a further improvement, and so on until one natural passage is obtained. The following cases are from my case-book, and were kept separately from the regular books of the Home. They occurred among children sent to the Home during the summer of 1884. No choice was observed save that the very sick were chosen on their arrival at the Island.

Case I.—June 18th, Edward M., aged six months, sick two weeks. Three large, green passages to-day, containing undigested food and mucus. Child artificially fed; no vomiting; no fever; pulse weak. General condition poor. Ordered diet of boiled milk, lime-water, and arrow-root. Small doses of brandy as stimulant, and mist. salicylic., in 3 ss. doses, every two hours. 19th, child passed good night, is brighter; diarrhœa is less in quantity but continuing. 21st, considerable pain during night; diarrhœa still. 23d, six passages during day, less pain. 25th, baby much better; only one natural movement. 27th, he is much improved; has had no passage since 25th; sleeps well, no pain. 28th, passed good night; had one natural movement; no pain; baby brighter. Medicine withdrawn.

Case II.—July 14th, Edward C., aged seventeen months. Sick seven weeks. Three thin yellow passages to-day; no vomiting; great pain and restlessness at night; breast-fed. Gave mist. salicylic., 3 j doses, every two hours, and also three grains each of chloral hydrate and potassium bromide, with three min. of the compound tincture of ipecac in mixture at night, to relieve pain and restlessness. 15th, mother reports only one passage since yesterday; baby brighter; slept well. 17th, baby had perfectly natural passage; goes home well.

Case III.—July 15th, Robert B., aged eleven months; sick three weeks. Mother says daily average is twelve passages, greenish-yellow and watery in character. No fever. Pulse weak; no vomiting; considerable depression. Child breast-fed. Ordered mist. salicylic., 3 j, every two hours, and child to pavilion. 16th, five passages to-day; child brighter. 17th, one passage. 18th, one movement, natural; no vomiting; sleeps well; medicine withdrawn.

Case IV.—July 21st, J. T., aged nine months; sick two weeks; child teething; vomiting and diarrhœa; fifteen passages to-day; only little at a time, watery and green; fever and pain at night; pulse weak and rapid. Treatment: Gave two minims aromatic ammonia spts every half hour as stimulant; quieting mixture at night, and mist. salicylic., in 3 j doses, every two hours. 22d, 7 A. M., passed a poor night, vomiting and diarrhœa still continuing. Ordered treatment to be persevered in, and gave drop doses of the wine of ipecac every hour, which efficiently controlled the vomiting; 5 P. M., same day, diarrhœa checked. 23d, baby had natural passage; no vomiting; discharged.

Case V.—July 28th, June M., aged five years and a half; sick four days; discharges dysenteric in character, containing blood and mucus; straining at stool. Gave patient a mixture containing in each drachm eleven rums, ℥xv, tr ipecac, co., ℥ij; vinum ipecac., ℥ij; glycerin, ℥x; mucilage acacia, q. s. 3j. Ordered diet of boiled milk and lime-water, crackers and rice. 29th, no improvement. 30th, none; changed the medicine, giving mist. salicylic., 3 j, every two hours. Improvement marked from soon after the taking of first dose. 31st, child had natural movement. In this case the inflammation was carried further than is usual.

Case VI.—July 29th, Fred. K., aged four years; sick one day. Has had several watery passages; no vomiting; child sleeps well. Gave mist. salicylic. in 3 j doses every two hours, and put child on diet of boiled milk and crackers. July 30th, twenty-four hours after commencing treatment, mother reported child well, and that he had had one natural movement.

Case VII.—July 30th, James C., aged sixteen months; sick four days. Several passages daily; watery, but no green color; vomiting; no fever; sleeps well. Ordered mist. salicylic., 3 j, every three hours, and diet of boiled milk and lime-water. July 31st, not so many movements; much brighter. August 1st, one natural passage; general health much improved. August 2d, discharged cured.

Case VIII.—August, 1884, M. O., aged two years and a half. Mother wrote me from country that child was having from five to nine greenish-yellow passages daily and losing flesh, when she had filled a prescription I had given her, at her request, before she left the city. This was mist. salicylic. She continued that, after a few doses of the medicine, the child commenced to improve and made a rapid recovery.

I might multiply cases from the books of the Home which, through the kindness of my friend Dr. Walker, are at my disposal, but I will refrain. Those which I have read are typical of the action and curative powers of the drug. Of the eight cases reported, all made a good recovery. The average duration of the disease from the giving of the first dose was two days and three quarters. Improvement was marked after the administration of the first few doses in all save Case I; and even in this case the diarrhœa was lessened and ultimately cured. The gradual cessation allows time for the clearing out of any of the products of inflammation or fermentation and the installation of healthy intestinal action.

Its principal modes of action are two:

1. By its anti-fermentative powers.

2. By the alterative medicinal quality inherent in salicylic acid, the salicylates and salicin in common.

1. By its anti-fermentative powers. Kolbe, Sternberg, and others have clearly proved that in salicylic acid we have an anti-putrefactive and anti-fermentative fully equal to carbolic acid. Dr. Sternberg says: "A two-to-four-per-cent. solution of salicylic acid will destroy the vitality of germs, while the presence of a one-quarter-to-one-half-per-cent. solution will prevent their development." Although it has not yet been proved, it seems highly probable that the pathological cause of these inflammations occurring during the summer months is a microscopic organism, which, upon the addition of heat, moisture, and improper food, enters into an active fermentative process. Salicylic acid destroys or inhibits this vegetable organism, upon which the activity of the process depends.

But, says some one, The formula which you have read to us, is there salicylic acid there or a salt? I answer, A salt for the most part; but many particles of free acid are sent-

tered through the mixture. Tested with litmus-paper, it proves neutral, save that the blue litmus is dotted red by particles of free acid. On evaporating and rubbing dry residue on litmus-paper and then wetting the paper, gives an acid reaction. It is the amount of free acid in the mixture which accomplishes the checking of the fermentative process. This it does by its presence at the seat of disease without entering the circulation.

Dr. M. Wagner writes of salicylic acid that "its use is highly promising as a prophylactic in all diseases in which it is believed that the morbid processes are connected with microscopic organisms." He commends its administration in all cases where fermentative changes occur in the alimentary canal, because it may be administered in large doses. Dr. Sternberg writes: "Dr. Keating, of Philadelphia, strongly recommends salicylic acid in the treatment of the acid diarrhœas of children. In this case there can be little doubt that the benefit derived from its use is to be ascribed to its destroying or restraining the vital activity of the living ferment to which the acid fermentation is due."

Its second mode of action is through the blood. We know empirically that in salicylic acid, its salts, and in salicin, we possess medicines which show the containing of an inherent, valuable medicinal quality which we all recognize. We know that they have an alterative effect upon mucous surfaces, and in this fact probably lies an explanation in part of their valuable medicinal action in these diseases. While the healthy bowel is enabled to withstand the presence of a combination of disease-breeding elements, its powers of resistance being at par in consequence of good nerve action and muscular tone, the deterioration of these by the action of heat on the nervous system, the local action of heat, and the imbibition of improper food, reduce this disease-resisting power until out of lowered healthy action come diseased conditions. Further than this we can not go in explanation, for we are in ignorance of the exact mode of action; but the fact of its curative powers is known, and that is the main point. Dr. S. W. Smith, in the "British Medical Journal" for 1884, vol. ii, says: "Willow charcoal (salicin) is of great value in the treatment of diarrhœas." He got the idea from Liverpool sea captains, who use it. "Eminent medical men" whom he consulted thought "that it was of great value in fermentative diarrhœas."

Lawson (Heuseman, note, page 773, *supra*) advises "the use of salicin in six-to-eight-grain doses, thrice daily, in cases of summer diarrhœa resulting from direct action of heat on the nervous system."

Dr. J. B. Mattison, in the "Medical and Surgical Reporter," 1873, advises the use of salicin in cases of diarrhœa resisting other modes of treatment. In all cases where salicin is used, the curative effect is due to its second or alterative medicinal action, and not to any germicidal effect. And now, in conclusion, I will state:

1. That in salicylic acid and its derivatives we have most valuable remedies in the treatment of diarrhœas, and especially in those occurring among children during "the heated term."

2. That its remedial powers are due, first, to the anti-fermentative powers of the acid acting locally; second, to an alterative effect through the circulation.

3. That it is an efficient substitute for opium in those cases where that drug is contra-indicated.

A CASE OF CÆSAREAN SECTION.*

By CHARLES JEWETT, M. D., Brooklyn,
PROFESSOR OF OBSTETRICS IN THE LONG ISLAND COLLEGE HOSPITAL.

The subject of this report was a woman of about forty-six years, of Irish birth, the mother of ten children—the youngest four years of age, the eldest seventeen. She presented herself in the out-door department of the Long Island College Hospital, at the clinic of Dr. Ernest Palmer, in August, 1883. Dr. Palmer made the diagnosis of pregnancy, with cancer of the cervix. At the seventh month of gestation she entered St. Mary's Hospital, service of Dr. John Byrne. Dr. Byrne proposed amputation of the cervix with the galvano-caustic loop, but the patient declined the operation and left the hospital. December 9, 1883, was admitted to the lying-in department of the Long Island College Hospital. At this time she was weak and anæmic from frequently recurring hæmorrhages, complained of constant pelvic pain, and slept little or none except by the aid of opium. During the waiting period her temperature did not exceed 99° F. The pulse ranged from 94 to 108. The malignant growth now involved the supra-vaginal portion of the cervix, and had commenced to invade the vagina.

Labor-pains began at 11 A. M., December 26th. At 8 P. M., though the pains had become severe, the cervix remained hard and unyielding, barely admitting the finger. The membranes were still intact. Delivery by the natural passages was evidently out of the question. The hospital staff concurring, it was therefore determined to deliver by Cæsarean section. This operation was accordingly done in the presence of the hospital staff and a number of students, Dr. Skene, Dr. Palmer, and Dr. Thallon assisting. The patient had been removed from the maternity to a large, well-ventilated ward, previously disinfected. The abdominal surface in the field of operation was shaved, cleansed with soap and water, and then sponged with ether and with the bichloride solution. When the patient had been placed under ether, the abdominal incision was made through the linea alba, from the umbilicus to a point about two inches above the pubes. A loop of stout rubber tubing was then passed over the uterus, and slipped down behind it till it encircled the cervix. This constrictor was drawn taut enough to control the blood supply, tied in a single knot, and the knot held with a large Péan forceps. The uterus was drawn up into the abdominal wound by traction upon the constricting tube. A very short incision was made in the uterine wall just above the cervix. A few light touches of the knife uncovered the membranes, the muscular tissues retracting from the line of incision. A blunt-pointed bistoury was plunged through the membranes, and the incision rapidly extended upward to a point short of the fundus. The fœtal head was immediately seized with both hands, and the child, a living male of seven pounds and a half, extracted. The uterus instantly contracted, partially expelling the placenta through the wound, and at the same time it was tilted out through the abdominal incision by traction on the constricting tube. The membranes were now carefully detached. The uterine cavity was cleansed and well mopped with a sponge wet with the bichloride solution, and a pencil of iodoform was deposited therein. A utero-vaginal drainage tube of half inch perforated rubber tubing, was passed down through the cervix,

* Read before the Brooklyn Pathological Society, February 26, 1885.

terminating below at the vulva and above near the fundus. The uterine wound was closed with deep and superficial sutures of sublimated silk. The deep sutures included the entire thickness of the uterine wall, except the decidua. The superficial sutures were passed as follows: A fold of peritonæum was lifted near the edge of the uterine incision, and parallel with it. The sutures were passed transversely through this fold, and through a similar fold on the opposite side of the wound, thus twice perforating the peritonæum on either side of the incision. On tying the sutures, therefore, two free surfaces of peritonæum were brought in contact. The uterus, which had been drawn up through the abdominal incision on extraction of the fœtus, was now dropped back into the abdominal cavity. But slight oozing of blood occurred into the vagina on removing the constricting tube. The peritonæum was cleansed with hot aseptic sponges, a drachm or two only of fluid being obtained. The abdominal wound was closed with sublimated silk sutures. A long, curved glass drainage-tube was passed down beside the uterus into Douglas's pouch, emerging between the sutures of the abdominal wound. A dressing of sublimated cotton was applied over the abdomen, and marine lint to the vulva. The mouth of the abdominal tube was closed with an antiseptic sponge and rubber tissue in the usual manner. A partial antisepsis was observed throughout, a five-per-cent. solution of carbolic acid being used for instruments and a 1-to-1,000 bichloride solution for other purposes. The uterus, while turned out of the abdomen, was enveloped with towels wrung out of hot disinfectant solution, frequently changed, and the upper portion of the abdominal incision was protected with similar covering to prevent prolapse of intestines. The patient was removed from the table with a pulse of 120. An hour later, pulse 110, temperature 99°. There was little or no vomiting after the anæsthetic. During the first twenty-four hours the patient was comfortable, with the aid of occasional small doses of morphia, upon which she had already become dependent, and recovery seemed probable. At the end of that time the abdominal tube showed accumulation of fluid in the peritoneal cavity, at first clear and subsequently turbid, and the temperature rose to 102·6°. Death followed in forty-five hours after the operation.

A complete autopsy could not be had. The abdominal wound, which had united throughout, except at the seat of the drainage-tube, was reopened, and the uterus and appendages removed. The peritonæum was everywhere injected and flecked with fibrin—diffuse peritonitis. The cavity contained a small accumulation of turbid serum. The uterine incision had united throughout from the decidual to the peritoneal surface. Its muscular structure, but for the malignant growth, was apparently normal. The cavity contained a firm blood-clot, perfectly sweet, and still yielding the odor of iodoform. The peritonitis was thought to be due to an outbreak of erysipelas which had occurred in the general hospital service a few days before the operation, and which had also infected a maternity patient delivered on the same day with the Cæsarean case. The uterus as presented, after lying several months in alcohol, measures in length seven inches on its posterior and seven inches and a half on its anterior surface externally, and in width four inches at the level of the Fallopian tubes. The anterior wall shows the line of incision three inches and a half in length, and securely closed throughout. The direction of the incision is slightly oblique, indicating a slight right obliquity of the uterus at the moment of incision. Twenty deep and superficial sutures can be counted, though there are probably others that have escaped detection.

Remarks.—The statistics of the Cæsarean operation in this country, thanks to the researches of Dr. R. P. Harris, are well-nigh or quite complete. The case now reported, writes Dr. Harris, "is the one hundred and thirty-fourth in the United States. It is the seventh hospital operation, and is the only case of Cæsarean section in this country for cancer of the cervix.

"Of the one hundred and thirty-four women, fifty-three were saved. All the hospital operations were fatal.

"Of seven Cæsarean operations in the United States since April 6, 1884, all were fatal to the mothers, and all but the above case fatal to the children.

"There have been thirty-three operations in the last decade, and twenty-five of them fatal; four of the latter in New York State. Thus the percentage saved has greatly fallen off by the work of ten years, when it should have increased. The great fatality was due mainly to delay, the women being worn out with labor before the operation.

"We now number in North America, the United States included, one hundred and forty-three operations, with sixty women saved.

"In Great Britain, up to May, 1879, there had been one hundred and thirty-two Cæsarean cases, of which twenty-three were saved and one hundred and nine lost.

"Seventy-seven children were saved and fifty-five lost. In twelve of the above cases the operation was done owing to cancer of the cervix. In this number four women and ten children were saved. Thus it will be seen that in England operations for cancer have been much more successful than for any other form of obstruction."

The general record of Cæsarean section, however, does great injustice to its capabilities. Dr. Lusk has shown that the mortality of the Cæsarean operation has been due in a great part to untimely interference and to other causes not inherent in the operation itself. In cases operated early, the statistics of Dufeilhay, cited by Dr. Lusk, show eighty-one per cent. of women saved. In another series of sixty-one operations in rural districts there were more than seventy-eight per cent. of recoveries.

But even the best results thus far obtained are, with very few exceptions, those of the unimproved operation. The recent improvements in the technical methods of operating give promise of still better results. A prominent cause of death after Cæsarean section has been the tendency of the uterine wound to gape, thus permitting the escape of lochia into the peritoneal cavity. Various plans of treating the uterine incision have been proposed with a view to obviate this danger. Among them may be mentioned the methods of Sänger, Kehrer, Pillore, Frank, and Cohnstein, which, with others, will be found fully discussed in a recent paper by Dr. Garrigues.*

The plan pursued in the foregoing case has the advantage of simplicity, and is doubtless no less effectual than the more elaborate method of Sänger.

The constrictor relieves the operation of a formidable complication and adds to the chances of success, for, while hæmorrhage is rarely of itself alone the cause of death, it contributes to the fatal issue.

The large proportion of successes in rural districts

* "Amer. Jour. Obstet.," April, 1883, *et seq.*

shows what is possible for antiseptics. Yet it is doubtful if any thoroughness of antiseptic detail can justify operating in a hospital.

Germany is already beginning to reap the fruits of the improved technique, Leopold, of Dresden, having saved three women with their children by the Sänger method.*

In timely operation with the precautions now thrown about ovariotomy, Cæsarean section should not fall much behind the record of other laparotomies.

PULMONARY GANGRENE.†

By ELIZA M. MOSHER, M. D.,
BROOKLYN.

Mary J. S., committed to the Massachusetts Reformatory Prison for Women for drunkenness, May 6, 1879; age, twenty-six years; single; occupation, general housework; was healthy as a child; became intemperate at eighteen, and acquired syphilis. Had been sentenced many times to the Boston House of Industry for drunkenness.

When examined, on admission to the prison, she was found to be anæmic and generally out of health. She said she had coughed a good deal since the night of her arrest, at which time she had lain several hours on the ground in a drunken stupor. She was removed to the prison hospital on the 8th of May, two days after her arrival. Her face was then pale and pinched, cough incessant, pulse weak, temperature and respirations normal. A few coarse râles were heard in various parts of the chest, but no other physical signs of disease were discovered. On the 10th of May her temperature rose to 100·2°, and on the 11th to 102·4°, with a pulse of 90 and respirations 24 a minute. This condition continued until the 15th, when the temperature slowly declined to 99·6°, and the pulse became normal. On the 18th the sputum, which up to this time had been scanty, became copious and consisted of frothy mucus of strongly putrescent odor. The same odor was observed also when coughing occurred without expectoration, and also on forced expiration. She complained of great soreness in the left sub-scapular region, increased greatly by the effort of coughing. Dullness on percussion in this region now became manifest, and fine mucous râles were heard. Breathing grew more rapid, and on the 23d the temperature again rose to 101·6°. The odor of the breath was such as to be tolerated only by the freest ventilation combined with the use of bromine and other disinfectants.

On the night of the 29th of May she raised a small quantity of what appeared to be dark blood, after which amphoric respiration was heard below the left scapula, extending into the infra-axillary region. During the week following the patient seemed better, temperature and pulse returned to the normal, respiration became easier, and the odor of the breath less fœtid. On the 7th of June, however, the temperature rose quite suddenly to 102° and did not again decline until the day of death; the pulse at no time went above 96. Respiration again became very rapid and somewhat labored. The cough was incessant when not quieted by opiates: sputum consisted of a frothy mucus containing flecks of a brown putrescent substance which settled to the bottom of the cup, in quantity from eighteen to thirty-two ounces in the twenty-four hours; its odor was horrible in the extreme.

On the night of June 15th, five weeks from the commencement of the attack, she again raised several ounces of dark-colored sputum, followed by a small amount of fresh blood. The dullness on percussion now extended higher, and amphoric breathing was heard over the entire region below the spine of the scapula; meanwhile a fairly good vesicular murmur was heard in every other part of the chest.

On the 20th she again raised several ounces of semi-solid putrescent matter, followed, as before, by a little fresh blood. From this time she rapidly lost strength, and death occurred, apparently from exhaustion, on the 30th of June—fifty-three days after admission to the hospital. The treatment adopted was from the first stimulant and tonic (mainly quinine and brandy), with inhalations of turpentine, compound tincture of benzoin, carbolic acid, etc. The latter part of the time morphine was given freely to check the cough and give rest.

A post-mortem examination was made four hours after death with the following result: Rigor mortis not established; skin pale and bloodless; body not greatly emaciated; adipose and muscular tissues apparently normal. Pericardium and heart normal; valves of heart healthy. Right lung slightly catarrhal, otherwise healthy. Pleura of left lung was much thickened; its visceral and parietal layers were here and there firmly bound together by adhesive bands, and the interspaces thus formed were distended with putrescent gas, which escaped with a report upon puncture. Upper lobe catarrhal; superior portion of lower lobe consolidated, while of the most dependent portion behind nothing remained but a gangrenous, sloughing mass. There was loss of tissue along the lower margin of the lung anteriorly, giving it the appearance of having been gnawed. Here and there a patch of cicatricial tissue told the story of attempts at repair. No other cavity of the body was opened.

In the case before us, gangrene of the lung was doubtless the result of embolism and infarction. During the process of softening of the gangrenous tissue, communication with a bronchus was established, and, as it became liquefied, it was expectorated.

An attempt at cicatrization was made again and again, but each time enough of the putrid ferment remained to renew the gangrenous process.

After a discharge of the necrosed portion the temperature and pulse declined to the normal, the breath lost much, though not all, of its putrescent odor, the cough lessened, and the patient imagined herself recovering, only to be disappointed when the inflammatory process again was aroused and another slough went through the process of separation.

The hæmorrhage which followed each discharge came, doubtless, from vessels or granulations on the line of demarkation.

"Gangrene of the lungs consists in death of lung tissue associated with putrefaction, owing to the admission of air."* Since the time of Laennec two forms have been described, the circumscribed and the diffused; of these, the former occurs by far the more frequently. Fortunately, gangrene of the lungs is not a common disease. But two cases have occurred at the Massachusetts Reformatory Prison for women since its establishment in 1877. At the Boston House of Industry, on Deer Island, no cases have been reported during that time, and but two have occurred at the Boston House of Correction—institutions which together represent about two thousand persons.

* Dr. Harris writes, since this paper was written, that Germany has had eight operations after Sänger's method of suturing, two modified (without the resection), and has saved six women and eight children.

† Read before the Brooklyn Pathological Society, February 26, 1885.

* Hertz in von Ziemssen's "Cyclopædia."

The disease is said to appear most often in the insane, in drunkards and epileptics, and in children. A low state of nutrition with weak heart-action is a predisposing cause. An interruption of the blood-current, the passage of foreign bodies into the air-passages, and traumatic influences, may be numbered among the chief exciting causes of the disease. Obstruction of the blood-current may arise from the pressure of pneumonic inflammatory exudate, or hæmorrhagic blood retained in the air-cells and intercellular tissue. It is, however, most often due to the passage of an embolus into the pulmonary circulation. A minute vegetation from the valves of the right heart, a tiny clot picked up somewhere in the venous circulation, or a fragment of a thrombus from some purulent center, finds lodgment in a pulmonary vessel. According to Cohnheim, rupture may not occur at once; the walls of the emptied vessel become impaired through lack of nutrition, so that, when they are again filled by means of the collateral circulation, they are too weak to bear the strain, and rupture occurs. The infarction thus produced may not extend beyond a single lobule, and it may exceed the size of a hen's egg. Its favorite seat, and consequently that of circumscribed gangrene, is the lower border of the inferior lobes posteriorly (most often the right).

It would seem that gravitation, as well as the anatomical arrangement of vessels, has somewhat to do with the site it chooses. The extravasated blood fills the air-passages as well as their interspaces; contact with air rapidly produces decomposition, and the process is doubtless hastened by the development of vegetable parasites in this most fertile soil.* The irritation produced in the adjoining healthy tissue by the presence of a putrefactive ferment results in localized inflammation which hastens the process of separation.

Occasionally the gangrenous slough is expectorated *in toto* and cicatrization occurs with recovery; but more often (as in the case which forms the basis of this paper) the putrefactive ferment is never entirely removed, and repeated attacks of inflammation occur, producing consolidation of lung tissue, which, added to the poisonous influence of the gangrene, rapidly exhaust the strength of the patient and ultimately cause death. Hæmorrhages frequently occur, and are due to the sloughing of blood-vessels, or the blood may ooze from wounded granulations on the line of demarkation. If the infarction is located near the surface of the lung, the pleura participates in the inflammatory process. Adhesions and thickening of the membrane follow, and sometimes it also becomes gangrenous.

The physical signs of infarction are so obscure that an early diagnosis is rarely made. Dullness on percussion over a limited area, with an irritative cough, accompanied by weak pulse and general malaise with pinched features, is usually all that is observed until the inflammatory fever arises and the breath becomes putrid. One needs but a single whiff of the sickening odor to render a diagnosis easy. It suffers as widely from the factor observed in some cases of phthisis, and even from that of bronchiectatic cavities, as does the odor of necrosed nasal bones from that of ill-smelling mucus.

Foreign bodies, as particles of food, etc., are sometimes sucked into the air-passages, especially in the artificial feeding of lunatics and paralyzed persons, and, by their rapid decomposition or mechanical pressure, set up putrefactive changes in the lung.

Gangrene from injury to the lungs, such as gunshot wounds, stabs, etc., occasionally occurs, and it has been known to result from severe contusions of the thorax, causing an effusion of blood into the lungs. The diffuse form of gangrene frequently succeeds the circumscribed; it also occurs as a sequel to pneumonia and other diseases. In this variety the lesion is most often found in the upper lobes, and may involve a large portion of a lung.

The sputum in gangrene of the lungs is usually copious, owing to the irritation of the bronchial mucous membrane by the presence of putrid matter. It at first consists of a frothy opaque mucus; subsequently it becomes ash-gray, green, or brown, and separates into two or three distinct layers, the lower of which contains solid blackish particles with soft yellow or brownish lumps, varying in size from that of a hemp-seed to that of a bean. Under the microscope the blackish flakes have been found to be shreds of lung tissue which have undergone disorganization. They are made up of granular matter and pigment cells, with here and there a few elastic fibers. The soft yellow lumps consist of fat globules with crystals of margaric acid.

Leyden and Jaffé * instituted a careful chemical examination of the sputum of gangrene, and found the products of the decomposition of albuminous and fatty tissues—viz., myosin, leucin, margaric acid, traces of glycerin, volatile fatty acids (mainly butyric, from which it largely derives its odor), sulphide of ammonium, etc.

Up to the present time no treatment has proved effectual in any number of cases. But few remedies administered by the stomach, other than tonics and stimulants, have been of any use; of these, carbolic acid and creasote have their advocates, and Dr. Henry I. Bowditch, of Boston, has had good results from the use of liquor sodæ chlorinatæ. Medicines used by inhalation, as recommended first by Skoda in 1852, promise better results, but up to the present time have been efficacious only in the most favorable cases. We have reason to hope, however, that, by means of the "pneumatic differentiator" of Dr. Herbert Williams, of Brooklyn, a new era in the treatment of pulmonary gangrene, as well as in other diseases of the lungs, has begun. There seems to be no doubt but remedies are carried more deeply into the lungs by its use than by any other known method, while the air imprisoned by an infarction or by abnormal secretions becomes by its expansion a powerful *vis a tergo* for the removal of obstructing substances. Dr. Williams reports the treatment of a case of "necrosis of lung caused by pressure of pleuritic fluid." As no mention is made of a putrescent odor, we can not consider the case one of gangrene. The results of treatment, however, were in many ways satisfactory and suggestive.

* *Lepothrix pulmonalis*, according to Leyden and Jaffé.

* Von Ziemssen's "Cyclopædia."

Death occurs early in nearly all cases of diffused gangrene of the lungs. The circumscribed form is usually more slow in its destructive action, and patients sometimes live months. Recovery takes place in a limited number of cases, but the prognosis is always a grave one.

URETHRAL STRICTURE; CYSTITIS; PYELO-NEPHRITIS; URINARY EXTRAVASATION.*

By CHARLES N. DIXON JONES, M. D.,
BROOKLYN.

S. S., aged fifty-five, married, by occupation a wheelwright, was admitted into the wards of the Brooklyn Hospital, June 16, 1884, in a condition of exhaustion and stupor. The following history was obtained: Early in life the patient contracted a gonorrhœa, which ultimately resulted in a troublesome stricture. From that time he has had much and increasing difficulty in passing his urine. In 1870 he had an attack of acute cystitis; at that time there is said to have been some paralysis, the exact nature of which could not be ascertained. In 1882 he had another attack of cystitis, since which time his difficulty in urinating has steadily increased. Two weeks ago, while thus suffering, he was exposed to cold and wet; since then he has had to strain a great deal in order to pass his water at all.

Some uneasiness in the region of the perinæum was complained of, and a slight swelling was detected in this locality. The scrotum was of a red color and shining in appearance. The prepuce was long, and so contracted at the orifice that it could not be retracted over the glans penis. At the meatus a condition of hypospadias was observed. On passing the finger into the rectum, the prostate was found to be somewhat enlarged.

The urethra was first examined with a fair-sized instrument. But it was only after considerable difficulty that I succeeded in passing the finest whalebone bougie. By passing one bougie after the other, and leaving them in position until all the follicles were filled, I finally succeeded in passing one into the bladder. Along the side of the instrument, which was tied in the bladder, the urine slowly dribbled away. In a short time the patient succeeded in withdrawing the instrument from the bladder. The urine was found to contain albumin and pus in large quantities.

June 17th.—By the use of stimulants and proper nourishment the patient's general condition had improved to some extent. Scrotum now much swollen and œdematous; perineal swelling quite conspicuous. The patient was examined by Dr. Speir, the attending surgeon, who kindly requested me to operate as soon as possible.

After careful ætherization, the patient was placed upon the operating-table. A filiform bougie was passed into the bladder and the strictures divided with a Maisonneuve's urethrotome. A steel sound was then introduced and external perineal urethrotomy performed. A deep linear incision was made in the center of the perinæum, and a cavity, filled with pus and urine, laid open and its contents evacuated. All sinuses and abscesses were freely laid open and washed out with warm carbolic solution. A soft catheter was then passed through the perineal wound into the bladder, and retained there. A drainage-tube was inserted to the bottom of the abscess cavity and left *in situ*. The scrotum was freely incised in several places. Dressings saturated with a solution of liquor sodæ chlorinatæ were applied. The patient was then placed in bed surrounded with hot bottles, and freely stimulated. The abscess cavity was washed out every four hours with 1-to-100 warm carbolic solution. The urine passed away through the perineal wound, although small in quantity.

The patient rallied somewhat after the operation, and, for a time, seemed greatly improved. On the 21st the scrotum was discolored and gangrenous. Patient dull and stupid; skin cold and clammy.

On the 23d, condition much the same. Temperature 97·5° F.; pulse quick and not so strong. Perineal wound presents an unhealthy appearance.

On the 25th, A. M., quite feeble; does not take his nourishment. Freely stimulated. P. M. Unconscious; pulse very feeble; coma became profound, and remained so until death, which occurred at 3.45 A. M., June 26th.

Post-mortem Examination.—At the autopsy, eight hours after death, the body was found somewhat emaciated.

Lungs.—Right, œdematous. The left lung was intensely congested and œdematous; bronchial tubes contained frothy mucus and pus. Heart normal in size; aortic valve thickened and insufficient from old endocarditis; mitral valve thickened; liver small and cirrhotic. Left kidney small, markings indistinct, pale in appearance; capsule non-adherent. Right kidney very small; it measures one inch and a half in length by three quarters of an inch in diameter; weight, two ounces and a half; substance mostly replaced by fat; several small abscesses in substance of kidney-tissue proper. Pelvis of both kidneys intensely congested and covered with pus. Both ureters were dilated, with thickened coats.

Upon microscopical examination, the kidneys presented the lesions of chronic croupous nephritis, with waxy and fatty degeneration. In the smaller kidney all the tissues had undergone complete atrophy. The glomeruli had disappeared or were replaced by fibrous tissue. In the larger kidney, in addition to the atrophied portions, there were certain districts where there had been an increase in the amount of connective tissue, thus constituting a true hypertrophy.

Bladder.—Cavity small and contracted; hardly has a capacity of four ounces. Walls very much hypertrophied; the mucous membrane thickened, thrown into ridges, which run in various directions, forming crypts which contain pus. Surface red and deeply congested, covered with pus. The condition indicated long-continued chronic cystitis.

Urethra.—By laying open the urethra, two strictures were found—one about three inches and the other five inches from the meatus. Prostate enlarged.

In the floor of the urethra there is a small opening which communicates with an abscess cavity in the perinæum three inches in diameter. Scrotum in a sloughing condition.

The follicles in the membranous portion of the urethra are inflamed, and from these cavities a drop of pus may be pressed. One, much larger than the rest, presents an opening through which a probe may be passed into the abscess cavity.

The case presented is of interest chiefly from a pathological point of view, for, as is demonstrated by the autopsy, when the patient came under observation the morbid changes in several of his most vital organs had advanced to a stage where they were beyond the reach of surgical skill.

In tracing the pathological sequence in the above case, several points are to be noted:

1. The beginning of his trouble was a gonorrhœa contracted in early life.

Sir Henry Thompson claims that the urethra is not a

* Read, with presentation of the specimens, before the Brooklyn Pathological Society, February 26, 1885.

tube, but a continuous closed valve. Its length renders it liable to disease and accident—"the price—and a heavy one, let me tell you—which the male pays for his specially distinguishing feature."

Remembering this fact, it is easy to see how an inflammatory process affecting this passage, which is so richly supplied with blood and nerves, leads to secondary pathological results which affect the prostate gland, bladder, ureters, and kidneys. The testes, penis, seminal vesicles, perinæum, and rectum share, not unfrequently, in the same pathological process. The urethritis destroys the natural elasticity of the canal. The elasticity of the urethral walls being thus lost, the urine can not escape so readily, hence the resulting hypertrophy of the bladder. The bladder which has undergone hypertrophy can not completely empty itself. It is estimated by Ultzmann that a patient who, at twenty or thirty, has a residue of only 20 c. c. remaining in the bladder after urinating, will have from 200 c. c. to 300 c. c. at fifty, with accompanying hypertrophy. The urine which remains is mingled with pus-corpuscles, and undergoes alkaline fermentation. Bacteria are developed, and the inflammation is liable to extend through the ureters to the kidneys.

2. The specimen presented demonstrated the extremely unhealthy condition of the kidneys. The nephritis from which the patient suffered must have been of long standing. We all know the extremely unfavorable influence which any form of nephritis exerts upon all operations on the urinary organs.

In considering the kidney lesion in this case, the complicating cardiac and hepatic lesion must be taken into consideration. The condition of the heart can not be considered merely an accidental complication. By some writers on this subject the cardiac complication has been considered the most important part of the disease. Dr. Mahomed speaks of cases of Bright's disease which die without nephritis. He drew attention to the fact that Bright's disease is often a general and not a simply local disease.

From the history of the case presented, it would appear that the stricture of the urethra was an efficient cause in producing the renal disease, yet the form of nephritis found is not such as we usually meet with in such cases. The question arises, Was not the kidney lesion independent of the urethral stricture? Opposed to this view is the absence of cardiac hypertrophy and the condition of the bladder and ureters, which correspond to the conditions that are frequently found, after old neglected urethral stricture.

The theories in regard to the interdependence of renal and cardiac disease are too numerous, complicated, and unsettled to allow of discussion at this time. The sequence of events in the case seems to have been urethral stricture, cystitis, pyelitis, and nephritis.

A. Dittel, of Vienna, was the first to show that in cases where death resulted from urinary extravasation the opening by which the urine chiefly infiltrated the loose connective tissue was through an ulcerated follicle of the mucous membrane of the urethra. Prof. Otis has fully elaborated this theory, and shown the influence which a stricture of either large or small caliber exerts in producing this pathological result. A stricture so slight that it would admit the easy passage of a catheter would be sufficient to retain the organic *débris* of a person suffering with lithiasis; or, from increased urinary irritation at a point of stricture, a folliculitis is set up which may eventually result in suppurative inflammation and perforation of the urethral wall. This is probably what occurred in the case above recorded.

In the history of this case, although obtained with difficulty, there is nothing to indicate that a sudden rupture of the urethral wall had taken place, such as sometimes occurs behind a stricture during some violent act of straining, with extensive extravasation of urine into the intercellular spaces.

NOMENCLATURE OF AURAL DISEASES.

By SAMUEL SEXTON, M. D.,
SURGEON, NEW YORK EYE AND EAR INFIRMARY.

Introductory Note.—I have been requested to publish for the use of others the following nomenclature, which was prepared for my own convenience. In the arrangement no little difficulty was experienced in reconciling the opinions of various writers in respect to certain affections of the ear, but it is believed that the classification, imperfect as it necessarily must be, may afford some assistance to others who, like the writer himself, have felt the need of such a work of reference. Not to mention minor defects, it is to be regretted that the comparatively undeveloped pathology of the inner ear prevents a complete classification of its diseases. In the final arrangement of the work of classification I have been very much assisted by Dr. Robert Barclay, Assistant Surgeon, New York Eye and Ear Infirmary.

DISEASES OF THE EAR.

EXTERNAL EAR—AURICLE.

I. *Abnormalities.*
- *a.* Arrested development.
  1. Abnormal position.
  2. Absence of auricle, or parts of auricle, and altered shape, as lapping, convolutions, due to absence of cartilage.
  3. Microtia.
  4. Congenital fistula.
- *b.* Excessive development.
  1. Plurality.
  2. Abnormal enlargement.
  3. Polyotia (Auricular appendages).
  4. Reduplication.
- *c.* Irregular development (?).

II. *Cutaneous Diseases.*
- *a.* Callosities.
- *b.* Comedo—Acne punctata [Sebaceous tumor!].
- *c.* Dermatitis.
- *d.* Eczema.
- *e.* Erysipelas.
- *f.* Erythema, Flushing.
- *g.* Furuncle, Abscess.
- *h.* Gangrene [from Embolism, Low Fevers, or Freezing].

i. Herpes zoster (Auriculæ idiopathica).
j. Hydroa.
k. Ichthyosis (congenita).
l. Intertrigo.
m. Keloid.
n. Leprosy.
o. Lupus (erythematosus, maculosus, exulcerans).
p. Molluscum fibrosum.
q. Myxoderma [a neurosis whose ætiology is undetermined].
r. Nævus.
s. Pemphigus gangrenosus.
t. Pernio [Frost-bite].
u. Phagedæna [Cancrum oris].
v. Phlegmon (acute, chronic).
w. Syphiloderma (erythematosum, papulare, tuberculare, pustulare, squamosum, serpiginosum, ecthymatosum, ulcerativum, nodosum).
x. Tophi.
y. Trichophytosis [Ring-worm].
z. Ulcer.

III. *New Growths.*
a. Angioma—Glandular hypertrophy.
b. Cavernous tumor.
c. Cyst (dermoid, sebaceous). Atheroma, cornu. [Comedo? Acne punctata?]
d. Cornu. [*Vide* Cyst.]
e. Epithelioma.
f. Fibroma.
g. Fibrosarcoma.
h. Lipoma, Steatoma [Atheroma?].
i. Myxofibroma.
j. Myxosarcoma.
k. Nævus vascularis [maternus].
l. Sarcoma.
m. Hæmatoma. [*Vide* Wounds and Injuries.]

IV. *Wounds and Injuries.*
a. Cleft of lobule [by ear-ring].
b. Lacerated wound.
c. Contused wound. Hæmatoma [Othœmatoma].
d. Incised wound.
e. Punctured wound.
f. Shot wound.
g. Effects of heat.
1. Burns.
2. Scalds.
h. Effects of cold.
1. Frost-bite.
2. Gangrene.
3. Chilblains.
i. Effects of mineral and vegetable irritants.
1. From acids.
2. " austic alkalies.
3. " metallic compounds.
4. " acrid vegetables [Nettle, etc.].
j. Effects of poison in wounds.
1. From bites of insects, reptiles, and other animals.
2. From septic infection.
3. " poisoned weapons.

EXTERNAL AUDITORY CANAL.

I. *Abnormalities.*
a. Arrested development.
1. Absence of external auditory canal.
2. Atresia congenita (membranosa, ossea).
3. Abnormal width.
4. Congenital contraction.
b. Excessive development.
1. Thickening of cutaneous lining. [*Vide* New Growths.]
c. Irregular development.
1. Meatus bivius.

II. *Hyperæmia.*
III. *Periostitis.*
IV. *Circumscribed Inflammation.*
V. *Diffuse Inflammation* (acute, chronic).
VI. *Croupous Inflammation.*
VII. *Gangrenous Inflammation.*
VIII. *Desquamative Inflammation.*
IX. *Extravasative Inflammation.*
X. *Skin Diseases.*
a. Eczema.
b. Erysipelas.
c. Erythema.
d. Herpes.
e. Pemphigus.
f. Ulcer, hæmorrhage.
XI. *Anomalies of Secretion.*
a. Cerumen (deficiency, excess), Cretaceous Bodies, Otomycosis (Aspergillus Nigricans, A. Flavescens, A. Fumigatus, Graphium Penicilloides, Aschophora Elegans, Trichothecium, Mucor Mucedo seu Fuscus, Otomyces Hageni, O. Purpureus).
b. Seborrhœa.
c. Desquamation, laminated epithelial plug.
XII. *Stricture*—Stenosis.
XIII. *Adhesion of Walls*—Bands.
XIV. *Collapse of Cartilaginous Portion.*
XV. *Caries and Necrosis*—Communicating sinus from parotid gland, attic of tympanum, or adjacent pneumatic cells.
XVI. *Granulation*—Hæmorrhage.
XVII. *New Growths.*
a. Enchondroma.
b. Epithelioma.
c. Exostosis (pedunculated, broad-based).
d. Hæmatoma.
e. Hyperostosis.
f. Milium.
g. Thickening of cutaneous lining of canal. [*Vide Abnormalities.*]
h. Polypus.
i. Sarcoma.
j. Sebaceous tumor.
XVIII. *Wounds and Injuries.*
a. Lacerated wound.

b. Contused wound.
c. Incised wound.
d. Punctured wound.
e. Shot wound.
f. Fracture. [*Vide Wounds and Injuries of Auricle.*]

XIX. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.

XX. *Ingrowing Hairs from Tragus and Canal pressing upon the Membrana Tympani.*

MEMBRANA TYMPANI.

I. *Abnormalities.*
a. Arrested development.
1. Absence of manubrium mallei.
2. Absence of membrana tympani.
b. Excessive development.
c. Irregular development.

II. *Trophic Changes.*
a. Atrophy.
b. Calcareous degeneration.
c. Opacity—Fibrous hypertrophy (?).
d. Cicatricial regeneration [manometric].

III. *Myringitis, Simplex.*
a. Inflammation of pars flaccida (acute, chronic).
b. Inflammation of pars vibrans (acute, chronic).

IV. *Myringitis, Desquamative.*

V. *Myringitis, Extravasative* [Hæmatoma of drum-head].

VI. *Abscess.*

VII. *Chronic Ulcer*—Hæmorrhage.

VIII. *Wounds and Injuries.*
a. Rupture.
1. From boxing auricle.
2. From pulling auricle.
3. From falling on auricle.
4. From syringing canal.
5. From condensing air in canal or Eustachian tube.
6. From rarefying air in canal or Eustachian tube.
7. From fracture of base of skull.
b. Perforation by puncture, or incision, with foreign body, or instruments.
c. Abrasion from impacted cerumen, foreign body, or instruments.
d. Concussion from impacted cerumen, foreign body, or instruments.
e. Straining from pulling auricle.
f. Effects of cold from bathing, diving, or syringing canal.

IX. *Skin Diseases.*
a. Eczema.
b. Erysipelas.
c. Erythema.

X. *New Growths.*
a. Cholesteatoma.
b. Epithelioma.
c. Syphilide.
d. Tubercle.
e. Vascular tumor.

XI. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.

MIDDLE EAR TRACT—TYMPANUM—ATRIUM, ATTIC, AND ANTRUM.

I. *Abnormalities.*
a. Arrested development.
1. Absence of membrana tympani.
2. Absence of part or all of ossicles.
3. Absence of tympanum.
4. Absence of labyrinthine fenestræ.
5. Absence of eminentia pyramidalis.
b. Excessive development.
1. Fusion of ossicles.
2. Overgrowth of ossicles.
3. Superfluous ossicles.
c. Irregular development (?).

II. *Hæmorrhage*—Vicarious menstruation.

III. *Acute Non-suppurative Otitis Media.*

IV. *Mucous or Muco-serous Catarrhal Otitis Media* (acute, subacute, chronic—trophic).

V. *Suppurative Otitis Media* (acute, subacute, chronic).

VI. *Croupous, Diphtheritic, and Desquamative Otitis Media.*

VII. *Caseous Otitis Media.*

VIII. *Chronic Dry and Adhesive Catarrhal Otitis Media.*

IX. *Sclerosis.*

X. *Caries of Tympanum.*

XI. *Caries of Ossicles.*

XII. *Fracture and Dislocation of Ossicles.*

XIII. *Syphilitic Inflammation of Tympanum* (secondary, tertiary).

XIV. *Wounds and Injuries.*
a. Through Eustachian tube.
b. Through membrana tympani.
c. By fracture of base of skull.

XV. *Embolism in Mucous Membrane.*

XVI. *New Growths.*
a. Cholesteatoma.
b. Cyst.
c. Epithelioma.
d. Exostosis of tympanum.
e. Exostosis of ossicles.
f. Hyperostosis of tympanum.
g. Hyperostosis of ossicles.
h. Osteosarcoma.
i. Polypus { mucous { muco-fibrous. / fibrous / mucoid { myxo-fibrous.
j. Tubercle.

XVII. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.

COMPLICATIONS OF DISEASE OF MIDDLE EAR TRACT.

I. *Perforation of Cortex of* [*ossicons*] *Ext. Auditory Canal.*

II. *Disease of Mastoid Process.*
a. Perforation of cortex of mastoid process.
b. Inflammation of pneumatic cells of mastoid process (catarrhal, purulent, cheesy—acute,

chronic). [All inflammations of the tympanum are *apt* to involve, in secondary inflammation, the pneumatic cells of the mastoid process, and *vice versa*.]
- *c.* Caries and necrosis of mastoid process.
- *d.* New growths of mastoid process.
  - *a.* Cholesteatoma.
  - *b.* Epithelioma.
  - *c.* Exostosis.
  - *d.* Hyperostosis.
  - *e.* Polypus. [*Vide* Polypus of Middle Ear Tract.]

III. *Circumauricular Abscess.*
IV. *Facial Paralysis* [Bell's Palsy].
V. *Fracture of Base of Skull.*
VI. *Pachymeningitis.*
VII. *Leptomeningitis.*
VIII. *Cerebral Abscess.*
IX. *Thrombosis.*
X. *Embolism.*
XI. *Phlebitis.*
XII. *Pyæmia.*
XIII. *Constitutional Disease.*
- *a.* Rheumatism.
- *b.* Phthisis.
- *c.* Rhachitis.
- *d.* Syphilis.
- *e.* Exanthemata.
  1. Scarlet fever.
  2. Typhus fever.
  3. Typhoid fever.
  4. Measles.
  5. Variola.
  6. Varioloid, etc.
- *f.* Whooping-cough.
- *g.* Diphtheria.
- *h.* Bright's disease.
- *i.* Diabetes.
- *j.* Genito-sexual disturbance.
  1. Puberty.
  2. Pregnancy.
  3. Menopause.
  4. Masturbation.
  5. Excessive venery, etc.
- *k.* Abuse of systemic materia medica.

XIV. *Oral Irritation or Disease.*
XV. *Orbital Irritation or Disease.*
XVI. *Nasal Irritation or Disease.*
XVII. *Pharyngeal Irritation or Disease.*
XVIII. *Mumps.*
XIX. *Disease of External Ear.*
XX. *Disease of Internal Ear.*

MASTOID PROCESS.

I. *Abnormalities.*
- *a.* Arrested development.
  1. Ossification gaps in outer table.
  2. Absence of pneumatic cells.
  3. Separation from rest of temporal bone.
  4. Total absence of mastoid process.
- *b.* Excessive development.
  1. Very large pneumatic cells.
- *c.* Irregular development.
  1. Anomalous character of blood-channels.

II. *Hæmorrhage.*
III. *Inflammation of Pneumatic Cells, Catarrhal* (*Primary*).
IV. *Inflammation of Pneumatic Cells, Purulent* (*Primary*).
V. *Periostitis Externa.*
VI. *Caries and Necrosis.*
VII. *Sclerosis* (?). [Closing of pneumatic cells by ossification in old age.]
VIII. *Wounds and Injuries.*
- *a.* Contused wounds.
- *b.* Perforated wounds.
- *c.* Fracture.
- *d.* Shot wounds.

IX. *New Growths.*
- *a.* Cholesteatoma.
- *b.* Epithelioma.
- *c.* Exostosis.
- *d.* Hyperostosis.
- *e.* Polypus. [*Vide* Polypus of Middle Ear Tract.]

X. *Foreign Bodies.*
- *a.* Animate objects.
- *b.* Inanimate objects.

COMPLICATIONS OF DISEASES OF THE MASTOID PROCESS.

I. *Diseases of External Ear, and their Complications.*
II. *Diseases of Middle Ear Tract, and their Complications.*
III. *Diseases of Internal Ear, and their Complications.*
IV. *Sinus of Neck.*
V. *Torticollis.*

INTERNAL EAR.

I. *Abnormalities.*
- *a.* Arrested development.
  1. Absence of part or all of the labyrinth.
  2. Absence of auditory nerve.
- *b.* Excessive development.
- *c.* Irregular development (?).

II. *Anæmia.*
III. *Hyperæmia.*
IV. *Hæmorrhage.*
V. *Otitis Interna, Simplex.*
VI. *Otitis Interna, Syphilitica* (?).
VII. *Otitis Interna, Typhoidea* (?).
VIII. *Otitis Interna, Parotitica* (?).
IX. *Caries and Necrosis.*
X. *Wounds and Injuries.*
- *a.* Through middle ear.
- *b.* By fracture of base of skull.
- *c.* Concussion.

XI. *Diseases of Auditory Nerve.*
- *a.* Hyperæmia.
- *b.* Inflammation.
- *c.* Atrophy.
- *d.* Amyloid degeneration (Corpora amylacea).

e. Injury or paralysis.
f. New growths.
1. Fibroma.
2. Fibro-sarcoma.
3. Glioma.
4. Gumma.
5. Neuroma.
6. Sarcoma.

COMPLICATIONS OF DISEASE OF INTERNAL EAR.

I. *Associated Disease* (local or constitutional).
II. *Brain Disease or Injury.*
III. *Fracture of Base of Skull.*
IV. *Disease of Middle Ear Tract, and its Complications.*
V. *Disease of Mastoid Process, and its Complications.*

EUSTACHIAN TUBE.

I. *Abnormalities.*
a. Arrested development.
1. Congenital absence.
2. Congenital obliteration or stenosis.
3. Angular bends.
4. Ossification gaps in wall of carotid canal.
5. Malposition of pharyngeal orifice.
b. Excessive development.
1. Congenital widening.
c. Irregular development.
II. *Hæmorrhage.*
III. *Inflammation, Catarrhal (acute, chronic).*
IV. *Inflammation, Purulent (acute, chronic).*
V. *Inflammation, Croupous and Diphtheritic.*
VI. *Ulcer.*
VII. *Contraction.*
VIII. *Enlargement.*
IX. *Adhesions and Closure.*
X. *New Growths.*
a. Exostosis.
b. Fibroma.
c. Syphiloma.
d. Tubercle.
XI. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.
XII. *Diseases of the Tubal Muscles.*
a. Fatty degeneration and atrophy.
b. Hypertrophy.
c. Trichinosis.
d. Hæmorrhagic infarctions.
e. Paresis.

COMPLICATIONS OF DISEASE OF EUSTACHIAN TUBE.

I. *Inflammation, Injury, New Growth, Foreign Body in Pharynx.*
II. *Inflammation, Injury, New Growth, Foreign Body in Nares.*
III. *Inflammation, Injury, New Growth, Foreign Body in Middle Ear.*

IMPORTANT SYMPTOMS OF EAR DISEASE.

I. *Neuralgia.*
II. *Aural Vertigo.*
III. *Anomalies of Audition.*
a. Autophonia, Tinnitus, Numbness.
b. Pseudacousma.
IV. *Neuroses* [Reflex phenomena].
a. Pruritus auris.
b. Ear cough.
c. Epileptiform convulsions.
d. Otalgia.
e. Dysacousma.

MISCELLANEOUS.

I. *Mumps* (resulting in Resolution, Suppuration, or Metastasis).
II. *Tonsillar Diseases.*
III. *Inflammation, Injury, New Growths, Foreign Bodies of the Upper Respiratory Tract.*

FAILURE OF COCAINE HYDROCHLORATE TO PRODUCE ANÆSTHESIA.

By HENRY J. GARRIGUES, M. D.

Recently I had to perform an operation in order to restore to an available condition a vulva which, in a perineorrhaphy performed by another surgeon, had been closed up to such an extent as barely to admit the index-finger and not the organ to which it physiologically is destined to give passage.

The patient was a married woman, thirty-seven years of age. I had to cut fully one inch backward from the artificial posterior commissure, after which I united the skin with the mucous membrane by sutures.

Since here was only a thin layer of skin and mucous membrane to be cut, both surfaces of which were easily accessible, it seemed to be a case peculiarly well fitted for local anæsthetization. I began by painting both surfaces with a four-per-cent. solution of hydrochlorate of cocaine. When two grains of the salt had been used in this way and there was not the slightest diminution in the sensitiveness of the skin, I injected a quarter of a grain hypodermically into the tissue to be divided, and continued soaking the skin and the mucous membrane. About seven minutes after the first hypodermic injection I repeated it, introducing the needle from the posterior commissure all the way back as far as the tissues were to be divided. In spite of the previous injection, this caused as much pain as if nothing had been done before to produce anæsthesia.

This second time, likewise, a quarter of a grain of the salt was injected slowly, while withdrawing the needle, over the whole tract with which it came in contact. Finally I bathed again the two surfaces until I had used in all five grains of hydrochlorate of cocaine, one half grain of which had been injected hypodermically. This application of a four-per-cent. solution had then been kept up for twenty-five minutes.

In spite of this thorough and protracted application of

a comparatively strong solution of cocaine, the sensibility was not lessened the least, so far as the complaints and screams of the patient could be used as a measure of her pain.

The price of the cocaine used was two dollars.

Ernst Fränkel, of Breslau ("Centralblatt für Gynäkologie," December 6, 1884, vol. viii, p. 778), has likewise found the common solutions ineffective on the vagina, and recommends a twenty-per-cent. alcoholic solution; but, when we take into consideration the high price of the drug, so expensive a solution can only be used in exceptional cases. The patients, unless money be no object at all, will prefer to stand the pain or to be etherized.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Contributions to the Topographical and Sectional Anatomy of the Female Pelvis. By D. Berry Hart, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc. Edinburgh and London: W. & A. K. Johnston, 1885. 4to, pp. 8, xii plates.

List of Tests (Reagents), arranged in Alphabetical Order according to the Names of the Originators. Designed especially for the convenient reference of Chemists, Pharmacists, and Scientists. By Hans M. Wilder. New York: P. W. Bedford, 1885. Pp. 88.

Double Congenital Displacement of the Hip. Description of a Case, with Treatment resulting in a Cure. (With Plates.) By Buckminster Brown, M. D., Consulting Surgeon of the House of the Good Samaritan, etc. Boston: Cupples, Upham, & Co., 1885. Pp. 24.

Report of the Department of Health, City of Chicago, for the Years 1883 and 1884. Chicago: G. K. Hazlitt & Co., 1885. Pp. 172.

University of the City of New York, Medical Department. Forty-fifth Annual Announcement.

Catalogue of the Albany Medical College, and Annual Announcement for the Session of 1885–1886.

University of Denver. Fifth Annual Announcement of the Faculty of Medicine.

The Constitutional Treatment of Caries and Necrosis. By Hal C. Wyman, M. D., Professor of Physiology and Histology in the Michigan College of Medicine, Detroit. Pp. 7.

Report upon the Epidemic of Typhoid Fever at Plymouth, Pa. Read by appointment before the Luzerne County Medical Society of Wilkesbarre, Pa., May 21, 1885, and before the State Medical Society of Pennsylvania, at Scranton, May 29, 1885. By Lewis H. Taylor, M. D., of Wilkesbarre. Pp. 25.

Asiatic Cholera. A Sketch of its History, Nature, and Preventive Management. By Oscar C. De Wolf, M. D., Commissioner of Health, Chicago, etc. Chicago: The American Book Co., 1885. Pp. 17. [Price, 12 cents.]

Quarterly Station-List of Officers of the Medical Department and Hospital Stewards, United States Army, July 1, 1885, or at date of last report received at this office. Washington: Surgeon-General's Office.

Surgical Notes from the Case-Book of a General Practitioner. By William C. Wile, M. D., of Sandy Hook, Conn. [Reprinted from the "New England Medical Monthly."]

THE
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A Weekly Review of Medicine.
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NEW YORK, SATURDAY, AUGUST 29, 1885.

THE SPECIAL MEETING OF THE CONGRESS COMMITTEE.

As we have already notified our readers, the American Medical Association's new Committee on the International Medical Congress is to hold a special meeting in New York on Thursday of next week. Regardless of what action may be taken, the mere fact that such an extraordinary meeting is to be held, after the committee had concluded its work of demolition and adjourned until next spring, is a gratifying proof that the spontaneous and widespread dissent that has been expressed by the better portion of the profession from the absurd course laid out by the American Medical Association has not failed to produce an effect. It is the most decided and unmistakable of numerous indications that a change has come over the spirit of the New Orleans agitators' dream.

It is to be presumed that the meeting will undertake little else than the repair of damages—that is, the appointing of others to take the places of the distinguished men who have declined to take part in the present organization. That any such action will fail of its purpose seems to us unquestionable. We do not doubt, indeed, that men enough can be found who will be willing and even glad to hold official positions in a gathering that will be international only in name. But, allowing that the committee made the best choice it could have made at Chicago, any selections that it makes now must necessarily be of inferior men, and it is doubtful even if men a grade below those first chosen would be willing to figure before the world as the recipients of appointments that had gone begging. It can scarcely be doubted, therefore, that the corps of appointees will be largely inferior to the remnants left by the recent defections. Far from having been mended, matters will then have been made worse; but, if this is to be the result, it is best that it should come promptly, that the remedy may follow the more speedily.

Besides patching up the organization, the committee may try to palm off upon the country something having the semblance of a compromise as to the qualifications of those who are to be allowed to take part in the Congress non-officially, but it will be surprising if anything remotely resembling decency is put forward in this direction—in fact, nothing of the sort is possible except a complete reversal of the tinkering that the organization has undergone.

By this time the plotters who are behind the committee undoubtedly understand that it will profit them nothing to pursue the petty scheme of inducing Dr. Shoemaker to play the part of a scapegoat and resign, although it is but a few weeks since they professed in private to count confidently upon that sop to Cerberus.

There is one plain course open to the committee, and one only, by which it may save its own credit and do the only thing possible to rescue the Congress from destruction—and that is, to rescind everything it has thus far done, and to resolve to ask the American Medical Association to discharge it. This would practically restore the old organization, and, although it would come rather late, might result in reviving the bright prospects of the Washington Congress as they existed six months ago.

THE POSTURES OF SCHOOL CHILDREN.

An English surgeon, Mr. Noble Smith, who is connected with a children's hospital, and who appears to have something to do officially with the Board Schools of London, lately read a very important paper before the Medical Officers of Schools Association, which is published in the "Medical Times and Gazette." The title of Mr. Smith's paper is "Postures in School, and their Influence upon the Figure." He deals, however, not only with the influence of strained and unnatural postures upon the figure, but also with their effect upon health and strength in other ways, and with a number of collateral matters relating to school hygiene, such as the management of the light used for reading and writing, etc.

In one instance he measured the distance between the pupil's eyes and the copy-book, and found it to be only two inches and a half. It does not appear that this was the result of nearsightedness on the part of the pupil, but of faulty construction of the desk, which was too low and removed too far from the pupil's body. From these and various other defects in the arrangement of the chair and desk, and from certain enforced attitudes which are supposed to favor an elegant handwriting, roundness of the back and lateral curvatures of the spine were found to be frequent results. The author calls attention to the deleterious effects of all this upon the individual, especially as regards the breathing capacity. Girls are most affected, as they are held to a more rigid observance of postures that are deemed decorous, while at the same time they are in great measure denied the counterbalancing effects of free and unrestrained play, their diversion being too often restricted to a prim and stately walk in couples.

Of late years, much attention has been given to these matters in the United States, and the result has been a very decided improvement, but it is very much to be feared that we are not yet altogether free from the evils that are so vividly depicted by Mr. Smith as occurring among the school children of London.

MINOR PARAGRAPHS.

AN ACCIDENT IN A PARIS HOSPITAL.

A deplorable mistake was lately made at the St. Louis Hospital, in Paris, which resulted in the death of two patients. According to the account given in the "Progrès medical," a preparation popularly termed *eau de vie allemande*, which is a concentrated tincture of nux, was ordered by the physician, but the pupil on duty in the pharmacy put up *gouttes amères de Baume* instead, the latter being a mixture containing ignatia. The pupil is described as having been wild with despair when he learned of the fatal consequences of his error, and another account states that it was with difficulty that he was prevented from committing suicide. "Progrès médical" is probably correct in its suggestion that the "reactionary" newspapers would have been loud in their outcries if the affair had happened in one of the hospitals where lay officials are employed.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 25, 1885:

DISEASES.	Week ending Aug. 18.		Week ending Aug. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	23	6	29	10
Scarlet fever	25	4	14	4
Cerebro-spinal meningitis	1	1	3	1
Measles	31	3	12	6
Diphtheria	30	16	31	17
Yellow fever	1	0	0	0

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, August 12th. *Three Rivers, Canada.*—For the week ending August 8th: Free from epidemic diseases. The consul reports that there is no small-pox below Montreal, where there has been a total of 120 deaths up to the end of the second week in August. *Havana, Cuba.*—For the week ending July 30th: 25 cases of yellow fever and 3 deaths. *Cardenas, Cuba.*—For the two weeks ending August 8th: Free from cholera and yellow fever. *Matanzas, Cuba.*—For the week ending August 5th: No cholera or yellow fever. *Cienfuegos, Cuba.*—For the week ending July 15th: No cholera or yellow fever. *St. Thomas, W. I.*—For the week ending July 25th: Intestinal catarrh and acute diarrhœa prevalent, but in a mild form. Very few fatal cases. *Nassau, N. P.*—For the week ending August 1st: No epidemic diseases. *Curaçoa, W. I.*—For the week ending August 15th: In good sanitary condition. *Guaymas, Mexico.*—For the month of July: City and district in good sanitary condition. *Vera Cruz, Mexico.*—For the month of July: 84 deaths from yellow fever. The disease is said to be epidemic. *Acapulco, Mexico.*—For the week ending July 26th: Free from epidemic diseases. *Callao, Peru.*—For the week ending July 18th: Yellow fever has disappeared, but small-pox prevails among the lower classes. *La Guayra, Venezuela.*—For the week ending August 8th: In good sanitary condition. *London, England.*—For the week ending August 8th: Deaths from diarrhœa and dysentery, 309; from cholera or choleraic diarrhœa, 11, and from small-pox, 14, including 9 of London residents who died from the disease outside the registration district. On August 8th there were 518 cases of small-pox in the London hospitals, being 96 less than in the previous week. The admissions during the week were 43, there having been 61 during the preceding week. *Bristol, England.*—For the week ending August 8th: 1 death from cholera. *Paris, France.*—For the two weeks ending August 8th: 61 cases and 3 deaths from small pox, 213 cases and 36 deaths from typhoid fever. *Bordeaux, France.*—For the month of July: 4 deaths from small pox. *Marseilles, France.*—By cable, August 25th: Deaths from cholera average 55 daily. *Toulon, France.*—By cable, August 25th: 25 deaths from cholera on the day. *Barcelona, Spain.*—For the week ending July 31st: ation of

from small-pox; 36 deaths from unclassified contagious diseases; gastric and intestinal catarrh prevalent. *Antwerp, Belgium.*—For the two weeks ending August 1st: 26 cases and 5 deaths from small-pox. *Cadiz, Spain.*—For the week ending August 8th: Free from epidemic diseases. *Valencia, Spain.*—For the two weeks ending August 2d: 785 cases of cholera and 369 deaths. *Genoa, Italy.*—For the week ending August 2d: 1 death from small-pox. *Venice, Italy.*—For the two weeks ending August 1st: 20 deaths from small-pox. *Trieste, Austria.*—For the week ending August 1st: 6 cases of small-pox and 2 deaths. *Prague, Austria.*—For the week ending August 6th: 2 deaths from small-pox. *St. Petersburg, Russia.*—For the week ending July 25th: 6 deaths from small-pox. *Warsaw, Russia.*—For the two weeks ending August 1st: 9 deaths from small-pox. *Calcutta, India.*—For the week ending July 4th: 16 deaths from cholera. *Bombay, India.*—For the week ending June 30th: 6 deaths from cholera as against 2 during the previous week.

The Cholera in Spain.—According to information received by the "Gazette hebdomadaire de med. et de chir.," there had been, up to July 31st, 114,714 cases and 34,003 deaths. In Madrid the number of cases was 4,058, with 1,353 deaths. The number of infected towns was upward of 380.

Typhoid Fever is reported as being prevalent in the Lunatic Asylum at Morris Plains, N. J., thirteen cases having already occurred, with but one death. The outbreak of the disease is attributed to defective sewerage.

Scarlet Fever has, it is alleged, been conveyed from an infected family to others in Jamesport, Long Island, by the total disregard of instructions from the Board of Health, who ordered the father to quarantine the family, the man contending that the disease was not contagious, and permitting members of his family to go and come at will. He is likely to pay the penalty of his disobedience and ignorance.

The International Medical Congress.—We learn that Dr. Delavan Bloodgood, Medical Director in the navy, has declined to hold the position to which he was appointed by the new committee. As will be seen by his letter, printed in another column, Dr. Alfred L. Carroll, the secretary of the New York State Board of Health, has also pursued the same course. Dr. Henry D. Noyes, of New York, has sent the following letter to Dr. John V. Shoemaker, the secretary of the committee: "I beg to acknowledge your favor of the 19th ult., informing me of my appointment as First Vice-President of the Ophthalmological Section of the Ninth International Medical Congress by the committee which met at Chicago. This position I can not accept, because by so doing I should assent to the action of the American Medical Association, which has thrust into the International Medical Congress a controverted subject with which the Congress has no concern, and has determined to exclude from all official position the medical men whose convictions in this regard it disapproves of. I refuse to admit that the composition of the International Medical Congress should be in any way determined by the controverted points of the Code of Ethics of the American Medical Association. I also refuse to join in treating with neglect or disrespect honorable and eminent physicians who do not accept all the restrictions of that code about medical consultations. The right of the American Medical Association to take this course can, I think, be successfully challenged, but, for my own decision, it is enough that I do not concur with it, and that I feel sure that its pursuance would prove most hurtful to the Congress, in whose welfare, as By Will[illegible], I have taken a deep and active interest. For the courtesy of the committee in tendering me this honor I beg you to express my thanks."

The British Medical Association.—A correspondent informs us that Dr. H. P. C. Wilson, of Baltimore, has been elected a member of the association.

Dr. Oliver Wendell Holmes will reach his seventy-sixth birthday to-day.

The Medical Society of Virginia will hold its annual meeting at Alleghany Springs on the evening of Tuesday, September 15th. The session promises to be one of unusual interest.

The Mississippi Valley Medical Association will meet at Evansville, Ind., on Tuesday, Wednesday, and Thursday, September 8th, 9th, and 10th. Railroad and hotel rates will be reduced for the occasion. Full particulars can be obtained of Dr. A. M. Owen, Evansville, Ind.

The Death of Prof. Berger, of Breslau, who, although young, was distinguished as a neuro-pathologist, is announced in the "Revue de médecine."

The Death of Prof. Aeby is also announced by the same journal. He was well known as an anatomist.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 16, 1885, to August 22, 1885:*

WOLVERTON, W. D., Major and Surgeon. Granted leave of absence for twenty days. (Washington Barracks, D. C.) S. O. 171, Department of the East, August 14, 1885.

MAUS, L. M., Captain and Assistant Surgeon. In addition to his other duties, assigned to duty as attending surgeon of the Department Rifle Camp. S. O. 83, Department of Dakota, August 3, 1885.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Upon return of troops F and L, Third Cavalry, to Fort Davis, Texas, to rejoin his proper station, Fort Clark, Texas. S. O. 98, Department of Texas, August 13, 1885.

MCCAW, W. D., First Lieutenant and Assistant Surgeon. Having reported back at these headquarters from detached service, ordered to rejoin his proper station, Fort Lyon, Colorado. S. O. 122, Department of the Missouri, August 17, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the two weeks ending August 22, 1885.*

BEYER, H. G., Passed Assistant Surgeon. To attend meeting of the American Association for Advancement of Sciences, at Ann Arbor, Michigan, and at conclusion of meeting to resume duty at the Smithsonian Institution.

BOYD, JOHN C., Passed Assistant Surgeon. Ordered from Navy Yard, Washington, D. C., to special duty at Bureau of Medicine and Surgery, Washington, Navy Department.

DRENNAN, M. C., Surgeon. Assigned to temporary duty at Annapolis, Md., as member of board for physical examination of candidates for admission to U. S. Naval Academy.

LIPPINCOTT, J. C., Passed Assistant Surgeon. Ordered to Navy Yard, Washington, D. C., as relief of Passed Assistant Surgeon Boyd.

OWENS, THOMAS, Assistant Surgeon. Relieved from special duty at Bureau of Medicine and Surgery, Navy Department, and waiting orders.

SAYRE, J. S., Assistant Surgeon. Ordered from United States Receiving Ship Independence to Naval Hospital, Mare Island, California.

Simon, Wm. J., Surgeon. Assigned to temporary duty at Annapolis, Md., as member of board for physical examination of candidates for admission to U. S. Naval Academy.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending August 22, 1885.*

Bailhache, P. H., Surgeon. Granted thirty days leave of absence. August 15, 1885. Chairman of board to examine candidates for appointment as cadet in the Revenue-Marine Service. August 19, 1885.

Irwin, Fairfax, Passed Assistant Surgeon. Recorder of board. August 19, 1885.

Society Meetings for the Coming Week:

Tuesday, *September 1st:* Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Franklin and Niagara (Lockport), N. Y.; Hudson County, N. J., Medical Society (Jersey City); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *September 2d:* Medical Society of the County of Richmond, N. Y. (Stapleton).

Thursday, *September 3d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia.

Friday, *September 4th:* Practitioners' Society of New York (private).

Saturday, *September 5th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE DISINFECTION OF RAGS.

Baltimore, *August 23, 1885.*

To the Editor of the New York Medical Journal:

Sir: I am glad to learn from the letter of Mr. Augustine Smith, published in the "New York Medical Journal" of August 8th, that the paper-makers do not object to the disinfection of rags from infected ports, and are even willing, "out of deference to public opinion," to have their importation from such ports entirely prohibited.

I for one should not be inclined to insist upon the disinfection of rags shipped from healthy ports if we could be sure that they had not been collected in infected localities. Here is the great difficulty with which health officers have to contend. It is evidently impossible in many instances to ascertain exactly where the rags have been collected. For example, if an English ship, sailing from Southampton or Liverpool, should bring a cargo of rags to New York, would any one suspect the possibility that these rags might have been collected in Spain? Yet this is not simply a possibility, but seems to be quite a probable event by reason of the recent order of the Local Government Board, dated June 23, 1885. I quote from this order Articles II and III:

"Article II. From and after the date of this order, and until the first day of November, 1885, no rags from Spain shall be entered or enter, except for the purpose of export (unless they are mine), and such rags in any port or place in England or Wales."

"Art. III. If any rags are delivered overside or landed in contravention of this order they shall, *unless forthwith exported*, be destroyed by the person having control over the same, with such precautions as may be directed by the medical officer of health of the sanitary authority within whose jurisdiction or district the same may be found."

Comment is scarcely necessary; evidently a merchant receiving a cargo of rags from Spain has but one way to save his property from destruction, under the order of the Local Government Board, viz., to "forthwith" export the rags to the United States, or some other country willing to receive them.

Those who have opposed the disinfection of rags have claimed that there is no case on record in which cholera has been transmitted by means of rags. Even if this were true, the evidence that is on record with reference to the communication of the disease to laundresses by means of the soiled linen of the sick would be a sufficient reason for excluding rags from infected ports, unless disinfected in a satisfactory manner. But there is a case on record which seems to be well authenticated. I quote from a letter received a few days since from Dr. Sonderegger, president of the Swiss *Aerzte Commission*, and delegate from Switzerland to the International Sanitary Conference of Rome:

"The fact relating to rags was observed and described by Prof. Biermer (living now in Breslau as Professor of Practical Medicine), and by Dr. Zehnder, vice-director of the board of health (Sanitätsrath), who were both most active at the time of cholera at Zurich in 1867: July, August, September, October, number of patients 684; number of deaths 65·9 per cent.

"Kriegstetten is a small village in the canton of Solothurm, at eighty to one hundred kilometres distance from Zurich, and not connected with this town either by water (lake, river, marsh) or by trade and industrial commerce. There is a paper-mill at Kriegstetten, and a work-woman, who had to tear the rags, was suddenly taken with cholera and died the following day. The following days sixteen more work-women (all occupied in tearing the rags) were taken sick: of these, eleven died. A careful examination showed that all of these rags went from Zurich and from cholera-houses; therefore the whole mass of rags was disinfected by boiling. After this no case of cholera occurred. The large establishment of the paper-mill, as well as the village, remained free. I mentioned the fact in a little address to the Swiss people, which I have the honor to send you,* and nobody doubted the fact or made any opposition. The fact was known everywhere in Switzerland."

George M. Sternberg.

THE INTERNATIONAL MEDICAL CONGRESS.

Albany, *August 21, 1885.*

To the Editor of the New York Medical Journal:

Sir: Soon after the meeting at Chicago of the new committee to rearrange the International Medical Congress I saw my name mentioned in a reported list of proposed officers of sections. As this was not an authenticated publication, I did not feel warranted in taking action until I should receive the customary official notification of appointment. Finding, however, that none of those named in the printed report appear to have been otherwise notified, and being unwilling to remain in an attitude of even seeming ambiguity, I beg to say that I have no intention of holding any position in connection with the proposed scheme. I am, sir,

Faithfully yours,

Alfred Ludlow Carroll, M. D.,
Fellow State Medical Association.

* This "little address" is an admirable sanitary tract, giving practical directions relating to disinfection, etc. G. M. S.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 18, 1885.

The President, Dr. A. JACOBI, in the Chair.

The Operation for Lacerated Perinæum.—Dr. H. W. MITCHELL read a paper in which he described his method of repairing the lacerated perinæum, which, he said, was essentially the method practiced about as long ago as 1850 by Dr. Isaac E. Taylor, and which had been practiced by Dr. Thomas and others. He thought to repair the perinæum was a simple procedure—one which any surgeon of ordinary skill and knowledge of the parts could carry out. The lacerated parts being held apart by two assistants, the surgeon introduced his left index-finger into the rectum, and with curved scissors pared off the mucous membrane of either side down to the median line, taking care not to go up too high on the sides, which would be to leave a pocket between the rectum and vagina after the sutures had been passed. The parts were now ready for the passage of sutures. These he introduced by the small sized curved needle, commencing below, and passing them sufficiently deep to give a firm support. The number passed was usually three or four. He used silver wire, threaded directly on the needle, thus dispensing with the ordinary clumsy method of first passing a silk suture, and by this jerking a wire through. He then passed some superficial silk sutures and approximated the edges of the skin. Having made the bowels move freely previous to the operation, he kept them confined about six days afterward. Cleanliness was sufficient antiseptic precaution; out of forty cases, the histories of all of which he read, carbolic-acid solution was used in only five, and in the others no so-called antiseptics were employed. In all of the forty cases there was union by first intention; the wires were usually taken out on the sixth or seventh day; in a number of the cases a laceration of the cervix uteri was repaired at the same time. None of the operations were primary.

Dr. A. C. POST said that, the author's cases having been so eminently successful, no exception could be taken to either the discarding of antiseptics or the details of the operation. He thought, however, there was an advantage in keeping the bowels free after the operation, and he thought this plan was now coming into general practice.

Dr. MALCOLM MCLEAN could not understand how the author had found drawing the silver wire through by means of the silk loop a disadvantage when all other operators had found the loop an advantage. He also thought the curved needle had generally been discarded because it was liable to turn or to break; the modern method of lifting the parts into line and passing the straight needle he thought much better. Nor could he understand how it happened that Dr. Mitchell's patients escaped pain after the operation, which others had always found to be so troublesome.

Contagious Conjunctivitis.—Dr. JOSEPH A. ANDREWS read a paper on this subject. It will be published in full hereafter.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of February 26, 1885.

The President, Dr. B. F. WESTBROOK, in the Chair;

Dr. A. H. P. LEUF, Secretary.

Pulmonary Gangrene.—Dr. ELIZA M. MOSHER read a paper giving a history of a case of this sort, with remarks. [See p. 233.]

Demonstrations of an Easy Method for the Estimation of Urea and Sugar in the Urine was the title of a paper read Dr. W. M. HUTCHINSON.

Cæsarean Section.—Dr. CHARLES JEWETT read a paper giving the history of a case, with remarks. [See p. 231.]

Intra-ocular Melano-sarcoma.—Dr. ARTHUR MATHEWSON related the case of a patient, fifty-nine years old, who had first been examined by him November 28, 1882, when a large detachment of the retina, in the lower part of the fundus of the right eye, was discovered with the ophthalmoscope. The vision of the eye was totally lost in the course of a few months, but there was no pain or inflammatory symptoms till the autumn of 1884, when the other eye became red and painful, with great increase of tension. The crystalline lens had become opaque so that nothing of the fundus could be seen. Other means of relief from the torturing pain having failed, the eye was enucleated October 30, 1884, when a large melanotic mass was found occupying three fourths of the vitreous chamber, and extending back through the sclera about the optic nerve. Microscopic examination showed the growth to be a melano-sarcoma. The point of chief interest in this case was the fact that there was nothing in the appearance at the first ophthalmoscopic examination to distinguish it from an ordinary detachment of the retina from other causes, and nothing to indicate its dangerous character. The lesson to be drawn from it was, always to be on the lookout for morbid growths behind the retina as a possible cause of its detachment, and to enucleate early where there seemed to be just ground for this suspicion. In this case, as in others formerly presented by him to the society, sooner or later some of the abdominal viscera would probably become the seat of melanotic growths. As yet there was no appearance of the growth in the orbital tissues.

A Fœtus of Five Months and a Half, as was estimated, was shown by Dr. E. H. BARTLEY, who said that it had lived quite thirty-two hours after its birth.

Urethral Stricture, with Complications.—Dr. C. N. D. JONES read a paper embracing the history of the case, with remarks. [See p. 235.]

Cancer of the Breast.—Dr. GEORGE WACKERHAGEN related the case of a woman, forty-five years old, who had been married twenty-six years and had never been pregnant. She ceased to menstruate at the age of forty-three. Six months ago she first noticed a small lump in the left breast. It enlarged very slowly, and she did not complain of pain until about six days before the operation; it was then of a burning and shooting character. The breast was removed on the 10th of January, together with all the axillary glands, although the latter were not diseased. Strict antiseptic precautions were observed, and the patient made a good recovery. Microscopical examination showed the tumor to be a typical carcinoma, with thick alveolar walls and small alveoli containing epithelial cells.

Abdominal Cancer, with Perforation of the Stomach.—Dr. W. C. BURKE, Jr., of South Norwalk, Conn., read the history of the case. [The author reserves it for future publication.]

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of June 16, 1885.

The President, Dr. J. A. MCCORKLE, in the Chair;

Dr. Z. T. EMERY, Secretary.

The Salicylic-Acid Treatment of the Intestinal Catarrh of Infancy.—Dr. W. A. NORTHRIDGE read a paper with this title. [See p. 229.]

Dr. E. H. Bartley said that he had had some little experience in the salicylic-acid treatment of the diseases of children. He had begun this treatment in 1880, taking the suggestion from a paper read before this society by Dr. Hutchins. Dr. Hutchins had used the same treatment recommended by the author of the paper just read, and had reported very flattering results. He, however, recommended it only in certain cases—if the speaker's memory served him, in cases of watery diarrhœa, in cholera infantum, so called; and in those cases he obtained very excellent results. The speaker had begun the use of it, hoping to find something that would check the large number of cases that he was called upon to treat, and he must say that he had been very much disappointed in the drug. Since then he had used it more or less every summer, but he selected the cases. He thought it a valuable remedy, but he would not laud it so highly as the author of the paper had. In the histories that had been reported we must consider one thing which was very favorable to the drug, and that was that these patients had been sent from an over-heated, over-crowded, and filthy tenement-house region, as a rule. They were the children of poor people who could not afford even fresh air at home, and they were sent to the island for the purpose of securing fresh air. All of them, with one exception, if he remembered rightly, were put upon the salicylic treatment on reaching the island. We should naturally expect an improvement, with any treatment or no treatment, in children taken from a heated, over-crowded part of the city and brought to Coney Island, where they got a free supply of fresh cool air. That, of course, was favorable to the drug, and made the author's statistics look a little brighter than they would look if he had had to treat children in Front, Water, Hicks, Columbia, or Van Brunt street. Histories from those streets would show a much smaller number of cures. Still, as he had said before, with selected cases there was a great deal of efficiency in salicylic acid. These selected cases were those of true fermentative diarrhœa—a point that he had laid some stress upon in a paper read before the society a year ago. There were some cases that began as a true fermentation in the undigested food of the lower canal, giving rise to intestinal catarrh, afterward extending either to the stomach, producing gastro-enteric catarrh, or extending downward and becoming a colitis. In such cases salicylic acid would act beneficially. He was not sure but it would act fully as well, if not better, if administered in the form of salicylic acid instead of this form of salicylate of calcium.

The author had made the remark that the effect was due principally to the salicylic acid. If that was true, of course it would be quite as well to use salicylic acid. A part of the effect was due to the anti-fermentative effect of salicylic acid, and part to the astringent effect of salicylate of calcium. He thought it was a little unfortunate that the author had not attempted to give us a little more of his impression as to whether these cases were of this fermentative character. Of course, his means of observation in that respect had not been what they would be in treating a case from its inception. He took the case well established, and did not know much of the previous history, except from a very brief statement sent with the patient; but the speaker thought it was stretching the thing a little, to say the least, to recommend the method as a wholesale treatment in all cases of summer diarrhœa. Instead of salicylic acid he had found benzoate of sodium or of ammonium to be equally efficient. To check the green stools, accompanied by undigested food and the free fatty acids, he had found the benzoate of sodium or benzoate of ammonium, in doses of from one to two grains, to answer the purpose very well. We all know the benefit of calomel in these cases. It prevented the secondary fermentation, and had a very soothing effect upon the mucous membrane. The effect upon the nervous system was greater, perhaps, from calomel than from salicylic acid.

In regard to the use of opium, he thought he had had the best success with it in the treatment of watery diarrhœas; but in nearly all such cases, or in a great many, he had used one of the anti-fermentatives, and had settled down upon the benzoates.

Dr. Walter B. Chase said that, without questioning the accuracy of the author's observations regarding the cases which were under treatment at the Sea-side Home, it seemed to him that, as had been suggested by the last speaker, the value of any given course of treatment of a case of entero-colitis or allied summer diseases of children would be determined, not principally by the effect of treatment away from home, but by the effect of treatment at home; and so the value of statistics which were made at the sea-side, away from home, was somewhat uncertain, because we were unable to estimate the value of the hygienic surroundings and the change of atmosphere. This was a very large question to discuss, and he did not purpose to occupy more than a moment. He was coming to believe that, apart from hygienic surroundings, very much depended upon whether these little ones who were fed artificially were properly fed. He believed it was the common experience that at home, or at the sea-side, or in the mountains, the question of digestion, both gastric and intestinal, was the principal factor in the safety of the patient and the time of recovery. No doubt one great trouble in the treatment of these cases had been due to the fact that these little ones had been overfed, which added to the depressing effect of heat and of fermentative action in the alimentary canal. The feeding in many cases had been of an improper kind and at improper intervals. If these children could be fed less, and given some fluid which contained very little nourishment, like barley-water or rice-water, the chances for recovery would be vastly increased. He had had some experience in the use of pancreatic extract in the preparation of milk for artificially fed infants, and was very much interested in it. While he was not prepared to formulate the result of his experience, he believed that, if we could prepare milk in such a manner that when it was acted upon by the juices of the stomach there should be very small coagula or no coagula, by previously digesting the casein, the further process of digestion might go on with safety.

Dr. H. N. Read said that he had had some experience with the treatment described by Dr. Northridge. Dr. Bartley and he had treated a large number of cases of diarrhœa on the plan recommended by Dr. Hutchins some years ago, which was substantially that given by Dr. Northridge, by using a mixture of salicylic acid and chalk. His experience with the remedy coincided with Dr. Bartley's. It was quite useful in some cases, *e.g.*, fermentative diarrhœas, but not at all superior to, or indeed the equal, he thought, of other remedies. The value of the results of the cases mentioned in the report was very much lessened, he thought, by want of comparison and classification. Cases of diarrhœa in infants treated by salicylic acid and chalk in a sea-side sanitarium, with good air and food and wholesome surroundings, and the same cases treated by the same thing in the hot, dirty tenements of the city, would give very different results. Under the former surroundings almost any treatment would give favorable results, while under the latter few plans of treatment would avail. The author had found this remedy equally efficacious in entero-colitis as in the simple diarrhœas. The first case of entero-colitis mentioned in the paper exhibited, if he remembered aright, neither fever nor vomiting, nor was any mention made of bloody stools. It would be extremely interesting to know how the diagnosis of entero-colitis was made under

these circumstances. Entero-colitis, being an acute inflammatory affection of the bowel, was necessarily attended by fever, vomiting, and almost as invariably by bloody and slimy stools. It differed as much from simple diarrhœa as pneumonia did from bronchitis. Its pathology and treatment were essentially different from those of the simple catarrhal diarrhœas. It seemed to him, therefore, that the author claimed too much for the remedy he advocated. While it was useful, undoubtedly, in the treatment of simple diarrhœa, it had no advantages over other remedies.

Dr. TOPHAM said that he could hardly agree with the author as to the use of salicylic acid in the treatment of these diseases. He thought that, instead of their being produced by a germ, it was by the action of undigested food producing irritation. We all knew that this summer diarrhœa was essentially a heat disease, and, if we kept the little ones cool and dieted them properly, they would need no other treatment. He would rather hesitate to put three grains of salicylic acid into a child's stomach when he had it at the sea-side with plenty of fresh air and full control of its diet.

Rhachitis.—Dr. HENRY N. READ read a paper with this title. [See p. 225.]

Dr. BARTLEY said that Dr. Read had spoken of one or two theories in regard to ætiology. Whatever the explanation was, it certainly was due to some form of malnutrition or defective nutrition; and in tracing back the histories of a number of cases he had about come to the conclusion that it was very often due to a long-continued gastro-enteric catarrh. He had risen more especially to call attention to one element in the production of this disease. A man was expected always to speak on his hobby, if he had one, and not go very far outside of it. He was going to speak upon his hobby, and that was milk. He had come to the conclusion that a large number of the cases of gastro-enteric catarrh were originated and kept up by unsuitable milk. He had recently tried an experiment which was very suggestive. It was this: Having visited a farm out in the country, and selected one that he knew was as good a farm as could be made on Long Island, he requested the man to send him milk for the Sheltering Arms Nursery in this city. He was to mark a can "afternoon's milk," so that it would be known when it reached the city. This was taken to the depot, and five or six quarts, whatever was necessary for their use, were to be taken out, placed in a small pail, and delivered at once at the Nursery; so that in the morning, at seven or eight o'clock, the milk of the previous afternoon was delivered at the Nursery without any churning except what it got on the train. The children, small hand-fed babies, were put upon the use of this milk. He noticed immediately an improved condition in all of them, and children that had been dying before, in spite of peptogenic powder and everything else, now began to thrive; and he was satisfied that the trouble that led indirectly or finally to the development of rhachitis was due to improper food and an improper milk. He had come to the practice of prescribing milk for babies as much as medicine. He wanted to know who put up the medicines, and he wanted to know who served the milk. Of course, he had the opportunity of knowing better than most physicians of the good milk-dealers and the poor ones. He could not advertise anybody here; he could only say in general terms that it was always safer to recommend country milk—not somebody's "farm milk," who brought it from his own cows, because those "farms" were, as a rule, little hovels in which as many cows were kept as could endure the place. It was better to take country milk, and take it directly from one of the large dairies. And in this regard he wished strongly to advise every physician to test the milk himself occasionally. An ordinary test-tube would answer for a creamgauge; and by means of an ordinary urinometer the specific gravity could be determined. In regard to the amount of cream thrown up, it should not be less than ten or twelve per cent. He would not allow a delicate baby to take a milk that threw up less than twelve per cent. There were milks that came directly from the country that did not throw up that, but he would not allow them to be used. The specific gravity of the milk should not be less than 1·030 nor above 1·035, as that indicated thickening. The ordinary milk in its transportation received a great deal of churning, and was sometimes kept four or five days before the baby got it. If it was examined under the microscope, little lumps of butter would be found. The field between the fat globules would have a fine granular appearance. Although it was not sour, it was on the point of souring, and the minute it got into a child's stomach it would be apt to form large curds.

Eclampsia in Early Life was the title of a paper read by Dr. JOSEPH HEALY. [See p. 228.]

Reports on the Progress of Medicine.

ANATOMY AND PHYSIOLOGY.

BY GRÆME M. HAMMOND, M.D.

Distribution of Anæsthesia in Cases of Disease of the Branches and of the Roots of the Brachial Plexus.—Dr. James Ross ("Brain," April, 1884), after making a very exhaustive study of a large number of cases in which the functions of the sensory nerves of the brachial plexus had been destroyed either by disease or by the knife, arrives at the following conclusions: 1. That one of the principal nerve-trunks of the brachial plexus may be completely divided without giving rise to complete anæsthesia in any part of the area of distribution of the sensory branches of the nerve, and that, when complete anæsthesia does occur, the portion of skin affected is very limited, and even the area of skin affected is usually much less than that of the district corresponding to the anatomical distribution of the nerve.

2. That, as a general rule, the anæsthesia caused by division of one or more cutaneous nerves tends to become progressively less in degree and extent with the lapse of time. From this it follows that in division of one or more cutaneous nerves the area of normal sensibility tends to encroach upon the anæsthetic district, so that when one nerve (say the radial) is divided, its area of distribution, when judged by the extent of the anæsthesia, appears to be very small, while, when it is the only one of the three principal nerves of the hand that is spared, its area of distribution, as judged by the extent of the area of normal sensibility, appears to be unusually large.

3. That the extent, degree, and even localization of the anæsthesia caused by the division of any nerve, differ greatly in different cases, without our being able to discover anything in the injury to the nerve or in the external circumstances of the patient which would account for these differences.

4. That the descriptions given by Kraus and by Henle of the anatomical distribution of the digital branches, and especially those derived from the median nerve, correspond more accurately with the results of pathological observations than those usually given in English anatomical works.

On the Connection between Physiological Action and Chemical Constitution.—In relation to this subject Dr. J. Blake ("Journal of Physiology," April, 1884) points out that among the salts of the metallic elements the intensity of their physiological action is connected with the atomic weight of the elements, so that, when the elements are arranged in isomorphous groups, the action of substances in the same isomorphous group is a function of the atomic weight, the greater the atomic weight, the smaller the quantity required to produce the same physiological action. Dr. Blake has tabulated a list of substances

whose physiological action has been investigated, arranged in isomorphous groups, together with their atomic weight. If, in the first or soda group, salts of any of the elements contained therein are injected into the veins in a sufficiently concentrated state to give rise to any well-marked physiological reaction, they kill by arresting the passage of the blood through the lungs, apparently by causing contraction of the pulmonary arteries. When the solution is strong enough, this is so complete that the circulation is immediately arrested and the animal dies, the respiration being stopped by the great venous congestion caused by the blood not escaping from the right side of the heart. Even when injected into the arteries, these substances kill by their action on the lungs, although the quantity is much greater than when injected into the veins.

In the second, or magnesia group, the most marked physiological action of the salts of these elements, when introduced directly into the veins in sufficient quantities, is to suddenly arrest the action of the heart. This takes place in about ten seconds after the salt has been injected. When injected into the arteries they generally arrest respiration before reaching the heart. Even in small quantities their effect on the nervous system is well marked. They give rise to a state resembling catalepsy.

When the salts of the third, or baryta group, are injected in sufficient quantities into the veins, they destroy the irritability of the heart, its pulsation being arrested in diastole. When injected into the arteries, the heart's action is affected in three or four seconds. No appreciable effect is produced on the nervous system, but the most marked results are noticed in their action on the voluntary muscles. With the salts of lime this is shown by a thrill running through the whole of the voluntary muscles, commencing soon after death, and lasting three or four minutes. With the salts of strontia and baryta these movements are much stronger, sufficiently so to move the body half an hour after death.

In the fourth, or aluminum, group the salts of beryllium, alumina, iron, yttria, and cerium have been experimented with. The physiological action of these salts is on the vaso-motor and respiratory centers and on the intrinsic nerves of the heart. Injected into the veins, these salts produce an immediate contraction of the pulmonary arteries. When injected into the arteries, inhibition of the heart's action follows from stimulation of the vagus center.

The salts of the fifth, or platinum group, when injected into the veins, act directly on the intrinsic nerves of the heart, slowing its action with vagus pulsation, the arterial pressure being diminished. When injected into the arteries, the vagus center is immediately affected, the action of the heart being slowed in two or three seconds. The salts of this group retard or render imperfect the coagulation of the blood.

In the sixth group the salts of thoria and cerous oxide have been experimented with. They agree with the alumina group in acting principally on the vagus and vaso-motor centers.

The last of the metallic elements, the action of whose salts has been investigated, is lead. When introduced into the blood, they act similarly to the soda salts in causing contraction of the arteries and the secretion of serum in the bronchial tubes, and an analogous action to the baryta salts, whereby muscular movements continue many minutes after death. They also give rise to contraction of the systemic arteries.

The seventh group contains phosphorus, arsenic, and antimony, and, when introduced directly into the blood, are not followed by any well-marked physiological effects. In poisonous doses they kill either by paralyzing the heart or by their action on the mucous membrane of the lungs, a serous secretion being poured out which prevents the aëration of the blood. The whole of the mucous membrane of the alimentary canal is also acted on.

In the eighth group, the salts of sulphur and selenium, when introduced into the arteries, arrest respiration by their action on the nervous system. They do not affect the systemic arteries, but cause secretion from the lungs and bronchi into the air passages.

The ninth group contains the elements chlorine, bromine, and iodine. They all act on the vaso-motor and respiratory centers and keep up the irritability of the heart.

Hemisection of the Spinal Cord.—"The most careful experiments on the lower animals," says Ferrier ("Brain," April, 1884), "such as those of Ludwig and Woroschiloff, always leave room for doubt whether the reactions which result from the application of sensory stimuli to parts below the experimental lesion are to be regarded as signs of sensation proper, or merely of reflex action more or less general. On questions involving subjectivity, the most satisfactory evidence would be furnished by observations in man, but we rarely, if ever, meet with spinal lesions so exactly limited as to be made available for this purpose."

With the view of determining the effects of strictly unilateral division of the spinal cord in an animal as nearly human as possible, Ferrier made the following experiment on a monkey:

The animal was chloroformed, and, under stringent antiseptic surgical precautions, the cord was exposed and the left half divided midway between the seventh and eighth dorsal nerves. For eighteen days the animal remained in good health, but at the expiration of that time died suddenly. Examination revealed an extensive clot pressing on the anterior face of the pons and medulla oblongata.

The wound in the dorsal region was more or less gaping, but perfectly free from pus. The pia mater was thickened, but the cord, with the exception of the lesion described below, was entirely free from injury or inflammatory softening.

The results of the lesion were as follows:

Mobility.—On the side of the lesion (left) the leg was absolutely paralyzed as to motion, and was dragged when the animal moved about the cage with the aid of the hand and the right leg.

The temperature of the left leg was, during the first two days, much higher than that of the right. After the fourth day no difference in temperature was noticeable.

The patella-tendon reaction was at first greatly impaired or entirely abolished. Before death, however, the left patella reaction was more distinct than the right.

Sensibility.—The slightest touch or ruffling the hair of the left foot, flank, or left side of the tail, invariably attracted the animal's attention. A prick with a pin, a pinch, or a touch with a heated wire, caused it to rub the part or angrily try to seize and bite the offending cause. Hyperæsthesia of the left leg was not shown on the opposite side (right).

Mobility.—The right leg was freely moved volitionally in all directions. The animal could grip with its right foot with considerable vigor, and did so, as well as with its hands, when it wanted to free itself when held prisoner. This, however, was only true when vision was free and no impediment was offered to the intended movement of the right leg. The manifest difference between the use of the right leg, with and without vision, clearly indicated the abolition of the sense of muscular contraction, and inability to appreciate the position assumed by the leg, except with the aid of vision.

Sensibility.—In addition to the abolition of the so-called muscular sense, there was total absence of any signs of perception of contact. Pinching, pricking, or the application of heat failed to produce any sensation. There was thus total anæsthesia and analgesia of the right leg, and this extended to the right flank and right side of the tail.

The power of evacuating the contents of the bladder and rectum was not perceptibly affected.

We have thus in this case complete motor paralysis, with retention of sensibility, on the side of the lesion, and complete anæsthesia and analgesia, with retention of mobility, on the side opposite the lesion.

The Lesion.—No softening existed. The left anterior column immediately bordering the anterior fissure (the anterior median column), a small portion of the anterior root zone, and a portion of the left posterior column immediately bordering the posterior fissure, were undivided. The whole of the columns on the left side of the cord, with these exceptions, were divided.

Microscopical investigation showed ascending degeneration, characterized by atrophy of the axis cylinders without any increase in connective tissue, in the left column of Burdach, and in the direct cerebellar tract both above and below the lesion.

Below the lesion there was disappearance of axis cylinders in the postero-lateral column of the left side corresponding to the area of the crossed pyramidal tract. No degeneration was detected in any of the other columns.

The Relation of the Nervous System to the Temperature of the

Body.—Dr. Isaac Ott ("Journal of Nervous and Mental Diseases," April, 1884) has lately made some interesting experiments in this direction. His plan was to make transverse sections of the brain from before backward. The apparatus used was d'Arsonval's calorimeter and Voit's respiration apparatus. The experiments were made on rabbits and cats. The method pursued was as follows: The animal was placed in the calorimeter and the change in the rectal thermometer noted, as well as the amount of air aspirated from the calorimeter. After an hour or two the animal was removed, etherized, and a transverse section of the brain was made. When it had recovered from the ether it was again placed in the calorimeter, and the same changes as heretofore noted. The skull was broken up by a bone forceps and the "seeker" introduced, the section being made by its blunt edge. The small seeker penetrated the cortex with but little injury to it, and, when it reached the base of the brain, was drawn transversely so as to divide the parts without injuring the cortex of either side. In the first experiment the olfactory bulbs were divided without being followed by any rise in temperature. In eight experiments in which a transverse section was made behind the corpora striata, the temperature rose in seven of them from 1° to 4⅛°, while in one the temperature fell ⅜°, probably from shock. Three experiments, in which the transverse section was made through the middle of the corpora striata, were performed. In one there was a rise of 7°, in another a rise of 1⅜°, and in the third a fall of 6⅜°. Observation made on the day following a section behind the corpora striata showed that the rise in temperature was not wholly temporary. All these experiments, Dr. Ott concludes, lead up to the belief that in the vicinity of the corpora striata there are centers which have a relation to the temperature of the body.

On Rhythmic Contractions of the Capillaries in Man.—Dr. T. Lauder Brunton ("Journal of Physiology," April, 1884) claims that, although rhythmical contraction and dilatation of the small blood-vessels, independently of the action of the heart, have been observed in the lower animals, they have not hitherto been described in man. The cases in which rhythmical pulsation, independent of the heart and of the respiratory movements, was observed were cases of marked aortic regurgitation. When the aortic valves are incompetent, the blood flows back into the heart during the diastole, leaving the pressure in the arterial system low. The heart thus receives during diastole blood from two sources—from the pulmonary veins and from the aorta—so that at the next systole a very large wave is forcibly driven into the relaxed aortic system. The alternate distension and relaxation of the small arteries render pulsation in them much more readily observed than in ordinary cases. The method of observing it is this: The finger-nail should be drawn once or twice up and down the middle of the forehead; a red streak is left, which will sometimes remain for many minutes. This streak undergoes variations of width and brightness which are very evident to the eye, and some of which coincide with the beats of the heart. In addition to this, a second rhythm of contraction and dilatation may be observed corresponding to the respiratory movements, and the rate of which is about eighteen a minute. But, in addition to these two rhythms, Dr. Brunton observed a third, which he is inclined to regard as due to independent contraction of the minute vessels. It is difficult to ascertain precisely the rate of this capillary rhythm, but, from a number of experiments, it may be said that it usually occurs approximately at the rate of one in twenty seconds. It is probable, however, that this rate is subject to numerous variations.

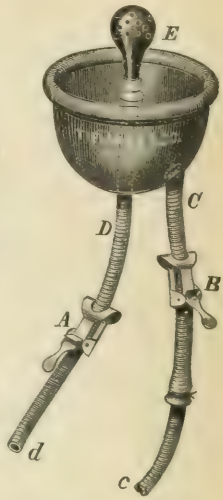
New Inventions, etc.

AN INTRA-VAGINAL CUP SYRINGE.

By E. P. Fraser, M. D.,
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The proper administration of therapeutic vaginal injections in the dorsal recumbent position, with hips elevated, is almost impossible owing to the discomfort, annoyance, and expense attending the use of the various contrivances for receiving the injection fluid as it leaves the vagina. These are entirely overcome by the simple instrument shown in the accompanying woodcut.

The instrument consists of a cup made of soft rubber with a flexible ring around the top. Through the bottom of the cup pass the afferent tube (D), with hard rubber nozzle, and the efferent tube (C), to which is attached a waste-pipe two feet and a half long, for conveying the fluid into a receptacle under the bed or table. These tubes are supplied with patent stop-cocks (A and B). The nozzle (E) may be removed from the cup when desired. The cup is readily introduced into the vagina by compressing the flexible ring, which easily passes the sphincter muscles, and, expanding, produces sufficient pressure on the vaginal walls to prevent the escape of the fluid except through the efferent tube.



The nozzle of any style of syringe may be inserted into the afferent tube, and any quantity of water may be injected with perfect comfort to the patient. The patient lying on the back with hips slightly elevated, the fluid dilates the upper portion of the vagina and comes in contact with the entire surface, while the more sensitive portions of the vagina, vulva, and perinæum are completely protected in case very hot water is used.

In applying to the vagina or cervix glycerin, or glycerole of tannin, or any fluid application, the nozzle being removed, close the stop-cock B in the efferent tube, remove the waste-pipe, inject the application, close the stop-cock A, and leave the instrument *in situ*. Instruct the patient to allow the fluid to escape at a specified time and to remove the instrument, or allow it to remain in the vagina as a temporary support to the uterus, thus doing away with cotton and oakum tampons. Many ways will suggest themselves to the physician in which this simple instrument may be made useful. I have derived much satisfaction from its use, as with it vaginal injections and medicinal applications to the vagina and uterus may be properly administered with the greatest facility. It is gladly given to the profession, believing that it only needs to be tried to be appreciated.

These instruments are manufactured by George Tiemann & Co., New York City.

Miscellany.

The International Medical Congress.—The "Medical News," after referring to the statement made in the "Journal of the American Medical Association" in reference to the alleged resignation of Dr. John H. Packard, as Secretary General of the Congress, says:

"We are just informed by Dr. Packard that the above statement, so far as it concerns him, is absolutely false and without foundation, and that he has written to the editor of the 'Journal of the Association' a letter for publication to that effect. While the new committee has never had any claim to public support, we yet regret that, to stimulate its waning strength, it should still further outrage public confidence by again resorting to the method of willful misrepresentation to which it owed its birth.

"Under the circumstances it is necessary for the 'Journal of the Association' to present the proof of the accuracy of its statement concerning the intentions of other gentlemen before the profession can give to it unqualified belief."

The "Journal of the American Medical Association," in an editorial entitled "More Signs of Progress," says:

"In regard to the rules for regulating the conditions of membership and the working of the Congress, it is well known that all the rules relating to the latter were adopted by the new committee without change. The only change of importance proposed was in Rule 1, which related to the terms of membership. The change in this rule proposed by the committee was not satisfactory, and it is still open for further consideration and adjustment at the coming meeting of the committee on the 3d of September. In our issue of August 8th we gave two propositions that had been suggested for regulating the American Membership of the Congress, both of which were amply liberal—the one retaining the representative principle and applying it to all the national special organizations, as well as to the National Association and the State and local societies in affiliation therewith; the other opening the door of the Congress, so far as its scientific proceedings and interests are concerned, to all members of the regular profession who might choose to register and take their tickets of admission. If either of these propositions is satisfactory, let the 'News' say so. Or, if it will be more satisfactory to all parties, and will be accepted as a basis of adjustment to have the Rule 1 read simply as follows: 'The Congress shall be composed of members of the regular medical profession who shall have inscribed their names on the register, and taken out their tickets of admission,' thus making the terms of membership alike to all, American and foreign, let the 'News' and its friends indicate this, and the proposition will receive a fair consideration. They can not longer maintain their dog-in-the-manger policy on purely personal considerations without passing into history as persistent obstructionists, who place their personal prejudices above the honor and welfare of the profession to which they belong.

"The 3d of September is near at hand. If those members of the profession who so abruptly abandoned the honorable and responsible positions to which they had been assigned wish to retain those positions, and aid in maintaining the honor and interests of the profession of their country, let them move in that direction soon, or their places will be filled by others equally eminent, and the good work will move on without them. To talk of restoring the Original Committee of eight appointed by the association at Washington, and enlarged by its own action, is simply childish. It is perfectly well known that the original committee appointed at Washington is now an integral part of the present Committee of Arrangements, and has no existence in any other capacity or connection. The enlargement of the original committee by the addition of a representative from each State, and from the Medical Corps of the Army and Navy, instead of a less number selected from a few cities, neither lessens the efficiency nor detracts from the dignity of the committee, as simply a Committee of Arrangements. And such committee will proceed with its work in a true conservative liberal spirit, and will complete the preliminary organization of the Ninth International Congress on as liberal a basis and under the official leadership of as eminent and learned men as the profession in America contains."

The "Lancet" says:

"We are glad to gather from our latest information from the United States that the prospects of the International Medical Congress meeting have improved. It would be strange indeed if such a project in such a country could fail of a successful issue. The organization of the profession there may be somewhat different from what it is in older countries, and there may be ideas of professional freedom which exceed ours. There may even be questions of a personal character involved in the arrangements to be made; but that the arrangements will be great and concerted in a magnanimous spirit, and worthy of the profession of a great country, may we trust be taken as already secured. One guarantee of this hopeful view being realized is to be found in the nomination of Dr Flint as president of the Conference. Dr Flint is well known among us, not only by his works, but by his genial and liberal presence; that the English profession will need no other proof of the acumen of the profession in both countries, both in its choice and its previous steps, the election by the American Medical Association of this distinguished physician for the chair of the Congress. It will be the same in other European countries. Dr Flint has not hesitated to take long voyages in promotion of the internationa co-operation of the profession. He was as active at Copenhagen as in London, and we doubt not that the European response to the American invitation will be wide and hearty. The little differences which have arisen in America are such as the near approach of the Conference will dispel or resolve. Some of them are differences which will keep, and which can be postponed till after the Congress. The Congress itself will swallow many of them up, and give an overwhelming exhibition of the unity of the profession, such as will best at once answer and convert those who would break it up into sections and cliques, or liberate any of its members from those great traditions which have been the distinction of the profession from the time of Hippocrates downward.

"There are, indeed, powerful attractions to draw members of the profession over to Washington in 1887. The road is not an untrodden one. Many of our brethren have already crossed the water, and they bring back but one report of the greatness of the land, and the hospitality and kindness of its people, and especially of our medical brethren. Besides this, we need not remind our readers of the fact that medical art and science are in a most active state across the Atlantic. The Americans set us an excellent example year after year of disregarding the sea and its sickness in search of knowledge, and to acquire the last hints of Europe in art or science. They come so freely that we are apt to think they are only learners, and not teachers; but no mistake could be greater. They are profoundly influencing both surgery and medicine, and our own foremost leaders would be the first to admit their indebtedness to American physicians and surgeons in respect of details and of boldness in the improvement of instruments, in the great operations of surgery, in the addition of new medicines, and of enterprise in the whole field of pathology and therapeutics."

The "Medical Times and Gazette" says:

"The present medical situation in the United States has received less attention on this side the water than it deserves. But we may assure our American readers that all here who have mastered the question sympathize most deeply with them in the trouble that has befallen them. A disagreement like the present is, for many reasons, taken more to heart by our American kinsmen than it would be in England, assuming for the moment such a schism to be possible here. The American temperament differs perceptibly from ours. It is less insular and phlegmatic, more sensitive, we fancy, to the opinion of other countries, more concerned to make a good appearance before the world. Then the position of the medical profession in America is somewhat different from that which it holds in this country. Here we take a comparatively inferior place in the social hierarchy; we are overshadowed by estates and professions of higher importance and prestige in the nation's estimate. Our organization too is more oligarchical; there is more reverence among us for authority. Our leaders do lead, and if they are unanimous in any undertaking, as in the case of the London Congress, being able to count on the support of royalty, and the city, and South Kensington, and other depositories of power, they can afford to be indifferent to the support of the mere privates in their army. Even if the editor of the 'British Medical Journal' and all his council had made up their minds to control the London Congress or to wreck it, they would only have made themselves ridiculous. But in the United States the position of the profession is entirely different. There is nothing to overshadow it there. It holds a position as important and honorable in the State as that of any other calling; so that an International Medical Congress in America may be expected to enjoy a higher dignity from a national point of view than it can claim in older countries; but, at the same time, it must depend far more largely for its ceremonial success on the harmonious co-operation of the medical profession itself. Now, in the United States, the organization of the profession is purely democratic; there is no common link like that of our royal colleges, no recognized headship like that of our president of the College of Physicians, or our president of the College of Surgeons. According to the very political theory on which the State is founded, every man has as good a right to lead as any other, if he can only get that right admitted by his fellows, and for that purpose one vote is as good as another. Distinction in science and reputation abroad supply no reason to a practitioner in Texas or Colorado why he should follow a Wendell Holmes or a Weir Mitchell in preference to a Shoemaker or

a Beverley Cole. Hence a revolt of the 'rump' in the United States threatens to prove a much more disastrous affair than it would be in England, and hence we especially ask our readers' sympathy for those well and widely known American practitioners whose title to lead their profession is admitted everywhere except in the ruder and remoter States of their own country.

"We have had an opportunity of seeing several letters from distinguished American practitioners, and they all concur in expressing the most bitter grief and disappointment at the pass to which their profession has been brought. In these letters we have met with scarcely one word of anger against the dissidents who have rudely torn up the first programme of the Congress. Indeed, if we may say so without impertinence, the spirit in which the 'leaders' of the American profession, for we will still venture to call them so, have met the recent crisis is one which reflects the highest possible credit upon them. We hardly know which to praise most, their patient suspension of action until the Chicago meeting had confirmed the spirit of the proceedings of the meeting at New Orleans, or their swift and unanimous protest and withdrawal from the Congress when definite action was at length called for. The only hope for the Congress—the only possibility of maintaining the dignity of the profession—lay in such firm and united action on their part, and the effect of this action has been so favorable that there already appears to be a much more hopeful feeling in the States as to the prospects of a peace with honor. The organizers of the revolt are meanwhile making frantic efforts to prevent further resignations, and are even said to contemplate throwing over Dr. Shoemaker, on the score of his supposed unpopularity. But we may take it that no concessions on their part will be accepted short of unconditional surrender and full recognition of the authority and acts of the original committee. These are the essential preliminaries to the holding of any International Congress at all, and every day increases the prospect of their general acceptance. The sooner they are accepted the better. There will then be still two years in which to bury the hatchet, two years in which to prepare a Congress which shall 'whip creation.' We had all made up our minds for that, and shall be disappointed with anything less."

The "Pacific Medical and Surgical Journal and Western Lancet" says:

"The recent action of the American Medical Association has reduced all the arrangements for the approaching Congress to a state of chaos. In an unguarded moment it accepted the doctrine that none but members of the association, or of societies in affiliation with it, were eligible for seats in the Congress, and consequently refused to indorse the appointments made by Dr. Billings's Committee of Arrangements, who had taken the broad view that delegates should be selected from all regular practitioners. The so-called new code was made to play an important part in the discussion, and, consequently, such men as Emmett, St. John Roosa, Shrady, and Knapp were declared unqualified to become members of the Congress. In consequence of the above-quoted restrictions, the medical profession in Boston, Baltimore, and Philadelphia have refused to take any part in the proceedings, so that the American delegates will not be representative of the profession. Without doubt, the American Medical Association is the representative of the profession, and therefore the Congress convenes under its auspices; but it should be borne in mind that this latter body is an assembly of medical men, and not a convention of societies, and is not therefore bound by any code of ethics. The profession in every country has its own rules for the guidance and government of its members, and therefore the code of the American Association can not be taken as the criterion for the fitness of any man to occupy a seat in the Congress. When this question was first discussed we denied the prudence of the refusal to indorse the work of the first committee, although we admitted the power to do so; but a further consideration of the above facts, together with the recollection that the invitation was extended in the name of the profession in America, leads us to believe that every regular practitioner of medicine is eligible for a seat in the Congress. It is utterly absurd to debar men who have in former years occupied an honored place in that body, or those such as Fordyce Barker, Emmett, Shrady, Loomis, and Jacobi, whose names are on the lips of every intelligent practitioner in Europe, merely because they hold somewhat broad views on a question of medical politics. If any one has exceeded its power, it is the American Medical Association, which was intrusted by the profession at large with the honor of making suitable arrangements, but not with the power of making laws which will exclude many of those from whom it will only be too ready to receive subscriptions.

"While the American Medical Association is thus caviling and squabbling, it seems to forget that its intended guests are being thoroughly informed of all those curtain lectures, and are not at all likely to leave their practice and cross the Atlantic for the purpose of participating in a party-strife. The medical men of Europe promised to meet with those of this country for the purpose of engaging in scientific discussion, and will be amazed to learn that the noblest of America's children, who have followed in the footsteps of Æsculapius, are no longer considered members of the regular profession by their countrymen.

"Unless some satisfactory arrangement is arrived at within the next few months, the money necessary for the successful administration of the Congress will not be forthcoming, as the dissatisfaction with the action of the American Medical Association is very widely spread. We are told by the journal of the association that this is unwarrantable, for the changes made by the new committee were not of any great importance. We differ from our cotemporary in this opinion, but its truth would make the action of the association even more unpardonable, since only the most serious errors on the part of the old committee could justify the course which has been adopted.

"The proceedings of the revised committee which met at Chicago have especial interest for the profession of this State, as a serious change has been made in the *personnel* of those who were to have represented them at the International Congress.

"Dr. Levi C. Lane, whose aid in perfecting the arrangements was requested by the original committee of seven, has not only been dropped from the list of vice-presidents and from his position on the surgical section, but, as the matter now stands, is debarred from even entering the Congress as a delegate, for we learn that he was dropped on the pretext of his being a new-code man. When the New York State Medical Society adopted the new code, as it is called, and by so doing violated the tenets of the code of the American Medical Association, that association very properly denied to their delegates seats in its convention, and we at first thought that there was reason for dissatisfaction when these same men were appointed to take part in the International Congress. Further deliberation has made the difference between the two cases clear, and we believe, since the invitation was given and accepted in the name of the profession, that no regular practitioner should be excluded from a purely scientific meeting because his code differs from that of the American Medical Association.

"The committee had the power to make what appointments they chose, and in most instances closely followed their instructions, viz., to have regard for geographical representation, and not to appoint any new-code men. If, however, Dr. Lane, who had been in active correspondence with the Committee of Arrangements, and had been giving for the past year much valuable time and hard labor to the advancement of the arrangements for a successful Congress, was not reappointed because he was of the new code, a sad mistake has been made and a gross injustice has been done.

"As far as medical politics are concerned, there are no new-code men on this coast, nor in fact anywhere in the United States except New York alone.

"At the annual meeting of the California State Medical Society in 1882, the year in which Dr. Lane was elected president, resolutions were introduced to test the feeling of the members. Had these been carried, the action of the New York State Society would have been indorsed, and members have been allowed to meet with the [illegible] profession of this State. They were however laid upon the table. Since that time no action has been taken on the matter, and the 'new code' does not exist in this State. Dr. Lane is highly esteemed in the State Society, and the State Society with the American Medical Association, and therefore to say that he was a 'new code' man can only have been meant as an excuse to prevent his reappointment.

"A general feeling of [illegible] exists among the profession in California, and [illegible] to prevent [illegible]

ing the meeting of the Congress upon American soil being an honor to America."

Warm Baths at the White Sulphur Springs.—The managers of this popular health-resort call attention to a new method adopted by them for heating the water of the spring, which, they think, promises to be productive of the same good effects that are experienced from bathing in thermal waters. The heating is effected by steam in the vessel in which the water is to be used; consequently the heat is never so great as to cause much precipitation of the saline constituents. An additional advantage is, that more hot steam may be let in from time to time, so as to keep up the temperature of the bath.

THERAPEUTICAL NOTES.

Ergot as a Remedy for Hiccough.—Dr. E. Bonavia, of the British Indian Medical Department, in a short communication to the "Lancet," after mentioning the usefulness of ergot in various hæmorrhages, says: "Very few, however, may have heard that ergot will cure hiccough. Last autumn there was in this district an extensive epidemic of intermittent fever. The police hospital was full of fever cases. One day a policeman was admitted with an obstinate hiccough. He said he had had it for some days, and had no other ailment. I tried many remedies—sedatives, narcotics, antispasmodics, and counter-irritants. I examined his body to see whether there might not be some latent hernia in any part which might be the cause of it, but found nothing. I gave him a large antispasmodic enema, and then a strong purgative. The hiccough went on. I next tried chloroform and subcutaneous injections. As long as their effects lasted, freedom from the distressing spasm was experienced. Then it came on again with unabated force. The patient began rejecting his food and everything he took by the mouth. The case was taking a serious aspect, and I thought death would ensue. As a last resource, I ordered the liquid extract of ergot in drachm doses. I did this simply because I knew it had a decided action on muscular fiber. The first dose moderated the spasm, the second did further good, and the third or fourth stopped it altogether. The patient had some rest, but later on the hiccough returned. Three or four doses stopped it again; it never returned, and the man was well. Recently another case was admitted with a similar obstinate hiccough. My hospital assistant gave the liquid extract of ergot at once; after some doses the hiccough was stopped and did not return. I have often given this extract in drachm doses frequently repeated, and have never observed any disadvantages from it. As to the cause of this idiopathic hiccough, I think it was a chill."

The Treatment of Simple Acute Diarrhœa.—Dr. J. K. Spender, of the Mineral Water Hospital, Bath ("Brit. Med. Jour."), thinks that the management of that common malady, alvine catarrh, has never been raised to the scientific level of many diseases of rarer occurrence, so that there is always a little uncertainty in the prognosis. He refers to a formula published by Dr. David Young, of Florence, in the "Practitioner" for March, 1875; about two minims of castor-oil were combined with three or four minims of the British Pharmacopœia solution of hydrochlorate of morphine, and rubbed into an emulsion with gum arabic. To this were added spirit of chloroform and a little syrup. This dose was to be repeated every hour or every two hours, according to the urgency of the case. If the diarrhœa was chronic, the quantity of castor-oil was increased; if there was much pain, more morphine was prescribed. He has found Young's mixture extremely valuable in nearly all forms of sudden and acute diarrhœa, such as are often seen during August and September, and scarcely less useful in some chronic conditions of irritable bowel which have baffled the so-called routine remedies; but he thinks that, when the castor-oil and morphine fail, or do little good after four or five doses, it may even aggravate the malady to continue their use. Warm milk with lime water is the best food, a mustard poultice may be put over the stomach, and there should be absolute rest in bed.

Strophanthin, a New Diuretic.—At the recent meeting of the British Medical Association Prof. Fraser (*Ibid.*) read a paper on the apocynaceous plant *Strophanthus hispidus* (*S. kombé*, Oliver), from which an arrow-poison is prepared in many parts of Africa, called *kombé* in the Mangauga district, and *inée* in Senegambia and Guinea. The plant is a woody climber, and flowers in October and November. The follicles vary in length from ten to twelve inches, and contain from one hundred and fifty to two hundred seeds, each weighing about half a grain, and bearing a beautiful plumose tuft, placed at the extremity of a delicate stalk. They contain no alkaloid, but are rich in an active principle which the author calls strophanthin, a crystalline substance of intense activity, which seems destined to play an active part in our list of heart remedies. In physiological action it is allied to digitalin and other members of the digitalis group. It has been used, both experimentally on animals and clinically in the wards of the Infirmary at Edinburgh. The dose for hypodermic use is from one one-hundred-and-twentieth to one sixtieth of a grain.

The Treatment of Weakness of the Heart's Action.—In the course of a recent lecture on "Arterial Atheroma and Cardiac Affections," M. Lancereaux ("Union méd.") remarked that the treatment of systolic weakness should vary with the nature of the case. When it depends on dilatation of the right heart, recourse should be had especially to purgatives, for digitalis is no longer efficient, and this is readily understood at the autopsy, when the right heart is found with its walls hardened and stiffened, and remains gaping after it has been cut open. When, however, the weakness is due to atheroma of the coronary arteries, even if at the same time the heart is a little steatosed and sclerosed, digitalis acts more energetically, and it is of great service to use it in conjunction with other diuretics. The author often uses the following formula:

Scammony, Squill, Digitalis,	each	15 grains.

Divide into twenty pills, from four to six of which are to be taken daily, a milk diet being prescribed at the same time.

A Mixture for Whooping-cough.—According to a contributor to the same journal, M. H. Roger prescribes the following formula:

Tincture of belladonna		5 drachms;
Tincture of valerian, Tincture of digitalis,	each	75 grains.

For a child two years old, begin with five drops daily; increase the amount by five drops each day until it reaches thirty drops. The initial dose and the increment are ten and fifteen drops respectively for children between two and five years old and for patients who are still older. If the valerian is not well borne, tincture of musk may be used instead. Where nervous and spasmodic symptoms predominate, the author resorts to chloroform, giving to children between two and five years old from six to thirty drops daily, in two ounces of gum julep.

The Administration of Terpene.—M. Germain Sée ("Rev. méd. franç. et étrang.") gives the following formula:

Terpene	150 grains;
Alcohol, 85 per cent.	5 ounces;
Water	1½ ounce.

Two teaspoonfuls to be taken daily, in divided doses, with the meals. The author states that when the drug is administered in this way or, better still, in the form of pills, it does not produce the slightest derangement of the digestion.

Hydrochloric Acid in the Treatment of Dyspepsia.—In an article on the treatment of diseases of the stomach ("Ztschr. f. klin Med."; "Dtsch. Med.-Ztg."), Prof. Talma, of Utrecht, lays stress on fermentation of the contents of the stomach as being either the cause of dyspepsia in the great majority of instances or at least the leading factor in keeping it up. This fermentation is generally due to a deficiency of hydrochloric acid, an artificial increase of which is therefore indicated. For adults, the author recommends a mixture of fifteen grains of the acid and twenty two ounces of water to be taken in the course of twenty four hours. The doses had better be taken after eating, and sensitive patients may take them lukewarm. He has observed excellent results of this treatment after the failure of long-continued alkaline medication, and even in cases of ulcer or cancer of the stomach he has seen it subdue such of the symptoms as were due to abnormal fermentation.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON.

BY AMBROSE L. RANNEY, M.D., NEW YORK.

(*Continued from page 145.*)

SPECIAL ELECTRO-THERAPEUTICS.

WE have thus far discussed the various methods of employing electricity in a general way, and there remains for us to consider how we shall proceed in employing this agent when special organs are diseased. I would preface my remarks upon this field with the statement that the curative properties of electricity must, of necessity, be modified by the pathological conditions which exist in each individual case. The prognosis is naturally more grave in some conditions than in others.

For example, a patient who has motor paralysis which is due to degenerative changes in the cells of the anterior horns of the spinal gray matter will not usually recover the power of motion completely, while he may do so if the paralysis be due to a cerebral or spinal lesion which is not accompanied by degenerative nerve-changes. Again, all forms of functional nervous derangements are more amenable to electrical treatment (if judiciously employed) than are the graver results of organic disease of the nerve-centers. A muscle which has atrophied from disuse can usually be restored, while one which has wasted from imperfect nutrition (resulting from a degenerated nerve) may withstand all efforts to improve it. The therapeutical use of electricity is subject to the same influences as that of any other remedial agent, and the prognostic conditions are not always the same even among cases of the same nature.

In previous lectures I have given you many hints relating to the differential diagnosis which you will be called upon to make in nervous diseases, and enough has been said in reference to the anatomy and physiology of the nervous system to assist you in properly interpreting abnormal nervous phenomena. I shall therefore give you, in closing, directions only as to how to employ electric currents upon different parts of the body, without entering to any extent into the causation of the symptoms which you will be called upon to treat. Remember, however, that accuracy of diagnosis is the basis of cure in a large proportion of the cases which you will meet.

ELECTRICITY IN CEREBRAL AFFECTIONS.

Experiment has shown beyond dispute that galvanic currents can be made to pass through the substance of the brain when inclosed within the skull. It is much less certain whether the same may be said of faradaic or static currents. The beneficial results which are obtained by the two latter (and possibly many of the effects of galvanism as well) upon cerebral diseases are to be attributed, in my opinion, chiefly to the alterations produced in the blood supply of the brain. Some of the most remarkable results obtained by neurologists from the employment of electricity upon the head itself or the cervical ganglia of the sympathetic are unquestionably due to an alteration produced in the caliber of the cerebral vessels. I have never been convinced that *organic* lesions of the brain can be cured by the direct use of this agent on that organ. On the other hand, I am fully satisfied that the symptoms of cerebral hyperæmia and anæmia are directly influenced by galvanism and static electricity. I believe that any unprejudiced mind can be readily convinced of the scientific accuracy of this conclusion. I have treated many patients (who gave undisputable evidences of basilar hyperæmia by the deflections of the needle of a calorimeter), and have brought them to a state of perfect health within a space of a few weeks by galvanism of the head. The calorimeter confirmed the cure in these cases by the absence of deflection which existed before treatment was commenced. In some instances of this condition static electricity proves a very valuable adjunct to galvanism. I will give you in detail a few of the methods which, in my experience, may be employed in cerebral diseases with a prospect of great benefit to your patient.

CEREBRAL HYPERÆMIA.—First ascertain by means of a calorimeter the situation and extent of the congestion. Test all parts of the head. When necessary, do so by separating the hair and bringing the poles as closely as possible in contact with the scalp. It is not necessary, as a rule, to shave the head. In case very accurate observations are demanded, this step may have to be taken—as, for example, when a cerebral tumor is suspected to exist.

At the nape of the neck, over the mastoid processes, upon the temples, and over the forehead, no hair exists to interfere with the determination of the relative temperature of the two sides, or of different regions of the corresponding side. The calorimeter will aid you in diagnosis and treatment; if properly used, it is invaluable.

The following are the steps in treatment most generally useful:

(1) Apply the cathode to the nape of the neck, close to the skull, and the anode over the forehead. Make stabile applications for one or two minutes to each side of the forehead, the cathode remaining stabile. (2) Make labile anodal applications to the forehead transversely for one minute. (3) Move the cathode to the mastoid region of each side, place the anode centrally on the forehead, and continue each stabile application for from thirty seconds to one minute. This may make the patient dizzy. (4) Do not use a current which produces pain to the patient, but have as great intensity as he can comfortably bear. (5) Never reverse the current when the poles are on the head.

These applications may daily be alternated with "*insulation*" and the "*electric head bath*," if you possess a static machine. The sittings should occur daily until the symptoms are cured, and the calorimeter ceases to show its previous deflection.

It is sometimes well to *stimulate the superior cervical ganglion* by placing a small anode in the fossa behind the

angle of the jaw, and the cathode on the seventh cervical spine, and to slowly interrupt the current. Caution must be exercised against employing too strong currents.

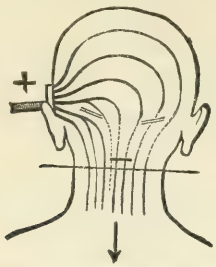


Fig. 40.—A Schematic Representation of the Distribution of an Electric Current applied unilaterally through the Head (after Erb). The anode (+) rests above the ear of the left side. The cathode (—) is supposed to be at the nape of the neck, and to exert its influence as far as the line drawn horizontally across the neck.

Finally, active *faradization of the limbs* is sometimes necessary, in order to draw the blood to the limbs. It is not well to employ this step if it causes an elevation of temperature.

The effects of this treatment should be to relieve the pain or sense of fullness in the head, the vertigo on rising, the mental confusion or distress, the insomnia, and the many other symptoms peculiar to this condition; and to steadily reduce the calorimeter deflections when the poles are in contact with homologous parts.

Cerebral Anæmia.—I should advise you to begin the use of very weak galvanic currents after an attack of embolism. I believe that currents of this kind sent transversely through the head from the temples, and occasionally in the antero-median plane, assist in absorbing the collateral œdema and cause a diminution of the collateral hyperæmia. I prefer to use the cathode on the side of the embolic obstruction when transverse currents are employed. In my opinion, it tends to promote absorption and to contract the vessels far more than the anode. The paralyzed muscles should be treated separately, by methods given in detail later.

Some four years ago Löwenfeld published some deductions relative to the action of galvanic currents upon the brain, based upon experimental researches. Although their accuracy has been justly called in question by authors of note, my own experience leads me to confirm them in part and to attach some importance to them. These conclusions were as follows: (1) Anode at forehead and cathode at neck causes contractions of the vessels of the pia; (2) anode at neck and cathode at forehead causes dilatation of the vessels of the pia; (3) when transverse currents are employed, the cathode causes contraction of adjacent vessels, and the anode dilatation.

When cerebral anæmia of a *general character* exists (as a manifestation of poverty of the blood, defective heart-power, etc.), general faradization, central galvanization, and static electricity by insulation are often of material benefit. The removal of the cause by judicious medication, etc., is, of course, vital to successful electrical treatment.

Hemiplegia of Cerebral Origin.—A very large proportion of patients with hemiplegia from cerebral causes owe the paralysis of their limbs to hæmorrhage, softening, or

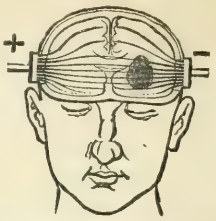


Fig. 41.—A Schematic Representation of the Course of Electric Currents sent Transversely through the Head (after Erb). The cathode (—) is represented as placed on the side of the lesion.

embolism. The electrical treatment should be directed to both the brain and the muscles. It should not be commenced (save in the case of embolism) until a month has elapsed since the attack. Each patient's susceptibility to the agent should be carefully studied; and the strength of current employed should be modified accordingly. The muscles may be treated by faradization or galvanization, or by the static current (indirect sparks being drawn from the paralyzed limbs). The brain should be subjected to galvanization only, or to static insulation.

If the patient fails to show improvement within a month after the treatment has been daily applied, or if the improvement of the first few days is rapidly lost in spite of continued treatment, the prognosis, as regards marked amelioration of the paralysis by electrical applications, is grave.

Hemianæsthesia is best treated by the wire-brush upon the dry skin in connection with the secondary faradaic current. I have also obtained some remarkable effects with the combined current (as before stated), and also with the static current, in cases where the faradaic current was ineffective.

Post-paralytic rigidity (occurring late) is the result, in most cases, of secondary changes within the spinal cord. The supervention also of pigmentation of the nails, œdema, a shiny skin, disease of the joints, and other evidences of trophic alterations, points to a serious and often permanent destruction of the nerve-centers.

Hints which have been given under the head of general electro-therapeutics will guide you in modifying the treatment according to the exigencies of each individual case. The remarkable improvement which some hemiplegics obtain through the instrumentality of electrical treatment should impress you with the necessity of employing it long enough to ascertain whether its continued use is indicated.

Monoplegia or Monospasm.—These conditions are particularly indicative of cortical disease. The muscles affected are a guide to the convolution attacked. I have covered this field in previous lectures.* The indication in such a case is to improve, if possible, the nutrition of the diseased part directly by galvanism, and also to stimulate the muscles functionally associated with it. I employ for this purpose a "medium" electrode over the diseased con-

* See "Med. Record," May and June, 1884.

volution, the indifferent electrode being placed over the center of the sternum. It is my custom to employ both poles to the head for an interval of two minutes each at a sitting. The monoplegic limb may be treated by labile galvanic applications, the wire-brush and faradization, or the indirect spark by means of a static machine.

Duchenne's Disease.—The morbid changes in the nuclei of the medulla which accompany bulbar paralysis may, in some cases, be held in check for a while and the symptoms markedly improved by placing the positive electrode (of large size) at the nape of the neck and as close as possible to the foramen magnum, and applying the negative electrode (covered with absorbent cotton and attached to a long handle) successively to the pharynx, fauces, tongue, cheeks, and lips. As strong a current as the patient can easily endure should be used. The duration of the sitting should not exceed five minutes. It is well to complete the sitting by passing transverse currents through the neck, so as to excite the muscles concerned in deglutition. Some authors recommend the employment of currents through the head, both longitudinally and transversely.

ELECTRICITY IN SPINAL AFFECTIONS.

There are various ways of bringing the spinal cord under the influence of electrical currents. The method of application selected in any individual case will depend somewhat upon the symptoms which the patient presents, and also upon the character and seat of the lesion. The diagrammatic cuts of Erb, which illustrate the diffusion of electrical currents, show in a graphic way the effects of close approximation and wide separation of the poles. We may also modify some of the morbid conditions of the spinal cord by electrization of the extremities when the indifferent pole is placed over the spinous processes. It is well to increase the size of the electrodes proportionately to the strength of the current employed.

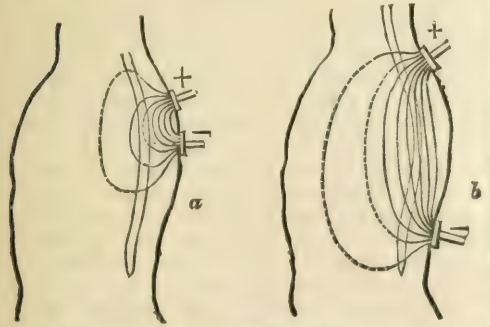


Fig. 42.—A Schematic Representation of the Distribution and Density of the Threads of Current with regard to their Entrance into the Spinal Cord after Erb. In *a* the poles are placed near each other. In *b* the poles are more widely separated. The size of the electrodes shown in the cut is the same for both the anode and cathode.

Fig. 42 illustrates the effect of separation of the poles when applications of electricity are made to the spinal column. Some of the threads of current depicted are rendered ineffective on account of their diffusion. This is made more apparent in Fig. 43.

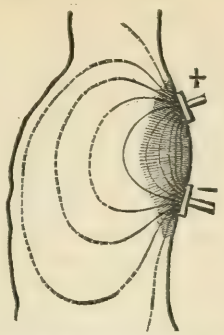


Fig. 43.—A Schematic Representation of the Density of the Current upon Application of the Electrodes to the Same Surface and in Close Relation to Each Other (after Erb). The dotted lines indicate the ineffective threads of current. The shaded portion represents the zone of greatest intensity.

ELECTRIZATION OF THE SPINAL CORD.

To treat properly of the various methods which may be used when the application of electrical currents as a therapeutical measure for the relief of spinal diseases seems indicated, it would be necessary for me to enter into greater detail regarding spinal diseases than the time allotted to these lectures will permit of. I am reluctantly forced, therefore, to summarize somewhat hastily the main points which my experience with this agent leads me to indorse. Most of you are probably already familiar with the pathological changes which exist in connection with the more common diseases of the cord; but, if any of you are not so, they should first be studied and thoroughly mastered before you can hope to successfully combat them.

Galvanic currents are of greater service in the treatment of spinal diseases than faradaic or static—chiefly on account of the depth of the tissues affected and the chemical and molecular changes which galvanic currents tend to induce.

Spinal electrodes should be of large size.

The applications may be either stabile or labile, the former being of the greatest benefit when the spinal lesion is circumscribed in extent, and the latter when a larger part of the spinal cord is affected. If labile applications are indicated, the movements of the electrodes should be made somewhat slowly.

In directing galvanic currents to the *cervical* and *upper dorsal segments* of the cord, it is well to place one electrode of medium size behind and below the ear alternately on the two sides of the neck, while the other is applied to the spine.

Points of tenderness to pressure along the spine should be subjected to stabile applications of the anode. They should be sought for in each individual case with care and separately galvanized.

The *strength* of the currents employed should be modified in individuals by the condition which is presented for treatment. Weak currents of from two to five milliampères

act best, as a rule, when excessive irritability of the organ exists; chronic pathological conditions respond better to currents of greater intensity. I often use eight to twelve milliampères of current in chronic cases.

It is advantageous, in some subjects, to make *electrical applications to the limbs* when the cord is affected. Stimulation of the peripheral nerves and the muscles connected with the segments of the cord involved should be particularly aimed at, although the electrization of the skeletal muscles and the skin should not be exclusively confined to the limits thus indicated. It is my custom to employ the "*combined current*" (previously described) when applications to the limbs are thus made. This form of current is particularly indicated when the muscles exhibit a tendency toward atrophy. The electrode which rests upon cervical or lumbar enlargements of the spine should be of large size, while that used upon the limbs should be of medium size, so as to direct the combined currents to the nerves or muscles affected.

If *galvanism alone is used upon the limbs* in spinal disease, it is often beneficial to the patient to break the current by an interrupting electrode, or to reverse its direction by means of the commutator.

Some authorities advocate *faradization of the vertebral region and of the limbs* in conjunction with galvanic applications. I have seen in a few instances some remarkable effects follow the employment of the wire-brush alone in polio-myelitis of children, and I can see no reason to doubt its occasional efficacy in other forms of spinal disease.

In some unexplained way the excitation of muscular action and stimulation of the cutaneous nerves exert in many instances a remedial effect upon lesions of the spinal cord.

It is not always possible (as, for example, in polio-myelitis) to excite muscular action by faradism alone. In these cases interrupted galvanic currents, or the "combined current" (galvano-faradaic), will accomplish the desired end. I have repeatedly observed beneficial effects of this treatment in locomotor ataxia, and Rumpf has published some cases which sustain this view in which the wire-brush was used upon the arms and legs daily for about five minutes.

In all acute *inflammatory disorders of the cord* I deprecate the use of electrical applications. When the acute stage has passed, or when the disease has assumed a chronic type, many of the effects of the disease (as, for example, muscular paralysis, rectal or vesical complications, incipient caries, muscular atrophy, etc.) may often be greatly relieved by its judicious use. The current-strength employed in such cases usually varies from five to eight milliampères. The applications should be made daily. When possible, it is important that we localize early the seat of the structural lesion and concentrate the treatment, for a while at least, upon the segments of the cord involved. The muscles, skin, viscera, rectum, etc., should be separately subjected to the influence of electricity in case they exhibit a loss of functions.

Electricity in Paralysis or Paresis.

Hypokinesia may be due to many different conditions, hence the electrical treatment and prognosis must vary in accordance with the cause which excites it. You should remember that paralysis of a muscle is only symptomatic of other conditions, such as lead-poisoning, diphtheria, hysteria, mechanical pressure upon a motor nerve, severance of a motor nerve, destructive processes or inflammation within the motor cells of the brain or spinal cord, and changes in the vessels. All of these tend to impair either the generating power of a motor center, or the conducting power of a motor fiber.

Respecting the application of electricity to the seat of central lesions (*i. e.*, lesions of the brain or spinal cord) in cases of motor paralysis, De Watteville pertinently remarks as follows:

"It is true that we have too often but a very imperfect idea of those processes in the nerve-centers upon which the symptom depends, and that we have no right to assume that the current has any specific curative influence upon any one of them; still, as a justification for central treatment in such cases, we may plead our very ignorance, we may urge the poverty of our therapeutical arsenal in arms wherewith to combat our enemy, and may also invoke the possibility of at least staying its progress by promoting nutrition of the surrounding portions of the nervous structures threatened by its invasion."

When the lesion directly affects the conductivity of a nerve, we have reason to believe that the direct influence of electrical currents upon the lesion tends to overcome the resistance offered to conduction by the disease-process, and facilitates the subsequent transmission of voluntary stimuli.

There are certain general rules that are applicable to the electrical treatment of paralysis of motility. These may be stated as follows:

1. The treatment should not be alone confined to the region of the paralyzed muscles.

2. The seat of the exciting lesion should be ascertained early, if possible, and subjected to the influence of this therapeutical agent in an intelligent way.

3. If the motor paralysis is accompanied by anæsthesia, hyperæsthesia, or other sensory disturbances, or if the vaso-motor system of nerves be apparently implicated, the wire-brush may often be used with advantage upon the skin in the vicinity of the lesion, and also over the muscles paralyzed.

4. Faradaic currents (provided they excite muscular action), or the cathode-pole of a galvanic battery (with interruptions of the current), are of use in exciting the conductivity of the nerve-tracts affected. Static electricity is also of great utility in inducing muscular contractions, and is less painful than faradism or galvanism.

5. The "combined current" (galvano-faradaic) is chiefly of service in overcoming trophic disturbances, which often manifest themselves in connection with motor paralysis.

6. I prefer labile applications to stabile in applying either faradism or galvanism to the muscles. Stabile applications are preferable to labile when the brain, spinal cord, or peripheral nerve-trunks are to be influenced.

7. Never begin the use of electricity immediately after the onset of paralysis (when due to a central lesion). It

is always best to wait until all danger of exciting a recurrence of the attack by stimulation of the nerve-centers has passed.

(*To be continued.*)

Original Communications.

PYROGALLIC ACID AND COLLODION: A TREATMENT FOR PSORIASIS.

By GEORGE T. ELLIOT, M. D.,

ASSISTANT VISITING PHYSICIAN, NEW YORK SKIN AND CANCER HOSPITAL: ATTENDING PHYSICIAN, DEMILT DISPENSARY, ETC.

For many years innumerable attempts have been made by dermatologists to obtain some form of application for the treatment of diseases of the skin which would be an advance on, and which could also supersede, the usual time-honored methods, such as ointments, etc., accompanied as they are by certain objectionable features which cause their use to be, as a rule, a source of considerable annoyance. The soiling of the linen, the discoloration of the skin, etc., attending the application of some of the most useful medicaments, have always been serious evils. To remedy these, or at least as much as possible to remove them, we have had in the past few years many preparations brought forward in which the drug to be used has been incorporated in gelatin, traumaticin, etc.,-or has taken the form of plasters, as recommended by Unna, and known as "Unna's Pflastermull." Each of these has had its supporters, and has enjoyed reputation and extensive use for a longer or shorter period of time, finally to be relegated to a greater or lesser disuse, leaving dermatologists still seeking for that application which would be generally acceptable as regards cleanliness, and in which the proper action of the drug used would not be interfered with or diminished. Many skin diseases, owing to their chronicity and the length of time necessary to cure them, especially call for some such application, for the continued use of a treatment offensive alike to the sight and smell can only disgust the patient, until he finally prefers his disease to the remedies used therefor. Among these diseases, psoriasis is prominent. For its cure a little of everything, both externally and internally, has been recommended, from the old-time tar—which, however, always gave most satisfactory results—to the more recent chrysarobin and pyrogallic acid.

It was in regard to the treatment of this disease that, dissatisfied with the methods in practice—objectionable features being to a certain extent present in all of them—I sought to remedy them, not by any new medicament, but by a new combination of remedies already in use. Though speaking of the treatment of psoriasis, I do not, however, intend to review the many methods which have been recommended, these being dealt with *in extenso* in works on general dermatology, and I desire to limit myself only to the method which I have been using entirely for now nearly a year, being one which has given me most satisfactory results. Still, I would briefly mention one method, since the formula which I use differs from it only in regard to its principal and active ingredients.

A solution of chrysarobin in collodion was first used and recommended in Europe by Sesemann, and here by G. H. Fox, who improved its action by the addition of salicylic acid. It has enjoyed, since first brought out, deservedly great repute, has been extensively used, and is a valuable addition to our list of remedies. Unfortunately, however, the chrysarobin now obtainable in the market is so unreliable and impure that the service which it formerly rendered has become very uncertain and much diminished, so that the results, even from strong solutions, are far from satisfactory. I have found another objection to chrysarobin, and that is, that only a portion of it is soluble in the collodion, and, when used in a ten-per-cent. or twenty-per-cent. solution, there is always a considerable sediment, which causes it, when shaken up, to be of a more or less gruelly consistence. This, naturally, is an objectionable feature, depriving the application, to a certain extent, of cleanliness in its appearance, and giving the skin painted with it an unsightly look.

These objections I sought to remedy, and, having always had a predilection for pyrogallic acid, I determined to substitute it for the chrysarobin. This acid was first introduced into dermatology by Jarisch, and was recommended by him for the treatment of psoriasis, but it has since then been used in many other diseases of the skin. It was received with great favor at first, and the benefits derived from it were extolled, until a few unfortunate deaths occurring from its application, as reported by Neisser, Besnier, and others, caused dermatologists to become chary in its use and to prefer the safer chrysarobin. If used properly, however, there is no more danger from the one than there is from the other. The deaths reported were indubitably due to the careless manner in which the acid was employed, a ten-per-cent. ointment having been rubbed in over the entire body every day, a procedure which might in all probability give some unfavorable results, even if some less absorbable or more innocuous drug had been used. In Jarisch's hands, and in the practice of Kaposi and others, I have always seen it give the greatest satisfaction, and I have not as yet seen any untoward result occur. On the contrary, in the cases which I saw treated by them, and in my own cases, I have only been able to observe a quicker and more complete disappearance of the eruption when pyrogallic acid was used.

So far as I have been able to ascertain, it was received with little favor in America as a remedy for psoriasis, possibly owing to the already mentioned deaths occurring from its use, and also to its always having been made up as an ointment, a method of application which, to say the least, is very disagreeable on account of the black color which it acquires after exposure to the light, and the destruction of the patient's linen. The dark pigmentation remaining after its use and the ease with which a dermatitis arose were also potent objections to it.

In order to avoid and remedy, if possible, these objections, I determined to try an application of pyrogallic acid dissolved in collodion, substituting it for chrysarobin. The

immediate and patent advantages shown have caused me to use this solution in all cases of psoriasis to the exclusion of every other method of treatment. The strength of the solution has varied from 10 to 15 per cent., and I have not yet found it necessary to increase this strength. The formula reads as follows:

℞ Acidi pyrogallici..... ʒ jss.–ʒ ij;
Acidi salicylici..... ʒ ss.;
Collodii flex..... ℥ ij.
M. et ft. sol.

The first advantage which I noticed was the complete solubility of the pyrogallic acid; the solution being perfectly clear and without any sediment whatever. It was at first limpid and clear, but, after exposure to the light, it gradually became brown in color, and I found it was better to keep it in a dark-colored bottle. After applying it to the skin it becomes darker, and may even appear black.

The salicylic acid, which had been added to the chrysarobin collodion by Dr. G. H. Fox, I retained in the pyrogallic collodion, owing to the peculiar action which it exerts on the horny epidermis, though it has itself no direct curative effect over the disease. Unna, of Hamburg, drew attention in 1883 to the fact that certain of the medicaments called antiseptics, when used in the strength necessary for antisepsis, had a peculiar effect upon cornification, preventing keratoplasia through their possessing a keratolytic power. Whether this power acts by dissolving out the keratohyalin necessary for cornification, or whether it prevents its formation, is still *sub judice*. However, when my attention was directed to the fact by his article on "Dermatoplasie und Keratoplasie" ("Berlin. klin. Wchschr.," No. 35, 1883), it offered me an explanation of a condition which I had often observed when using salicylic acid in the treatment of various forms of skin diseases. A surface to which it was applied could be brought to a certain point in healing, and then a retardation in cornification would ensue. Epidermis would form, but it remained soft and easily removable, and this condition would persist as long as the salicylic acid was used. If it was laid aside, and some bland application was made, however, keratoplasia would rapidly follow. This action led me to retain it in the pyrogallic collodion, as it occurred to me that its presence might have the effect of diminishing, or perhaps preventing, the formation of epidermic scales on the psoriatic plaques or lesions, thus allowing the pyrogallic acid to act more directly upon the affected cutis.

In using the pyrogallic collodion, the patient should be directed to first remove all the scales by taking a warm bath. After drying the body carefully, the solution should be freely applied to the lesions, the application extending one fourth to one half an inch beyond the edges of the psoriatic spots. This can be done by using a moderately stiff, bushy brush. One should be taken that the lesions are completely covered with the solution, and the parts which have been painted should remain exposed until they are perfectly dry. A renewal of the application may be made every day if desired, but I have found it quite sufficient to repeat it every second or third day. Removal of the collodion still adhering to the skin is of course necessary previous to each fresh painting, since it is advisable to treat the psoriatic lesions, and not the old coats of collodion covering them.

In all the cases of psoriasis in which the pyrogallic collodion has been used there has been no soiling of the patient's linen. After the application has dried, if it were not for the color, which gradually darkens, its presence would not be noticed. I have not seen any dermatitis follow its proper use in any case. One patient, however, for whom the solution was prescribed as an application for a spot of herpes tonsurans, applied it industriously three times daily, though otherwise instructed, and, as might have been expected, caused a dermatitis to light up around the lesion. In no case have I seen any pigmentation remain after the cure of the psoriatic lesions; the surface to which the pyrogallic collodion had been applied differed in no way in appearance from the surrounding skin. If the solution is improperly used, however, and dermatitis lighted up, pigmentation may easily occur; consequently it is necessary to be careful not to apply it so often that undesired results may ensue.

The results obtained in treating psoriasis with the pyrogallic collodion have been in every way satisfactory. A great change could be seen in the lesions after a few applications. There was an absence of scales and a diminution in the hyperæmia, and the plaques and spots appeared less elevated. The time which was required in curing the psoriasis by means of this solution has naturally varied according to the extent of the disease and the length of time which it had existed. Any rule in regard to it could scarcely be made. The quickest results which I have obtained were in psoriasis guttata, and the slowest in a case of psoriasis nummularis of long standing. In cases where the eruption is universal, or nearly so, it is of course advisable to treat the various portions affected *seriatim*. The results will be just as satisfactory, only the time required will be longer.

In one other form of skin disease, herpes tonsurans, I have used this solution of pyrogallic acid, and with most gratifying success. Its effect upon the lesions has been surprising, two applications having been sufficient in the majority of cases to effect complete cure.

In addition, I can only say that I trust this combination of pyrogallic acid and collodion will obtain a greater recognition for the acid than it has heretofore enjoyed with us, and I hope it will prove as satisfactory to the members of the profession as it has to me in both hospital and private practice.

SOME OBSERVATIONS WITH REFERENCE TO CHOLEROID ALVINE DISCHARGES.

By FRANK S. BILLINGS,
PATHOLOGIST TO THE NEW YORK POLYCLINIC.

On the 22d of June, Dr. J. H. French, of the Fourth Medical Division, Bellevue Hospital, sent some material for examination to the Pathobiological Laboratory of the New York Polyclinic.

The following remarks accompanied the material:

"The specimen is from a patient admitted last night

suffering from acute gastro-intestinal catarrh; discharges very frequent, accompanied with emesis; great thirst."

Examination of material:

It had the usual appearance of rice-water stools, almost inodorous, and was full of yellowish-white flocculi.

Reaction: *Strongly acid.*

Microscopical examination of the flocculi revealed the presence of various forms of cocci, diplo- and strepto-cocci, and bacilli, *but absolutely nothing that could be called a comma.*

As it was late in the evening, the material was at once corked and placed in an ice-chest, very near the ice. It was our intention to filter it very carefully in the morning and then sterilize, and to use this material in its natural acid and a reduced alkaline condition as a cultivating medium for the Koch and Finkler commata.

In this regard I made an unexpected and perhaps excusable error, which is, however, *practically*, quite suggestive.

The reaction of the material should have been taken the next morning, and it should have been filtered before a microscopic examination was made. On the contrary, we at once filtered it, and threw the residue away.

We next tested the reaction. It had become *alkaline* of itself.

The questions now arise:

1. What caused this change in reaction?

2. Would it have occurred *intra vitam* in the same patient had he not improved and recovered?

3. Would comma bacteria have then appeared? (The Finkler comma has not yet been proved to have universal *diagnostic* value even for cholera nostras, as can be accepted for that of Koch with regard to cholera asiatica.)

4. Were the germs of any form of comma bacteria present, and would they have developed in the mass had it been allowed to stand in an ordinary temperature after it had become alkaline; or, in other words, *were there comma germs in it, intra vitam, needing only an alkaline condition of the intestinal contents for their development?*

5. Aside from all known connections with comma bacteria in the alvine discharges of acute catarrhal diseases, these experiments indicate still another question which may have important clinical bearings, viz.: *If in such cases the discharges suddenly become alkaline instead of acid in their reaction, is it not an indication of a fatal termination, or, at least, of a most questionable prognosis? If, on the other hand, the discharges become acid after having had an alkaline reaction, may it not indicate a favorable change in the disease?*

Both of the comma bacteria develop spores at certain periods of their existence.

To prove that the filtered material, which contained all its original elements in solution, and had acquired an alkaline reaction, was a suitable medium for the development of these commata, it was boiled several times in appropriately closed test-tubes, then allowed to stand for forty-eight hours in the ordinary—extraordinary—heat of the laboratory. It remained absolutely clear and amber-colored.

1. The tubes were then carefully inoculated with purely cultivated Koch and Finkler commata.

2. In twenty-four and forty-eight hours there were indications of their development in the opalescence of the media.

3. Gelatin tubes were again inoculated from these and both commas developed in the recognized manner.

These very few experiments, but still sufficient in number, prove the conclusions so well known of Koch and others with regard to the biological necessities of the two commas.

They also show that the discharges from ordinary choleroid cases have, in their serum or fluid, every requisite for the development of these bacteria as soon as the intestinal contents assume an alkaline character, or it is artificially produced, as has been also shown by animal experiments. The attention of clinicians is called to these points.

It certainly is not out of place for me to say that we are prepared to supply boards of health, hospitals, or physicians with any of the forms of gelatin or blood-serum desired for experiments, or to conduct any examinations that may be desired. We are especially desirous of obtaining material for study as above described.

CATARRHAL AFFECTIONS OF THE NASAL PASSAGES

AS A CAUSE OF

PULMONARY PHTHISIS,

WITH SPECIAL REFERENCE TO THE QUESTION OF HEREDITY.*

By WILLIAM CHAPMAN JARVIS, M. D.

The ætiology of pulmonary tuberculosis, a subject always replete with interest to the clinical investigator, has naturally received a deeper significance since the discovery of the *Bacillus tuberculosis*. Despite, however, the positive character of Koch's results, there remains, according to his own admission, much yet to be learned concerning the præ-tubercular conditions which determine the development of the tubercle bacillus.† These conditions, variously and oft-times vaguely referred to by such terms as tubercular disposition, predisposition, heredity, environment, etc., it would appear, are the principal avenues through which this momentous question, affecting the lives of so many thousands in our crowded city and elsewhere, is to be approached.

Several years ago, while studying the cause and complications of nasal diseases, my attention was attracted to the co-existence of bronchial with nasal catarrh, and somewhat later to the association of nasal disease with pulmonary phthisis.

These earlier impressions did not assume the shape of convictions until the reliable evidence I am about to present for your serious consideration was forthcoming.

In view of the light already thrown upon the question of the ætiology of tuberculosis through Koch's bacillary investigations, I have deemed it profitable to review some of the evidence he has offered us concerning the disposition and predisposition to phthisis.

As regards the question of the physical conditions fa-

* Read before the American Climatological Association, May 27, 1885.

† "Mittheilungen aus dem Kaiserlichen Gesundheits-amte."

vorable for the development of bacilli, we are informed by Koch that pent-up secretions, removal of the protective epithelia of the bronchi, abrasions, etc., are to be considered the proper soil—the "*geeignete Boden*"—for the lodgment and growth of the deadly tubercular plant. Now, these conditions will be recognized as the common results of catarrhal inflammation of the upper and lower air-passages. One or more of them are frequently observed in nasal catarrh, and may be also associated with catarrhal phthisis when taken in the popular sense of the term as taught to us by Dr. Alfred L. Loomis.

In certain cases we find pulmonary tuberculosis rapidly following in the train of a catarrhal bronchitis, while others will, apparently, resist the inroads of the bacillus for many years.

In treating my subject I shall begin with the nares and endeavor to distinctly trace the effects of nasal catarrh upon the larynx, and then in turn explain the relation of the resultant laryngeal disease to bronchial catarrh, catarrhal phthisis, and, finally, pulmonary tuberculosis.

The relations of the nostrils to the lungs is so intimate that we are not surprised to find Koch involuntarily addressing his attention to the nose for a partial solution at least of the question of the ætiological relations of the bacillus to pulmonary tuberculosis, with the remark, "Air inhaled through the nose is deprived of disease-germs, and nasal respiration, therefore, constitutes a positive protection against infection by reason of the retention of the infectious material by the nasal mucous membrane." Conspicuous among the complications traceable to nasal catarrh, and bearing upon the question of the causation of pulmonary phthisis, is *chronic irritative hyperæmia of the larynx.* I can not at present enter into a description of this affection, or fully explain how it is brought about by the entrance of nasal mucus into the larynx. I called especial attention to this condition in a paper read before the American Laryngological Association, session of 1881, to which I must refer you.*

This affection is usually observed as a peculiar red discoloration of the normally pearly white vocal cords, and, when found, constitutes an excellent guide for the determination of the amount of congestion of the general laryngeal mucous membrane. Chronic hyperæmia of the larynx frequently develops attacks of acute catarrhal laryngitis, and this affection in turn often involves the tracheal and bronchial mucous membrane by inflammatory extension. In other words, recognizing the larynx, with certain modifications, as the upper portion of the lungs, catarrhal inflammation of this organ clearly constitutes a menace to the integrity of the entire pulmonary tract. The laryngoscopic study of the pathological processes concerned in the production of laryngeal hyperæmia and its common sequela—laryngitis—is, therefore, required to throw light upon the pulmonary diseases following in its wake.

Nasal stenosis and defective nasal drainage are the two most important indirect agents concerned in the production of this affection. The manner in which these intra-nasal disturbances lead to laryngeal and lung complications is principally by habitual mouth-breathing, the irritating action of nasal mucus in the larynx, and inflammatory extension from the posterior nares.

The part played by nasal mucus as an ætiological factor in the production of laryngeal and pulmonary disease is well pronounced and very important. The constancy with which chronic irritative hyperæmia of the larynx occurs as a result of chronic nasal catarrh encouraged me to make the statement that the simple discovery of this peculiar congestion was, as a rule, sufficient evidence of the existence of a chronic nasal catarrh.

The manner in which chronic hyperæmia of the larynx is induced through defective nasal drainage is exceedingly simple, and is best understood by carefully studying the direction of the several anatomical planes of the upper air-passages. I will refer you to a paper read by me before the New York Academy of Medicine, in which is given a detailed description of this system of drainage.*

I may simply state in passing that the disturbances to nasal drainage originating from a nasal catarrh prevent the natural disposition of nasal mucus, and, consequently, permit it to enter the larynx. Now, nasal mucus in the larynx is a foreign body, and as such invariably gives rise, by prolonged irritation, to a familiar train of signs and symptoms. Foremost among the signs stands, as I have already pointed out, chronic irritative hyperæmia of the larynx. The larynx naturally resents the invasion of its territory by irritating nasal discharges, and we have, as one of a number of *well-marked symptoms*, a constant inclination to "clear the throat." This act in itself may constitute an additional irritant by the rasping effect of the effort upon the vocal cords. The part played by habitual mouth-breathing as an excitant of laryngeal disease is simply that resulting from the absence of those conditions so essential for the purification and preparation of the respired air, and attributable to prolonged nasal stenosis.

Having briefly presented the most conspicuous causes which serve to account for catarrhal disease in the larynx, the next step would naturally be to study the nasal complications responsible for the existence of the laryngeal affection.

Among these may be mentioned deviation of the nasal septum, turbinated hypertrophies, polypi, adenomata of the vault of the pharynx, etc. The proper consideration of either one of these conditions, taken alone, would cover many pages. I shall, therefore, be compelled to entirely omit the consideration of some, and only briefly accentuate those most commonly concerned in the production of laryngeal and pulmonary disease.

Hypertrophy of the turbinated tissues is an almost invariable concomitant of the moist forms of nasal catarrh. It may stand either alone or, as is commonly the case, exist as the result of a deviated septum. The co-existing mouth-breathing, hypersecretion, and disturbed nasal drainage will, of course, be governed by the location and amount of the turbinated hypertrophy. Passing promptly to the consider-

* "Archives of Laryngology," vol. iii, p. 148.

* "Medical Record," March 14, 1885.

ation of the second condition, the deviated septum, we are at once confronted by the most active and common agent concerned in the production of pulmonary and laryngeal disease. This condition differs from turbinated hypertrophy in being both a cause and result of catarrhal inflammation. Its existence, furthermore, implies the co-existence of a turbinated hypertrophy, barring, of course, recent traumatic deviations and extra-nasal distortions of the septum.* I have already had occasion to explain how a deviated septum, through *pressure irritation*, excites catarrhal inflammation.† Its action may be, to employ a homely example, compared to that of a shoe-button impacted in the nostril. The deviated cartilaginous spur, like this familiar foreign body, presses against the exceedingly sensitive surfaces of the turbinated tissues, invariably exciting and keeping up a certain amount of inflammatory action.

Thus we have a system of reciprocal irritation provoking and prolonging a nasal catarrh. For want of a better expression, I have called this *pressure irritation*, and I trust the term may recall to your mind the pathological process it indicates when employed in this paper.

The rôle played by the turbinated tissues and septum in the production of rhinitis hypertrophica was noted by me in a paper read before the American Laryngological Association, session of 1880; and the ætiological relation of the nasal septum to diseased turbinated bodies was also satisfactorily demonstrated by Dr. Harrison Allen, though in a way differing from my own, in the same year.

Having determined the ætiological significance of the deviated septum in nasal catarrh, for a more detailed description of which I must refer you to my earlier papers on this subject, add another factor which serves in turn to account for the deviated septum, and requires a brief consideration—namely, heredity.

The term heredity, usually furnishing much material for uncertain speculation and little opportunity for satisfactory demonstration, has, in this connection, assumed a more definite meaning by reason of much corroborative testimony always at hand.

This evidence has convinced me that the deviated septum is frequently transmitted from parent to child.

In 1882, while engaged relieving the sufferings of a young woman, brought on by a congenital occlusion of the nares, my attention was attracted to an abnormal contraction of the superior maxillæ. In reporting the case I laid great stress upon the possibility of the chronic coryza and turbinated hypertrophies being associated with this condition as cause and effect.‡ Since that time, by careful investigation and comparison, I have been enabled to supply the necessary links in a chain of evidence which has demonstrated that one of the most common causes of catarrh is discoverable in the conformation of the hard palate. This peculiar malformation I find to be transmitted from parent to child with remarkable regularity, and its intelligent recognition and proper appreciation enables one to most satisfactorily account for a large number of catarrhal disturbances in the upper air-passages.

In these cases we find that the superior maxillary bones are not only contracted, but are likewise elevated, abnormally increasing the depth and diminishing the diameter of the roof of the mouth. The vertical measurement of the osseous nares is naturally more or less affected by the encroachment of the elevated hard palate, and the nasal septum, as a consequence, is bent laterally, as exemplified in the diagram, Fig. 1, A representing the normal septum and maxillary arch, and B the abnormal.



Fig. 1.

These plaster impressions, kindly presented to me by Dr. Eddy, nicely illustrate this peculiar palatine formation. They were selected from among thirty other plaster casts as the only two in which I could positively pronounce the existence of a chronic nasal catarrh. The doctor, on referring to the name of the subject, found that both belonged to the same individual—a patient he had referred to me several years before for a severe chronic coryza, and the only one out of the whole number of casts. On comparing this plaster impression, Fig. 2, with the normal palatine arch, you will discern certain well-defined differences. The distance between the alveolar ridges is much greater in the normal specimen. The transverse diameter of the abnormal specimen is not only smaller, but its surface is markedly irregular. The maxillary arch may be considerably higher than this normal specimen, and yet not constitute a pathological condition. No two maxillary arches are exactly alike, and some exhibit an elevation easily mistaken for a deformity. The important distinction to bear in mind is the abrupt elevation along the line of the median raphe. When such a condition is observed, we may at once look for, and, in my experience, invariably discover, a corresponding deviation of the septum. This condition, furthermore,

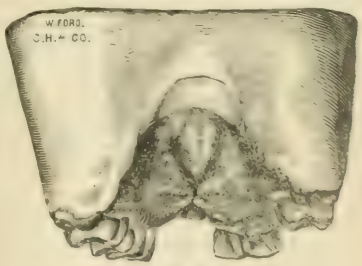


Fig. 2.

* See "Archives of Laryngology," 1882, vol. iii, p. 300.
† *Ibid.*, vol. ii, p. 147.
‡ *Ibid.*, vol. iii, p. 108.

is found associated with a chronic coryza. Indeed, I hold it to be possible in certain cases to diagnosticate the existence of a chronic nasal catarrh by the simple examination of the roof of the mouth, or, what amounts to the same thing, by inspecting an impression in wax or plaster, from any part of the world. After having ascertained the congenital character of this nasal abnormality, the next step was an endeavor to account for its existence. In tracing this peculiar formation to its hereditary origin, I was greatly assisted by instituting a comparative study of the external nose, and particularly the persistence of certain types in the same family.* By employing a similar method of reasoning to the internal configuration of the nares, I have been able to trace the peculiar conformation back to a common parental origin. This condition occurs as an hereditary manifestation with great constancy. Once the peculiar nasal type of the parents is recognized, its modifications in the children are easily determined.

It would appear that abnormal contraction of the nares is likely to be associated with intellectual enlargement of the skull in certain families, a fact which may serve to account for the tendency to phthisis attributed by some observers to severely studious or sedentary habits.

It is well known that a marked increase in the dimensions of the cranial dome is apt to be accompanied by a contraction of the osseous frame-work of the face. If it were convenient I might cite a number of interesting examples, carefully collected by me, to prove the correctness of this view.

Through Dr. L. J. B., referred to me by Dr. P. A. Morrow, my interest in the elevated arch and the septum of heredity received a fresh impulse.

Fig. 3 is a reproduction of the doctor's palatine profile. He creditably appreciated the significance of the high-pitched arch, and directed my attention to the peculiar formation of his own. The co-existing deviation of the septum was very well marked, and there were several other interesting features connected with this physician's condition.

I might mention, for instance, the unique occurrence, as far as I know, of a periodical perspiration over a circumscribed area, above the left malar prominence, and around the neighboring portion of the cheek.

There was an extensive *general* deviation of the septum to the left, and it was fair to presume that this peculiar perspiratory anomaly was due to prolonged intra-nasal pressure exerted by the deflected structure.

The prompt disappearance of this annoying symptom after removal of the offending tissues confirmed the correctness of this view. The doctor, although a life-long sufferer with nasal catarrh, was so much benefited by surgical treatment as to pronounce himself, in certain respects, a different man. Free nasal respiration through the left nostril was, for the first time in his life, made possible.

The following extract from his family history is of interest as regards the question of heredity: His father, a physician now deceased, was all his life-time annoyed by a persistent coryza and throat trouble. On comparing the doctor's photograph with an oil-painting of his father, a resemblance in respect to the shape of the nose and forehead is sufficiently well marked to challenge the attention of even a casual observer. Furthermore, I ascertained, from a member of the family, that his grandfather, also a physician, looked like his father and was afflicted with a catarrhal affection.

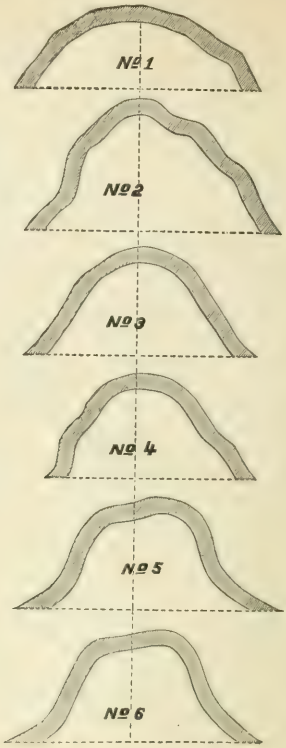
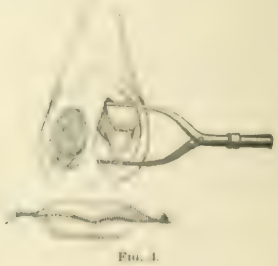


Fig. 3.

I have selected from my case-book a few life-sketches, which will aid me in explaining what I mean by hereditary


Fig. 4.

deviation of the septum. This, Fig. 4, was copied from the life-sketch of a boy, aged fourteen, referred to me by Dr.

* "It may be said that of all the features, the nose is the one which becomes preserved best."—Hereditary Traits," Richard A. Proctor.

A. W. Berle, of New York, and the next drawing, Fig. 5, was taken from the father of the lad. The hard palates of both were markedly contracted and elevated. The father had bilateral deviation of the septum with life-long nasal catarrh, and the son was referred to me for relief from the same trouble.

A cross-section of the elevated and contracted hard palates is shown in Fig. 3, where No. 3 represents the father and No. 4 his son.

These tracings were obtained by taking a wax impression of the roof of the mouth, then reproducing the deformity in plaster of Paris, and dividing the casts thus obtained with a fine saw, in a transverse direction. The divided fragments were then simply laid upon a piece of paper and outlined.

You may be able to distinguish a slight resemblance in their shape, when compared with each other, this similarity being rendered more distinct by their dissimilarity with the other arches.

An idea of their abnormal divergence from the true type may be obtained by comparing the two arches with No. 1, taken from a plaster cast exhibiting an unusually flattened and expanded hard palate, and selected as an extreme illustration of the kind.

Returning to the sketches (Fig. 4) you observe the cartilage of the son's septum is deviated to the left as a localized nodular projection, almost on a level with the floor of the nose.

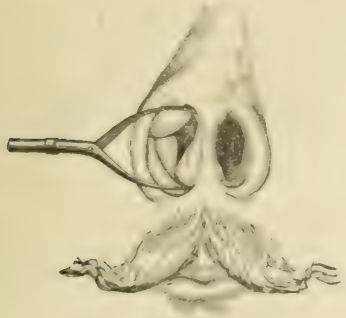


Fig. 5.

The father's septum (Fig. 5) was also thrown to the left, but, in the form of general deviation, situated superiorly in the nostril, the inferior-anterior edge of the septum being deflected into the right nostril in a manner similar to the son's.

It may be worth noting that when the lad was first brought to me I sought the hereditary origin of his deviated septum in the mother's nose, with a negative result; and yet, unwilling to be adjudged guilty of an erroneous conjecture, I persuaded the mother to induce her husband to visit me, and proved the correctness of my inferences as just described. The removal of the deviated cartilage from the boy's nostril was followed by an excellent result. The drawing (Fig. 6) shows the nose of a son aged twenty-two, and next to it (Fig. 7) that of the father. They are copied from life-sketches. You observe that both septa are *generally* deviated in the same direction. Both were severely afflicted with a life-long coryza.



Fig. 6.

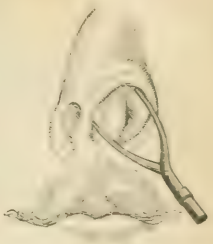


Fig. 7.

Fig. 3, Nos. 5 and 6, exhibit transverse tracings of the father's and son's hard palates in the order mentioned. The point of highest elevation, it will be observed, is toward the nostrils into which the septa were deflected. The father, an old man, had become reconciled to his lot in life, although the extremely harassing character of his complaint made me marvel at this decision.

His bitter experience had the happy effect of making him alive to his son's life-interests. Directing our attention again to the sketches (Figs. 6 and 7), you observe the cartilage of the septum is conspicuously inclined to the left in both father and son. The father's septum (Fig. 7) exhibits, however, a greater degree of deflection, the respiratory space being reduced to a useless slit.

You may be able to distinguish a similarity in the shape of the external nose. The father, although a sufferer for many years with bronchitis and asthma, might be considered, under the circumstances, tolerably well developed and preserved. The son, on the contrary, also complaining of lung trouble, was stunted in stature, emaciated in appearance, with a haggard face and an unhealthy skin.

I operated upon the young man, removing two antero-inferior turbinated hypertrophies, and shaving off the septum for the whole length of the triangular cartilage, excising also a small portion of the anterior border of the vomer. Fig. 8, taken from a life-sketch, exhibits the left

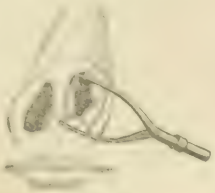


Fig. 8.

nostril after excision of the deviated structures. I employed my transfixion needles and scissors for the removal of the redundant turbinated tissues, using my bi-constricted cartilage forceps, tubular-spring forceps, and tongue-bone scissors for leveling the septum.

The subject of this illustration (Fig. 9) was afflicted

with, and cured by me of, an extensive osseo-cartilaginous deviation of the septum. The drawing was taken from a

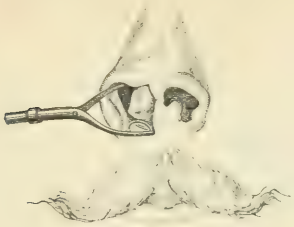


Fig. 9.

life-sketch, and the history of this individual throws much light upon the origin and growth of the septum of heredity. You may catch my meaning when I inform you that I was enabled to correctly diagnosticate, or, more accurately speaking, infer, through this patient, the general condition of the nostrils and health of all his brothers, four in number, and his father. In this family the nasal asymmetry was very well marked, the septum in one instance being deviated to such an extent as to disturb the external symmetry of the nostril. All the young men seen by me, three in number, possessed the paternal nasal type and palatine arch in an exaggerated form. All have suffered with nasal catarrh dating far back in the memory of the family, and I am informed that the absent son, not yet examined by me, is severely afflicted with the same complaint. The patient, an engineer by profession and a very intelligent individual, referred to me by Dr. J. L. Corning, stated that a physician informed him that his condition was due to a scrofulous taint, probably inherited from his father. I failed to discover the slightest trace of scrofula in any of these individuals.

The cases I have just cited are not to be considered, as regards their immediate condition, phthisical in character; they have simply been submitted as excellent examples of the influence of heredity as a determining factor in the production of nasal disease, and as such must assist us in interpreting the same conditions when found in phthisis.

The testimony which I have just submitted, re-enforced by much more which I could, but can not now conveniently, offer, affords, to my manner of thinking, excellent proof of the intimate association of a high-pitched hard palate with a deviated septum, and their transmission from parent to child.

The relation of *traumatic deviation of the septum* to nasal catarrh and catarrhal phthisis is not so important as that of the hereditary variety; still it possesses many points of interest that time permit their consideration. Traumatic deviations of the septum, especially in those not predisposed to phthisis, are not likely to be followed by pulmonary tuberculosis. It should be borne in mind that the two conditions may be associated. The differentiation, however, as I shall have occasion to explain, is, as a rule, easily accomplished.

Although the cases of induced coryza just cited by me were of the hypertrophic variety, it should not be inferred that rhinitis atrophica may not be developed by the deviated septum.

Deviations determining the existence of atrophic coryza are *general* in character, and the dryness is evidently due to the excessive drain upon the mucous follicles resulting from the prolonged passage of air through a single nostril.

As an example of pulmonary phthisis following in the train of a rhinitis atrophica, I may be permitted, in an effort to make my meaning clearer, to precede my report of cases with a brief reference to a patient, aged thirty, treated by me at the University College Dispensary in the winter of 1882.* I found the nasal septum in this individual most extensively deflected, the deviation being osseo-cartilaginous in character. An atrophic rhinitis existed as a result of the nasal disease, both nasal chambers being inordinately enlarged through long-standing atrophic processes. Large and firm masses of muco-purulent matter clung to their smooth walls. These dry crusts were constantly detached and precipitated into the throat, irritating and inflaming the larynx. The patient was harassed and enfeebled by the unremitting efforts required to free his throat and larynx from these suffocating crusts. The atrophic processes had reached the pharynx, where, in the form of a pharyngitis sicca, it presented a dry patch, which obstructed the downward flow of the scanty nasal mucus, collecting it in the shape of sticky incrustations just behind the velum.

A laryngoscopic examination showed the true cords to be deeply injected and the contiguous structures inflamed by reason of the constant irritative action of the nasal incrustations which had found lodgment there.

The patient was extremely emaciated, weak, and miserable through the constant efforts required to free the throat from inspissated irritating discharges. There were night-sweats and the usual symptoms of advanced phthisis. An examination of his lungs, conducted by Dr. Moore, assistant to the Department of Medicine at the University Dispensary, and myself, revealed the existence of advanced destructive processes, as evidenced by the presence of cavities, a profusion of fine crepitant râles, and other familiar signs of the last stage of a rapidly progressing pulmonary phthisis. It was clear that the patient had reached a point where fatal prostration was imminent, and for an important reason we considered it best to advise him of his hopeless condition. Hoping to delay the fatal issue as much as possible, the patient found it convenient to accept the invitation of relatives in Florida, and so passed from under my observation.

The points of interest to us as regards this case, briefly summed up, are the history of a long-standing nasal catarrh and the manner in which it developed a pulmonary phthisis. That the nasal catarrh preceded the tubercular disease is proved by two features of the affection—namely, a deviated septum, osseo-cartilaginous in character, not associated with external nasal disfigurement, and therefore non-traumatic but hereditary, and a rhinitis atrophica.

Either of these pathological conditions would indicate the chronicity and persistency of the nasal catarrh, and

* See also No. I of illustrative cases.

therefore prove that they must have preceded the pulmonary disease; and in this, and in similar cases, we are afforded excellent evidence of the occurrence of the pulmonary lesion as a secondary complication to the catarrhal processes.

(To be concluded.)

Book Notices.

The Principles of Ventilation and Heating, and their Practical Application. By JOHN S. BILLINGS, M. D., LL. D. (Edin.), Surgeon, U. S. Army. New York: The Sanitary Engineer. 1884. Pp. 216. [Price, $3.]

DR. BILLINGS's book is a most scholarly exposition of the subject of which it treats. The author refers very modestly to his work in the opening sentence as if it were a short pamphlet which he had thrown off for the instruction of amateurs, but it is soon evident on turning over its pages that he enters into the subject in a thoroughly scientific and exhaustive manner. The book is divided into twelve chapters, the first three of which deal with the scientific aspect of the question, while the remaining chapters are devoted to the practical application of scientific facts. The subject of ventilation occupies most of the space. There are seventy-two illustrations, principally representing plans of public buildings and sanitary apparatus.

Dr. Billings's style is clear and pleasing, and his work is an extremely useful one to all who are interested in this branch of sanitary engineering.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars, for the Year 1883. London: H. K. Lewis, 1885. Pp. 544.

THIS volume contains much interesting matter, although the method of tabulating the cases is, in our judgment, not the best. It is divided into a medical and surgical report. The former deals only with typhoid fever, diseases of the nervous system of special interest, and malignant growths; the latter with cancer of the uterus, breast, tongue and mouth, lower lip, rectum, miscellaneous cancers, rodent ulcer, sarcoma, non-malignant tumors, infectious diseases, strangulated hernia, and compound fracture. In each class the cases are arranged in a tabular form, which, although there is something in favor of such a method of registration, leads to much space being sacrificed, and makes difficult and unsatisfactory reading.

There is no general summary, and but a slight attempt at any practical deduction. The labor of preparing such a report must have been very great, while this arrangement detracts much from the value of the work. We trust that in a future volume the editors will do away with the strict tabular arrangement.

BOOKS AND PAMPHLETS RECEIVED

Cholera: its Origin, History, Causation, Symptoms, Lesions, Prevention, and Treatment. By Alfred Stillé, M. D., LL. D., etc. Philadelphia: Lea Brothers & Co., 1885. Pp. 164.

A Treatise on Epidemic Cholera and Allied Diseases. By A. B. Palmer, M. D., LL. D., Professor of Pathology, Practice of Medicine, and Clinical Medicine in the College of Medicine and Surgery in the University of Michigan, etc. Ann Arbor: Register Publishing House, 1885. Pp. 224.

Lectures on the Diagnosis of Diseases of the Brain, delivered at University College Hospital, by W. R. Gowers, M. D., F. R. C. P., Assistant Professor of Clinical Medicine, etc. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. viii–246. [Price, $2.]

Inebriism; a Pathological and Psychological Study. By T. L. Wright, M. D., etc. Columbus, O.: William G. Hubbard, 1885. Pp. 222.

A Manual for Hospital Nurses and others engaged in attending on the Sick. By Edward J. Domville, L. R. C. P. Lond., M. R. C. S. Eng., etc. Fifth Edition. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 96.

Medical Society of the State of Tennessee. Transactions 1885.

Ninth Annual Report of the Managers and Officers of the State Asylum for the Insane, at Morristown, N. J.

History of the Clamp-Suture of the late Dr. J. Marion Sims, and why it was abandoned by the Profession. By Nathan Bozeman, M. D., etc. [Reprinted from the "Transactions of the American Gynæcological Society."]

Submucous Laryngeal Hæmorrhage. By Ethelbert Carroll Morgan, M. D., etc., Washington. [Reprinted from the "Medical Record."]

The Influence of Cocaine, Atropine, and Caffeine on the Heart and Blood-Vessels. By H. G. Beyer, M. D., M. R. C. S., etc. [Reprinted from the "American Journal of the Medical Sciences."]

Suersen's Obturators; their Construction and Uses. By Dr. Th. Weber, Helsingfors, Finland. [Reprinted from the "Independent Practitioner."]

The College of Medicine of the University of Southern California. 1885.

The Treatment of Opium Addiction. By J. B. Mattison, M. D., etc. New York: G. P. Putnam's Sons, 1885. Pp. 49. [Price, 50c.]

Hunterian Lectures, 1885. The Anatomy of the Intestinal Canal and Peritonæum in Man. By Frederick Treves, F. R. C. S., etc. London: H. K. Lewis, 1885. 4to. pp. 66.

The History of a Legislative Shame.

Correspondence.

LETTER FROM CINCINNATI.

The Ohio Profession and the International Medical Congress.—Dr. Lane's Case.—Cincinnati Physicians as Artists.

CINCINNATI, *August 31, 1885.*

UNDER date of August 20th, Dr. William Morrow Beach, president of the Ohio State Medical Society, issued a call for "a conference of the leading physicians" of the State, to be held at Columbus on the 27th inst., to take action relative to the International Medical Congress. The letter alludes to the present outlook and says that "some steps must be taken, promptly and energetically, to bring the existing factions into harmony." The president also says: "It has seemed to me the part of wisdom for Ohio, which is an important and pivotal State, to take the initiative." The object of the meeting was to "offer suggestions or give instructions to our State representative" in the enlarged committee for the guidance of his action at the New York meeting on the 3d prox. The letter concludes: "If you can not come send a proxy as you should be a thoroughly representative meeting. The following gentlemen, among others, have been especially invited to be present, although any others who are interested will be cordially welcomed." Then follow the names of thirty-six gentlemen,

among which occur those of all the physicians, or, at least, nearly all of those in Ohio who resigned from the new organization.

The wording of the call was certainly unfortunate, if the whole movement was not a *faux pas*. Those who had resigned surely could not be expected to participate in a meeting the object of which was to harmonize them with a faction from which, by their own acts, they had dissociated themselves, while the equivocal welcome promised to those not "especially invited" kept the mass of the profession away. At any rate, of the several thousand physicians in Ohio but enough attended the meeting to allow a maximum vote of twenty-three! Of those voting there were but twelve from outside of Columbus!

This "representative meeting," held in the hub city of the "pivotal State," proceeded to business by very properly dismissing the reporters of the secular press. A committee, consisting of Dr. Fowler, Dr. Franklin, Dr. Greenleaf, Dr. Baldwin, Dr. Larimore, and Dr. Vance, was appointed to draft resolutions. After an hour and a half a report was presented in purport as follows:

First.—That the Ohio delegate use his influence to harmonize existing difficulties, accept no resignations, but insist that all officers and committees perform their work toward arranging for the International Congress. [Carried.]

Second.—That geographical boundaries be not considered in making appointments of officers and committees, but that men of ability, no matter where resident, be made the appointees. [Carried.]

Third.—That no code questions be considered in the *organization* of the Congress. [Amended by striking out "organization" and inserting "membership," after which it was adopted —19 to 3.]

Fourth.—That the enlarged committee (of 46) at its New York meeting *reinstate* all those whom it had dropped from the list prepared by the original committee (of 8), and from the list as thus increased, and with such additions as they might see fit to make, *redistribute* the offices. [Lost, 10 to 13.]

It is now known that, were the vote on the last resolution to be taken over again, the result would be different, as its real purport was not comprehended by the meeting. I have it, *ex cathedra*, that the object of those framing the resolution and reporting it was that the men proposed by the old committee and to be now reinstated by the new committee should all be officers, but that their various offices should be determined by the enlarged committee, the idea being to admit the new-code men but to relegate them to the lowermost rooms; *i. e.*, to the "councils" of their respective sections. The word "reinstate" led the meeting to infer that the proposition was that the "reinstated" were to have their former "offices," which was not contemplated.

The net result of the meeting, so far as anything of importance is concerned, was, therefore, the passage of a resolution instructing the delegate from Ohio to vote for a proposition to allow the new code men to come into the Congress as *members*. To what extent this result will tend "to bring the existing factions into harmony," particularly when viewed by the light of the inside facts which I have given, remains to be seen. But, small and far from "representative" as was the meeting, its conclusions were a slap in the face to the American Medical Association, and a triumph to the new-code men. The repudiation of the "geographical distribution" idea was an intimation to the National Association of its assininity; the recommendation that new code men be admitted to "membership" in the International Congress conceded their importance to the scientific feature of that gathering; and when it was seriously proposed to capture them, even at the expense of Jesuitical methods, it was as much as saying, "They come high, but we must have them." At any rate, viewing the meeting only in the light of its action, it is to be taken as one of the evidences of "weakening" on the part of those who, in the main, have been in sympathy with the action taken at New Orleans.

Apropos of the International Congress imbroglio it may be stated that the deposing of Dr. Levi C. Lane, of California, from the vice-presidency of the Congress is exciting considerable comment in this State. Dr. Lane is a native of southwestern Ohio, and is to-day one of the conspicuous successes among the sons of the "Buckeye State." The product of the best educational methods, he is the typification of the "scholar in medicine"; and, the apostle of industry and thrift, he is, in both a scientific and pecuniary sense, an illustration of conspicuous success in his profession. That he should have been removed is deplorable; but that the committee should have permitted itself to be thus imposed upon is still more so. If the forty-six gentlemen comprising that committee are so ignorant of the true status of the great men of our profession, they are simply unfit for the duties devolving upon them.

Cincinnati, as your readers all know, has an extensive reputation as an art center; but the fact that several members of the medical profession have become quite accomplished artists, while not at all surprising, is yet not so generally known. One of our most accomplished *dilettanti* is Dr. Daniel S. Young, whose office and studio are crowded with treasures and curios that are the products of his artistic tastes. His efforts cover almost every department of art; oil and crayon pictures abound, while etchings are not rare; and wood-carving and sculpture in plaster are familiar pastimes. One of his most successful efforts —a *bas-relief* in plaster of the late Dr. George C. Blackman—adorns the walls of the library of the Cincinnati Hospital, while the rare museums of the Cuvier Club and of the Cincinnati Natural History Society are largely indebted to his skill as a taxidermist for many of their most interesting and valuable specimens. It may be proper to add that Dr. Young is a hard worker in his profession, and finds time for his art labors amid the exactions arising from his extensive private practice, from his duties as staff surgeon to the Cincinnati Hospital, and from his work as a clinical teacher of surgery. One of the most promising of our younger men, whether viewed as physician or artist, is Dr. W. Kincheloe Baker. He has achieved his celebrity as an artist chiefly through the rare superiority of his etchings. His work, particularly in this department, is far above the order of dilettanteism. Among his more recent productions is an etching of the late Dr. Samuel D. Gross—certainly one of the most striking likenesses and effective pictures it has ever been my pleasure to behold. Another of Dr. Baker's etchings is of the late Dr. William Judkins, *père;* that it, too, is a faithful picture is assured by the indorsement of the present owner of the plate, Dr. William Judkins, *fils*, and by those who were the compeers and colleagues of the distinguished pioneer. Dr. Reamy, an elegant subject for a picture, is another well-satisfied patron of Dr. Baker's art. Another of our physicians, Dr. William A. Rothacker, the editor of "Henke's Atlas," although not engaged in art production, is, however, professor of anatomy at the art school. In addition to these, the profession of Cincinnati affords a large number of art amateurs; but while writing of the amateurs within the profession it may not be amiss to mention one of the most promising, who is connected with it only by marriage. Mrs. J. H. Hazard, wife of the professor of physiology at the Cincinnati College of Medicine and Surgery. She has especially distinguished herself by executing in oil the elegant drawings with which her husband illustrates his lectures. It may be added that as an anatomist Mrs. Hazard has but few superiors, even in the profession.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, SEPTEMBER 5, 1885.

THE HOBOKEN POISONING CASE.

THE distressing incident that happened in Hoboken a few days ago, whereby two young ladies lost their lives in consequence of an apothecary's error, should at least serve to intensify the vigilance with which pharmacists undoubtedly try to guard against mistakes of this nature. There is, unfortunately, nothing so rare in the occurrence, considered simply as an occurrence, as to make it specially monitory, but the exceptional character of the gentleman whose hard fate it has been to commit the error in this instance lends an unusual impressiveness to the calamity. The public is quite generally impressed with the idea that mistakes in the delivery of drugs to purchasers, or in the compounding of medicines ordered by prescription, necessarily imply either gross ignorance or inconceivable negligence, each of which shortcomings, brought into play under such circumstances, is held to amount to criminality. In conformity to this idea, the law not only holds persons whose mistakes of this sort are productive of fatal results as fit subjects for punishment, but aims to throw unusual safeguards about the practice of pharmacy by requiring of persons who seek to follow that pursuit ample evidence of their fitness for it.

In so far as the last-mentioned aim of the law is concerned, its wisdom is unquestionable, but its adequacy to the purpose is seen to be very imperfect when we reflect that, in the instance which calls forth these remarks, so commonplace an error as that of dispensing morphine instead of quinine was committed by a gentleman who for years had stood among the foremost in his profession. Although his place of business was in Hoboken, where the ordinary working of the laws of trade would have brought him only a patronage limited to the people of his immediate neighborhood, he had become widely known to physicians for his skill and carefulness as a pharmacist, as well as for the trustworthy character of certain medicinal preparations and surgical appliances that were his own special productions. Mr. Am Ende has long occupied a most honorable position in the estimation of the medical profession. Certainly it was no lack of capability that led him into his fatal error. It is said that his mistake is only to be accounted for by the fact that persons who happened to be in his shop at the time persisted in talking to him when he was engaged in putting up the prescription. It is not at all unlikely that this is the true explanation, and, considering the aggravating persistency with which men engaged in delicate and responsible work are distracted and worried by chance visitors, the wonder is that accidents involving grave consequences do not happen oftener.

Perhaps it would hardly do for the law to relax its hold upon persons who make fatal mistakes in the practice of pharmacy, but leniency, both on the part of the courts and on the part of the community, is certainly called for in cases where, as in the present instance, the lapse seems to be of a sort that no man could be sure of being able to guard against with anything like certainty. It is said that the father of the young ladies who lost their lives has sent a message of sympathy to Mr. Am Ende, and has even sent prescriptions to his shop since the fatal occurrence. We trust that this is true, for it would go far to allay a sense of grief that must be well-nigh unendurable. At all events, we are glad to believe that it is with no approach to vindictiveness that Mr. Am Ende is thought of by the better portion of the community.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 1, 1885:

DISEASES.	Week ending Aug. 25.		Week ending Sept. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	1
Typhoid fever	29	10	34	3
Scarlet fever	14	4	13	2
Cerebro-spinal meningitis	3	1	2	1
Measles	12	6	9	1
Diphtheria	31	17	21	11

The Health of the State of New York.—By the "Monthly Bulletin of the New York State Board of Health" for July we learn that the total reported mortality for the month was 9,318, the percentage among infants being 54·4. The proportion of deaths from zymotic diseases was 401·37 in each thousand, and that of deaths from diarrhœal diseases 320.

The International Medical Congress.—We copy the following from the "Louisville Medical News":

"*Charleston Physicians and the New Organization.*—The undersigned, for reasons connected with the changed circumstances in the organization of the proposed International Congress, since their appointment in the several sections, hereby respectfully withdraw their names.

"MIDDLETON MICHEL,
"F. PEYRE PORCHER,
"FRANCIS L. PARKER.

"*Chicago Physicians and the New Organization of the Congress.*—Believing that the American Medical Association, at its late meeting in New Orleans, took such action with reference to its committee, appointed one year before, to unite, arrange for, and organize the Ninth International Medical Congress, as to nullify in part the work performed by said committee, thereby jeopardizing the success of the proposed Congress and putting the medical profession of this country in a false and unfavorable light, the undersigned disapprove of this action of the association, and decline to serve in the positions to which they have been appointed in the Congress as at present organized.

"A. REEVES JACKSON, N. SENN,
"HENRY M. LYMAN, CHARLES T. PARKER.
"JAMES NEVINS HYDE.

"*Other Resignations from the New Organization.*—We are informed that Dr. Edwin M. Snow, of Providence, has declined the vice-presidency of the Section of Collective Investigation, Nomenclature, and Vital Statistics, and that Dr. D. Bryson Delavan, of New York, has declined the secretaryship of the Section of Laryngology.

"Dr. Thomas F. Wood, of Wilmington, N. C., has declined to serve on the Council of the Section of Practical and Experimental Therapeutics; likewise Drs. J. Rufus Tryon, U. S. N., and Alfred A. Woodhull, U. S. A., on the Council of the Section of Military and Naval Surgery and Medicine, and Dr. Christian Fenger on the Council of the Section of Pathology."

Editorially, the same journal says:

"The American Medical Association's new Committee on Rules and Preliminary Organization of the International Medical Congress of 1887 will meet by special call for the transaction of important business in New York on the 3d of September.

"The importance of this meeting can not be overstated, since it involves nothing less than the fate of the Congress and the good name of American medicine abroad. For, in spite of the large boasting of the new committee's supporters, that the recent numerous withdrawals of eminent men from among its appointees would not make against the successful meeting and working of the Congress, it is certain that the wise and far-seeing of the committee must own a serious loss of strength, and perceive that, as it is now proposed to be organized, the Congress will be a sorry failure, if indeed it be not kept from coming to this country.

"It is time to call a halt to controversy. Let the attending physicians take further counsel and ascertain if there be any sign of life in this object of deep professional solicitude. If so much as a spark remain, let it be duly fanned and fed; but if, as seems more probable, decomposition is already far advanced, the sooner the remains are given decent burial and the premises disinfected the better for those whose blundering treatment killed their precious charge."

A Proposed International Dental Congress.—On account of the dropping of the Section in Oral and Dental Surgery from the organization of the Ninth International Medical Congress, as at present laid out, the project has been broached among our dentists of holding an International Dental Congress in Washington at the same time with the meeting of the Medical Congress. The "Independent Practitioner" deprecates the scheme. It says:

"We can not, without serious loss of dignity, sue to the present General Committee of the Congress for reinstatement as a section, after being once dropped by them under humiliating circumstances. Nor should we wish such reinstatement, in the face of a probable failure.

"Should the section not be re-established, it would, to our mind, be a very questionable act to call an International Dental Congress to meet at the same time, for the following reasons: We probably could not make of it a success. We should be in a very undignified position, as a kind of hanger-on to a Congress from which we had been rudely repulsed. We could have no connection with the Congress, any more than would a meeting of photographers, or commercial drummers, or spindle-shanked bicyclists. We should not even be a part of the tail to the medical kite, for we should have no connection with it. We could not secure foreign attendance, for the dentists of Europe would value their dignity too much to attend such a meeting, even were we so forgetful of our own as to invite them.

"The only thing for dentists to do is to pursue the even tenor of their way, doing what they can for the proper recognition of the General Committee of the Congress. If this be secured and the meeting promises to be a success, we shall doubtless be invited to take a part in it. If not, we are lucky to be out of it, for we should present but a sorry spectacle should we make either but our own to establishment in the Congress to be the present regime, or for the organization of a separate International Dental Congress, and, when we were fully committed, find to our chagrin that an event, which now seems extremely probable, had occurred, and the acceptance of the invitation to meet in America had been withdrawn and the meeting called for Berlin."

The American Dermatological Association elected officers as follows at its recent annual meeting: Dr. Edward Wigglesworth, of Boston, president; Dr. I. E. Atkinson, of Baltimore, and Dr. A. R. Robinson, of New York, vice-presidents; Dr. G. H. Tilden, of Boston, secretary; and Dr. H. W. Stelwagon, of Philadelphia, treasurer.

The meeting held in Greenwich last week was of a character to show the continued vitality of the association, but yet the discussions and the papers read were such as to appeal more directly and forcibly to the general practitioner than is apt to be the case with the proceedings of special societies. The attendance, too, was fairly representative of the different quarters of the country, and included nearly all of our better-known dermatologists. Dermatology, as our readers are well aware, is one of the departments of medicine in which America has been able to make a creditable showing, and hence the career of this association is of special interest to the profession.

The American Rhinological Association will hold its third annual meeting at Lexington, Ky., on Tuesday, October 6th. Papers and discussions will be devoted exclusively to the diseases of the nasal passages and their consequences. The following is the list of officers for 1885:

President, Dr. P. W. Logan, Knoxville, Tenn.; First Vice-President, Dr. A. De Vilbiss, Toledo, Ohio; Second Vice-President, Dr. J. A. Stucky, Lexington, Ky.; Recording Secretary, Dr. C. A. S. Sims, St. Joseph, Mo.; Librarian, Dr. R. N. Gordon, Springfield, Ill.; Council, Dr. J. G. Carpenter, Stanford, Ky.; Dr. H. Jerard, East Lynne, Mo.; Dr. H. Christopher, St. Joseph, Mo.; and Dr. E. F. Henderson, Los Angeles, Cal.

Full information may be obtained from any of the foregoing officers of the association.

The Indiana State Medical Society.—At the last annual meeting of the society an unpleasant occurrence took place, as some of our readers may remember, being no less than the charge, brought against a gentleman who read an account of a case in which he trephined the vertebral column, that an operation reported as trephining really consisted only in "scraping of the spinous processes." Dr. C. B. Stemen, the author of the paper, who is also the editor of the "Fort Wayne Journal of the Medical Sciences," now gives in that journal evidence which certainly seems to show conclusively that the accusation brought against him at the meeting was unjust.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 22, 1885, to August 29, 1885:*

Cronkhite, H. M., Captain and Assistant Surgeon. Relieved from duty at Fort Reno, Indian Territory, and assigned to duty as post surgeon, Fort Hays, Kansas. S. O. 129, Department of the Missouri, August 26, 1885.

Powell, J. L., Captain and Assistant Surgeon. Relieved from temporary duty at Fort Leavenworth, Kansas, and assigned to duty as post surgeon at Fort Lyon, Colorado. S. O. 128, Department of the Missouri, August 25, 1885.

Ebert, R. G., Captain and Assistant Surgeon. Assigned to temporary duty with United States troops at Riverside Park, New York. S. O. 179, Department of the East, August 24, 1885.

Kane, John J., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect when his services can be spared. S. O. 195, A. G. O., August 26, 1885.

STEPHENSON, WILLIAM, First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect September 1, 1885 (Fort Niobrara, Nebraska). S. O. 79, Department of the Platte, August 20, 1885.

MCCAW, W. D., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at the camp of the troops near Kiowa, Kansas. S. O. 128, Department of the Missouri, August 25, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending August 29, 1885.*

JONES, WILLIAM H., Surgeon. Detached from the Wachusett, and waiting orders.

Society Meetings for the Coming Week:

MONDAY, *September 7th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *September 8th:* New York Medical Union (private); Medical Societies of the Counties of Rensselaer and Chemung (Elmira), N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations.

WEDNESDAY, *September 9th:* New York Pathological Society; American Microscopical Society of the City of New York; Medico-Legal Society; Medical Societies of the Counties of Cayuga and Montgomery, N. Y.; Philadelphia County Medical Society; Worcester District, Mass., Medical Society (Worcester).

THURSDAY, *September 10th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *September 11th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Proceedings of Societies.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Ninth Annual Meeting, held at Greenwich, Conn., Wednesday, Thursday, and Friday, August 26, 27, and 28, 1885.

The President, Dr. W. A. HARDAWAY, of St. Louis, in the Chair.

Wednesday's Proceedings.

A Case of Tuberculo-ulcerative Syphilide of Hereditary Origin was the title of the first paper, by Dr. J. E. GRAHAM, of Toronto. The patient was a girl twenty years of age. The skin of the forearm presented elevations and depressions, and in places it was covered with thin scales. For three or four inches above the elbow the arm was atrophied and covered with cicatricial tissue. At the upper border of the cicatricial tissue there was an ulcer three fourths of an inch wide, which encircled the arm. Above this there was sound tissue. No nodules were present. The left clavicle presented about its middle a swelling and an ulceration of about the size of a silver dollar. This was the result of a blow. There was no copper-colored appearance. Investigation of the family history showed that the mother was apparently healthy. The father died from pneumonia when the patient was eighteen months old. It was subsequently learned that he had also had syphilitic ulceration of the throat. The treatment consisted in the local application of a mild mercurial ointment and the internal use of bichloride of mercury and iodide of potassium. The condition steadily improved, and in the course of six or eight weeks the ulceration had healed. The patient at that time passed from observation.

The speaker referred to the difficulties of diagnosis in this case, as there was a complete absence of specific history, the facts in regard to the father not being learned for some time after the case had been under treatment. There was no history of any previous evidence of hereditary syphilis, but, taking all the facts into consideration, there could be no doubt as to the correctness of the diagnosis. Photographs showing the condition were exhibited.

Dr. R. W. TAYLOR, of New York, said it was now generally conceded that syphilis could be communicated to the child without infection of the mother, and he believed that he had been the first one in America to call attention to this fact. He had seen this a number of times. The author had stated that he could obtain no history of early manifestations of hereditary syphilis. This was not uncommon, but he believed that there was usually some indication of specific taint, although it might be so slight as not to excite notice.

Dr. C. HEITZMAN, of New York, said that every one had seen cases similar to the one reported. He had seen cases in which he was unable to determine the nature of the affection at first sight. The diagnosis lay between syphilis and scrofula.

Dr. F. B. GREENOUGH, of Boston, said that within the past two months he had seen a woman who had lost three children in succession from hereditary syphilis, yet she was strong and apparently perfectly healthy, and had never shown any signs of syphilis. This woman had been under observation for six or seven years.

Dr. L. A. DUHRING, of Philadelphia, said there were certain cases in which it was almost impossible to express a positive diagnosis at first. The result of treatment in causing a rapid cure in the case described would certainly incline him to the opinion that this was a case of syphilitic disease.

Dr. J. N. HYDE, of Chicago, had seen cases which had convinced him that, while it was not the rule, still occasionally syphilitic children were born without, so far as observation could be made, any evidence of syphilis being detected in the mother. So far as the general health was concerned, he could not say that he had seen vigorous, healthy women the mothers of syphilitic children. The women were usually pallid and weak, although there might be no symptoms which could be ascribed to syphilis. He saw inherited syphilis in infants constantly, but he had never seen it manifesting itself for the first time in advanced years, or, if he had, he had failed to make the proper diagnosis. The more he saw of syphilis, the more was he satisfied that in its origin heredity did not amount to very much. The accidental cases of syphilis were very common. He had seen the initial lesion of syphilis on the head of a penis where it was unquestionably due to inoculation from the finger of the surgeon in catheterization. He had no doubt that the case described was one of syphilitic trouble, and, as Dr. Duhring had said, the result of treatment unquestionably pointed in that direction. There were no cases which yielded so readily as old cases of untreated syphilis. As to pronouncing it a case of hereditary syphilis, his experience would not permit him to do so.

The PRESIDENT thought that it was unwise to base our diagnosis on the results of internal treatment. If a patient got well

under anti-syphilitic treatment, it did not prove that the affection was specific. Local treatment was often all that was necessary.

Dr. Taylor entirely disagreed with Dr. Hyde as to the condition of the mothers of syphilitic children. He had observed them to be in robust health.

Clinical Notes on Psoriasis.—Dr. Greenough read a paper founded on the records of 394 cases of psoriasis. This number occurred in about 15,000 cases of skin diseases examined, and represented about two and one half per cent. Many of the patients were first attacked between the ages of ten and forty years. In 97 cases the speaker had been able to get reliable evidence in regard to the family history. In 31 cases psoriasis had existed in a near relative, but in 66 cases the patients felt sure that the disease had existed in no other member of the family.

Well-marked cases were readily diagnosticated, but in some cases there was considerable difficulty in making the diagnosis. The disease was most frequently confounded with some form of eruption resulting from constitutional syphilis. When psoriasis affected the scalp its appearance was often similar to that of secondary syphilis. In psoriasis, however, the patch consisted simply of epithelial cells, and there was no hyperæmia connected with it. In the syphilitic eruption the crust contained other elements than epithelial cells, and, on removing the crust, spots of moisture would be detected. A characteristic symptom of psoriasis of the scalp was a band of hyperæmia, about three fourths of an inch wide, extending around the forehead, contiguous to the hair. This was a point of value in the diagnosis between eczema capitis and psoriasis. In the former affection this band was wanting. In eczema, also, evidences of dried serum or pus would be found. Psoriasis was not accompanied with enlargement of the posterior cervical glands like eczema. The diagnosis from favus was made by the age of the patient, the evidences of destruction of the hair follicles in favus, and the microscopical examination. On the general integument, syphilides were most apt to resemble psoriasis. The regions on which the eruption appear was important. The syphilides were apt to affect the flexor surfaces, while psoriasis affected more commonly the extensor aspects. Psoriasis began as a minute point of hyperæmia, which might last for several days. In the macular syphilide a crop of macules appeared within twenty-four or forty-eight hours. When the eruption faded there was in syphilis a decided pigmentary change. In some cases of psoriasis there was severe itching leading to scratching of the skin, and, as a result, scabs and crusts made their appearance, but here the cause of the condition was readily recognized. The amount of pruritus complained of in psoriasis varied, but it was rarely a prominent symptom, although in exceptional cases it is very severe. In regard to treatment there was no specific. What would benefit one patient might make another worse. In his experience, tarry preparations, especially the oil of cade, had been most efficacious. Great comfort might be afforded by the use of emollients. Cod-liver oil was one of the best applications. Cod-liver oil and oil of cade locked parts was a common prescription. Chrysarobin was a powerful remedy, but had the disadvantage of destroying the clothing. On the face and scalp it was apt to produce dermatitis. Even after apparent recovery there was great danger of relapse.

Dr. Bulkley said that the reader had not alluded to the difficulty sometimes experienced in diagnosticating seborrhœa capitis from psoriasis. He had found considerable trouble in the diagnosis particularly in young girls. In these cases the eruption was confined to the scalp.

Dr. A. R. Robinson, of New York, said that in the diagnosis of favus and psoriasis there was usually no difficulty. He did not agree with the author in regard to one of his points of diagnosis. In the early stage we should not find moisture when the crust was removed. There was a shiny appearance. It was only in advanced stages that ulceration was present. He considered it primarily an affection of the rete mucosum. While it was true that psoriasis often disappeared without producing pigmentation, there might be discoloration found on the lower extremities, particularly where there was a varicose condition of the veins.

Dr. J. C. White, of Boston, agreed with the previous speakers in regard to the difficulty of diagnosticating between psoriasis of the scalp and seborrhœa. In some cases the diagnosis could not be made for months. In all parts of the body pigmentation might follow psoriasis, but never over large areas.

Dr. R. B. Morison, of Baltimore, saw a great many cases of psoriasis, but could only recall one or two cases of psoriasis in the negro. In such cases there was a loss of pigment.

Dr. G. H. Fox, of New York, thought too much stress was laid on the general rule that psoriasis occurred most frequently on the extensor surfaces, the knees and the elbows. It was a notable fact that in general psoriasis the vicinity of the knee and elbow escaped. Many cases of psoriasis occurred in weakly subjects, while, on the other hand, many cases of eczema appeared in robust persons. In every individual case, the better the patient's health the less likely was he to suffer from a recurrence of the affection. He had been very successful in the treatment of psoriasis, and in its management he adopted the teaching of the late Tilbury Fox, who laid stress on the point that in psoriasis, as in other inflammatory affections of the skin and also in lupus, the first thing to do was to lessen the congestion of the skin. The speaker did this by restricting the diet, and ordering fruits and vegetables. Tea, coffee, tobacco, and stimulants of all kinds were to be cut off. By so doing, more would be accomplished than was obtained by using arsenic and local applications at the start. In regard to local remedies, he never used tar in the treatment of psoriasis. With the application of chrysarobin made at the proper time, there was no necessity for the use of tar. He had seen many cases in which this drug did no good, but this was because the application was made when the patches of psoriasis were in a congested condition. If the acute congestion was lessened, chrysarobin will produce beneficial results.

Dr. C. Heitzman, of New York, thought that one of the most important points after making the diagnosis was to decide as to the acuteness or chronicity of the affection. If it was acute, local applications were to be avoided. If the case was chronic, chrysarobin might be used with advantage at least temporarily. It was not a cure. He agreed with Dr. Fox that restriction of the diet was important for the purpose of lessening the congestion. Tar could not be dispensed with. Chrysarobin remedied the disease for a time, but in a few months it returned. There was nothing like tar to prevent the recurrence. No mention had been made of pyrogallic acid, which did good in some cases. There were, however, some cases which could not be treated successfully with any remedies; the disease would steadily grow worse.

The President believed that in psoriasis we had a disease situated in the skin itself. It is frequently hereditary. The same sort of skin might be transmitted, just as a certain color of the hair or of the eye might be transmitted, and then any exciting cause might develop the psoriasis. He had seen psoriasis follow eczema. It was not unlikely that in seborrhœa of the scalp there might be the development of psoriasis. Internal causes might produce it. He had seen the excessive use of oatmeal produce typical psoriasis. In the treatment of psoriasis

it was important to regulate the diet. He cut off meats, and aided digestion in all possible ways. As a local application, chrysarobin with salicylic acid was very useful in chronic cases. Arsenic was useful on account of its action on the skin. This treatment might be followed by the application of sulphur ointment. In psoriasis of the scalp sulphur was quite an efficient remedy.

Dr. GREENOUGH had not intended to cover the entire subject of psoriasis in my paper. The omission of a consideration of seborrhœa was an oversight. In regard to pigmentation he had referred especially to those cases of psoriasis of the trunk which were most apt to be confounded with syphilides.

Cases of Angioma Pigmentosum et Atrophicum.—Dr. WHITE reported two cases. The first patient was a young man, seventeen years old, a Russian Pole. Freckles appeared on his face before he was two years of age. These increased in number until the age of six. When the telangiectatic condition first appeared was not noted. When seen, the patient was well developed and apparently in good health. He had, however, grown slowly, and was now no larger than a boy of twelve. The hair of the head was abundant and intensely black. The eyes were also black. The forehead and lower portion of the face were of a dark-brown color, and, on close inspection, small spots of a darker color were seen. The whole trunk was as dark as the skin of a dark Spaniard. The scrotum was very black, and the penis and glans presented dark spots. The arms and hands were thickly spattered. The legs were also affected. On the right thigh there was one spot of dark color covered with rather long hair. The mucous membrane of the mouth and pharynx was free from melanosis. On the right side of the face, occupying one half the surface, was a sharply defined area of white cicatricial-looking skin. Similar areas were seen on the other cheek, on the forehead, and about the mouth. A few white spots were seen on other portions of the body. The sensibility of the affected areas was decidedly lessened. Over parts of the face there were bright-red spots, varying in size from that of a pin's head to that of a pea. They were most noticeable in the atrophied portions. Within the lids there were two angiomatous new growths. Several vascular twigs were also seen on the face. A few red points were found on the general surface.

The second case was that of a brother of the first patient, aged three years, born in New York. When he was eighteen months old, little colored freckles were noticed on the face. Since then the condition had been developing. His hair was dark brown and his eyes were black. The face was covered with numerous dark-brown freckles. The spots were so close together that at a little distance the skin had a uniform color. In some places the spots were slightly elevated. The backs of the hands were covered with dark-brown spots; elsewhere the skin was clear. There were no leucodermic spots and no angiomatous conditions.

From a study of these cases, he concluded that in the beginning the development of these spots could not be distinguished from that of ordinary freckles. Gradually the spots multiplied until they involved a considerable portion of the skin. It was probable that several years might elapse without other manifestation of the disease. The telangiectatic condition was probably secondary. In the first case it was most developed in the atrophic portion. It was probable that in this case there would be hypertrophy of the epithelium and final transformation into epithelioma. This had been the result in the thirty-three cases which had been reported.

The Relations of Lupus Vulgaris to Tuberculosis.—Dr. HYDE read a paper in which the following clinical facts were cited in support of the view that lupus vulgaris was not the result, as had long been taught, of tuberculosis or other systemic diathesis, but was the product of a local infection by bacilli, entirely unassociated with any constitutional evidence of diathesis or predisposition: 1. The unimpeachable character of the family record in by far the larger number of cases of lupus vulgaris. 2. The fact that the disease was in its inception a disorder of the period of childhood, when for the most part the habits of the child were favorable to infection. 3. The several sites of predilection were those most favorable to such infection. 4. The failure of the disease to spread by inheritance. 5. The remarkable tendency of lupus vulgaris to cutaneous limitation.

The Treatment of Lupus by Parasiticides.—Dr. WHITE reviewed briefly the evidence in favor of the parasitic nature of the affection. All previous plans of treatment which had proved most successful were those which would have the effect of destroying any parasite which might be present. A number of cases were then reported in which the local use of corrosive sublimate, in the strength of two grains to the ounce of water or unguent, had been used with beneficial results. The ointment was especially recommended. It had been rarely necessary to prolong the treatment over two months. As regarded the permanency of the cure the author was unable to speak, as the experiments had been continued for only eighteen months.

Dr. S. SHERWELL, of Brooklyn, would express his profound disbelief in the parasitic nature of the disease, and he did not know that the theories of Koch had been entirely proved.

Dr. HYDE said that at the last meeting Dr. Taylor had suggested the use of a solution of corrosive sublimate in tincture of benzoin. He had used this in cases of lupus and in cases of infecting chancre. It made an excellent application.

The Treatment of Port-wine Mark by Electrolysis.—The PRESIDENT read a paper with this title. In the treatment of this affection the object was to excite sufficient inflammation to cause occlusion of the vessels. Electrolysis seemed to be the most convenient way of doing this. At first the author had used a bundle of needles, but he now employed only the single needle. It was important to allow a period of some weeks to elapse between the applications. The histories of three cases were given in which this method had been employed.

Dr. WIGGLESWORTH, of Boston, had seen good results from cutting the vessels in two places and using a preparation of iron, thus closing up the dilated vessels.

Dr. FOX thought that better results could be obtained by electrolysis than by other measures, but it did not remove the trouble entirely. He had used the treatment with puncture and carbolic acid with fair results. He had sometimes passed the electrolytic needle deeply, endeavoring to strike the artery of supply, and sometimes had produced a decided effect.

Dr. LE GRAND N. DENSLOW, of Minneapolis, had recently seen a case of port-wine mark on the labia majora of an infant. This had ulcerated when the child was brought to him. As a temporary measure, he applied the liquor gutta-percha. In two days, without other treatment, the whole mark sloughed out, leaving nothing but a simple ulcer, which completely healed in the course of three weeks.

The PRESIDENT thought that the advantage of electrolysis was that it was manageable. A practical point might be referred to, and that was, if after the operation the part was frequently mopped with hot water, the inflammatory disturbance would be greatly lessened.

Remarks on a Moot Point in the Ætiology of Psoriasis.—Dr. SHERWELL read a paper with this title. He had been struck by the great diversity of opinion in regard to the general health of those affected with psoriasis, and, in order to arrive at something like a consensus of opinion on the subject, he had

referred to the writings of most of the authorities in dermatological matters. Brief extracts from various writers were then given. The evidence thus obtained strengthened the author's opinion that the patients with psoriasis were generally in good health. He thought that the theory of Piffard, who believed that the rheumic diathesis was a great exciting cause of psoriasis, was the most rational theory that had been advanced.

(*To be concluded.*)

NEW YORK SOCIETY OF GERMAN PHYSICIANS.

Meeting of June 22, 1883.

Dr. B. Schaelau, and afterward Dr. I. Adler, in the Chair.

Ulcerated Gumma of the Sternum.—Dr. Hermann G. Klotz presented a man, sixty years old, whom he had treated at the German Dispensary. Three weeks ago he hurt his chest by striking against a hard object. Soon after he noticed a hard swelling which developed at the seat of the injury and finally ulcerated, but never gave him any pain. The nates and thighs exhibited pigmented scars, but there were no swollen glands. Dr. Klotz considered the swelling to be an ulcerated gumma.

Kelotomy combined with the Radical Operation for Inguinal Hernia.—Dr. I. Adler presented a man, twenty-three years old, on whom he had performed this operation at the German Hospital four weeks ago. The patient had been afflicted with an irreducible hernia ever since he could remember, but had never worn a truss. When the doctor first saw him his abdomen was tense and painful, and he suffered from hiccough, nausea, and vomiting. His bowels had not moved for four days in spite of some homœopathic medicine prescribed for him by an irregular practitioner. The hernial protrusion gave a dull percussion sound. Dr. Adler at once proceeded to perform kelotomy. On opening the hernial sac, it was found to contain omentum which was firmly adherent to the hernial sac in many places, and a small, dark-red knuckle of intestine. The whole inguinal canal was laid open, and the internal ring was freely incised, whereupon the strangulated portion of intestine slipped back into the abdominal cavity. The adherent portions of the omentum were ligated and cut through with the thermo-cautery. The operation was supplemented by the radical procedure for hernia—viz., the stitching of the internal ring, which was done with stout catgut. The dressing was changed on the fourth day, and he was discharged at the end of two weeks.

Hæmorrhage following Abortion.—Dr. J. Boldt exhibited an ovum of the fourth week of gestation. The hæmorrhage occasioned by the miscarriage lasted about two weeks and was stopped only by scraping the uterine cavity.

Tetanus following Abortion.—Dr. Henry Wald reported the case of a woman, thirty-six years old, who had a miscarriage in consequence of excessive exertion, and in whom lockjaw set in three days afterward. Treatment was of no avail, and she died at the end of three days of suffering. At the time of death her temperature was 106° F.

Dr. I. Adler remarked that he had once tried nerve-stretching in a case of tetanus caused by a gunshot wound of the thumb, but without success.

Prolonged High Temperature.—Dr. A. Seibert reported the case of a baby four months old, which he had treated for gastritis, and which for eighteen consecutive days almost uninterruptedly had a temperature of over 106°. The child recovered.

Tetany.—Dr. J. Rudisch related the case of a child, four years old, who at the time of the meeting was convalescing from an attack of tetany supposed to have been caused by taking cold while sleeping near an open window. The attack began with a severe headache, which was aggravated every time the little patient took nourishment. On the fourth day mastication and deglutition became difficult, and the usual symptoms of tetany were ushered in. Warm baths were at first employed, but they appeared to aggravate the convulsions; neither did salicylic acid produce any amelioration. The patient was then put on chloral hydrate and bromide of potassium, and the occasional use of amyl nitrite.

Operation for Empyema.—Dr. A. Caillé reported a successful operation of this kind which he had performed in a child fourteen months old. He employed Labarraque's solution for washing out the pleural cavity. Six weeks after the operation the little one had gained three pounds.

Meeting of September 28, 1883.

Dr. B. Schaelau in the Chair.

Dr. J. Boldt introduced a man, thirty-two years old, on whom Prof. Langenbeck, of Berlin, had performed exsection of the left elbow joint in the year 1876, resulting in a perfectly useful limb.

Perforation of the Lower Canaliculus due to Syphilis.—Dr. A. Schapringer presented a married woman, aged twenty-six years, with a perforation of the left lower lachrymal canaliculus, the result of ulceration of a tubercular syphilide which had occupied the region of the inner canthus. The patient having been put through a course of iodide of potassium, the syphilitic nodule itself had disappeared at the time she was shown to the society. The slit-shaped perforation involved the inner or nasal half of the lower canaliculus, transforming it into a furrow, while the outer or temporal half, including the lower punctum lacrymale, was normal. Through the slit-shaped opening No. 6 of Bowman's probes could be introduced into the lachrymal duct. There were also several small perforations in the soft palate. Dr. Schapringer had not been able to find a single case of perforation of a lachrymal canaliculus caused by syphilis recorded in literature.

Gonorrhœal Tenosynovitis.—Dr. A. G. Gerster reported the case of a young man who, during the course of the second week of his first gonorrhœa, was attacked by inflammation, followed by suppuration, of the tendon sheaths of the flexors of the middle finger and of the tibialis anticus. The abscesses formed were incised and washed out with a strong solution of corrosive sublimate. The wound healed in four weeks. Dr. Gerster considered this to be a case of metastatic gonorrhœal synovitis.

Dr. H. Knapp said, in answer to a question from the chairman, that the existence of a metastatic form of iritis due to gonorrhœa was established beyond any doubt, though it did not occur frequently. Whenever a patient suffering from iritis complained to him about pains in the knee, he always diagnosticated the presence of gonorrhœa, and had as yet never made a mistake.

Dr. I. P. Oberndorfer expressed doubts as to the existence of a causal relationship between gonorrhœa and rheumatism, and believed that the combination of the two diseases was purely accidental.

Dr. Gerstle had seen about thirty cases of articular rheumatism following recent gonorrhœa or mechanical irritation of the inflamed mucous membrane of the urethra, and was convinced that the latter was the cause of the former. He had had repeated experience of the fact that the passing of a sound was followed either by inflammation of a joint, or by an exacerbation of an existing inflammation. These inflammations, as a rule, were very stubborn to treatment. In three cases in which

he had occasion to aspirate he found that the joints contained serum mixed with a small quantity of pus. A number of cases of gonorrhœal rheumatism turned into the tuberculous or fungoid form of arthritis. Dr. Gerster once had to perform partial exsection of a knee joint affected in this way. Ankylosis was often the result of this form of joint disease. In the treatment of gonorrhœal rheumatism, not only the original trouble should receive attention, but also the joints affected should have the benefit of special surgical care.

Dr. J. Rudisch remarked that the term "gonorrhœal rheumatism" ought to be discarded, because it was apt to be misleading in regard to therapeutics. Salicylic acid was never of any benefit in this disease. He had observed that the continued treatment of the urethral affection by injections always aggravated the joint trouble. He recommended the administration of iodide of potassium, to put the joint in splints, and not to meddle with the urethra at all.

Dr. Oberndorfer said that, if it was true that the suppression of the gonorrhœal secretion by local applications was apt to start or to aggravate joint inflammation, this fact was an argument against the view that the joint disease was due to gonorrhœal infection, because a cessation of the gonorrhœal flux could only be brought about by killing the micrococcus which caused it, and, if this was done, then the micrococcus, being dead, could not possibly cause any metastasis. He also thought that, if the arthritis was caused by the *Diplococcus gonorrhœæ*, the effusion into the joint would invariably be purulent.

Dr. Gerster reminded Dr. Oberndorfer that, whenever a general infection of the system took place from a pus-secreting focus situated anywhere in the body, one of the first symptoms was the cessation of the secretion of pus at the initial lesion. The usual method of making injections into the urethra, as practiced by the patients themselves—*i. e.*, by pressing the walls of the meatus tightly against the nozzle of the syringe—was apt to cause infection of the system by forcing gonorrhœal material into open lymph-channels in places where the mucous surface was denuded of its epithelial lining. He preferred to make the applications to the urethra himself wherever this was practicable. The fluid which he preferred was a solution of corrosive sublimate of 1 part to 5,000 or more, with which he irrigated the urethra by means of a fountain-syringe and a soft catheter.

Dr. Rudisch inquired whether the treatment of the urethral mucous membrane had any influence upon the progress of gonorrhœal iritis, if such a complication existed.

Dr. Knapp answered that in such cases he never interfered with the urethra at all, and that the discharge from the urethra always subsided without any local treatment. He thought that the good effect of antiseptics could be accounted for by their astringent property, in consequence of which they diminished the amount of transudation, and thus deprived the micro-organisms of the soil on which they fed.

Gonorrhœal Ophthalmia.—Dr. Knapp also mentioned that he had lately met with an unusual number of cases of this affection. In regard to treatment, he did not use nitrate of silver in any form in the beginning, but restricted himself to measures of cleanliness and the application of cold.

Meeting of October 26, 1883.

Dr. A. Jacobi in the Chair.

Sarcoma of the Kidney.—Dr. Aug. Seibert exhibited both kidneys of a girl ten months old, the right one of which was the seat of a medullary carcinoma. He intended to publish the case in detail at some future date.

Dr. Alfred Meyer remarked that sarcoma of the kidney occurred more frequently than carcinoma in children.

Dr. Seibert replied that in the foregoing case he and Dr. A. Seessel had become convinced, by means of microscopic examination, that the new growth was a carcinoma.

Dr. I. Adler contradicted the statement of Dr. Meyer with reference to the frequency of occurrence of both classes of new growths in the kidneys of children.

The Chairman remarked that more attention had been given to tumors of the kidney within the past fifteen years. The greater number of congenital as well as malignant new growths which developed in infants and in children of one or two years of age were found in the kidneys, and the majority of these tumors were sarcomata. Hæmorrhage hardly ever occurred with this kind of tumor. He had observed six cases of sarcoma of the kidney up to date, but had never seen one case of carcinoma. Should carcinoma occur at all in children, its favorite seat would be the kidney, but the greater number of new growths of this organ were assuredly sarcomatous.

Dr. Adler was of the opinion that most of the so-called primary sarcomata of the kidney did not originate in the kidney substance proper, but began either in the supra-renal capsule or in the pelvis of the kidney.

Sarcoma of the Left Side of the Face.—Dr. Adler presented a patient, forty-six years of age, upon whom he had operated for the removal of a sarcoma of the left side of the face five weeks previous. The tumor became noticeable about one year ago, although the patient had experienced some difficulty in mastication and swallowing for a considerable time previous, evidently caused by the new growth. At the time of the operation the region of the left parotid gland was the seat of a tumor which was of the size of an apple. Above the zygoma there was a smaller projection. The patient could not open his mouth. Under the influence of chloroform a digital examination of the fauces was rendered possible. The left tonsil and the uvula were pushed to the inner side, but were not united with the tumor.

While extirpating the tumor it became apparent that the new growth originated from the left lower maxilla, which bone, together with the muscles attached to it, with the exception of the internal pterygoid, was removed. The parotid gland was atrophied, but not involved in the tumor, and was, therefore, not removed. The number of vessels ligated was quite small; among them was the internal maxillary artery. A portion of the pterygoid process was removed. The wound was dressed with iodoform, and healed without any signs of reaction. A microscopic examination showed the new growth to be a giant-celled round-celled sarcoma. At the time of this report the patient was able to masticate.

Ossifying Giant-celled Sarcoma of the Foot.—Dr. Adler showed the foot of a girl, seventeen years of age, which he had amputated four months previous in the German Hospital. The family history of the patient was phthisical.

The patient entered the hospital in January with a swelling of one ankle joint, which was considered a fungous inflammation, and it was treated with ignipuncture. As the swelling of the joint increased, Dr. Adler determined to perform a radical operation. He made a longitudinal incision at first, as recommended by Kocher, in order to explore for an intended exsection. A peculiar substance oozed forth, which at first sight seemed to be fungous, and he determined to perform Syme's amputation at once. A microscopic examination demonstrated that this mass was an ossifying giant-celled sarcoma, which projected from the anterior surface of the astragalus. The scaphoid bone was not involved. The position of the new growth corresponded with one of the previous ignipunctures. No trace of a fungous process was found on the joint surfaces nor anywhere on the sheaths of the tendons.

Dr. Adler was of the opinion that the new growth was present at the time when the ignipuncture was performed, and that this operation caused a rapid proliferation of the same.

Dr. A. G. Gerster remembered a case which he observed about one year ago, in which a sarcoma developed itself in the bony cicatrix of a previous fracture of the external condyle of the humerus.

Adenoid Vegetations.—Dr. Aug. Caillé exhibited several adenoid vegetations which he had removed by means of Jarvis's snare from the naso-pharyngeal cavity of several patients.

Dr. Gerster said that Jarvis's instrument had broken when he had attempted to remove any dense swellings.

Dr. Adler said that he used the snare constructed by Zaufal, of Prague, with the best success.

Extirpation of the Uterus and Ovaries.—Dr. Paul F. Mundé reported a case in which he had successfully extirpated the uterus with the ovaries, at Mount Sinai Hospital. The operation was performed on account of a carcinoma of the cervix, the uterus being quite movable. The patient was placed in Sims's position and the operation performed through the vagina.

Dr. Gerster stated that Dr. Bopp had successfully removed a uterus through the vagina. He had assisted at a similar operation, recently performed in Brooklyn, on account of a total prolapse of the uterus and vagina. This latter case progressed favorably.

The Chairman remarked that the first operation for extirpation of the uterus ever performed was that done by Dr. Emil Noeggerath in Hoboken about six years ago. The case terminated fatally.

Tuberculosis of the Lung with Pneumothorax.—Dr. Alfred Meyer exhibited the lung of a phthisical patient which, becoming perforated a short time before death, caused pneumothorax.

Dr. Meyer also showed the uterus and other organs of a woman who had died of puerperal septicæmia.

Parenchymatous Inflammation and Fatty Degeneration of the Kidneys.—Dr. H. J. Boldt reported the case of a woman, twenty-nine years of age, who had been suffering with frontal headache for several years. The headache was most intense in the morning, and, as a rule, subsided in the afternoon. A short time before death the woman was seized with periodical rigors, which were not influenced by quinine. The urine at no time contained albumin. The patient was seized with convulsions which passed into coma, and in this condition she died. The autopsy did not corroborate the probable diagnosis of abscess of the brain, there being only a hyperæmia and œdema of the brain-substance.

Dr. Satterthwaite had examined the kidneys and found them in the first stage of a parenchymatous inflammation or fatty degeneration.

Meeting of November 10, 1883.

Dr. A. G. Caillé in the Chair.

Empyema.—Dr. H. J. Boldt read the full clinical history, and exhibited the lungs, of a man, twenty-two years of age, who had apparently at first suffered from typhoid fever, and afterward a pneumonia, to which he succumbed. The autopsy revealed an empyema. During life bronchial breathing could be heard distinctly over the empyema.

Dr. A. Jacobi, who saw the case in consultation, stated that he had heard the bronchial breathing, and thought that it was caused by short adhesions between the costal and the visceral lamina of the pleura. It was always necessary, he thought, to make an exploratory puncture in doubtful cases.

Urine containing Casts but no Albumin.—Dr. Boldt also spoke of certain cases of Bright's disease in which the urine contained casts but no albumin.

Dr. Charles Heitzman remarked that this peculiarity occurred in chronic Bright's disease, and Dr. Gustav Langmann stated that it also occurred in acute cases.

Primary Sarcoma of the Kidney.—Dr. Jacobi exhibited a primary sarcoma of the kidney of a boy, two years of age, who had been admitted into Bellevue Hospital on August 8, 1883, on account of distended abdomen and occasional vomiting. On admission, the temperature was 101° F., and a swelling was found on the right side of the abdomen. On percussion, tympanitic resonance was found in the space extending between the liver and the swelling. The patient was put on a generous diet, and alcohol and arsenic were administered.

September 20th.—The patient had improved, having good appetite, but the swelling had increased in size. A diagnosis of sarcoma of the kidney was made. The urine never contained albumin or blood.

October 12th.—The swelling had become larger; there was marked dyspnœa; on the right posterior surface of the thorax dullness was present, which corresponded to a watery serosanguineous exudation, which was removed by aspiration.

The dullness over the tumor now coalesced with that of the liver, and there was apparent fluctuation at a certain point. This being punctured, some dark, bloody fluid was evacuated. The tumor continued to grow rapidly, and finally the child died, emaciated and exhausted. The autopsy revealed a large tumor of the right kidney, which was inclosed in a dense fibrous capsule, and to which the ascending colon and liver were adherent. On section, the anterior portion of the tumor revealed a cyst which contained about two hundred and fifty grammes of fluid. In the middle of the swelling there was hæmorrhagic exudation. The ureter was not degenerated, and extended up to the middle of the tumor, where it joined a normal remnant of the pelvis. The tumor itself was a soft, round-celled sarcoma.

Dr. Jacobi then spoke about the differential diagnosis of carcinoma and sarcoma of the kidney, and said that with a large tumor and a history of comparatively fair health for a long period of time the diagnosis of sarcoma was quite probable. The course or clinical history of sarcoma was also of longer duration than of carcinoma.

Osteo-sarcoma of the Right Jugular Bone.—Dr. F. C. Heppenheimer exhibited an osteo-sarcoma of the right jugular bone which was not noticed until eleven months before death. A resection was performed in Bellevue Hospital, but a new tumor very soon appeared. Finally the tumor involved the right side of the frontal bone, the entire inner surface of the orbit, and perforated the right side of the ethmoid. From the orbit the tumor extended to the right angle of the jaw, thence under the chin to the middle portion of the digastric muscle, where a round mass of the size of a small egg projected from the main portion of the tumor. From here the tumor extended backward to the anterior surface of the sterno-cleido-mastoid muscle, and upward along this muscle to the level of the lobule of the pinna. The tumor involved the entire region in front of the ear, and, passing up obliquely, was bounded by the superciliary ridge. The right eye was pushed forward and covered by the lids. The patient, who was sixty-four years of age, died of exhaustion.

Choroiditis Metastatica.—Dr. Heppenheimer showed the eyes of a patient, thirty three years of age, who had suffered from a metastatic choroiditis. The patient died of a diphtheritic endometritis.

Carcinoma of the Stomach.—Dr. Heppenheimer also exhibited a connective-tissue scirrhus of the pyloric end of the

stomach which would have been a favorable case for exsection. The patient died of hæmorrhage from the stomach.

A Floating Body in a Hydrocele.—Dr. Heppenheimer also showed a floating body found in a hydrocele.

Carcinoma of the Œsophagus.—Dr. Alfred Meyer exhibited the œsophagus of a woman, fifty-two years of age, which was the seat of a carcinoma. In the previous July the patient experienced difficulty in swallowing and pain in the epigastric region. She vomited frequently and lost flesh and strength, finally becoming so emaciated as to weigh ninety-two pounds only. October 2d an incision was made, and an obstruction was ascertained to be situated about twelve inches from the incisors. An œsophageal bougie No. 5 was passed, which caused an amelioration of the symptom and a marked increase in weight. October 21st the patient began to vomit very frequently and emaciated very much. This vomiting was followed by coughing, the patient vomiting the contents of the stomach mixed with pus. A short time before death she weighed fifty-two pounds only. The autopsy showed a dilatation of that part of the œsophagus situated above the stricture which measured 6·5 cm. in diameter, while the diameter of the œsophagus below the stricture was 3·5 cm.

An ulcerative process, beginning at the new growth, perforated the right bronchus, thus establishing a communication between this bronchus and the œsophagus.

In the right lung a suppurative bronchitis was found. In the right axillary region a swollen gland was seen. Microscopic examination showed an epithelioma. According to von Ziemssen, this class of carcinoma of the œsophagus rarely occurred in women.

Repeated Attacks of Scarlatina in a Child.—Dr. Gustav Langmann reported a case of a boy, fourteen years of age, who had had twenty-four attacks of scarlatina. About twelve years and a half ago the patient had his first attack of scarlatina complicated with diphtheria. This occurred in the year 1871, and since that time he had had a regular attack of scarlatina every spring and fall. The rash, angina, rise of temperature, and especially the characteristic desquamation of the palmar surface of the hands, left no doubt as to the correctness of the diagnosis. The urine never contained albumin, and the temperature was seldom higher than 102° F. Dr. Langmann also stated that it was not rare for a patient to have scarlatina more than once.

Dr. William Balser had observed a case in which the patient had six attacks of scarlet fever.

Dr. Herman G. Klotz said it was important to remember that *erythema exudativum* occurred most frequently in the spring and autumn, and also called attention to the fact that, after an exanthema brought on by quinine, a desquamation of the palmar surface of the hands occurred.

A. Seibert, M. D., *Secretary pro tem.*

Meeting of December 28, 1883.

Dr. Ernst Schottky in the Chair.

Calcareous Concretions in the Sputum.—Dr. Aug. Seibert exhibited three calcareous concretions which, at various times, had been coughed up by a patient who had marked dullness at the apex of the left lung.

The patient stated that he had experienced a pain at a certain point of the thorax, which began a certain time before he had coughed up these deposits. This pain ceased as soon as the deposits were coughed up.

Interstitial Pregnancy and Rupture of the Uterus.—Dr. H. J. Boldt exhibited the uterus and appendices of a woman, twenty-one years of age, with the following history: Five days before death, while dressing to go out for a walk, she was suddenly seized with intense pain in the right inguinal region which compelled her to go to bed. She stated that she had danced on the previous day. When Dr. Boldt first called he found the patient very pale, semi-comatose, and complaining of very severe pain in the right inguinal region. The uterus was anteflexed. Twenty-four hours later peritonitis set in. On the fifth day she vomited frequently, the temperature rising to 103° F., and on the following night she died.

At the autopsy about twenty ounces of coagulated blood were found in the right pelvic cavity. This blood apparently took its origin from the posterior surface of the uterus, where a laceration was visible, and at this point a swelling was also found.

Dr. Boldt thought that the ovaries were in a state of cystic degeneration.

Dr. J. Kucher was of the opinion that Dr. Boldt's case was one of interstitial pregnancy, and that the swelling found on the uterus was probably placenta.

Dr. H. Garrigues was of the same opinion as Dr. Kucher, and did not think that the ovaries were degenerated, but that the right ovary, which apparently was degenerated, simply contained a corpus luteum.

Cheesy Degeneration of the Lungs.—Dr. Boldt also exhibited the lungs of a child which he had presented to the meeting on February 23, 1883. Craniotabes was diagnosticated at that time. The lungs contained cheesy deposits. The bronchial glands were enlarged.

Tuberculous Meningitis of the Convexity of the Cerebrum.—Dr. A. Jacobi exhibited the convexity of the hemispheres of the cerebrum of a man fifty-one years of age, whom he was called to see in consultation with Dr. Herzog on December 19, 1882. Dr. Herzog was called because the patient suffered from a severe headache and complained of irritability. His family history was negative. The pulse during the course of the disease only sank as low as 64 beats on one occasion. December 14th the patient was seized with spontaneous vomiting. On December 19th, when Dr. Jacobi first saw the patient, he found the left pupil considerably dilated. The naso-labial fold had disappeared. The patient presented a typical case of *taches méningitiques*. The heart and kidney were normal. A diagnosis of tuberculous meningitis of the convexity of the brain was made. The localization of the diagnosis was made on account of the small degree of irritability of the pneumogastric, which was demonstrated by the fact that the frequency of the pulse was very little changed. The post-mortem confirmed the diagnosis.

Sublimate Dressing.—Dr. H. J. Garrigues showed the sublimate dressings which he used with good results in the Maternity Hospital.

Dr. J. Kucher considered the dressing superfluous, because the infection occurred during parturition. This fact was proved by the well-known immunity from puerperal fever in cases where labor set in unexpectedly on the street.

Dr. J. Rudisch pointed to the fact that previous to the introduction of antisepsis a favorable result was frequently obtained in the intervals of endemics of puerperal fever, and that a similar interval possibly occurred in the case of Dr. Garrigues when he employed the antiseptic dressings.

Dr. A. Jacobi said that the type of puerperal fever prevailing in the Maternity Hospital when Dr. Garrigues employed the dressing was diphtheritic, and that the favorable results observed by Dr. Garrigues occurred at a time when diphtheria was prevalent in the surroundings of the hospital in the same proportion as before the introduction of the sublimate dressing, so that the favorable statistics now obtained must bear some relation to the employment of this dressing.

Dr. A. G. Gerster remarked that he used a similar dressing in lithotomy, and that this dressing prevented putrefaction of the urine. A. G. Gerster, M. D., *Secretary*.

Miscellany.

The International Medical Congress.—"Gaillard's Medical Journal" publishes the following letter from a correspondent who signs himself "Old Code":

"Although not wishing to trespass upon space which might be more profitably devoted by you to scientific material, I desire, nevertheless, to present for your consideration, in connection with the matter of the Ninth International Medical Congress, several principles which thus far in the discussion of that unfortunate subject seem to have escaped general attention, and which, if rightly understood and applied, would, I believe, set at rest much existing controversy. They are the principles upon which the International Congress as an institution was first conceived, and upon which, up to the present time, it has maintained a most successful career.

"I. The International Congress is essentially an independent, self-perpetuating body. It is independent because its objects are *purely scientific*, and its organization possible only upon that basis. It is self-perpetuating because capable of appointing its own officers and of electing its own places of meeting. Its hitherto uninterruptedly successful career places the fact of its perpetuity beyond a doubt.

"II. The Congress is, as its name implies, distinctly *international*. As an institution, therefore, it can not by any possibility be considered the property of an individual, country, or party. Should such proprietorship be admitted at all, it could only be in the case of those who originated the enterprise and who have conducted it through its eight successful meetings. Since this is so, it would seem not only wise and courteous, but, in fact, absolutely necessary, that local issues be placed as far as possible out of sight.

"III. The profession of any given country in which a regular meeting may be convened have certain privileges (as of entertainment, general arrangement, etc.) committed to them, as it were, *in trust*. The entertaining body has, of course, its own share in the governance of the Congress as a whole, just as any other country represented, but it can not possibly be conceded to have full controlling power. While accepting and exercising in full the privileges accorded to us as the organizers and entertainers of the Ninth Congress, we are still compelled to recognize our *trusteeship*, and we are under obligations, when we have finished with the institution, to leave it in the same sound condition in which it was received.

"IV. It is, clearly, the *whole body* of the International Congress which should dictate its policy. The expressed wish of the Congress must be accepted, therefore, as the controlling line of action. When, at Copenhagen, it was proposed that the next Congress be held in Washington, before the question was put for decision to the Eighth International Congress then assembled at its final general meeting, it was distinctly understood by those in charge that political issues in general, and the so-called 'code issue' in particular, *were not to be admitted*. It was as plainly understood that the representation was to be of *the medical profession of America*. Upon the strength of these propositions the vote was carried unanimously.

"Thus, in the present condition of affairs, we appear before the world not only divided against ourselves, but, what is far worse, as having set aside the distinct compact made with the International Congress itself, having acted in direct defiance of the principles by which it has heretofore been controlled, and having placed ourselves in clear opposition to its expressed wishes.

"Regarded from the international and, therefore, from the true and broad standpoint questions relating to local politics, local organizations or local sentiments have in this matter no place. They are, most absolutely, out of order.

"When the above principles are thoroughly understood by the profession of this country at large, and when it is also understood that it is only upon them—that is, upon the principles of its own adoption—that the International Congress will allow its policy to be conducted, we may hope that the present dilemma may be removed and further disaster averted. I trust that this most desirable issue may await us in the very near future."

The "Medical Times and Gazette," of London, says:

"The 'Lancet' has not taken up a wise line in reference to the Washington Congress. It has either been misinformed as to the facts and the importance of the unfortunate dispute now going on in America, or else it has willfully shut its eyes to them. It is absurd, for instance, of the 'Lancet' to attempt to minimize the differences which have caused the withdrawal from the Congress of almost every man of mark in America. The fact that nearly every medical journal of any repute in the United States has vigorously condemned the action of the American Medical Association, and given its warm support to the men who are contending for the freedom of the profession against the selfish designs of a clique, should in itself have induced the 'Lancet' to give a little more attention to the question before taking the wrong side with such a light and careless heart. The sole fact that seems to weigh with the 'Lancet' is that Dr. Flint has been appointed President of the Congress, or rather that his original appointment has been confirmed by the new committee. Dr. Flint's is no doubt a powerful name to shelter one's self behind. He is incontestably one of the most eminent representatives of the profession in the United States, and it has been a source of profound sorrow to those who have felt constrained to withdraw from the Congress that in doing so they have had to part company with him. But we can not blind ourselves to the fact that Dr. Flint, eminent and honored as he is, has in the present instance allowed himself to be made the instrument of a minority. The part which Dr. Flint would take in this lamentable strife has been foreseen and discounted. The men of Boston, Philadelphia, and Baltimore who withdrew from the Congress knew that he would not follow them. The fact is that Dr. Flint is bound up with the American Medical Association, and an honorable feeling of loyalty no doubt constrains him to accept its decisions, however much he may deplore them in his secret heart.

"If the British Medical Association—a body five times more representative of the English profession than the American Medical Association is of the profession in the United States—had played the same part in reference to the London Congress that the American Association is attempting to play in connection with the Washington Congress, the 'Lancet' would not have been able to find language strong enough to use in condemnation of such action, and we are simply at a loss to understand the reasons which have actuated its present policy. Surely the 'Lancet' can not have realized the fact that the American Medical Association—*i. e.*, a body representing only ten per cent. of the profession in the United States—has decided that no American practitioner shall be admitted to the Congress who is not either a member of the association or a delegate appointed by a State or county medical society. In other words, if the American Medical Association has its way, between thirty and forty thousand American practitioners will be kept as much outside the Congress as if they were not medical men at all. Is the 'Lancet' prepared to give its support to a narrow and illiberal innovation of that sort? Would our contemporary be surprised to learn that this question of principle will henceforward form the main ground of conflict? It may be answered that any American practitioner can purchase the right to become a member of the Congress by joining the American Medical Association. True, but will the foreign visitors let the Congress be thus turned into an instrument for forcing men to join the association who would not join it of their own free will? It is evident that on this question all the leading men who have withdrawn from the Congress will be on the same side with the thousands of practitioners who are at present outside the American Medical Association. And on the other side whom have we? Dr. Flint, the wire-pullers of the association, and the 'Lancet.'

"We are very sorry that our contemporary has committed itself to that side, which every one who knows the facts and judges them with sobriety must admit to be the wrong one. Its American readers will

scarcely welcome such ill-timed and ill-instructed advocacy. The only hope for the Congress lies not in a postponement of disputes till after it is over, but in an unconditional surrender by the American Medical Association of the position which it has so unwisely taken up, and in the rehabilitation of the original committee. On these points we believe that the leading men who have retired from the Congress are unanimously determined, and will admit of no compromise. If they still stand aloof, there will be no Congress, in spite of the 'Lancet's' confident prophecies. Our contemporary seems hardly to realize the extent and importance of the withdrawals. To take one section alone, that of ophthalmology, not more than four or five men of any reputation are left on it. Dr. Agnew, Dr. Knapp, and Dr. Jones, of Chicago, have been removed from their offices by the new committee of the American Medical Association, while Drs. Thomson, E. Williams, Burnett, Derby, Norris, Seely, Theobald, Wadsworth, and H. W. Williams have all declined to hold office in connection with it. A similar state of things prevails in almost every other section, so that, unless the practitioners who have withdrawn can be induced to return, the European guests who go to Washington in 1887 in search of scientific discussion will have to provide it for themselves. Under such circumstances, we doubt if many will care to encounter the discomforts of the Atlantic passage."

The "Journal of the American Medical Association" publishes the following letter from Dr. John H. Packard, of Philadelphia:

"In an editorial in your issue of August 15th it was stated, on what authority I do not know, that I had withdrawn my declination of the secretaryship of the International Medical Congress of 1887, and consented to assume that office. The truth is that up to the present moment no official notice of such nomination has been sent me, nor has any publication of it been made to my knowledge, except in the 'Medical News' for July 4th. I do not, however, wish to make any point of this, but beg that you will afford me space for a plain statement, as brief as I can make it, of the facts in regard to this matter.

"On or about the 1st of June the chairman of what is now known as the enlarged committee told me that Dr. Billings would probably decline the office of Secretary-General, and asked me if, in that case, I would accept the nomination. I told him I would not seek any office, but that if it should appear to be for the promotion of harmony and of the success of the Congress, and the nomination were offered me, I would seriously consider whether I could undertake the work.

"After the enlarged committee had met in Chicago, a meeting of physicians was called here to receive a report of what had been done. I was at this meeting for a few minutes only, and did not hear the report, or know that it concerned me. Subsequently I was told that my nomination as Secretary-General had been announced, and that the impression had been conveyed that I had been a party to ousting Dr. Billings in my favor—in other words, that I had intrigued to obtain a place not vacant. I have since been told by the secretary of the committee that my nomination came from an outside source, and without any prompting on the part of those with whom I might have been supposed to be in league. How any one who knew me should think me capable of action so completely at variance with my whole life I could not and can not understand. Yet I found myself under this imputation, and felt compelled to subscribe my name to the protest of June 29th, lest my not doing so should give color to the idea that I had so schemed.

"There was another reason, not of a personal character, for my joining in the protest. The enlarged committee had adopted a rule which limited the conditions of membership, so far as Americans were concerned, while it left to foreigners free and unrestricted admission. Of this I could not approve. I at once wrote to the secretary of the committee and declined the nomination as Secretary-General, in advance of official notification, on the grounds that I was informed that Dr. Billings had not intended to resign, but had done so only because of the action of the enlarged committee; that the committee originally appointed had resigned, and that it was likely that the change of management would cause forfeiture of the foreign support of the Congress, as well as of much of that expected from the profession in this country. This letter I have not withdrawn.

"When I understood that there was hope of a compromise being effected in regard to the matters in dispute, and the propositions looking thereto were shown me, it seemed to me that they were faulty in that they dealt with the American membership only; and I ventured to submit one simply defining the conditions upon which any one, American or foreign, might come in. In handing this to Dr. Shoemaker I gave him also a note of explanation, in which I said that if anything better was offered I would gladly accept it. So far as I know, this was the only expression of mine which could be construed into a withdrawal from my former position.

"My own conviction is that it is contrary to all precedent for the American Medical Association to assume any control of the management of the Congress, which is a body by itself, and the members of which will be in no sense the guests of the association, or subject to it. Were I Secretary-General of the Congress I should not consider myself the appointee of the American Medical Association, nor responsible to it in any degree.

"And while it is eminently proper that the profession all over the country should be welcomed to membership in the Congress, and to a full share in its proceedings, the association does not seem to me to be, in its present form, a sufficiently representative body to undertake to insure this, even if it could properly claim the right to do so.

"I trust that you will bear with me in what is perhaps the wearisome length of this statement of facts and opinions; but it has seemed to me to be due not only to myself, but to those who have been kind enough to consider me worthy of nomination to office in the Congress.

"No one can regret more than myself the prospect of wreck of a scheme in which the credit of the American profession is so deeply involved; and to avert it I would gladly do all in my power, but can not sacrifice my personal honor or stifle my convictions."

The "Medical Record" says:

"The 'Journal of the American Medical Association,' which has so steadily maintained a character for dignity and dullness, has recently lost its first attribute at least, without perhaps undergoing much change as regards the second. Its endeavors to prop up the present managers of the International Congress have led it into a curious position. It is no longer the organ of the profession, or even of the association, but is rather a strident defender of the clique who are bent on having their own way. Despite the almost universal condemnation of the policy developed at New Orleans and Chicago, the 'Journal' continues to defend it. In doing so, it has not had the courage of other journals, which it accuses of being 'organs,' but has systematically repressed all adverse critical comments even from disinterested European brethren. It has sneered at the eminent gentlemen who have withdrawn from the association, and has characterized them as thoughtless and foolish malcontents. Although resignations have now been going on steadily for over two months, it still chooses to regard the action as 'hasty.'

"With all this, however, we are each week informed that, if the withdrawing members will hurry up and return to the fold, it may not yet be too late for them to be forgiven! The 'Journal' is in much the position of a man on a raft, who threatens the passengers of a stanch ship with all the dangers of the sea if they do not soon come down and help him navigate.

"Last of all, the 'Journal,' to help itself along, has been guilty of misstatements, which, however, we can easily believe were accidental or typographical. We quoted last week from it the announcement that Dr. John H. Packard had withdrawn his resignation. We have the authority of the 'Medical News' that this is not true.

"Our Chicago contemporary, in discussing the question, has in every instance evaded the real issue, viz., that there should be no politics in a scientific convention. The introduction of this issue it can not excuse, and wisely has not attempted it.

"From its last announcement, we infer that no serious attempt at compromise is to be made. The present managers will, it is true, change the rules so that any regular physician can be a member of the Congress. But it is simply an insult to intelligence and self-respect to assume, as is done, that this is any concession. Gentlemen of new-code affiliations can contribute in money and work, but can not share the honors!

"There is a demand from the whole American profession, from that of England, Germany, and the other countries of Europe, that the code

issue be entirely left out. Will not the committee, which is to meet in this city on September 3d, respond to this demand? It would not be very difficult, and the success of the Congress would then be assured."

Vaccination after the Beginning of Small-pox.—As we have taken the ground that this practice is useless, we think it only fair to give heed to respectable testimony to the contrary. We therefore quote the following letter, addressed to the "Lancet" by Dr. Francis J. Allan, of Edinburgh:

"On the evening of April 12th last I was called to see C. R——, a domestic servant, aged twenty years, with the following history: She had come to this situation on April 1st, feeling well, but at the end of a week she began to complain of lassitude and headache, and on the 10th and 11th these were accompanied by sickness and pain in the throat, back, and limbs. On the 12th a few papules appeared on the forehead, neck, and body, and on the legs were large red patches. When seen in the evening the girl said she was 'all right, except for the spots.' From the symptoms and the character of the papules a mild form of small-pox was diagnosed. The girl was removed next day to the small-pox hospital, and the other inmates of the house were revaccinated. C. R——'s fellow-servant, C. L——, eighteen years of age, who had occupied the same bed up to the 11th, complained at the time she was revaccinated of loss of appetite, and her arms were noticed to be rough, which she said was unusual. Next day (the 14th) she had severe pain in the back, the tongue was thickly furred and the fauces inflamed, with four small painful raised spots visible; temperature in right axilla 103° F. The patient had been excited and delirious during the night. On the 15th several papules were seen on the face, and the pain was not so severe. Meanwhile the left arm was becoming red and swollen at the seat of vaccination, which was evidently 'taking.' On the 16th the hard papules on the face were disappearing, and the skin of the legs and arms was desquamating slightly. The pain in the back continued until the 19th, by which time large vesicles had formed on the vaccinated arm, the four large pocks looking more like the result of a primary than a second vaccination. In a couple of days the pocks were at their height, and, with the exception of some swelling of the axillary glands and general weakness, the patient felt comparatively well. The skin very soon became clear and smooth, and she was able to resume her usual employment in a fortnight from the first appearance of the small-pox symptoms. On the others (four persons) in the house the vaccine took full effect. No other cases of small-pox have occurred in the house or vicinity since.

"No cases of small-pox had been known in the neighborhood for several months; and, as the incubation stage is of about twelve days' duration, it was presumed that C. R—— had been exposed to the infection previously to her taking the situation on April 1st. On the 12th the papules appeared, so that, allowing two days for the stage of invasion and twelve for that of incubation, it is probable she was exposed to the infection about March 29th. C. L—— slept in the same bed with C. R—— until April 11th, and, making the same allowances, possibly the poison entered her system the first night C. R—— slept with her. Even if the stages were shorter, it still shows that the infection may be communicated at a very early stage of the disease. A more important point is the action of vaccine as an antidote to small-pox. It has been asked, Is it worth while to vaccinate a patient who is beginning to show symptoms of small-pox? This case (C. L——'s) answers the question to the effect that small-pox may be checked, if vaccination be done with good lymph, even as late as the end of the incubation stage or the beginning of that of invasion. In this case, from the severity of the prodromal symptoms, the attack of small-pox would have been a correspondingly severe one; and this is borne out by the large typical vaccine vesicles produced, showing the great susceptibility of C. L—— to the small-pox poison. Evidently, it was the rapid development of the vaccine which saved the patient from a severe attack of the more lowly growing small-pox."

A Reminiscence of the Royal Society.—T. Wharton Jones, F. R. C. S., F. R. S., recalls to readers of the "Lancet" a recital of the part which he played some fifty years ago in the investigation of the ovum question. He recounts having combated "the erroneous views of the late Dr. Martin Barry . . . . . which were promulgated with the support and encouragement of the 'Royal Society of London for *promoting* Natural Knowledge' and of all the 'scientific world of London'—that is, a clique of the professing physiologists in London, who had got virtual possession of the Royal Society, and arrogantly pretended to decide what ought and what ought not to be considered facts in nature without themselves knowing anything whatever of the subject, for lack of original investigations of their own." Our author writes under the following noteworthy caption: "On the Ova of Man and the Mammifera before and after Fecundation. Historical Notice of the Discovery of the Germinal Vesicle of the Mammiferous Ovarian Ovum, and of the Recognition of a Superadded Investment around the Ovum of the Rabbit as it Presents itself in the Fallopian Tube after Impregnation: a Single-handed Struggle against the whole so-called 'Scientific World' of London Fifty Years Ago. *Dedicated to the Scientific World of the Present Day.*"

The "Journal of the American Medical Association."—In the course of an editorial article entitled "The International Medical Congress and the American Medical Association," the "North Carolina Medical Journal" says: "We trust that, whether we have an International Congress in the United States or not, the dilemma now puzzling the wisest men in the American Medical Association may be overcome, and that such safeguards may be devised as will give the smallest scope for medical politics in the future. It is almost marvelous that such a threatening condition of things was never before reached when one analyzes a few of the huge meetings of the association. It is evident now that, in the future, the opportunities for medical politics must be reduced to a minimum, and every effort made to make the production of scientific work the chief object of the association and a test for preferment. We do not sympathize at all with the suggestion that a new national society should be formed. Secession is a costly business—it arrays good friends against each other, consumes valuable substance, and is so liable to end at last in striking colors you have pride in, and in grounding your arms to an enemy having the only advantage over you in being more numerous and better fed. For these and other reasons we prefer to encourage every means which will make the American Medical Association what the British Medical Association is, and we believe that the surest means to this end is to build up the journal of the association; for no one can doubt, although of late some of the editorials on the Congress have been acrimonious, that the editor has all the qualities of an earnest heart."

Homœopaths and Homœopaths.—We find the following in a very interesting presidential address, entitled "The Latest Systems in Medicine," lately delivered before the Ohio State Medical Society, by Dr. J. C. Reeve, of Dayton:

"The diversity of homœopathic doctrines shows that the term 'homœopath' does not define a man's position with any accuracy at all. It covers very diverse, even opposite opinions. This fact has an important bearing upon the medical politics of the present. You know that our sister society of New York has been divided upon the question of consulting with homœopaths. It would be well for us, therefore, so long as this question remains a possible one for this and other societies to consider, to understand as clearly as possible what the term 'homœopath' implies.

"It includes, at least, three distinct and well-defined classes: A few homœopaths are Hahnemannians. At the meeting of the New York Homœopathic Society in 1883, three acknowledged themselves to be such out of sixty present. According to the 'British Medical Journal,' the real homœopathists of Great Britain can be counted on the fingers of a single hand. With this portion of the sect it is impossible to consult. You can not reason with a man who maintains that a part is greater than the whole. These are intellectual cranks.

"A considerable larger portion of the sect is made up of those who have been educated in all the branches of medical science, who practice in good faith according to the law of similars, but who are bound by no rigid rules as to dose. This class is more numerous in Eastern cities than here. It is large enough to have an organ. This journal carries at its head this extract from our code of ethics: 'A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of

an individual to the exercise and honors of his profession'; and this: 'Our practice is *not* based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry.'

"These men comprise the best of the sect. They support medical legislation to establish boards of health and insure to the public educated physicians. They are on their way back to the ranks of the profession; they are dropping their distinctive appellation, and certainly no obstacles ought to be placed in the way of their return. It is folly, and worse, to call them charlatans and quacks. They are men who exaggerate the value of the law of similars, and the efficacy of the small dose. There is room for honest difference of opinion as to the range of the law, and it will not do for men who use 'Ringer' as a text-book to be too particular about small doses. These men are but little farther from the general line of practice than many of our number who ride 'hobbies,' who appear so frequently in the journals with new and wonderful modes of treatment of diphtheria, scarlet fever, or of some other epidemic they have passed through. We smile at the enthusiasm of these men, we recognize their error to be the same as that of the system-makers, generalizing from a few facts, we glean from their bushel of chaff the few grains of truth there may be; we do not cut them off from professional fellowship. We ought to treat as professional brethren all men who have been educated in medicine, who are honorable in conduct, who elevate the profession above any of its sects, who are honestly trying to advance our knowledge, and to cure disease and alleviate suffering, whatever may be their methods.

"The majority of homœopaths are unfortunately of quite another character. They have adopted this line of practice for whatever there may be of popularity in it, and they pursue their calling in the sole spirit of trade. Shall I be charged with slandering my neighbors? Hear what the 'Medical Times' says. It has dropped the distinctive title of 'homœopathic,' and advises others to do the same: 'We are as confident as we can be of anything that many use the term from mercenary motives, and that it is in many instances only a trade-mark!' The editor says further that the reply to this advice always is that practice would be lost in doing so: 'With this fact in view, how can we reach any other conclusion than that the title is retained for the purpose of business?' In plain English, this means that they are obtaining money by false pretenses. These are the men who have kept bright the spirit of the founder—hatred of the regular profession. They habitually indulge in the grossest misrepresentations of regular practice, and play upon every prejudice which exists, or which they can excite, in the public mind. They sneer about 'drugs.' It is a good word to use; it sounds like *dregs*, and dregs means dirt. They boast much of using 'pure medicines,' thereby conveying the slander that others are not careful about the quality of the chemicals they administer. They instill into the minds of their patrons the fear of 'strong medicines,' and, while doing so, deal out '*lachesis*' (serpent venom) and '*crotalus*' (the poison of the rattlesnake)—medicines which are too strong for our pharmacopœia. They emphasize the single-medicine doctrine while dispensing several different kinds to be given at intervals of ten or fifteen minutes. These are the men who prate of being the 'advanced thinkers' of the age, implying that no one else is trying to extend the knowledge of cure of diseases, while they bitterly oppose all efforts to enforce thorough medical education. These are the men who, to prevent the establishment of boards of health, go to the public and whine about 'class legislation!' These are the men who are homœopaths in one house, and in the next are anything that will suit. With these men we can not consult. We want a basis of common honesty, at least, to say nothing of that dignity and education which should attach to a profession which deals with the dearest interests of humanity. We must treat them as we do those of our own practice, who, with unblushing impudence, placard the walls and fill the columns of the daily papers with boasts of their superior skill and false statements of cure.

"But all members of our profession who advocate consulting with homœopaths may set their minds at rest. The homœopaths do not want us to consult with them. When we decline to meet them, there is a loud outcry about professional intolerance and bigotry and persecution. But during this great movement in the State of New York to terminate this schism and bring about common consultations, not a motion in its favor was made on their side of the house. I have looked carefully through the files of their journals, but failed to find one word of friendly advance. Of course, schisms and sectarianism do not elevate medicine, or increase respect for it, any more than they do religion. It were better if this division was closed. But, judging from the spirit of the times, it will be a long time before this sect disappears. The better portion of the homœopaths make no organized effort toward reunion; those who ply it merely as a money-getting calling will never leave it as long as principles and prejudices exist in the human mind which make it profitable."

The Canada Medical Association.—We learn from the "Canada Lancet" that the following are the papers promised up to the 19th ult. for the Chatham meeting: Dr. Osler (Philadelphia), "The Clinical and Pathological Relations of the Cæcum and Appendix"; Dr. A. Grant (Ottawa), "Aortic Aneurysm, with a specimen"; Dr. W. B. Geikie (Toronto), "Retroversion of the Gravid Uterus"; Dr. Burt (Paris), "Internal Urethrotomy"; Dr. Holmes (Chatham), "Puerperal Mania"; Dr. Kerr (Winnipeg), "Fractures in the Neighborhood of Joints"; Dr. Fenwick (Montreal), "Amputation of the Breast, with cases"; Dr. Bethune (Wingham), exhibition of specimens: 1. "Parasite from an Abscess of the Thigh"; 2. "Aneurysm of the Pulmonary Artery"; Dr. Worthington (Clinton), "Epidemic Cerebro-spinal Meningitis"; Dr. Fulton (Toronto), "Subperiosteal Amputation"; Dr. Campbell (Seaforth), "Trephining the Mastoid Bone"; Dr. Rutherford (Chatham), "Supra-pubic Urination"; Dr. Lett (Guelph), "Inebriety, a Disease the Result of Physical Causes"; Dr. A. H. Wright (Toronto), "Phlegmasia Dolens"; Dr. McKeough (Chatham), "Pilocarpine in Puerperal Eclampsia"; Dr. J. E. Graham (Toronto), "Dissecting Aneurysm of the Thoracic Aorta, with specimen"; Dr. Shepherd (Montreal), "Excision of the Tongue"; Dr. Alloway (Montreal), "Puerperal Septicæmia"; Dr. Ryerson (Toronto), "Atrophic Nasal Catarrh"; Dr. Atherton (Toronto), "Abdominal Section for Uterine Myomata"; Dr. Nattress (Toronto), "Field Hospitals in the Northwest Territory"; Dr. A. E. Hanna (Lansdowne), "Enlarged Prostate"; Dr. Gardner (Montreal), "Double Uterus, with specimen"; Dr. Oldright (Toronto), "Pernicious Anæmia"; Dr. Ames (Brigden), "Rattlesnake Bite"; Dr. Wilkins (Montreal), "Specimens illustrating the Infective Nature of Tuberculosis"; Dr. Stewart (Montreal), "The Curability of Chronic Infantile Paralysis."

Ominico.—Mr. Stanley W. Neuer, the manufacturer of this new disinfectant preparation, has received the following letter from Dr. Edward R. Mayer, of Wilkesbarre, Pa.:

"Since you have made known to the public the constituents of your ominico compounds, there is no longer any objections to my replying to your request for a brief statement of the experiments made with it by me and of their results.

"This compound, which is a scientifically prepared solution of boracic acid, chlorate of potassium, chloride of sodium, and thymol, possesses active properties as a disinfectant and as an alterative to inflamed cutaneous and mucous surfaces. I have used it with excellent effect in many of those diseased conditions of the mouth, throat, and nasal passages in which Listerine and phenol sodique have been hitherto employed by medical men, and I regard it as not only a safe and very agreeable mouth-wash, gargle, and application for spraying, but as one having great efficacy in many cases of catarrh, sore throat, cankers, and in some chronic skin affections."

Dr. J. A. Murphy, of Wilkesbarre, writes as follows:

"I carefully indorse every word Dr. Mayer says of your ominico aseptine compounds, and will simply add that, after using almost every remedy recommended by the profession for the past ten years in the treatment of chronic nasal catarrh, I have found nothing so agreeable and to afford so much relief as your compound."

Sanitation and Milk.—The production, care, and handling of milk and its preparation for the market under the observance of the most rigid sanitary and hygienic conditions is a subject to which the medical profession has, so far as we know, given but little if any attention. These conditions, so essential for the production of a pure grade of

milk, are beyond the facilities of the ordinary milk-producer, involving, as they do, regulating and watching the physical condition of the cow; the quantity and quality of her food; the cleanliness of the stable; the entire absence of everything giving rise to odors in the dairy—as milk readily absorbs and retains any smell, such as that of rancid milk, manure, tobacco, etc.—the proper and careful cooling of the fluid; and, lastly, the complete disinfection and cleaning of cans or bottles in which it is sent to the consumer.

A recent visit to the dairies of the "Echo Farm Company," situated in the towns of Litchfield, Bantam, and Washington, Conn., demonstrated to us the possibilities in this direction. There absolute cleanliness is the rule and not the exception. The milk, as it is received from the various farms, is carefully strained into cooling tanks, in which the temperature is reduced to about 55° F., in which condition it is drawn into bottles that are hermetically sealed and packed in ice for the market. Tests of the cream-producing qualities of the milk are made weekly—the average being from 15 to 17 per cent. A competent medical man makes frequent and thorough inspections of the cows, their food, and the sanitary condition of their stables, and nothing that sanitary and hygienic laws can demand for the production of an absolutely pure milk is left undone.

THERAPEUTICAL NOTES.

Napelline in the Treatment of Odontalgia.—Grognot ("Bull. gén. de thérap.") gives brief notes of a number of cases in which he has used Laborde and Duquesnel's napelline, which, being obtained from *Aconitum napellus*, is to be distinguished from the substance to which Groves gave the same name, but which he extracted from *Aconitum ferox*. The author's plan was to give a granule of half a centigramme (= about ·075 of a grain) by the mouth every fifteen minutes. Notes are given of six cases, in only one of which did no notable improvement take place. Usually the pain was stopped or greatly mitigated by the time four or five doses had been taken. One of the cases was of two years' standing.

Salicylate of Cocaine in the Treatment of Trigeminal Neuralgia.—Schneider ("Allg. med. Ctrl.-Ztg."; "Ctrlbl. f. d. ges. Therap.") relates the case of a woman in her third attack of neuralgia of the second and third branches of the trigeminus. The first attack, five years before, had been treated successfully with large doses of quinine. The second attack lasted almost six months; quinine was of no avail, but the pain gradually disappeared under the use of morphine and iron. The third attack had continued four weeks when the author injected salicylate of cocaine experimentally. The effect was extraordinary; six grains of the salicylate, injected into the cheek, caused the pain to disappear entirely, and occasioned a general feeling of well-being wholly free from any unpleasant collateral phenomena. The injection itself was painless and did not give rise to irritation. The patient was enabled to sleep at night, although before the pain had been most severe at night. Eight such injections were given in the course of six days, and after that there was no pain except at the site of the injections, which was overcome by three applications of galvanism with the anode applied to the seat of the pain and the cathode to the back of the neck.

The Dose of Codeine.—Schneider (*Ibid.*) contends that the usual doses of codeine and its salts are quite ineffectual. In about thirty cases he has used it in doses ranging from a grain and a half to three grains, with the result of producing sleep for four or five hours or for the entire night, and without any unpleasant effects, except vomiting in one instance. He regards the drug as a great boon for victims of the morphine habit while they are under treatment, acting as a substitute and a palliative. In such cases he gives a grain and a half every three hours.

Resorcin in the Abortive Treatment of Gonorrhœa.—A. J. Munnich, of Amsterdam ("Monatsh. f. prakt. Dermat."; "Ctrlbl. f. d. ges. Therap."), has been led by a suggestion of Anderer's to try the effect of injections of resorcin in the treatment of gonorrhœa. He began with a two per cent solution, but, being dissatisfied with the result, soon proceeded to the use of a three per cent solution. One hundred and eight cases were treated, sixty-seven successfully, and forty-one unsuccessfully. The method was as follows: The patients were told to drink as much water or milk as they could, so as to be able to wash the pus out from the urethra by urinating before each injection. The patients managed the injections themselves, taking one every two hours by day and two during the night, and they were instructed to let the liquid flow out from the urethra at once. They usually reported on the fourth or fifth day, and in most cases the discharge was very decidedly diminished where it had been profuse, or at least not increased where it had not been copious from the start. When the night injections were omitted, the improvement of the day before was usually lost, and the duration of the case was lengthened. The injections were now reduced to three or four during the day and one at night, and in general, in the cases recorded as successful, the discharge was exceedingly slight on the seventh day, and had entirely disappeared on the fourteenth. In the cases set down as unsuccessful, *i.e.*, in which the discharge became prolonged or the deep part of the urethra was affected, at least the acute symptoms were always rapidly overcome. In only one instance was it necessary to discontinue the use of the injections on account of inflammatory symptoms, and in that case the patient had retained the solution too long in the urethra. The quickest and best results were obtained when the patients presented themselves soon after the appearance of the disease. The author thinks that still better success might be achieved in many cases by means of absolute rest and perhaps irrigations with weaker solutions.

Piscidia Erythrina in the Treatment of Dysmenorrhœa.—"Nouveaux remèdes" gives the following formula:

Mint water	120	parts;
Tincture of *Piscidia erythrina*	8 to 12	"
Syrup	30	"

A tablespoonful to be taken three or four times a day.

Scopolia Luridus.—According to Waring ("Pharm. Jour."; "Nouveaux remèdes"), this solanaceous plant, which is found at Nepaul and in the Himalayas, is equal if not superior to belladonna as a mydriatic. A tincture, made with one part of the leaves to eight parts of alcohol, causes such a dilatation of the iris that in two cases it gave rise to blindness, which did not disappear until the use of the drug was discontinued. The largest amount thus far given in twenty-four hours is twenty drops. The author recalls Christison's experiments with the drug.

Iodized Phenol in the Treatment of Whooping-cough.—Rothe ("Memorabilien") announces his continued satisfaction with carbolic acid as a remedy for whooping-cough, after fifteen years' experience with it. The formula employed is as follows:

Carbolic acid, Alcohol, each	7½	grains;
Tincture of iodine	5	drops;
Peppermint water	750	grains;
Tincture of belladonna	15	"
Syrup of diacodium	150	"

A teaspoonful is to be given every two hours, the administration being continued until the paroxysms entirely disappear.

Salix Nigra as a Sexual Sedative.—Dr. F. F. Paine, of Comanche, Texas ("Med. Age"), speaking from five years' experience with this drug, states that during a practice of fifty years he has not used a remedy that has yielded more satisfactory results. He recommends it particularly as an anaphrodisiac and as a remedy for ovarian irritation, including certain cases of dysmenorrhœa. He gives teaspoonful doses of Parke, Davis, & Co.'s fluid extract of the buds three times a day. He thinks it has something of a specific action on the nerve supply of the sexual apparatus in both men and women.

Buttermilk as a Remedy for Vomiting.—Dr. J. H. Owings, of Deer Lodge, Montana ("Maryland Med. Jour."), states that he has used buttermilk for the purpose of checking vomiting for ten or twelve years past—in as many as fifty cases, he thinks—without a failure. He knows of no other remedy equally satisfactory, and regards it as especially serviceable in cases of severe vomiting after a prolonged debauch.

Inodorous Iodoform. The "Lancet" says that, according to M. Gillette, iodoform may be rendered inodorous by adding 1 part of sulphate of quinine and 3 parts of charcoal to 100 parts of iodoform.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M.D., NEW YORK.

(*Continued from page 257.*)

ELECTRICITY IN SPASMODIC AFFECTIONS.

HYPERKINESIS is frequently encountered as one of the varied forms of external manifestation of irritative and destructive lesions of the central nervous system. For example, it is by no means uncommon to observe convulsions (of the clonic or tonic type), tremor, muscular rigidity and contracture, etc., in connection with morbid changes in the brain and spinal cord. By these symptoms we are often assisted in determining the seat of the lesion, although, as De Watteville remarks, "the pathogeny of spasm is one of the most obscure problems in neurology." On the other hand—in many instances chorea, epilepsy, hysteria, etc.—spasm may exist without any apparent structural changes in the nervous system, being excited by some source of reflex irritation—such as phimosis, visual defect, uterine displacement, insufficiency of the ocular muscles, etc. In tetanus the exciting cause is generally found in one or more of the peripheral nerves. Sclerosis of the motor fibers of the lateral columns of the spinal cord is known to produce muscular contracture as a prominent symptom, probably because the inhibitory influence of the brain upon the reflex excitability of the spinal cord is arrested, or because the sclerosis directly excites the motor apparatus of the cord. The peculiar deformities produced by post-paralytic contracture and the eccentricities of gait and posture exhibited by patients suffering from tetanoid paraplegia (lateral spinal sclerosis) are illustrative of the diagnostic value of tonic muscular spasm in the course of some spinal affections.

Respecting the effects of electrical treatment of spasm, I am convinced that in some cases many methods must be tried without benefit before the right one is discovered. I have occasionally had brilliant results follow some particular method, and subsequently I have been utterly disappointed when it was tried upon some other patient with identical symptoms.

I think that in this class of subjects more depends upon your success in ascertaining and removing the cause than upon any electrical applications (valuable as they may be as adjuncts). The correction of an optical defect by glasses, the relief of ocular insufficiency by tenotomy or prisms, the operation of circumcision, the mechanical relief of a displaced womb, and many other such procedures, form the basis of an absolute cure in many cases which have been otherwise treated unsuccessfully. This fact is too often disregarded.

Electrical currents may be made to act upon these cases (1) as a sedative (chiefly the action of the anode and static insulation); (2) as a stimulant (the action of the cathode, the static spark, or faradism); (3) as a counter-irritant; (4) as a check to the progress of some peripheral or central morbid state (catalytic action); and (5) as an agent for the destruction of some neoplasm, induration, etc. (electrolytic action), or as a cautery.

I have lately come to regard static electricity (franklinism) as more generally applicable to spasmodic conditions (hysteria, torticollis, blepharospasm, tremor, contracture, etc.) than either faradism or galvanism. It seems, in my experience, to act more promptly, and to produce more lasting results, than the methods more commonly recommended by authors. I would advise those of you who decide to purchase a static machine to try the effects of insulation, the "electric wind," and the indirect spark (as the circumstances may indicate) faithfully before you resort to galvanization or faradization. If good results are not obtained, you can easily substitute for it the other forms of treatment at a later date. I should never regard any case as hopeless until it had been thoroughly tried (after all reflex causes had been removed). I have cured several severe cases of tonic spasm of the muscles of the neck in a few sittings by means of the indirect spark, and relieved many cases of suffering from other forms of spasm in a short time.

In EPILEPSY, the employment of galvanism alone has never, to my knowledge, resulted in a complete cure, although some decided benefits have been reported from its continued use. There is, to my mind, a close relationship in many cases *between epilepsy and ocular defect*, to which I shall call your attention hereafter. This element in the causation of epilepsy certainly merits attention. When all defects in the visual apparatus have been corrected (in case such exist), or when other reflex causes (such as phimosis, for example) have been relieved, galvanism and static electricity may become valuable aids in controlling the subsequent convulsive attacks. Latent hyperopia, astigmatism, and insufficiency of any of the muscles of the eyeball may (and, in my opinion, often do) excite epileptic seizures. It is absurd to expect of electricity, or any other therapeutical agent, curative results when so important a source of irritation of the central nervous system is allowed to remain uncorrected.

Rockwell's method of employing "central galvanization" in epilepsy does not, to my mind, equal in beneficial effects the use of static insulation and the drawing of indirect sparks from the neck and back of the patient. It is my custom, however, in some cases to employ both of these procedures, each being used alone during alternate weeks for a period of two or three months with daily sittings.

In CHOREA I have obtained the best results with static insulation and sparks.

My previous remarks respecting the relationship between defects in the organ of sight and epilepsy apply with equal force to this disease and all other types of functional nervous derangements. I shall discuss this subject more in detail later in the course when functional nervous diseases are being considered.

If galvanism is employed, it is best to subject the muscles affected with spasm to the action of the *anode*. The

prognosis will depend somewhat upon the duration of the disease. The earlier you begin electrical treatment, the greater is the prospect of cure (provided all sources of reflex irritation have been successfully removed).

My experience with faradism in the treatment of chorea has been somewhat limited; but the results obtained by me have not been so satisfactory as with static electricity.

In facial spasm (histrionic spasm) good results are occasionally obtained by following the plan of treatment suggested in connection with chorea; but treatment of the facial nerve alone is seldom satisfactory. I have one case at present under treatment, however, in which I have thus far had little, if any, success in my attempts to control the spasm. It is a case of long standing, and is therefore more rebellious to treatment than if it were not chronic. The patient has an ocular defect which it is difficult to correct perfectly.

In these cases I have obtained the best results by subjecting both the cortical centers for facial movements and the nerve itself to stabile applications of the anode (the cathode being placed on the breast-bone), and by treating the nerve at intervals with static sparks drawn from the affected portions of the face. The electrode for the head should be large. The duration of each daily sitting should not exceed five minutes.

Nystagmus and blepharospasm belong to the choreic type of diseases, and are best treated by electrical currents, provided they are seen before the condition has become chronic. The prospect of a radical cure steadily becomes less as time elapses. If static currents are employed, wooden tips to the electrodes should be used. I usually treat these cases as if the seventh nerve were involved in all of its branches. Sometimes it is well to place the anode upon the mastoid process and the cathode upon the closed eyelid. The current should be very weak at first; should be gradually increased until faint flashes of light are perceived; finally, it should be again decreased to the faintest perceptible point.

Torticollis, or wry-neck, when subjected early to static sparks or strong faradization, may often be cured very rapidly. Interrupted galvanic currents are also of material benefit in some cases.

The spinal accessory nerve is usually the one which is at fault. A rheumatic origin may often be detected. If so, judicious medication will tend to hasten the cure.

Some cases of wry-neck are associated with symptoms of paresis. These have, as you might suspect, a more serious prognosis. Electrical treatment will prove, as a rule, only palliative. Too often organic changes have already occurred in the spinal accessory nerve, the spinal cord, or the vertebræ. The duration of treatment should extend over a period of months.

Spasmodic asthma may often be benefited by galvanism of the neck. I have previously described the steps of this procedure. Its beneficial effects are probably due to changes induced in the vagi. Drawing of indirect sparks (by means of the static machine) from the anterior and posterior surface of the chest has proved, in my experience, an admirable preventive against such attacks.

Some patients have assured me that they experienced a sense of great comfort after each sitting, and that the frequency of the paroxysms of asthma has been perceptibly modified by them. My experience in the electrical treatment of these cases is as yet somewhat limited; but I am inclined to believe that greater benefit can be derived from it than from internal medication. Certainly it is worthy of a more extended trial, as an adjunct, if deemed wise, to other remedial measures, or as a substitute for them.

In tetanus (both of the traumatic and idiopathic varieties) two cases of cure have been reported by Mendel, of Berlin. He employed galvanization and subjected the muscles affected with spasm to the stabile influence of the anode, the cathode resting over the spinous processes of the vertebræ. The applications were continued for fifteen minutes, and the currents employed were mild ones. Bartholow suggests, when speaking of these cases, that the effect of these applications was probably due "to the influence of the currents upon the sensory nerves, thus lessening the intensity of the reflexes." The cures were complete in about ten days.

Personally, I have not as yet been able to test the effects of the different forms of electrical currents upon a case of tetanus. To my mind, it would be very interesting, however, to observe the effect of static insulation and static sparks upon the spasms which occur paroxysmally in this disease. It is well known that this agent exerts a remarkable effect upon contracture of muscles. Thus far, to my knowledge, it has never been tried in tetanus.

Sneezing, hiccough, and coughing are spasmodic efforts of a reflex character. Occasionally they become distressing from their persistency. They may, in some instances, be relieved by faradization of the epigastrium, galvanization of the neck, and static electricity. De Watteville reports some curative effects of galvanization of the nasal mucous membrane in chronic cases of persistent sneezing.

ELECTRICITY IN DISORDERS AFFECTING SENSORY NERVE-TRACTS.

The discovery that different bundles of fibers which help to compose the substance of the spinal cord serve to convey sensory impulses only, and the later researches which have also been made respecting the paths of conduction specially prepared for sensations of pain, touch, temperature, pressure, the muscular sense, visceral sensations, etc., have a practical bearing upon both diagnosis and treatment.

Clinical observations go to show that, of the separate and distinct types of sensation enumerated, some may be partially or completely destroyed by diseased conditions without impairing the others. Thus, for example, a patient under certain conditions may be able to exercise his sense of touch with normal acuteness and yet be rendered absolutely insensible to pain; again, he may be unable to discriminate between degrees of heat or cold (provided the tests do not produce pain), although he retains unimpaired sensory faculties in all other respects. We are, therefore,

forced to recognize a variety of types of anæsthesia as presenting themselves for diagnosis and treatment.

The sensory functions may be either increased (*hyperæsthesia*) or diminished (*anæsthesia*).

Either of these states may be of *organic origin* (by which we mean that structural changes in the nervous tissues accompany them), or of purely *functional origin*, in which case no structural changes can be shown to exist. Examples of the former are found in connection with central lesions (those of the brain or spinal cord), and with peripheral lesions of the sensory nerves or the organs of special sense, while examples of the latter are frequently encountered in connection with hysterical conditions, neurasthenia, cold, injury, imperfect capillary circulation, rheumatism, neuralgia, and many other morbid conditions.

In all forms of sensory disturbance the removal of the cause constitutes in many cases the basis of a cure, and the treatment will necessarily be modified by the causal indications.

Many suggestions which have previously been offered respecting electrical applications to the brain, spinal cord, and peripheral nerves are applicable alike to sensory as well as motor disorders when due to organic changes; hence, when this fact is borne in mind, it will be unnecessary to repeat what has already been given you.

In the treatment of ANÆSTHESIA nothing can surpass in its results the daily rise of the *wire brush* for about ten minutes over the regions affected. This form of electrode should be applied dry and with the *secondary coil* of a faradaic machine. The stabile electrode should be well moistened and pressed closely in contact with some distant point.

If *trophic disturbances* co-exist with anæsthesia, I have found the "combined current" (galvano-faradaic) to be more efficacious than faradism alone.

Static sparks and static insulation often act wonderfully in functional nervous diseases.

Static *insulation* has been previously described. It should be administered daily for from ten to thirty minutes.

If the "*indirect spark*" is employed (see Fig. 30), the length of the spark should be sufficient to be perceptible to the patient, and the duration of the application should seldom exceed five minutes. It is well to administer a fusillade of sparks to the region of the spine after each insulation, in case the sensory disturbances are dependent upon hysteria or neurasthenia.

I seldom employ the "*direct spark*" (Fig. 3) except in the treatment of organic disturbances of sensation or motion.* This form of administration should be used with extreme caution if the generating machine is a powerful one.

The "umbrella" electrode furnishes an agreeable and effective method of concentrating static electricity to the head of the patient. The sensation is one which resembles that of a strong breeze circulating through the hair.

HEMIANÆSTHESIA (whether of cerebral or spinal origin) is often benefited by cutaneous faradization of limited portions of the area affected—a point first observed by Vulpian, who employed this method with marked success.

TROPHIC DISORDERS may occasionally manifest themselves, often in the skin, nails, hair, and muscles, when sensation is markedly affected. One such case (suffering from locomotor ataxia) was lately placed under my care. The fingers of both sides were almost destitute of sensibility to pain, and tactile sensation was impaired. The nails were thickened, loosened for half of their length, and deeply pigmented (as if stained with iodine). The terminal phalanges were "clubbed," the nails being bent almost into a semicircle. The skin was thickened and very hard under the loosened nails. The "combined current" (galvano-faradaic) with a wire-brush electrode caused decided improvement within a few weeks.

NEURALGIA (when of idiopathic origin) is more successfully treated to-day by electricity than by any medicinal agent. In many instances it is cured in a few sittings.

It is well to bear in mind, however, the fact that neuralgic pains are very often symptomatic of causes more or less remote from the affected nerve, and that a permanent cure is impossible in many instances as long as that cause actively exists. Defective teeth, morbid processes in the bones, pressure upon a nerve, organic changes in the nerve itself, toxic diatheses, rheumatism, gout, reflex irritation from the eye, uterus, digestive tract, ovaries, etc., cardiac and pulmonary disorders, and many other morbid conditions, may be enumerated as among the exciting causes of neuralgia.

Respecting the electrical treatment of neuralgic pains (*per se*) the following deductions may prove of some advantage to you:

1. If points of tenderness to pressure (*puncta dolorosa*) exist along the course of the affected nerve or its branches, it is well to subject them to stabile galvanic applications of the anode, the cathode being placed at a neutral point.

2. The anode should be made to cover as large an area as possible.

3. The duration of the sitting should not exceed five minutes, save in exceptional cases. The sittings may be repeated several times a day if necessary.

4. As a rule, it is unwise to break the current. In obstinate cases the current may occasionally be reversed, without changing the poles, by means of the commutator.

5. Faradization of the nerve and the use of the wire brush upon the skin have been recommended when galvanism proves unsuccessful in arresting the pain. It should not be used (in my opinion) until galvanism has been thoroughly applied.

6. It is well in obstinate cases to direct the applications of galvanism to the central origin of the affected nerve, as well as to its peripheral distribution.

* Since these lectures were delivered I have at last perfected an improvement upon the Holtz static machine, upon which I have been working for some time, and I have had one of this pattern built for my own use by Waite & Bartlett, of New York. I intend soon to present this improvement formally to the profession with appropriate cuts and a description of the various modifications made. My own machine after this model gave me a ten-inch spark during a "muggy" day in July, when most static machines would produce but a feeble spark. It is the most effective instrument of the kind which I have yet seen. It consists of nine twenty-four-inch glass plates, six of which revolve. All the joints of the case are hermetically sealed with soft rubber.

7. Static electricity often produces marvelous results in neuralgia. I have more faith in it as a cure for sciatica than in any other remedial agent. It should be applied (by the "spark" method) over the affected nerve. One sitting has, in my experience, frequently arrested severe pain. It gives immediate relief, in most cases, to muscular rheumatism also, and to lumbago. Sufferers from muscular and neuralgic pains are perhaps as frequently encountered by the physician as any class, and static electricity should highly recommend itself to your confidence for such cases. The expenses of the outfit, and the fact that the machine is too large for transportation, will probably prevent its general use by the profession; but, until its effects upon a patient have been tried, I would caution you against expressing an unfavorable opinion, even if galvanism, faradism, and medicinal treatment have proved powerless to relieve the suffering.

8. The operation of electro-puncture of a nerve for the relief of neuralgia has proved of benefit in the hands of some neurologists; but it is an operation which, if injudiciously employed, will produce electrolysis, and serious results may follow its use.

9. The electrical treatment of various other forms of pain is similar to that of neuralgia. The judgment of the physician should be exercised regarding the position and size of the electrodes, the variety, strength, and duration of the current employed, and various other minor points suggested by the condition of the subject.

10. *Visceral neuralgias* (as, for example, the conditions known as hemicrania, migraine, gastralgia, enteralgia, hepatalgia, etc.) are often relieved by electricity, irrespective of the reflex or constitutional condition which induces the morbid state. The removal of the exciting cause, however, will greatly assist in making the cure a radical one. I have long taught in my lectures that I had yet to encounter a patient who had suffered for years from migraine who had not some defect in the eye or its muscles as an exciting cause. Experience leads me still to strongly assert this as my conviction. The same cause is very frequently manifested by paroxysms of spinal pain—peculiarly so at two points, viz., between the scapulæ, and at the junction of the last lumbar vertebræ with the sacrum.

The currents which act best upon these cases are the galvanic and static. I have in two instances employed faradism in gastralgia with good results, but I regard it as inferior to galvanism or franklinism.

In treating the abdominal viscera by galvanic currents, one rheophore may often be attached with advantage to a rectal electrode, and the other to a large electrode placed over the organ to be influenced. I do not believe that polar effects are to be particularly aimed at. In some cases, an occasional substitution of the "combined current" (galvano faradaic) for galvanism makes the improvement of the patient more rapid.

Static applications to the abdomen are best made by employing indirect sparks of about two inches in length. Long sparks are not borne well by sensitive subjects. If patients are subjected to static insulation alone for twenty minutes daily, or to the electric spray over the abdomen, relief is often afforded and the application is painless. The clothing need not be removed in making applications of franklinism by either of these methods—a point which renders the treatment particularly agreeable to ladies.

(*To be concluded.*)

Original Communications.

ERYSIPELAS OF THE LARYNX AND PHARYNX.*

By D. BRYSON DELAVAN, M. D.

Since the remarkable and exhaustive thesis of Cornil, which appeared in the "Archives générales de médecine" in 1862, little new knowledge has been advanced, either in the pathology, the clinical features, or the treatment of this affection. Morell Mackenzie, in his excellent *résumé* of the subject, tells us that erysipelas of the mucous membrane of the pharynx and larynx is, pathologically, similar to the same malady when situated on the skin, and that it occurs either primarily or by extension from the face along the mucous tracts of the mouth, nose, or ear. Its causes are the same as those which give rise to it when situated upon the external parts of the body, although it has been most often observed in the course of general epidemics of the disease. Of eighteen patients seen, in whom the pharynx was affected, fifteen were under the age of thirty, and two thirds were females. Again, on inspecting the pharynx, the appearance of the mucous membrane when affected with erysipelas differs considerably according to the form of the disease which is present; the local phenomena are generally very different from those of tonsillitis, but often can not be distinguished from those of simple inflammation of the part. Cornil makes three divisions of the malady, viz.: (1) erysipelas with simple redness; (2) erysipelas with phlyctænulæ; and (3) erysipelas terminating in gangrene. Erysipelas most commonly reaches the larynx from the pharynx, but the former organ may be primarily affected while the pharynx remains healthy. According to one author, quoted by Mackenzie, the disease may extend still farther down the respiratory tract. In cases which come under the first division the diagnosis must remain doubtful except in cases where the throat lesion is accompanied by manifestations upon the skin.

As to the prognosis, the dictum of Hippocrates—namely, "When erysipelas extends from within outward it is a favorable symptom, but when it removes to the internal surfaces it is a deadly one"—has been confirmed by modern observation. In nine cases analyzed by Cornil where the face was first attacked, seven deaths occurred; whereas, in nine other instances where the enanthem preceded the skin eruption, seven recoveries took place. Mackenzie states that he has seen but four cases in the whole course of his practice.

* Read before the American Laryngological Association, June 24, 1885.

From the foregoing statements it would appear that the disease in question has been so long ago recognized, and its nature is so well understood, as to render its introduction at the present time unnecessary. In searching for the records of authentic cases in available American literature, however, we are surprised to find but a single instance in which the disease has been described, namely, the case reported last year by Dr. T. A. De Blois. The case reported by Dr. William Porter, of St. Louis, was that of an Englishwoman whom Dr. Porter attended while residing in London. Whether it is more rare in this country than in Europe, or whether, on the other hand, it is either allowed to pass unrecognized or else regarded as a simple and ordinary complication of the general affection unworthy of special mention, it is impossible to say. That the condition is an important one no one will question, while the very general nature of the treatment suggested proves that additional light upon the subject is greatly to be desired. With the intention of awakening a sufficient interest in it to secure a more general recording of such cases as may arise, the following histories are presented:

Edward Smith, aged twenty-nine, of robust appearance, had always enjoyed good health. On February 10, 1883, two months after admission to the workhouse, applied at the dispensary, complaining of chilliness, general muscular soreness, and pain in the bones. There was slight soreness of the throat, and pain in deglutition, which he stated he had first felt upon the right side. The tonsils were congested and slightly enlarged, particularly the right.

February 11th, 12th.—Felt much worse and experienced more dysphagia. He also complained of a feeling of dryness in the nasal passages and inability to breathe through the nose. Described the nasal condition as being like a "cold in the head." The pulse was somewhat accelerated, and there was a slight rise of temperature.

14th.—Was transferred to the hospital, all of the above symptoms being exaggerated. Temperature 102°, pulse 96, respirations 27. Tongue and teeth covered with sordes; tonsils and pharynx deeply congested. At this time also a herpetic eruption appeared on the face, below and to the outer side of the angle of the mouth.

15th.—On the morning of this day an erysipelatous redness, attended with swelling, appeared upon the upper lip, adjoining the alæ of the nose, and fading off upon the cheeks. There was also severe pain in the back of the head and the neck. The appetite was good, and there was little malaise. The temperature, however, was 104°, pulse 96, respirations 24.

17th.—The swelling and redness had extended to the margin of the hair, and had invaded the neck. The face was covered with blisters. The pulse was running and intermittent at 80, and the tongue black and dry. Severe pain still continued in the back of the neck.

18th.—Did not appear to suffer much pain. Erysipelas not extending.

19th.—Patient fell into a semi-conscious condition, from which it was impossible to arouse him, and questions put to him met with no response.

21st.—Semi-consciousness continued, but the patient began to be very restless and delirious. His hands were kept in constant motion, and it was almost impossible to keep him in bed. The facial swelling had subsided, and exfoliation of the epidermis had begun. The tongue was still black and thickly coated. The pulse and temperature were normal.

22d.—Patient was more rational and able to answer questions.

23d.—Was again slightly delirious, constantly sitting up in bed and throwing off the bedclothes, and fighting any one who came near him. Temperature 97°, pulse 50, respirations 21.

24th.—The delirium became active and of an hilarious character, the patient singing, shouting, and constantly arranging the bedclothes, and imitating the actions of the ward attendants. The condition of the tongue had cleared somewhat, and the appetite had returned.

26th.—Patient was slightly irrational. Tongue clean; exfoliation of epidermis of face, neck, and ears progressing. Temperature and pulse normal.

March 3d.—Delirium entirely gone. Exfoliation almost complete. Hair began to fall out. During the whole illness there was obstinate constipation.

12th.—Patient was discharged, apparently cured.

On the morning of March 16th, however, the attention of the house surgeon was called to Smith on account of his wild appearance and strange actions. He was wandering aimlessly about the corridors, and seemed sullen and morose. This continued until the morning of the 18th, when he was transferred to the hospital again. He would pay no attention to those about him, answered questions a long while after they were put to him, imagined that his fellow-workmen were trying to annoy him, and that every one was plotting against him. While in the hospital he had delusions of a religious character at times, and at other times he imagined that some one whom he did not know was constantly urging him to the performance of a variety of strange actions, and he believed that he must obey. He was treacherous, and would strike at the attendant whenever a good opportunity presented. His nights were restless and sleepless, and the constant hallucination of an outside impelling influence kept him busily engaged, while he would hide under the bed, fix himself in various positions in bed, arrange the bedclothes, and at times sit and stare at some one object for half an hour. If given something to do, he did it well, and while busy was happier and more satisfied to stay in the ward, but, when unemployed during the day, would constantly walk up and down, watching an opportunity to escape. During the five days he remained in the hospital he had no rise of temperature, his pulse was somewhat accelerated and weak, and his appetite good. As soon as his transfer could be effected, he was sent to the Insane Asylum at Ward's Island, where, when last heard from, he still remained.

The following case occurred in the wards of the New York Almshouse Hospital during the service of the writer in the spring of 1882. Unfortunately, careful notes were not taken at the time, and it will, therefore, be possible to report only as much as can be given from memory. The patient was an aged pauper of about seventy years, large, somewhat stout, and decidedly rheumatic. She was attacked with what at first seemed an acute laryngitis. The disease, however, spread rapidly in both directions, involving both the lungs and the pharynx, producing in the former distinct and widespread broncho-pneumonia, and in the latter an intense congestion. The mucous membrane here was also œdematous, and of a dark, purplish color. So peculiar was its appearance, and so threatening the extent of the œdema, that a laryngoscopic examination was made to ascertain the probable necessity for tracheotomy. Although in a state of general tumefaction and of the same dark color as the pharynx, there was an ample rima glottidis, but marked hoarseness of the voice. The constitutional symptoms were slight, considering the nature and severity of the attack. By degrees the inflammation extended from the pharynx to the lips, whence, apparently having received a fresh impetus, it

spread over the face. Meanwhile, the co-existence of diarrhœa, mild delirium, and continued high temperature rendered the general condition grave. This period marked the height of the attack. The lungs were first to improve, and the disappearance of the pneumonia was followed by a subsidence of the laryngeal and pharyngeal inflammation and a marked improvement in general. Strange to say, as desquamation occurred in the face and neck, the erysipelas extended, by slow degrees, over the whole body, the march being slow, the general symptoms mild, and no great extent of surface being involved at any one time. At the end of several weeks this process was completed by involvement and subsequent desquamation of the legs and feet. The patient recovered.

The case first related would, if classified according to the method of Cornil, belong to division number two, since it was decidedly severe in its nature, and the presence of phlyctænulæ, although not mentioned in the history by my house surgeon, was distinctly observed by myself. The features of the case which especially distinguish it are, first, the occurrence of the disease idiopathically in a patient who, so far as could be learned, had not been exposed to any erysipelatous infection; secondly, the distinct limitation of the disease to the tonsil for a period of three days; and, thirdly, the marked cerebral disturbance and subsequent insanity.

No especial cause of irritation was apparent in the tonsil; the man had been to all appearances unusually strong and healthy, and the sanitary condition of the premises was at the time tolerably good. The limitation of the inflammation and its absolutely benign appearance at the beginning of the attack were sufficient to disarm suspicion as to its true nature, and entirely out of harmony with the subsequent severity of the symptoms. By far the gravest of these was the effect of the disease upon the brain. So far as could be ascertained, the patient had never before manifested any sign of mental aberration. His insanity, therefore, bore such a distinct relation to the attack that, beyond question, the one was intimately associated with the other. Of course, it is by no means unusual for facial erysipelas of the ordinary type to be complicated with delirium and coma, and even the more serious cerebral symptoms indicating meningitis, so that it is not surprising to find it developed by the form under special consideration. The mechanism of this metastasis, however, is a matter of as much interest as it is of uncertainty. Formerly it was explained as being a localized manifestation of a general morbid condition. At present believers in the germ theory will probably maintain that it is due to an incursion of the bacillus of erysipelas from the frontier regions to the interior. Before accepting the foregoing it seems but just to call attention to the possibility of *direct extension* of the disease from the deeper layers of the olfactory region, and through the cribriform plate of the ethmoid bone, to the meninges. Improbable as this may appear, it is still worthy of notice, since the influence of inflammatory conditions of the middle ear and of the frontal sinus in exciting cerebral complications is well attested. By whatever process it may have occurred in the case under consideration, there was established, without doubt, a meningitis, at first acute. Subsequently the acute attack passed into the chronic form, presenting the symptoms of this condition typically described toward the end of the history.

Case number 2 is more after the usual course of the disease. The patient was old, feeble, and lithiatic. She was housed in a crowded, ill-ventilated hospital ward, in which, although there may not actually have been another case at the time, erysipelas was never, for any great length of time, absent.

In an article published in the "Rivista Clinica e Terapeutica," No. 1, 1885, Dr. F. Massei, of Naples, endeavors to prove, from a study of thirteen cases, that the so-called primary œdema of the larynx, or phlegmonous laryngitis, corresponds clinically to a localization of erysipelas in the larynx. He describes the objective symptom of the disease as being a marked swelling, which, beginning at the epiglottis, extends to the mucous membrane of the arytænoepiglottic ligament and the inter-arytænoid space, causing dyspnœa, dysphagia, and aphonia. The onset is generally sudden, and the laryngoscope shows such intense swelling that the interior of the larynx can not be demonstrated. Blood and pus are occasionally poured forth from spontaneous rupture of the mucous membrane. Often the swelling migrates, decreasing on one side and increasing on the other. The prognosis is, either recovery or else death by asphyxia or pneumonia.

Massei considers the disease erysipelatous for the following reasons:

1. Its rapid development and its tendency to wander, as well as its predilection for parts in which the lymphatics are abundant.

2. The constitutional symptoms which resemble those of erysipelas.

3. Its want of resemblance, from its migratory character, to the ordinary forms of laryngitis.

4. The tendency of the disease to extend to the lungs, and, finally, its occurrence during the course of epidemics of erysipelas.

He concludes:

1. There is a primary erysipelas of the larynx.

2. Many cases reported as primary œdema of the larynx are really cases of erysipelas; this occurs more commonly than is generally supposed.

3. There are two forms: in the first the local manifestations precede the general; in the second they close the scene.

4. The best methods of treatment are applications of cold, scarification, and, finally, if asphyxia threatens, tracheotomy.

It will be seen that Massei's observations relate solely to the larynx. Although somewhat general in their nature, they are given as supplementing the views of the writers quoted above, while the recommendations as to treatment still leave much to be desired.

The writer is certain that, as house surgeon ten years ago in a large public hospital in which the erysipelas pavilions formed an important part of the service, both laryngeal and pharyngeal cases were occasionally presented. Unfortunately, their real nature was not then recognized, and in the lapse of time which has since occurred the recol

lection of the facts connected with them has become too indistinct to enable him to refer to them with any confidence or accuracy.

DISCUSSION.

Dr. De Blois said: My case, to which the reader has just referred, closely simulated follicular tonsillitis, and I treated it as such for twenty-four hours. The pharynx was involved in the inflammatory process, and both tonsils were equally affected. On the next day it appeared to have extended to the nasal cavities. There was a discharge from the nose, and what was much like a diphtheritic membrane in the posterior nasal cavities. There was no appearance on the face of any skin affection. There was some malaise, but the patient did not have a higher temperature than would be usual in the course of a severe tonsillitis. On the fourth day, when the disease passed on to the nasal cavities, the inflammation of the tonsils was somewhat improved. Later erysipelatous redness appeared over the bridge of the nose. The internal manifestations meanwhile became somewhat better, and the case progressed to a very severe attack of facial erysipelas. She subsequently recovered. The point which I wished to bring out was, the difficulty of diagnosis.

Dr. Rice.—It would seem strange that erysipelas of the larynx and pharynx should be such an infrequent disease when the conditions are so favorable to its development. Cases of facial erysipelas are very common when at the same time the patient is suffering with extensive ulcerations of the nose and pharynx, which, we should suppose, would invite an extension of the disease to this locality. And yet this is a rare occurrence. Ulcerations on the cutaneous surface are almost always attacked; on the mucous membrane it is the exception. I am convinced that erysipelas of the larynx does exist where a diagnosis is not made. I remember in the erysipelas wards of Charity Hospital there were two cases (which were called "œdema glottidis") where tracheotomy was done; the inflammation here was probably of an erysipelatous nature.

Dr. Roe.—An interesting case of erysipelas of the larynx and pharynx came under my observation about a year and a half ago, in a lady, about thirty-seven years of age, of a nervous sanguine temperament. She was under treatment for naso-pharyngeal catarrh. The attack seemed to be due to exposure during a slight fall of snow, in the course of which she rubbed her face with snow. Within six hours afterward she had well-marked facial erysipelas. This went on its usual course, but soon assumed a severe type. Within thirty-six hours afterward she had delirium. The erysipelas extended to the neck and into the pharynx, also into the larynx, causing marked œdema of the larynx and pharynx, so that there was severe dyspnœa for about twenty-four hours. One night I remained in the house expecting to have to perform tracheotomy before morning. I used the usual course for erysipelas—*i. e.*, mild alkaline sprays, with a little alcohol—which seemed to have a very quieting and soothing effect, and soon the erysipelas began to subside in the face and gradually in the larynx and pharynx. In about four days the symptoms in that region disappeared. These cases must be unusual, as Dr. Delavan has said, although often attributed, probably, to other causes.

Dr. Cohen.—Having seen the admirable effects of the hypodermic injection of hydrochlorate of pilocarpine in facial erysipelas in hospital practice, it occurs to me that it would be an admirable method of treating these rare cases. Its action in doses of one sixth of a grain is very prompt.

Dr. Delavan, in closing the discussion, said: There seems to be no reason why any inflammatory condition of the pharynx such as diphtheria, follicular tonsillitis, or peritonsillar abscess—should not excite an attack of erysipelas, so that a case beginning as a simple attack of one of the former affections may result in the latter. With regard to the use of pilocarpine, I have found the dose recommended to be, in some cases, excessive, and would urge the employment of this potent drug in smaller quantities, one twentieth of a grain often being sufficient.

REFLECTIONS ON THE ÆTIOLOGY OF THE SIMPLE INFLAMMATORY AFFECTIONS OF THE UPPER AIR-PASSAGES.*

By JOHN N. MACKENZIE, M. D.,
BALTIMORE.

"*Ille bene curat, qui bene morborum causas agnoscit.*"—Celsus.

In view of all that has been said and written concerning inflammatory conditions of the naso-laryngeal tract, it is amazing to find what little advance has been made toward a more rational conception of the causes that underlie diseases of such prevalence and wide distribution.

It is not the purpose of the present communication to treat in an exhaustive manner the conditions under which inflammation of the upper air-passages develops, but simply to offer for your consideration a few general observations and desultory reflections, which, I trust, through the discussion which follows them, may serve to throw new light upon the subject, and stimulate others to more perfect and fruitful research.

At the outset of our inquiry we should divest the mind of the idea that the pathology of nasal and laryngeal disease is an isolated pathology. The eruption of catarrhal processes in the respiratory tract is governed by the immutable laws that condition the development and course of inflammation in general, and the rational interpretation of nasal and laryngeal affections presupposes, therefore, the application of general pathological principles to the peculiar conditions which the anatomical and physiological functions of the structures involve. Above all, we should remember that peculiarity of structure is not anatomical isolation; we should remember the correlation of organ and organ, the sympathy of tissue and tissue which make up the perfect physiological life of man. In looking upon the subject from the high vantage ground of general pathology and laws of health, we may, therefore, more readily apprehend the rôle which external and internal influences play in the evolution of nasal and laryngeal disease than if we viewed the same from the level of a narrow specialism or from the standpoint of the mere empiric.

I. Inflammation of the upper respiratory tract, either in its entirety or localized in its individual parts, is a disease of the human race which has existed from the remotest period of historic time.

II. As the chief predisposing and exciting causes of the affection have been in operation for all ages, it follows, therefore, that its origin is coeval with the birth of man.

III. The evolution of nasal, pharyngeal, and laryngeal inflammation in a given locality is, in all probability, a part

* Read before the American Laryngological Association, June 24, 1885.

of its geological history, and goes on *pari passu* with its varying meteorological conditions. Hence the geographical limits of the disease have varied with the different epochs of the earth's formation.

The elaboration of the above propositions involves an inquiry into the origin, the predisposing and exciting causes of nasal, naso-pharyngeal, and laryngeal inflammatory affections, and their distribution over the surface of the earth.

Origin.—In the third book of Plato's "Republic" the philosopher tells us that the names of catarrhs were unknown to Homer, and only came into use in the age of Socrates. This assertion of the Grecian sage has been made the groundwork of the thesis that catarrhal diseases are the products of civilized life, and furnishes, among other things, the basis of the Schneiderian argument that these affections are born of luxury and ease and of the general degeneracy of mankind.

It is doubtless true that a marked tendency to catarrhal diseases belongs to modern man from the accidents which pertain to his environment, and that as civilization awakens morbid conditions unknown or rarely met with in the savage state, so the disposition to inflammatory troubles of the upper respiratory passages may be encouraged by transmitted vices and the enervating surroundings of modern social life. At the same time it is reasonable to assume that, as the chief causes productive of acute and chronic inflammation of the naso-laryngeal tract have been in operation from the remotest times, the origin of the affection is therefore traceable to that of man himself.

The very etymological derivation of the word *coryza* carries us back through the dialects of the Hebrews, Arabians, Chaldeans, and Assyrians to the time when history emerges from fable; the attention paid by the most ancient exponents of medical art, of which we have any record, to inflammatory states of the nose and throat, implies the former frequency of these affections, while the derivation of the terms *angina* and *cynanche*, and the early origin of bronchotomy, point to their recognition of the most dangerous forms of laryngeal disease. The classification and correct clinical history of disease is, moreover, a process of gradual evolution, and, in view of the confusion which reigned among the latter-day nosologists in regard to laryngeal affections, it is not surprising that in the most ancient records of medicine we fail to find that exact anatomical division of catarrhal affections which was the natural outcome of subsequent more advanced anatomical and physiological investigation.*

Inflammatory disorders of the upper respiratory apparatus may be the result of a host of conditions external to the body which arise from man's relation to the outer world, may proceed from agencies within the organism, whose sphere of operation embraces the system as a whole, or is limited to its individual parts, or, finally, they may be the outcome of defective anatomical and physiological relations —of absence or abrogation of activity in the respiratory structures themselves and in the functions and forces under their control.

The discussion of the causes proceeding from the first source leads naturally to the consideration of the geographical distribution of the affection.

Geographical Distribution.—*Predisposing and Exciting Causes.*—The geographical limits of nasal and post-nasal catarrhs are as yet imperfectly defined, but it is highly probable that they bear a close relationship to the distribution of catarrhal affections of the respiratory organs in general over the surface of the earth. Thus it may be laid down as a rule that catarrhal inflammation of the nasal passages is much more frequently met with in cold than in warm countries, in high than in low latitudes. The observations of travelers and explorers show that the nearer we approach the equator the less prevalent become affections of the respiratory apparatus, while in the temperate zone they are the most common of all diseases, and preponderate in these regions according to the proximity of the individual localities to the polar circle. In the temperate zones of both hemispheres catarrhs are more frequently met with in those places which lie between the isothermal lines of 18° and 4° (Seitz). The prevalence of these affections is related not only to the geographical position of a given country, but also to its elevation above the surface of the sea; the higher above the sea-level, the more marked the tendency to catarrh (Hirsch, Seitz), a fact partially explicable by the analogy of natural conditions or meteorological relations between high mountainous regions and those of the frigid zones. In every zone the geographical distribution of the complaint depends, other things being equal, apparently mainly on climatic influences. *In those countries where extremes of temperature follow each other in rapid succession, where the thermo- and barometrical fluctuations are most sudden and occur with the greatest frequency, and where the material composition of the atmosphere is continually changing, catarrhal affections of the naso-laryngeal tract are most frequently met with. The appearance of the disease seems to depend not so much upon the degree of heat or cold as upon the rapidity and intensity of the change from the one to the other.* In warm countries, coryza and allied affections most frequently prevail during the sudden cooling of the atmosphere by rain-showers, electrical disturbances, or when the heated condition of the atmosphere alternates with dampness and chilliness of the nights. In a similar manner the more or less sudden passage from a dense to a rarefied atmosphere, as in balloon and mountain ascensions, favors the development of nasal congestion and inflammation.

The influence of season in the production of nasal inflammation is simply a part of the greater question of temperature mutations, and will therefore vary with the period of greatest temperature changes in a given year. While spring and autumn furnish perhaps the largest percentage of nasal and laryngeal catarrhs, the coryza which appears in the summer months, when the air is suddenly cooled or altered by electrical and other disturbances, yields to none in the severity of its symptoms and course.

Of all conditions of the atmosphere the most pernicious

* Hence we find in the Vyan Veda affections of the larynx confounded with those of the palate and pharynx, and among certain of the Hippocratic and Galenic schools the names pharynx and larynx are occasionally employed as convertible terms.

to the nasal, and consequently to the pharyngo-laryngeal mucous membrane, is perhaps its saturation with aqueous vapor. Its influence is much more potent in the production of nasal inflammation than that of cold. Indeed, the injurious effect of the latter, *per se*, has been grossly overrated, and, if we examine the subject closely, we will find that there are many other agencies at work whose operation explains the prevalence of these affections in the frigid zones and in the regions of perpetual snow. *The effect of moisture is furthermore intensified by its association with intense cold or oppressive heat.*

It is impossible to overlook the rôle of the *winds*, especially when associated with brusque thermometric changes, in the spread of coryza and allied affections. The strata of air of different temperatures which they bring with them, the moisture, dust (germs?), and, in some instances, the physical shock and pressure which they exert upon the body, as well as the rapidity of evaporation of the cutaneous and respiratory transpiration which they occasion, are powerful agents in the determination of naso-laryngeal catarrh. The terrible effect of the hot wind of the desert upon the throat and nose leads the camel instinctively to bury its nose in the sand until the fury of the tempest is past.

Besides the meteorological relations which condition the geographical distribution of these affections, there are others which pertain to the *geological character of the soil*, to the *configuration of the locality*, and to the *emanations which arise from the surface of the earth*. The two former furnish additional proof in favor of the power of climatic conditions in the evolution of naso-pharyngeal inflammation. It is not within the scope of the present paper to enter into an elaborate discussion of this vast and imperfectly understood question, but it may be said, in general, that the temperature of a given locality will depend, to a certain extent, upon the color of the soil and the presence or absence of vegetation. In some countries—as, for example, in Savoy—the peasants spread dark earth upon the land which they desire to cultivate early, which causes the snow to melt fifteen to twenty days earlier than in other localities (Tortual); it is a well-known fact that the temperature is lowered and humidity of the soil encouraged by the presence of forests or large tracts of dense undergrowth. The presence of vegetation exerts, too, a remarkable influence upon the chemical composition of the air, and hence upon the development or dissipation of nasal and other forms of catarrh. The noxious exhalations from certain forms of vegetable life probably act as indirect or predisposing agencies in the spread of catarrhal disease, while the presence of others, by purifying and tempering the atmosphere or filling it with certain odors, seems to secure immunity from the affection. The sulphurous air of volcanic regions has been utilized from time immemorial in the treatment of laryngeal affections, and the singular infrequency with which the latter are encountered in places where the air is laden with resinous and balsamic odors has been familiar from the earliest times. The *configuration* of a country enters as a factor in the localization of catarrh in so far as it conduces to exposure to the variations in temperature which have been mentioned above.

There are also a vast number of injurious influences dependent upon *modes of life, dress, imperfect sanitary conditions*, etc., which have been brought forward as the alleged causes of localization of catarrhal affections of the respiratory tract, which, although exercising an undoubted irritating effect, are nevertheless purely secondary and accidental, and have led to crude hypothesis and hasty generalization concerning the essential causes of these diseases.

There are a multitude of conditions which follow as the natural results of imperfect sanitation and professional occupation which act as predisposing and often exciting causes of nasal inflammation. In general, it may be said that residence or work in a confined or overheated atmosphere, or in one filled with impure gases or floating particles of organic or metallic matter, conduces to the development of the disease. Thus it is well known that artisans who are subjected to a dusty atmosphere—tobacconists, workers in woolen goods, stone-cutters, millers, laborers in chemical works, etc., or in overheated apartments, as, for example, bakers—are thereby rendered more susceptible to catarrhal affections. In addition to the meteorological conditions which prevail in elevated regions, as, for example, the Alps, the finely divided particles of metallic dust suspended in the atmosphere are said to be important factors in determining affections of the respiratory apparatus. The nasal erectile bodies are peculiarly sensitive to the impression produced by certain noxious gases, especially those given off in the combustion of coal, while the furnace heat of the modern dwelling, and the dry, impure air of apartments fed by the majority of coal-burning stoves, and the varying temperatures of the different rooms, create a vulnerability of the mucous membrane which, in our American cities, constitutes a not unimportant ætiological factor.

In some parts of our country there is a widespread popular belief that *dust* is the chief factor in the localization of inflammatory disease in the naso-pharynx. As there are some who ascribe all diseases to the peripatetic excursions of a vagrant micrococcus, so there are others who see in dust the source of all our ills. While it is undoubtedly true that dust, when accidentally lodged in the naso-pharynx, may give rise to inflammation, I believe that comparatively few cases originate in that way. In some of the Western States the prevalence of large quantities of dust in the atmosphere is supposed to determine the geographical distribution of the complaint; but even here, in estimating the amount of injury done by dust in this case, we should not forget the important meteorological changes that condition its presence in the atmosphere, nor should we lose sight of the fact that these localities are thousands of feet above the water-level, a condition that subjects them more easily to impressions made by sudden variations in the temperature and brings them directly under the dominion of the winds that sweep across the continent from sea to sea. Moreover when an individual is exposed to an atmosphere filled with dust, the greater portion of the inhaled particles is retained within the nostrils. This is due in a great measure, as I have pointed out elsewhere, to the erection of the turbinated corpora cavernosa, which latter serve, in that respect, a certain teleological purpose. That portion which finds its

way into the posterior nares is carried into the lower (not the upper) pharynx, not only by the force of the inspiratory stream but also in obedience to the law of gravitation. When the atmosphere is unusually dense, as in storms of dust, this erection of the corpora cavernosa is often so considerable as to necessitate mouth-breathing, and it is to a large extent in this way that the lower pharynx and larynx become filled with foreign matter. It is also a notorious fact that in the nasal passages themselves the region of olfaction is much less liable to catarrhal inflammation than the respiratory passage. The nasal pharynx is therefore infinitely less liable to inflammation from a dusty atmosphere than either the larynx or lower pharyngeal cavities.

*Among the influences which, approaching from the external world, encourage the eruption of naso-laryngeal affections, the chief, and at the same time predisposing, exciting cause, and that which determines the geographical distribution of nasal, naso-pharyngeal, and laryngeal catarrh, is that combination of varying meteorological conditions which are understood when speaking of a changeable climate; the home of naso-laryngeal catarrh is the land of the greatest and most rapid thermo- and barometrical change.**

Turning now from the effect of temperature changes and the direct action of local irritation from substances derived from the external world to the agencies which, operating within the organism, determine the localization of catarrhal disease in the nasal passages and throat, we must confess that the ancients exhibited the greatest shrewdness of observation when they referred these affections to defective digestive processes and lowered powers of assimilation. Catarrhal diseases, according to the fathers of medicine, are due to imperfect "coction"—that is to say, imperfect assimilation—and the resulting discharge or secretion was looked upon as aliment which had not undergone the necessary digestive changes, or, in other words, as half-cooked food. While their notions of the ætiology of catarrhal affections were in the main crude and curiously influenced by the prevailing philosophical vagaries of their time, they nevertheless contain an amount of common sense which it behooves us to pause and consider.

It may be said, in general, that all those influences which impair the general health, interfere with the proper circulation or impair the constituents of the blood, retard the processes of digestion and assimilation of food, or beget a hypersensitive condition of the vaso-motor nervous system, react upon the upper respiratory tract in common with the other organs of the economy, and predispose, other things being equal, to catarrhal inflammation of the same. Thus the latter is more liable to develop in anæmic persons with weak, relaxed conditions of the tissues and who lead sedentary lives, and in those of highly nervous organization, than in those of strong and vigorous constitution and who pass most of their time in active out-door exercise. The existence of syphilis or tuberculosis in an individual is a constant invitation to catarrhal inflammations of the nose and throat, and the same is true in regard to the rheumatic, gouty, scorbutic diatheses, to chronic alcoholismus, and a host of other affections.

Over-indulgence of the appetites, excesses of all kinds, habitual interference with the bodily excretions, notably the intestinal, predispose to inflammatory disease of the naso-laryngeal tract, so that Schneider was not far from the truth when he said that the cure of catarrhs consisted in "sobriety, continuous bodily exertion, and tranquillity of mind."

(*To be concluded.*)

* The aberrant expansion of the pharynx and larynx to extremes of heat and cold is the rule in acts, though to a far less degree, in the same manner in determining catarrhal inflammation as the sudden changes in the temperature of the external air.

CATARRHAL AFFECTIONS OF THE NASAL PASSAGES

AS A CAUSE OF

PULMONARY PHTHISIS,

WITH SPECIAL REFERENCE TO THE QUESTION OF HEREDITY.

By WILLIAM CHAPMAN JARVIS, M. D.

(*Concluded from page 265.*)

I will now direct your attention to the color of the mucous membrane of the upper air-passages as an indication of incipient or developed pulmonary phthisis. The color I refer to is a peculiar anæmic, pink hue, resembling that sometimes observed in hypertrophy of the tonsils. This pallor is by no means confined to the atrophic form of rhinitis, where, as far as the nostril is concerned, it invariably occurs, but exactly opposite to what we might expect is discoverable in rhinitis hypertrophica, where its presence should naturally lead one to suspect and find the anæmia of pulmonary phthisis. In two of the reported cases appended to this paper the condition was found in connection with a rhinitis hypertrophica; and in another, likewise phthisically inclined, it was associated with an hypertrophic and atrophic process in the same individual. I still favor the view advanced by me several years since, in an article on laryngeal phthisis,* that anæmia of the upper respiratory mucous membranes influences the character of reparative changes, as exhibited, for instance, in the conversion of accidental abrasions in the larynx into phthisical ulcerations. It would seem to indicate diminished vitality or a lowered power of resistance. As an example, I might mention that my experience in operations upon the septum leads me to expect an exceedingly slow reparative process, and one usually requiring assistance in patients presenting marked anæmia of the septal mucous membrane.

In this class of cases, as we might naturally expect, the slight vascularity of the mucous membrane favors the action of the cocaine salts, and they are, in my experience, the only ones in which we can positively promise freedom from pain before operating.

I have selected a few histories from my case-book as good illustrations of the ætiological relations of nasal catarrh to pulmonary phthisis.

Case I.—Mr. ——, engineer, aged thirty, came to me for treatment in October, 1884. His complaint was a long-

* "Archives of Laryngology," vol. iv, p. 187.

standing catarrh. The right nostril (Fig. 9) for respiratory purposes was practically useless, and had been so as far back as he could remember. Nasal respiration was, and had always been, carried on through the left nostril. Despite, however, the ease with which air was inspired through the free nostril, he had never been comfortable, on account of the respiratory obstruction referred to the narrow nostril, and eagerly utilized the smallest amount of space afforded at intervals by the temporary subsidence of the congested turbinated tissues. In addition to the respiratory discomfort, he was annoyed by the accumulation of inspissated mucus in the larger naris, and was wearied by the constant though ineffectual efforts employed to remove the ropy muco-purulent matter and offensive crusts. He was also tormented with the usual throat and laryngeal symptoms which occur as a result of the disturbances to nasal respiration and drainage. The slightest exposure was likely to be followed by obliteration of the insignificant respiratory aperture in the right naris, producing a disagreeable sense of tension in that nostril, evidently arising from the turbinated turgescence. The same exposure sometimes resulted in attacks of lung trouble, occasionally confining him to the house. In appearance he was thin and anæmic, his emaciation carrying with it more the impression of a peculiar build than an unusual or rapid loss of flesh. His appetite, though usually excellent, was capricious, and even at its best was not followed by any noticeable increase in weight.

Examination.—An examination of the nares anteriorly with my nasal speculum revealed the presence of just those conditions which would serve to account for the symptoms complained of. The vomer, ethmoid, and triangular cartilage projected to the right in the form of a *general* and easy incline from above downward. Anteriorly, however, the columna was displaced laterally to the right as an irregular knuckle of cartilage (see Fig. 9). No evidence of disfigurement of the external naris could be observed on ordinary inspection (another indication of the hereditary character of the complaint). An interesting feature observed upon the septum in the left nostril was a vertical elevation near the ethmo-vomerine suture, caused by the abrupt interruption of the perpendicular plate of the septum at this point. Behind this vertical ridge quantities of glairy or inspissated mucus would collect, and, by reason of the excessive breadth of the inner naris at this point, they would effectually elude the action of the respiratory pressure exerted by the patient to remove them. The turbinated structures and peri-turbinated mucous membrane was markedly atrophic in the larger or left nostril, but the inferior turbinated tissue in the right or narrow nostril was slightly hypertrophied. Just here we note an instructive example of cause and effect, for, as we might have expected, the life-long inspiration of air through a single nostril—unable, through secretory disturbances, to furnish the necessary amount of moisture—is naturally followed by desiccation and atrophy of the pituitary membrane. The right nostril, on the contrary, being almost completely stenosed, is always bathed in the nasal fluids. In other words, with certain modifications, it is a case of unequal distribution of respiratory labor with the natural consequence, a rhinitis atrophica and hypertrophica occurring in the same individual. The pharynx, larynx, and trachea presented the anæmia of phthisis. The patient's lungs were carefully examined by Dr. W. H. Katzenbach, of the Chest Department of Bellevue Hospital, and myself, and our suspicion was confirmed by the detection of the very early signs of pulmonary phthisis.

An interesting point in the patient's family history related to his brother, a physician, who, several years since, was threatened with a pulmonary phthisis and only escaped with his life by abandoning his labors and by careful treatment and systematic change of climate. It is easy to foresee the probable fate of the subject of this history under unfavorable circumstances, for there is every reason to believe that we have here an individual afflicted from childhood with a nasal disease due to a malformed septum, doubtless hereditary in character. I infer the hereditary character of the complaint from the peculiar form of the deviated septum already pointed out, from the fact that the brother and several ancestors of the patient were afflicted with pulmonary phthisis, and for other reasons already given.

Treatment.—Measures were at once employed to relieve the patient of the discomfort occasioned by the accumulation of muco-purulent matter and crusts in the ample interior of the right nostril. This was readily accomplished by thoroughly cleansing the nostril with warm detergent washes, and by the assiduous employment of the cotton probe. The naris, once renovated and relieved of all offending substances, was kept constantly clean by the daily employment of a convenient post-nasal douche, in the use of which the patient acquired much manual dexterity.

To prevent the adherence of nasal crusts to the sinuosities of the nostrils, the membrane was bathed at convenient intervals in a fine spray of vaseline. The douche became part of the patient's daily toilet, and he soon ceased to feel any discomfort except in the right nostril. A sense of oppression from his inability to breathe through this side increased his desire to obtain any relief offered by a surgical remedial measure. I therefore operated with this intent, leveling the deviated structure. This included a portion of the vomer as well as the deflected triangular cartilage. I employed my tubular forceps, fenestrated cartilage forceps, and rongeur or bone forceps. There were two sittings of about an hour each. The use of cocaine upon the patient was particularly satisfactory. A ten-per-cent. solution was applied in the form of a spray, and the parts in two or three minutes were so completely benumbed that bone and cartilage were crushed at short intervals without the slightest manifestation of pain. I have noticed a singular obtuseness to pain in other cases in which cocaine has been applied to an anæmic mucous membrane.

Fig. 9, taken from a life-sketch, shows the deviated septum anteriorly, and Fig. 10 the same after operating. Nasal respiration was completely reestablished through the stenosed nostril, and this and the relief from other catarrhal complications left the patient in a most excellent condition—almost, in fact, unconscious of his trouble.

He embraced a good opportunity, and is now traveling abroad; on his return he will arrange to spend the winter

farther south than New York. Under the favorable conditions afforded by physical ease and a suitable climate the chances of this individual escaping the ravages of tubercular phthisis appear most excellent.

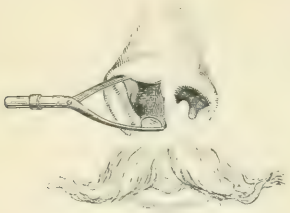


Fig. 10.

Case II.—Mr. ——, merchant, aged thirty-one, from Owego, N. Y., consulted me in January, 1884. The patient distinctly recollects having suffered with a nasal catarrh seven years ago. Although the affection at that time proved troublesome, still the excellent state of his general health induced him to consider the malady as trifling and transient in character. Small quantities of phlegm were constantly hawked up from behind the palate. There was a disposition to clear the windpipe of particles of viscid matter. At that time and for several years subsequently he plowed the fields as a farmer.

The catarrhal symptoms, instead of disappearing, as he had hoped and expected, became more pronounced and troublesome, and, his stomach becoming incidentally involved, dyspepsia was added to his misery. The prolonged physical and mental discomfort resulting from the persistent catarrhal disturbances ultimately sapped his energy and strength, rendering him unfit to pursue his usual occupations.

Clammy night-sweats commenced last summer, and have continued with varying frequency and severity since then. Becoming alarmed about himself, he was easily induced to seek medical advice.

Prominent among the symptoms given me at the first interview was a cough, which had, however, commenced only about a year ago. Phlegm was expectorated with the cough, particularly on rising in the morning. The cough, though annoying, was not painful. Six months ago only a pellicle of mucus was raised in coughing. There is now a disposition to draw flakes of mucus from behind the soft palate.

Examination.—General thickening of the nasal mucous membrane, post-inferior turbinated hypertrophy (dextra). The usual inflammatory redness of chronic hypertrophic coryza is replaced by the pale, anæmic hue peculiar to atrophic catarrh. The same pallor occurs upon the mucous membrane of the throat, larynx, and trachea. A livid, semi-pellucid, inflammatory process is visible upon the edge of the left true vocal cord.

Percussion detected pronounced dullness over a large extent of the chest. The resonance on the right side was higher pitched than on the left. Auscultation demonstrated the presence of numerous fine crepitant rales diffused throughout the right lung and commencing in the left; also cog-wheel respiration, etc.

The patient, though feeble, was able to exercise in the open air and to visit my office. This, however, was in accordance with his own wish. Indeed, he seemed to dread nothing so much as confinement to the house—a natural feeling for one who has largely led an out-of-door life. The unusually cold and inclement February weather severely tried the patient's feeble powers of endurance, and with the decrease in his appetite and strength there was an increase in the copiousness and frequency of the night-sweats. I foresaw the patient's rapid decline under these unfavorable surroundings. He followed my advice and went South to escape the harsh wintry weather, and possibly to prolong his life a little. On the advent of the warm weather he returned, passing through New York on his way home. I then examined his chest and found that the fine râles had become generally diffused throughout both lungs. The patient safely reached home and died, near the middle of the summer, surrounded by his family.

Remarks.—The important and instructive features of this case are, first, *the history of a long-standing catarrhal affection* (of at least seven years' duration) *preceding any symptom referable to the lungs.* Although not holding myself in abeyance to the history of patients as given by themselves, still the exceptional intelligence displayed by this individual in relating his symptoms, and their agreement with the local findings, induces me to believe that *the nasal catarrh preceded the pulmonary disease.* In other words, in the combined constitutional depression and pulmonary irritation, resulting from the mental and physical wear and tear, respiratory disturbances, dyspepsia, etc., following in the train of a long-neglected nasal catarrh, we recognize the precursors of a fatal pulmonary tuberculosis. The peculiar blanching of the intra-nasal mucous membrane, and also of the pharynx and larynx, afforded additional evidence of the existence of a pulmonary phthisis secondary to a hypertrophic rhinitis. Such an appearance is just the opposite to what we might expect to find in this affection, and therefore indicates the anæmia of phthisis, for, although the catarrhal hyperæmia had entirely disappeared, its pre-existence is presumable from the presence of the more persistent products, namely, the intra-nasal hypertrophies.

The circumscribed congested area upon the right vocal cord probably resulted from the rasping character of the efforts constantly employed to clear the larynx of irritating mucus. Its very existence constituted an additional source of irritation, and, although not to be designated as an ulcer, it is highly probable that this abraded surface would have eventually proved to be the starting-point of a phthisical process, in accordance with a pathological process already described by me.*

Case III.—Mr. ——, aged fifty-three, from Ohio, came to me, through the recommendation of his son, a patient referred to me by Dr. M. J. Roberts, of New York, in quest of relief from an annoying nasal catarrh. The malady had existed for many years. Much discomfort was caused by

* "Archives of Laryngology," vol. iv, p. 187.

the constant efforts required to remove a constant accumulation of thick, tenacious nasal mucus. Examination of the nostril revealed, among other signs of a rhinitis hypertrophica, the presence of an irregularly shaped posterior turbinated hypertrophy, occupying the right post-nasal fossa. The hypertrophy exhibited no signs of active congestion, but was dark-blue in color, evidently indicating much passive engorgement of the turbinated venous sinuses. The nasal mucous membrane, throughout almost its entire extent, presented the pallid hue of phthisical anæmia. Exploration of the chest demonstrated the existence of catarrhal phthisis, most markedly developed at the apex of the right lung.

Believing the posterior hypertrophy to be responsible for much of the patient's discomfort, I concluded it best to remove this source of irritation. I employed my nasal écraseur, easily encircling the hypertrophied tissue with a loop of No. 5 piano-wire. As might naturally be anticipated from the blanched appearance of the pituitary membrane, the operation was a bloodless one. The patient pronounced himself much benefited by the operation and after-treatment, and returned to his home well satisfied. This was in January, 1881. In July, 1882, I was informed that he had caught cold and was carried off by an attack of pneumonia, thus confirming my suspicions that his pulmonary phthisis would eventually lead to his death.

The son of the deceased, a man about thirty years of age, had, as I have already indicated, consulted me for relief from a chronic coryza. The coryza, I discovered, was due to an hereditary malformation of the septum and nasal chamber. I succeeded in rendering him comparatively free from his complaint by removing the offending deviation of the septum. He has enjoyed excellent health ever since. It was interesting and instructive to note the close resemblance between the forehead and face of the father and son. The frontal prominences of both projected so far forward as to place the forehead almost on a vertical plane with the face. The face beneath the overhanging forehead appeared unnaturally narrow, affording an example of Blumenbach's observation of the marked retrocession and contraction of the bones of the face in individuals exhibiting great cranial development.

The father was an intelligent man, and his son, utilizing excellent educational opportunities, developed unusual literary ability as the editor of a journal. The youngest, and only other son of the family, about whom I was consulted but never saw, I am informed possessed a rare degree of intelligence, and have a right to suspect that he possessed the cranial conformation of his father and brother.

A few days ago I was informed that this son had just fallen a victim to consumption. Despite the discouraging family history of the surviving son, I feel confident that *timely* treatment and care have sufficiently removed the impress of his unfortunate inheritance to enable him to live out his natural life.

Here, then, we have the mournful picture of a father, afflicted with a life-long catarrhal malady, eventually perishing with pulmonary tuberculosis, his eldest son harassed by a nasal catarrh traceable to a deviated septum, and another son, a young man, dying two years after the father with the same disease.

I might add other illustrations to the foregoing cases did not the typical character of those just reported make this unnecessary.

Treatment.—The treatment of these and similar cases is essentially one aimed at the direct cause of the disease—namely, the deviated septum and co-existing turbinated hypertrophies. It largely consists in the restoration of nasal symmetry by methods which facilitate the excision of bone and cartilage, and the removal of intra-nasal redundancies. A variety of instruments are therefore required, their character being determined by the density and situation of the offending structures. My regular office operating-set consists of my wire-snare nasal écraseur, and transfixion-needles for removing soft redundancies; a fenestrated cartilage forceps, tubular-spring forceps, beaked scissors, and trimming scissors for excising cartilage; and my rongeur forceps for cutting through bone. Nearly all the operations indicated by these instruments are, through the benumbing influence of cocaine and rhigolene anæsthesia, rendered bloodless and painless. Most of you are acquainted with my methods of operating, and, inasmuch as more than a mere reference to them would exceed the limits and not accord with the purpose of this paper, I must refer those ignorant of these procedures to my earlier publications.

Appropriate treatment should also be instituted to heal and contract the raw surfaces, to remove and prevent the reformation of nasal crusts in the atrophic forms of the disease, and to check excessive discharges of nasal mucus. In other words, to borrow an expression from Niemeyer, "Where there is the slightest suspicion of a predisposition to consumption, every catarrh, no matter how slight, is to be treated with the utmost care, which is not to be relaxed until the catarrh is entirely well."

Conclusions.—Briefly reviewing the subject-matter I have just presented, you will observe that, in determining the relations of nasal catarrh to pulmonary phthisis, I have, in the order of its origin and sequence, commenced by observing and interpreting the catarrhal manifestations as they occur in the nares, and have traced the gradual extension of the nasal disease to the larynx.

Within the larynx we discovered the catarrhal impress in the form of a chronic irritative hyperæmia of the larynx, brought about by the combined action of nasal discharges, habitual mouth-breathing, and inflammatory changes, chronic catarrhal hyperæmia of the larynx; to go a step further, oftttimes merges into an acute laryngitis, and this in turn may develop bronchitis. We recognize the deviated septum as a most common cause of nasal catarrh, producing this disease by pressure irritation, interference with nasal drainage, and unequal distribution of the nasal respiratory function. We have seen the importance of heredity as a factor responsible for the existence of certain forms of deviated septa, and noted the conditions indicating the hereditary character of these abnormalities.

Viewing the larynx as really the upper portion of the lung, although divorced from it on artificial anatomical grounds, we are often enabled to determine approximately,

by the appearance of the laryngeal and tracheal mucous membrane, what conditions may exist beyond the line of laryngoscopic vision, and thus complete our pathological picture, beginning in the nares and ending in the lungs.

It is hardly necessary for me to insist upon the value of the lessons to be derived from the early recognition of the clinical facts I have just presented. They at least offer something tangible as regards prophylaxis against phthisis or tuberculosis, for their successful treatment falls in the positive domain of surgery. The results are for the most part favorable and speak for themselves, provided the methods which I have proposed and published for removing redundancies or the remedying of defects are not commenced too late.

It is hardly necessary for me to add that great care should be exercised to properly discriminate between cases in which pulmonary phthisis or tuberculosis precedes or exists with nasal catarrh, and are, therefore, not related to the last mentioned affection as cause and effect, and those developed by a catarrhal affection. Being mindful of this, I have felt the necessity of sometimes giving details which were indispensable but which may have been wearisome. It must also be borne in mind that errors are likely to creep in from difficulty or carelessness in differentiating distortions of the septum resulting from injury from those dependent upon heredity. My experience, however, encourages me to state that, different from what you might probably imagine, in most instances, such a distinction, when properly made, constitutes a simple question of differential diagnosis. I have already referred to some of the rules which facilitate the recognition of the septum of heredity; and, were it advisable just here, I could mention other criteria of equal value. It is obvious that, in treating a subject of this kind, many questions present themselves, the proper interpretation of which must, for the present at least, baffle scientific investigation — such, for instance, as the proneness of some families with malformed septa to phthisis or tuberculosis, while others, on the contrary, are afflicted with annoying sthenic but, as far as the life of the individual is concerned, harmless pulmonary maladies. These, among similar speculations, though perhaps partly explainable by ingenious hypothetical methods, must, nevertheless, for want of sufficient demonstrative and experimental evidence, prove for the most part unintelligible. But even in the contemplation of such obscure problems the earnest investigator may derive encouragement from Prof. Huxley's remark, that "whatever may be men's speculative doctrines, it is quite certain that the order of nature is constant, and that the chain of natural causation is never broken."

25 East Thirty-first Street, N. Y.

The American Social Science Association held its annual meeting at Saratoga Springs on Wednesday, September 9th. Papers were read by Dr. Lucy M. Hall, of Brooklyn, on "The Physical Training of Women"; by Dr. D. A. Robinson, of Bangor, Me., on "The Therapeutics of Inebriety"; by Dr. Grace Peckham, of New York, on "The Influence of Gas Light on Health and Development"; and by Dr. Charles Hamilton, of Boston, on "The Adulteration of Food, particularly in Cities." Other papers were read by Miss Marian Talbot and Mr. C. F. Wingate.

PRACTICAL COMMENTS ON THE USE AND ABUSE OF COCAINE;

SUGGESTED BY ITS INVARIABLY SUCCESSFUL EMPLOYMENT IN MORE THAN A THOUSAND MINOR SURGICAL OPERATIONS.

By WILLIAM S. HALSTED, M. D.

Neither indifferent as to which of how many possibilities may best explain, nor yet at a loss to comprehend, why surgeons have, and that so many, quite without discredit, could have exhibited scarcely any interest in what, as a local anæsthetic, had been supposed, if not declared, by most so very sure to prove, especially to them, attractive, still I do not think that this circumstance, or some sense of obligation to rescue fragmentary reputation for surgeons rather than the belief that an opportunity existed for assisting others to an appreciable extent, induced me, several months ago, to write on the subject in hand the greater part of a somewhat comprehensive paper, which poor health disinclined me to complete.

In the mean time we have been reading of unsuccessful and occasionally fortunate hypodermic experiments with cocaine, without finding a hint as to possible causes for the very positive contradictions, or even an intimation that they were not precisely such as must have been expected.

And just now appears a frank confession from Dr. Garrigues,* who narrates his case with so much care and in such detail as to permit one to say positively why cocaine in this instance should have proved inefficacious and have seemed inert, and as to encourage me to do this, and then perhaps to recommend attention to a few of the facts about cocaine which in the records of my personal observations are styled useful, preferably such as may enable us to better recognize proper conditions and cases for its employment, having indicated methods which insure success.

Like most other contributions to cocaine's subcutaneous scrap-bag, the latest stakes its own and the drug's reputation on the luck of a single experiment; and again, like many of them, records the "failure of cocaine hydrochlorate to produce anæsthesia." Were success, however, and not failure, the rule, less conspicuous would the occasion have become for any one (of the majority) to publish the reasons why cocaine injections should have accomplished nothing for a few others (the minority), and as much feebler the excuse for circulating the results of inexperience, as the possibilities to continue unformed had been reduced. All things considered, the journal contributions and personal communications, the interrogations and opportunities for observing the methods of others, incline me to regard the ultimate conviction of Dr. Garrigues as a fair expression of average notions on the reliability and practical value of subcutaneous injections of cocaine.

I feel sure, furthermore, that the aforesaid observer will be gratified at finding his communication offered up in explanation of honest differences of opinion.

* "N. Y. Med. Jour.," August 29, 1885, p. 240, "Failure of Cocaine Hydrochlorate to produce Anæsthesia," by Henry J. Garrigues, M. D.

Proposing to enlarge an artificially small vaginal orifice by incision, he says (*loc. cit.*):

"Since here was only a thin layer of skin and mucous membrane to be cut, both surfaces of which were easily accessible, it seemed to be a case peculiarly well fitted for local anæsthetization. I began by painting both surfaces with a four-per-cent. solution of hydrochlorate of cocaine. When two grains of the salt had been used in this way and there was not the slightest diminution in the sensitiveness of the skin, I injected a quarter of a grain hypodermically into the tissue to be divided, and continued soaking the skin and the mucous membrane."

While in sympathy with Dr. G.'s desire to test, where convenient, the statement of others by an observation of his own, it is not so evident why he should expect cocaine, in this particular instance, to make an exception in his favor. For, when it has been repeatedly observed that a four-per-cent. aqueous solution does not anæsthetize the sound skin, fresh demonstrations of the fact should not cause surprise.

"About seven minutes after the first hypodermic injection I repeated it, introducing the needle from the posterior commissure all the way back as far as the tissues were to be divided. In spite of the previous injection, this caused as much pain as if nothing had been done before to produce anæsthesia."

Injected *under* the skin, cocaine probably produces anæsthesia of the same only when made into or very near a nerve-filament or nerve-trunk; and then, according to circumstances, the anæsthesia persists, more or less complete, from ten minutes to an hour or more. After an injection into the skin, the anæsthetic effects seldom last more than two or three minutes, and often vanish in less than a minute.

If Dr. G. injected strictly under the skin, he might, by chance, have paralyzed some nerve-filament; but there is scarcely a possibility that its distribution could have corresponded to the line of the incision, and a strong improbability that any filament was encountered, because no trace of anæsthesia remained.

On the other hand, it would be strange if none of the solution had been forced into the skin layer of this thin membrane; in fact, judging from the description of the part, I doubt if one could have avoided doing so. We may suppose, therefore, that certain areas of skin were anæsthetized for two or three minutes, and that the operator, by waiting seven minutes, lost his opportunity.

In the light of a little experience, such events would not be regarded as unusual.

"This second time, likewise, a quarter of a grain of the salt was injected slowly, while withdrawing the needle, over the whole tract with which it came in contact. Finally I bathed again the two surfaces until I had used in all five grains of hydrochlorate of cocaine, one half grain of which had been injected hypodermically. This application of a four per cent. solution had then been kept up for twenty five minutes."

Here, again, the incision should have been made as soon as possible after the injection, and the latter *into*, not *under*, the skin.

"In spite of this thorough and protracted application of a comparatively strong solution of cocaine, the sensibility was not lessened the least, so far as the complaints and screams of the patient could be used as a measure of her pain."

There suggests itself the propriety of testing the sensibility before cutting.

(*To be concluded.*)

Book Notices.

Praktische Beiträge zur Kinderheilkunde. III. Heft. Die Verdauungskrankheiten der Kinder. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universität Berlin. Mit 3 Tafeln mikroscopischer Abbildungen. Tübingen: H. Laupp, 1884. Pp. 232. [Price, 6 M.]

This monograph, the third of the series, contains a thorough and quite exhaustive discussion of the commoner diseases of the digestive system, the rarer forms not being noticed.

It is divided into five chapters, in which are described, respectively, primary dyspeptic gastro-intestinal catarrh, acute gastro-enteritis (cholera infantum nostras), acute follicular entero-colitis, secondary subacute or chronic gastro-intestinal catarrh, and gastro-intestinal atrophy (atrophia infantum). The author's investigations into the subject of ætiology lead him to the conclusion that these diseases are not influenced by sex, atmospheric pressure, rainfall, fluctuations in ground water, or dentition. The great causes are the heat of summer, the mode of feeding (five sixths of the fatal cases being in those who were fed artificially), and age. Over ninety-five per cent. of the persons who died of diseases of the digestive organs in Berlin were under five years of age.

Special attention has been paid to the pathological side of the subject. Both the gross and the microscopical lesions are exceedingly well described, and twenty-nine original drawings are given in an appendix illustrating the microscopical appearances of organs, discharges, and microbes. Into the investigation of the question of bacilli he has entered quite fully. The dejections furnished an immense number and variety of microorganisms. The most characteristic in the simple gastro-intestinal catarrh were little rods and cocci, their number varying with the development of the case. In true cholera infantum the bacilli most abundant were broken rods, not stained easily by either Bismarck-brown or gentian-violet, but best seen by adding liquor potassæ to the fresh specimen. These were found very constantly both in the walls of the intestine, particularly in the lymph vessels and follicles, and in the dejections. Although the author has as yet made no experiments with cultivations from this bacillus, he is strongly inclined to regard it as the cause of the disease.

In the treatment of simple catarrh, after the bowels have been cleared by either castor-oil or an enema, antiseptics are relied upon very largely to control the disease. Of these he prefers resorcin to all others, giving it in doses up to one grain every two or three hours to a child a year old. Large doses of this drug are not to be used. Iodoform in one- or two grain doses he has found of value, and also bismuth. Opium may be advantageously combined with any one of these three drugs. It is specially indicated where increased peristalsis is a prominent symptom. It favors rather than prevents decomposition. Simple and astringent enemata are highly spoken of in almost all forms of diarrhœal disease, but especially in cases of colitis.

One or two grains of nitrate of silver are added to each enema in cases of frequent mucous and bloody stools, tincture of opium when the tenesmus is great—injected with water, never with starch. Injections should be made through a soft catheter or a rectal tube carried high into the bowel.

In choleraic diarrhœa astringents are useless. The prognosis is bad under almost any treatment, but the best results are reported from free stimulation, hypodermically if the vomiting is persistent, and irrigations of the bowel.

The author takes issue with Biedert regarding the existence of "fat diarrhœa" as a peculiar form of disease. Fat is found in the stools of every child suffering from indigestion while nursing; it may be present in very large amount without any diarrhœa. Examination of the pancreas has so far, in his own cases, been without result.

The diagnosis of gastric indigestion is to be made, he states, not so much from the condition of the vomited matters in curds, or their sour reaction, as from the fact that food undigested is vomited at a considerable time after it is taken. The stomach of a nursing infant should be empty in an hour, or at least in an hour and a half, after taking food.

The last chapter, upon atrophy, is exceedingly good. The stools in this form are pasty and homogeneous, alternating with those which consist almost entirely of watery elements. They all have an exceedingly foul odor, and particles of food are not visible; they contain no epithelium and no cell-elements. The food is not digested, but its appearance is completely destroyed by decomposition. The lesions well explain the symptoms, especially the extreme emaciation which exists. There is an extensive proliferation of new connective tissue in the submucosa, and the contraction of this and pressure upon the glandular structures leads to the destruction and disappearance of the latter, so that neither absorption nor secretion can take place in the bowel. The condition is a hopeless one when it is reached.

This book is worthy of a more extended review than our space here will permit. Throughout the author shows a practical grasp of his subject. We should like to see the book given to American readers in a translation.

BOOKS AND PAMPHLETS RECEIVED.

Poisons: their Effects and Detection. A Manual for the Use of Analytical Chemists and Experts. With an Introductory Essay on the Growth of Modern Toxicology. By Alexander Wynter Blyth, M. R. C. S., F. C. S., etc. With Tables and Illustrations. Vol. II. New York: William Wood & Co., 1885. Pp. 668. [Wood's Library of Standard Medical Authors.]

On Renal and Urinary Affections. By W. Howship Dickinson, M. D. Cantab., F. R. C. P., etc. Miscellaneous Affections of the Kidneys and Urine. New York: William Wood & Co., 1885. Pp. x–343. [Wood's Library of Standard Medical Authors.]

A Practical Treatise on Diseases of the Kidneys and Urinary Derangements. By Charles Henry Ralfe, M. A., M. D. (Cantab.), etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. xii–572. [Price, $2.75.]

Proceedings and Addresses at Sanitary Convention held at Hillsdale, East Saginaw, and Lansing, Michigan, April 17 and 18, 1884; December 2 and 3, 1884, and March 19 and 20, 1885. Supplement to Annual Reports of the Michigan State Board of Health.]

Report of Proceedings of the Illinois State Board of Health, Quarterly Meeting, Chicago, July 2, 3, 1885.

Transactions of the Medical Society of the State of West Virginia, 1885.

Cholera in Europe in 1884. Reports from Consuls of the United States.

Transactions of the Louisiana State Medical Society, 1885.

Report on Cholera in Europe in 1884 and 1885. By D. N. Kinsman, M. D., Columbus, O. [Reprinted from the "Cincinnati Medical News."]

The Latest Systems in Medicine. The Presidential Address, delivered to the Ohio State Medical Society, June, 1885. By J. C. Reeve, M. D., of Dayton.

Hydatid Tumors in the Brain. By R. Harvey Reed, M. D., of Mansfield, O. [Reprinted from the "Journal of the American Medical Association."]

Case of Missed Labor with Cæsarean Section. By Stanley P. Warren, M. D., Portland, Me. [Reprinted from the "American Journal of Obstetrics."]

Les remèdes dits spécifiques sont des agents antizymasiques. Lettre adressée à M. le Dr. Dujardin-Beaumetz, par G. Pecholier, professeur agrégé à la Faculté de médecine de Montpellier. Montpellier: Camille Coulet; Paris: A. Delahaye & E. Lecrosnier, 1885.

Cholera: its Nature, Symptoms, History, Cause, and Prevention, etc. By J. B. McConnell, M. D., Professor of Materia Medica and Therapeutics, etc., University of Bishop's College, Montreal. Montreal: Robert Miller, Son, & Co., 1885. Pp. 40.

Case of Poisoning resulting from Chloroform taken internally, etc. By Llewellyn Eliot, M. D., etc., Washington. [Reprinted from the "Medical Record."]

Fissura Ani, or Fissure or Irritable Ulcer of the Bowel. By Archer Atkinson, M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Floating Minute Organic Matter in the Air, etc. By David Prince, M. D., Jacksonville, Ill. [Reprinted from the "St. Louis Medical and Surgical Journal."]

The Nature and Treatment of Sporadic and Epidemic Cholera. By Alexander Harkin, M. D., F. R. C. S., etc. [Reprinted from the "Dublin Journal of Medical Science."]

Laryngeal Hæmorrhage. By J. W. Gleitsmann, M. D., etc., New York. [Reprinted from the "American Journal of the Medical Sciences."]

Deviation of the Nasal Septum. By J. W. Gleitsmann, M. D., etc., New York. [Reprinted from the "American Journal of the Medical Sciences."]

Some Personal Observations on the Work of Lawson Tait, etc. By A. Van der Veer, M. D., etc., Albany. [Reprinted from the "American Journal of Obstetrics."]

A Memoir of Charles Hilton Fagge, M. D., etc. Philadelphia: P. Blakiston, Son, & Co.

Fourth Annual Report of the State Board of Health of the State of New Hampshire, for the Year ending April 30, 1885.

On the Importance of Certain Signs in Making the Diagnosis of Fracture near a Joint. By Oscar J. Coskery, M. D., etc., Baltimore. [Pamphlet.]

Seventeenth Annual Catalogue and Announcement of the Woman's Medical College of the New York Infirmary.

Laws of Maternity. By Nathan Allen, M. D., LL. D., Lowell, Mass. [Reprinted from the "New England Medical Monthly."]

Tabular Statistics of One Hundred Cases of Urethral Stricture Treated by Electrolysis, without Relapse. By Robert Newman, M. D., etc., New York. [Reprinted from the "New England Medical Monthly."]

Surgical Notes from the Case-Book of a General Practitioner. By William C. Wile, M. D., Sandy Hook, Conn. [Reprinted from the "New England Medical Monthly."]

Seventeenth Annual Report of the President of the Inebriates' Home, Fort Hamilton, N. Y.

Histero Ovariotomia Seguida de Curación, etc. Por el Dr. D. Manuel Cárceles Sabater. Precedida de un Prólogo del Dr.

D. Rafael Martinez y Molina. [Reprinted from the "Revista de Medicina y Cirugía Prácticas."]

The Mechanical Treatment of Talipes Calcaneus. By A. B. Judson, M. D., New York. [Reprinted from the "Medical Record."]

Voice in Singers. By Carl H. von Klein, A. M., M. D., Dayton, Ohio. [Pamphlet.—Price, 25c.]

Diagnosis and Treatment of Posterior Positions of the Occiput. By William L. Richardson, M. D., Boston. [Read before the Massachusetts Medical Society.]

Hard Chancre of the Tonsil. By Frank Donaldson, Jr., M. D., Baltimore. [Reprinted from the "Medical News."]

An Address on Cholera Infantum. By William Perry Watson, M. D., Jersey City, N. J. [Reprinted from the "Archives of Pædiatrics."]

Twentieth Annual Announcement of the Missouri Dental College, St. Louis.

Forty-fourth Annual Announcement of the St. Louis Medical College.

Annual Announcement of the College of Physicians and Surgeons, Baltimore.

Seventy-eighth Annual Announcement of the College of Physicians and Surgeons, New York.

Duty of the State toward the Medical Profession. An Address, etc. By Conrad George, M. D., Ann Arbor, Michigan. [Reprinted from the "Physician and Surgeon."]

The Germ Theory of Disease, and its Relations to Sanitation. By P. C. Barker, M. D., Morristown, N. J. [Extracted from the "Transactions of the Medical Society of New Jersey."]

Correspondence.

LETTER FROM BOSTON.

The Boston Water-Supply.

BOSTON, *September 8, 1885.*

IF the newspapers are to be believed, Boston is to-day without a drop of good water to drink. We had just got over our cholera scare, and were thinking of bringing our families and patients home, when the Mayor sent a document to the Water Board which caused considerable consternation. For years we had been receiving our water from Lake Cochituate, and the supply equaled the demand, and was good, but, when the surrounding territory was annexed, that supply ceased to be large enough, even with that from Mystic River (which came to us through the taking in of Charlestown) and the water from Jamaica Pond, Jamaica Plain, and Roxbury; so that, in June, 1874, the Hon. Samuel C. Cobb, at that time Mayor of Boston, appointed a committee of three physicians to examine and report upon various sources for a new supply. The committee consisted of Dr. Charles W. Swan, Prof. Edward S. Wood, and Dr. Henry P. Bowditch, and they carefully examined the waters of the Sudbury, Mystic, Shawshine, and Charles Rivers. They said: "The resultant estimate, therefore, of the sanitary qualities of the four rivers places them in the following order of preference: 1. Shawshine. 2. Charles. 3. Sudbury. 4. Mystic." On account of superior storage facilities, the Sudbury was chosen.

It is unnecessary to go into details as to the mechanical part of the work; but, in order that your readers may have some idea of how we are supplied now, I will say that the Sudbury River was diverted from its natural channel, and, by means of storage reservoirs, Beaver-Dam Brook and Farm Pond brought in with the Cochituate system. At the time that the Farm Pond plan was being considered by the city government, those most interested in the work wished to have the bottom of the pond (which was a peaty soil) and the conduits dredged and a hard bottom of sand and gravel substituted for the loam, maintaining that such a procedure would greatly benefit the water, and that the loam could be used by the city in other work it was contemplating. On account of the additional cost, this was not done. The new system had not been long in operation before a change in the color and taste of the water was noticed. The taste kept growing worse and worse until the so-called "cucumber taste" was reached. Many theories were advanced as to what caused this, but nothing satisfactory was offered until a gentleman from Baltimore examined the water and reported that this peculiar condition was due to a growth which took its origin from the peaty soil, the flow of the water being so slow that the growth was not interfered with. The city authorities now ordered—what they should have ordered at first—the removal of the loam and its replacement with sand and gravel. This done, the cucumber taste disappeared. During this period the hydrant-water was used only for bathing and cooking; for drinking purposes people bought spring water from various sources, and it was astonishing to see the amount that a few springs would furnish—so that many believed that charcoal or some other filter was all that was necessary to create a "spring."

It is not necessary to go into the politics of the subject and state how two water boards were suspended on account of want of confidence, as all this has been amply made public in the newspapers. In May, 1884, Dr. Henry J. Barnes, in a paper upon "Sewerage Systems and the Epuration of Sewage by Irrigation and Agriculture," read before the Section of Clinical Medicine and Hygiene of the Suffolk District Medical Society, showed that our water-supply was contaminated with the sewage of the Woman's Prison at Sherburn, in addition to other sources well known, from which he had for years been trying to get relief by legislation. As an outcome of this paper, committees were appointed by the Norfolk and Suffolk Medical Societies to investigate the sources of our water-supply, and report. They have done so, and their conclusions are not of a nature to give confidence in the purity of the water. They state that all the fountain-heads are polluted with the sewage of villages and towns, which drain either into the soil or directly into the brooks from which the supply is derived; that numerous factories, tanneries, and other industrial establishments are drained directly into the rivers; and that, even where screens and filters are used to keep out offensive matter, they do not act sufficiently to be of service. Of course, these statements have in several instances been denied, and in others the local authorities assert that the condition of things has been greatly exaggerated. The fact that our water-sheds are among thickly settled communities can not be denied. These communities have to dispose of their sewage, and, no matter how that is done, some of it must flow into and follow the watercourses.

This question of water-supply and the disposal of sewage is one that has been constantly before the community, and various suggestions have been offered; but heretofore the trouble has been that nobody in the city government was really responsible. Now, by our new city charter, the Mayor is responsible for everything, and Mayor O'Brien has given his word that he and the Water Board will investigate the subject carefully and thoroughly, and, if possible, remedy the trouble, even if it becomes necessary to take water from Lake Winnepesaukee, and build a sewer from the mountains to the ocean.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, SEPTEMBER 12, 1885.

A PROPOSED NEW NATIONAL MEDICAL ASSOCIATION.

The deep dissatisfaction of the profession with the American Medical Association has found renewed and energetic expression week by week since we first insisted upon its responsibility for the deplorable prospect now before the Ninth International Medical Congress, in case the attempt should yet be made to hold the session of 1887 in this country. This feeling of dissatisfaction is deeply tinged with indignation and disgust. It is entertained by honorable physicians in every quarter of the United States, as is amply shown by the extracts we have published of late from a great number of our contemporaries. It was hoped at first that the unutterably foolish and presumptuous action taken at New Orleans was in a certain sense an accident; that it would be rescinded when its real purport and the disfavor with which it met came to be understood by the leaders of the association, so that even the success of the Congress would not be seriously imperiled; and that the incident would, in the long run, prove a blessing in disguise by demonstrating the necessity of taking prompt measures to remodel the organization. Although we have been quite as decided as any of our contemporaries in denouncing the association, we nevertheless shared the hopeful feeling alluded to until it became evident that the managers of the organization were determined to give no heed to the voice of the profession. But it is quite manifest now, not only that the profession at large is to be disregarded, but that even the members of the association can not be counted on to continually hold in check the schemers that control it. Nothing but a radical re-organization would put it on a satisfactory basis, and the outlook for such a regeneration is not promising. It must be conceded, therefore, that the rapidly increasing number of those who hold that the American Medical Association "must go" are taking a position that is not at all unreasonable.

But a national organization of some sort we must have, although the less it occupies itself with politics the better. Several suggestions have been made as to the establishment of a new society, but none of them have struck us as quite so feasible as one which is outlined in a communication lately sent to us by a member of the profession who modestly asks us to withhold his name. We will say, however, that he is a gentleman of deservedly high position, and one for whose judgment those who know him have the very highest respect. Like many others, who have been falsely accused of being actuated by a feeling of hostility toward the American Medical Association, his present despair of the regeneration of that body has been slowly brought about, and his proposition would never have been broached, or even taken shape in his mind, but for the indisputable and confirmed degeneracy of the association.

Our correspondent thus sets forth his plan: "I think we need a medical association corresponding to the French Academy of Medicine; that it should be few in numbers, filling its own vacancies, and so honorable a body that membership in it would carry the highest reward that medical men here would have to hope for. Its annual (business) meeting should be held always at the same place (? Washington) and at the same time of year; its semi-annual, or scientific, meeting movable by vote of its members from city to city. The original organization might well take its inception in a small gathering of eminent physicians, who should send out a circular, signed by a committee composed of representative men from the principal cities, inviting the appointment of delegates to a nominating convention, which should appoint the first half of the Academy. Let the first half proceed at its ample leisure to fill its own numbers."

Our correspondent adds that his idea has met with hearty support from the influential men to whom he has been able to suggest it. It certainly seems to us feasible and judicious. Matters of detail would of course come up for settlement in considerable variety, but the essentials of the plan are such as could scarcely fail to secure the establishment of a body of men quite above the petty idea of geographical representation, creditable to the country from a scientific point of view, and conservative in the few matters of legislation that they would tolerate. No fraction, even, of such a body—supposing a meeting to be scantily attended—could be "captured" by schemers or cajoled by buncombe. The author of this plan says that he is quite aware that it could not be carried out at once—not soon enough, indeed, to meet the exigency now upon us in connection with the International Congress — but it is for the future that we must provide. It is not without due consideration that we have resolved to favor the idea, but we do so now without reserve, and we trust that the profession will take it into serious consideration. That there is a widespread inclination to take some such action we have no doubt.

"THE WAY ACROSS IS LONG; THE FEAR OF THE SEA IS STRONG."

With this quaint statement of a truism does Prof. Hansen-Grut, of Copenhagen, whose letter to a New York physician we publish elsewhere in this issue, tenderly disguise the disgust that our European colleagues are beginning to feel at the wretched results of the American Medical Association's meddlesome and revolutionary course in the matter of the Ninth International Medical Congress. But politeness will not long cover that disgust. How keen a feeling of indignation is entertained in our own country we can not better express than by quoting from an editorial article in the September number of the "Pacific Medical and Surgical Journal," of San Francisco (on the cover of which journal, by the way, appears the name of R. Beverly Cole, M. D., M. R. C. S., as a collaborator). Our esteemed contemporary prints Sir James Paget's letter to Dr. I. Minis Hays, and adds the following comment:

"It will be seen from this that the power of making the necessary arrangements has never been put in the hands of the British, Danish, or any other national medical society; but intrusted to a few men of established reputation, who co-operated with the Executive Committee of the Congress. Perhaps the American Medical Association will now be convinced that they have meddled in a business over which they had no direct authority; that, in making themselves the instruments of men who have since boasted of the mischief they have done, they have struck a blow at medical culture, the effects of which only the lapse of long years can remove. The 'American Medical Journal' has vainly reasoned with and finally abused as obstructionists to the work of organization those men who have refused to acknowledge the supremacy of the association. Let us hope that its editor will now see that they were right in so doing; that the only men recognized as a committee by the Medical Congress were the American delegates to Copenhagen; that these gentlemen are accountable to the Congress; that it is now their duty to utterly ignore the American Association as an organization, and continue to make the necessary arrangements for the convening of the Congress, which, according to the law of usage, it is their right to do. Should Dr. Billings and his colleagues not recognize the fact that they are the men intrusted by the Congress with making the arrangements, that they are answerable to that body, and that the American Medical Association has absolutely no authority over them in this matter, then the Executive Committee of the last Congress, which still exists, and will not be discharged until the next meeting, should take this matter into its own hands and arrange to hold the meeting in some other country."

We are sorry to say that the American Medical Association seems not to have the slightest glimmering of an idea that it has done anything wrong, although it finds itself at bay, and is ready to resort to tactics, such, for instance, as what it is pleased to regard as the compromise involved in throwing the membership in the Congress (a matter over which it has no control) open to the whole regular profession, while denying official positions to all but those it considers its friends. The eyes of our foreign colleagues are upon us. What will they think of the secrecy in which last week's committee meeting was shrouded? Are they not perfectly well aware that, if the meeting had really done anything calculated to set things right, the committee would not have concealed the fact, but would have made haste to publish it? Truly, our friends in Europe would find the way across long and the fear of the sea strong, but it looks as if they would not have to encounter either.

NEWS ITEMS, ETC.

The International Medical Congress.—In addition to the declinations already announced, those of Dr. R. P. Lincoln, of New York, and Dr. J. H. Kidder, of Washington, have been sent in.

A special meeting of the American Medical Association's new committee on the Congress was held at the Murray Hill Hotel, in New York, on Thursday and Friday of last week. About thirty members of the committee seem to have been present from first to last, but probably nothing like that number at any one time. The utmost secrecy was observed, reporters being excluded, and there appears to be ground for the inference that continued secrecy was enjoined upon those who were present. Nevertheless, certain facts have become known—among others, that Dr. Lewis A. Sayre, of New York, tendered his resignation from the committee, that Dr. N. S. Davis, of Chicago, was made secretary-general of the Congress, and that the so-called compromise was adopted of allowing all members of the regular profession to register and pay their fees, but not to hold office in the Congress unless by virtue of membership in some society in affiliation with the American Medical Association.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 8, 1885:

DISEASES.	Week ending Sept. 1.		Week ending Sept. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	1	0	0
Typhoid fever	34	3	36	10
Scarlet fever	13	2	15	1
Cerebro-spinal meningitis	2	1	1	1
Measles	9	1	3	1
Diphtheria	21	11	35	15
Small-pox	0	0	2	0

The Health of Michigan.—In addition to his usual monthly statement, the secretary of the State Board of Health has issued a supplementary bulletin for August, in which he clearly shows the connection between the board's sanitary work and the decided decrease that he is enabled to record in the prevalence of a number of destructive diseases. The diminished prevalence of fevers and intestinal diseases is very marked.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 30, 1885, to September 5, 1885:*

MAGEUDER, D. L., Lieutenant-Colonel and Surgeon. Granted leave of absence for fifteen days. S. O. 201, A. G. O., September 3, 1885.

MIDDLETON, PASSMORE, Major and Surgeon. Assigned to duty as attending surgeon at these headquarters, vice Major J. V. D. Middleton, surgeon, hereby relieved. S. O. 131, Department of the Missouri, August 28, 1885.

GIRARD, ALFRED C., Captain and Assistant Surgeon. Assigned to duty as post surgeon at Boise Barracks, Idaho Territory. S. O. 142, Department of the Columbia, August 22, 1885.

DAVIS, WILLIAM B., Captain and Assistant Surgeon. Having reported for orders from leave of absence, assigned to duty at Fort Porter, N. Y., as post surgeon. S. O. 183, Department of the East, August 28, 1885.

KANE, JOHN J., Captain and Assistant Surgeon. Upon expiration of his present leave of absence to be relieved from duty at Willet's Point, New York Harbor, and to report to commanding general, Department of Texas, for assignment to duty. S. O. 201, A. G. O., September 3, 1885.

BANISTER, JOHN M., Captain and Assistant Surgeon. Assigned to temporary duty at Camp of Competitors, at Creedmoor, N. Y., arriving not later than September 4, 1885. S. O. 58, Division of the Atlantic, August 31, 1885.

RICHARDS, CHARLES, Captain and Assistant Surgeon. To be relieved from duty in Department of the East, and to report to the commanding officer at Willet's Point, New York Harbor, for duty at that station. S. O. 201, C. S., A. G. O.

KENDALL, WILLIAM P., First Lieutenant and Assistant Surgeon (recently appointed). To report in person to the commanding general, Department of California, for assignment to duty. S. O. 201, A. G. O., September 3, 1885.

Society Meetings for the Coming Week:

Monday, *September 14th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *September 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.).

Wednesday, *September 16th:* Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Allegany, N. Y. (quarterly); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *September 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *September 18th:* Chicago Gynæcological Society.

Saturday, *September 19th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Letters to the Editor.

SMALL-POX AND VACCINATION.

Franklin, Pa., *August 1, 1885.*

To the Editor of the New York Medical Journal:

An editorial in your valuable journal of date August 8th, on the important subject of vaccination after the beginning of small-pox, induces me to ask the privilege of recording therein the following experience of my own:

On Monday I was called to see J. H., a farmer, who had returned home Saturday night sick. He was covered with an eruption which I thought was probably small-pox. The family of four children were removed from the house, leaving the old mother, his wife, and a babe of three months to occupy the same room with him. The mother was said to have been vaccinated; the wife and babe had not been.

On Tuesday I returned with a portion of a fresh crust of vaccine virus. I vaccinated the three with a small spring vaccinating lance, making probably six strokes, and beginning above. Wednesday the same was repeated lower down. Thursday, also, the same again, still lower. Sunday following the husband died of confluent small-pox, the wife, the babe, and the grandmother having occupied the room all the time, and the mother and babe slept in the bed with the patient.

The vaccination of Tuesday failed on all, that of Wednesday took effect on the babe and grandmother, and that of Thursday on the wife. The old woman had a few pustules of varioloid; the babe, a smart fever and a dozen or two pustules, which aborted promptly without pitting. The wife had no fever nor any sign of pustule; her vaccination was severe and the areola large, and she entirely escaped, though she had occupied the same bed with her husband for five successive nights previous to her vaccination, and for at least three nights after the smell and eruption were distinct, and would, I believe, be considered ripe enough to propagate the disease.

I have since, in four cases, vaccinated daily small-pox patients before the eruption was perfected, marking the lance strokes. In two of these, which turned out mild cases, the vaccination appeared to have some effect, as I thought, in modifying the severity of the disease. In the other two the lance strokes produced no effect, nor did the pustules of small-pox show on the cuts. But the experience in the four cases was such as to favor a resort to prompt and efficient vaccination as a hope of modifying a terrible disease, especially if resorted to early.

Stephen Bredin, M. D.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of June 24, 1885.

The President, Dr. John A. Wyeth, in the Chair.

A Circumscribed Congenital Tumor of the Leg.—Dr. A. Jacobi presented a baby, eight months old, whose mother was sixteen years of age. The baby had a tumor on the outer aspect of the lower portion of the left leg, extending about one third of the distance around the leg and upward a distance of about 5 ctm.; its surface was a little above the surface of the surrounding integument. The skin as a whole could not be raised from the mass, which was of soft feel, and not nodulated. The tumor had grown slightly since birth. The diagnosis lay between congenital lipoma and local elephantiasis. The skin appeared to be hypertrophied, and it was by no means certain that it was not elephantiasis, which condition he had seen congenital in this neighborhood before.

The President asked if it might not be a congenital sarcoma, and said that he once saw a small congenital sarcoma on the chin of a boy which had the appearance of a mole or reduplication of the integument. After a year and a half the tumor grew rapidly and the boy died at two years and a half of an enormous sarcomatous tumor.

Dr. Jacobi thought that by this time the growth, if it were a sarcoma, would begin to manifest peculiar characters pointing to that condition. He hoped to have an opportunity to make a positive diagnosis from a microscopic examination of some of the tissue.

Salpingo-oophorectomy.—Dr. W. Gill Wylie said that in January last he presented to the society fourteen specimens of tubes and ovaries removed by laparotomy for disease of those organs. This evening he had another series of eleven specimens. The histories were largely similar to those in the first series. One of the eleven patients died, making a mortality of three out of the entire twenty-five cases. In this fatal case, as in the others, death was due to septic poisoning, and was in a hospital patient. In all the eleven cases, except two, there were evidences of local inflammation, and in almost all there was a history of peritonitis. The majority of the women were bedridden; the remainder were laboring women, and unable to make a living because of their disease. All were under observation several weeks, months, or a year or more, before the operation was performed. In reply to Dr. Amidon's question as to how many of the patients were hysterical, he said probably one fourth or one third. He was disposed to think those who had cystic degeneration of the ovaries without disease of the tubes were the ones likely to be hysterical. He had never seen a case of hysteria in which there was not found, if laparotomy was performed, a cyst in the deep stroma of the ovary. He was beginning to lose faith in the so-called ovarian dysmenorrhœa; in the great majority of cases it was caused by

hyperæsthesia of the mucous membrane at or near the os internum.

The PRESIDENT had seen some cases comparatively recently which had impressed upon him the great importance of two principles which should be observed in order to obtain success in abdominal surgery; the first was, to avoid septic matter entering the abdominal cavity; the other, to secure free drainage. It had usually been taught that rupture of the bladder with escape of urine into the peritoneal cavity was sure death. He had seen one case of recovery after washing out the peritoneal cavity with bichloride solution. In another case, in which the peritoneal cavity became infected by the escape of matter from cysts, it was washed out two or three times by being completely filled with a weak solution of corrosive sublimate, which prevented septic reaction or peritonitis, although the patient died of exhaustion.

Perineal Section and Internal Urethrotomy for Stricture and Urinary Fistulæ.—Dr. C. H. KNIGHT presented the bladder and penis removed from the body of a man, forty years of age, who died from poisoning by cyanide of potassium. Twelve years ago he had gonorrhœa, and a second attack two years later. Stricture developed, for which he used a sound for many years. There also appeared urinary fistulæ in the perinæum, for which he received no treatment until they were divided by Dr. Knight in 1883, who at the same time performed internal urethrotomy. Urine ceased to pass by the fistulæ almost altogether after the operation. The sounds were passed for some time. Subsequently the patient fell, and as a result a perineal abscess developed, and this was followed by a renewal of the fistulæ. The operation of division and of further enlargement of the urethra with the urethrotome was repeated, and, after healing of the wounds, no urine escaped by the fistulæ for five weeks, when a slight dribbling occurred. Shortly afterward the man committed suicide. At the autopsy the deep urethra showed an abscess cavity, capable of containing about two drachms. In the immediate neighborhood were four fistulæ, the largest of which readily admitted a No. 28 sound. The bladder walls were much thickened, and the capacity of the organ was markedly diminished. The appearance of the urethra led him to think the fistulæ resulted from rough usage during the passage of sounds.

Dr. J. H. RIPLEY had once performed perineal section and urethrotomy in a man sixty years of age who had not passed urine by the urethra for six years. The fistulæ healed and the urine was passed by the normal channel.

Fibro-sarcoma of the Naso-pharynx recurring Eleven Months after Operation.—Dr. R. P. LINCOLN presented the specimen, which had been removed from a lad, seventeen years of age, on whom he had operated, removing a similar but smaller growth eleven months ago by the galvano-cautery wire. The first specimen was presented before the society in October last. The patient failed to keep his promise to have the cauterizations repeated, and hence the re-development of the growth, which was larger and more vascular, and was with considerable difficulty completely removed. The base was broad. The case emphasized the importance of repeated cauterizations of the surface of attachment. In this way he believed all these tumors which could thus be reached (and he had found none which he could not thus reach) could be radically cured.

Fracture of the Occipital Bone.—Dr. W. P. WATSON presented the occipital bone of a young man who had probably received an injury from a stone. The three following days he was able to work, but on the evening of the third day complained of headache, and sent for a physician, who found him unconscious. The remaining clinical history was incomplete, but two or three hours before death there was profuse hæmorrhage from the nostrils. There were found at the autopsy a soft spot on the scalp in front of the occipital protuberance and infiltration of the scalp with blood. On the right side the occipital bone was fractured, the fracture extending into the foramen magnum; on the left side was a fracture which extended a shorter distance. There was slight congestion of the surface of the brain.

Ulceration of the Vocal Bands during Measles.—Dr. VAN SANTVOORD presented a larynx in which the vocal bands had become markedly ulcerated during the course of measles. The child suffered from a pharyngitis and broncho-pneumonia developing in the course of the exanthematous disease. While he had not made it a custom to examine the vocal bands in children who had died during the course of measles, unless there were symptoms pointing specially to them, he had not supposed that ulceration of the bands was common. He was, therefore, surprised to learn, on studying the literature of the subject, that this complication was very common.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Ninth Annual Meeting, held at Greenwich, Conn., Wednesday, Thursday, and Friday, August 26, 27, and 28, 1885.

The President, Dr. W. A. HARDAWAY, of St. Louis, in the Chair.

(*Concluded from page 272.*)

Thursday's Proceedings.

Officers for the Ensuing Year were elected as follows: President, Dr. E. Wigglesworth, Boston; Vice-Presidents, Dr. I. E. Atkinson, Baltimore, and Dr. A. R. Robinson, New York; Secretary, Dr. G. H. Tilden, Boston; Treasurer, Dr. H. W. Stelwagon, Philadelphia. Dr. E. B. Bronson, of New York, was elected to membership. It was decided to hold the next meeting the last Wednesday of August, 1886, at Indian Harbor Hotel, Greenwich, Conn.

Dysidrosis.—Dr. G. H. FOX gave a brief description of two cases. The first one, for want of a better term, he classed under this heading. The patient was twenty-nine years of age, and had always perspired freely. Four years ago the eruption began on the palms of the hand, and had persisted. The soles of the feet had also been affected at one time. The skin of the hands was decidedly thick and had a dark hue, and was dotted with numerous elevations of epidermis, averaging in size that of a hemp-seed. The patient had never seen any moisture in connection with this. There had been no itching. The skin never peeled off. Puncture with a needle revealed no serum or fluid of any kind.

The second case was that of a woman aged forty-five, a cook, whose general health was good. The present trouble began five years ago. The eruption was on the face, and consisted of numerous large and small vesicles containing clear fluid.

Mycological Studies in Tinea Favosa and Tinea Trichophytina. Dr. A. R. ROBINSON, of New York, prefaced a paper on this subject with a few general remarks. The epidermis of different individuals differed in susceptibility to these parasites. Children were more apt to suffer with tinea trichophytina and favus, while adults more frequently presented tinea versicolor. All children were not equally susceptible. In many cases of parasitic disease there was impaired vitality previous to the development of the affection. The author then gave an account of his investigations to determine the exact anatomical seat of the parasitic diseases in question, and to determine the changes which they produced in surrounding tissues. The con-

clusion was that in favus the rete was not affected until the later stages, when ulceration had made its appearance. The parasite confined itself more particularly to the corneous layer. The parasite of tinea trichophytina in some cases passed down into the rete, while in others it did not. A number of sections were shown under the microscope which illustrated the points brought out in the paper.

Dr. White would ask the reader what evidence he had that in ringworm and favus a decreased vitality was necessary.

Dr. Robinson thought that it was found in the fact that it was exceedingly difficult to cure these affections occurring in broken-down subjects until the general health was improved.

Dr. White could not agree with the speaker in the importance of depressed general health as a factor in the production of these diseases. He had never seen any necessity for internal treatment in these cases. Where the disease affected the general surface of the body it was readily removed, but where it involved a portion covered with hair it was difficult to cure.

Dr. Piffard agreed with Dr. Robinson that there was a relation between the condition of the general system and the rapidity of development and rapidity of cure of the disease.

Dr. Duhring had always held the view that a particular condition of the epidermis was necessary for the growth of the fungus. The majority of cases of obstinate ringworm that he had seen had been in individuals in poor health, but there were exceptions to this rule. What this peculiar condition of the skin was had not been determined.

Dr. Denslow had recently seen a large number of cases of ringworm of the head and beard, but all the patients were well-developed, muscular subjects. These were cured without internal treatment.

The Structure of the Derma and the Development of Elastic Tissue in it.—Dr. C. Heitzman, of New York, read a paper on this subject. He drew attention to the fact that Stricker had now accepted his (the author's) views concerning the life of basis substance. Dr. Gartner, Stricker's assistant, who was present at the meeting, had brought an electric-picture microscope, by means of which these newly discovered facts could easily be demonstrated to a large audience upon a screen. There were three varieties of basis structure, differing from each other in their chemical constituents—viz., the glue-yielding basis substance proper, producing the spindles within the bundles of so-called fibrous connective tissue; the cement substance between the spindles; and the elastic substance developing along the edge of the bundles in advancing age and in some tumors. All three varieties were traversed by a delicate reticulum of living matter in connection with the protoplasmic cords, that filled the interstices between the bundles in the shape of a comparatively coarse reticulum. Thus it became intelligible that in morbid processes not only the protoplasm, but also the basis substance, participated in an active manner. After the liquefaction of the solid fields of glue-yielding basis substance the bundles were directly transformed into inflammatory corpuscles, from which started every physiological and pathological new formation.

A Case of Multiple Myomata of the Skin accompanied with Severe Pain was described by the President, A. B., aged thirty-six, married, with healthy children and good family history, had never had syphilis. His present trouble began a year ago. Changes in the weather produced pains in the parts which had since become affected. To relieve these, firm pressure was made with the hand. Between the paroxysms, pain was not produced by pressure. Afterward the lesions presented themselves. The pains still persisted, recurring at intervals varying from a day to a week. The attack lasted two or three minutes, and did not return the same night. The growth was situated on the right side of the back, in the mid-dorsal region, and the course of the growths was obliquely outward. There were one or two of the elevations on the left side. Three of the growths were as large as peas. The others were small. The epidermis was not abnormal. On passing the hand over these growths, there was no hyperæsthesia, but, on deep pressure in the neighborhood of the larger masses, the patient sank moaning to the floor. One of the larger growths was removed, and microscopical examination showed it to be composed of smooth muscular fiber. From a clinical standpoint, the case bore a close relation to the cases of neuroma which had been reported. The author concluded that certain new growths in the skin, accompanied with severe pain, might be widely different histological structures. We were not justified in assuming that a painful tumor of the skin was a neuroma or fibro-neuroma simply from its clinical history, without a microscopical examination.

An Unusual Case of Tylosis of the Hands was related by Dr. R. S. Morrison, of Baltimore. The patient was a negro, aged thirty-two, muscular, well developed, and apparently healthy. He was a fireman of a steamer and had occupied this position for ten years, shoveling coal with the right hand grasping the upper portion of the shovel and the left hand sliding up and down the handle. Two fingers of the left hand were worn off to the second joint, while the other two were going in the same way, the nails having nearly disappeared. On several occasions he had drawn pieces of bone from the fingers. There had been no pain at all connected with the affection. On this hand there were some large blisters, beneath which there were red granulating surfaces, which were painless. There was no history nor evidence of syphilis. Specific treatment had been used without effect. The man obstinately refused to give up his work, so that little could be done in the way of treatment.

Dr. Tilden thought there was a good deal of resemblance between this case and cases of perforating ulcer of the foot, and this would lead us to suspect a nervous element.

Dr. Wigglesworth remarked that it resembled anæsthetic leprosy in some respects, but differed from it in other points.

Dr. Morrison considered it a strictly local affection from the fact that the hand which was most exposed to rubbing and to the heat of the furnace was the one most affected.

Dr. Duhring would be inclined to consider the callosities a secondary condition. The occupation probably had something to do with the aggravation of the disease, but, if the occupation had been different, there would probably have been a similar change. He would regard it as dependent on some deep change in connection with the nerves, similar to what occurred in perforating ulcer of the foot.

Dr. Morrison could hardly admit that it was an affection of the nerve in the first place. It might be that the continued congestion of the skin dependent on the man's occupation had produced changes in the nerves or other part, which culminated in this affection. Referring to the literature of the subject, he had found similar cases attributed to mechanical irritation.

The Relations of Herpes Gestationis and certain other Forms of Disease to Dermatitis Herpetiformis.—Dr. Duhring read a paper with this title. Attention was briefly directed to the author's previous articles on dermatitis herpetiformis, and to a paper showing its identity with the impetigo herpetiformis of Hebra; also to a preliminary note on the relation of this disease to herpes gestationis and other similar forms of cutaneous disease, read before the association at the last meeting. The object of the present communication was to prove the identity of so-called herpes gestationis with a vesicular variety of dermatitis herpetiformis, and to show that the term herpes gestationis was a misnomer, the affection being found in men as well as in

women. Secondly, that certain other so-called forms of herpes—such as herpes pemphigoides, herpes vegetans, herpes pyæmicus, etc., as well as certain cases regarded by the reporters as peculiar forms of pemphigus—must be viewed as examples of this disease; and, finally, that instances of the same affection were also met with in literature under the title of hydroa and under divers other captions. Numerous cases from English, French, and German literature were cited. The paper was to be looked upon as supplementary to the preliminary note referred to, and embodied the results of considerable research into literature. If the views put forth proved to be correct, a great deal had been gained for dermatology in bringing these peculiar forms of disease together.

Dr. White thought that the term dermatitis herpetiformis was a misnomer. The disease should be called dermatitis multiformis. The herpetic element was often wanting.

Dr. Robinson agreed with Dr. White that the term dermatitis herpetiformis was too restricted, but would prefer some term which did not indicate the pathology, until the disease was better understood.

Dr. Hyde said there were reasons why he would disagree with the last speakers. The term herpetiformis was preferable, if for no other reason, because it was suggestive.

Dr. Fox showed a photograph of a case which might be mistaken for dermatitis herpetiformis—namely, erythema multiforme. This disease should be placed in strong contrast with dermatitis herpetiformis.

Dr. Duhring said the name dermatitis herpetiformis had been adopted because it seemed the least objectionable. The herpetiform character of the disease was to his mind characteristic. The term dermatitis multiformis was already employed to designate a form of skin trouble.

Mycosis Fungoides.—Dr. Tilden described the case of a man aged twenty-eight years when he came under observation. Three years before, several red, desquamating spots had been observed on the elbows. Several months later erythematous spots, accompanied with pruritus, were noted. These lesions retained a dry, scaly character. There were no vesicles or pustules. At the end of a year several red nodules appeared on the face and throat. These, however, disappeared. Afterward a small papule appeared on the right thigh, and increased in size. From this there exuded a thin fluid. This was followed by the development in many parts of the body, particularly the axillæ, groins, and neck, of similar lesions, in some cases reaching the size of a hen's egg. After a time there was superficial erosion of some of the tumors, but these excoriated tumors remained firm in consistence. Some of the masses which were covered with epidermis were soft, but there was no evidence of the formation of pus. There was also indolent enlargement of the lymphatic glands. The general health continued good. The patient passed from observation, and died at the end of three years and a half. The report of the microscopist who examined the tumors was read. His opinion was that the growths consisted of the formation of lymph tissue in the corium. Reference was then made to the literature of the subject, and the various cases, some thirty in number, were given. Sections of the growth were also presented for examination.

Dr. White said that this patient had been under his care during the last stages of the disease, and presented the changes which had been described. Some of the larger growths disappeared. During the last months of his life the man was taking arsenic. Death resulted from the occurrence of diarrhœa.

Dr. Roné said that four years ago he saw a case of what he thought was the same affection. A man, sixty two years of age, had a multitude of these tumors. Several had been extirpated before he came under his care, but there was recurrence with this fungoid appearance. The man was given arsenic, but he died from exhaustion. No autopsy could be obtained. As far as could be detected, there was no affection of the liver or spleen.

Dr. Morrison had seen a similar case, which was diagnosticated as multiple sarcoma of the skin.

Dr. Fox said that one or two similar cases had been seen in New York. Should one come under his care, he would try the effect of chaulmoogra oil. Judging from its effects in other cases, it should be useful.

The President said that in a case of alveolar sarcoma which he had reported, the disease had existed fifteen years, but the clinical features were about the same as they were years ago. There was marked enlargement of the lymphatic glands. The general condition was good.

Dr. Heitzman said that the description of the microscopic appearance and the examination of the specimen confirmed him in the view that this was a case of lympho-sarcoma.

Dr. Sherwell, to show the amount of involution that might take place, would refer to a case of melano-sarcoma under his care. The man was treated with arsenic, mercurials, etc. After six months' treatment, the tumors had almost entirely disappeared. There was not the slightest evidence of syphilis.

Dr. Fox had seen chaulmoogra oil used in a case of leprosy. There was now not a trace of leprosy, except the contraction of the fingers, which was, however, a secondary condition. It had failed in many cases, but a trial of it was justified in the chronic inflammatory affections referred to.

Urethral Irritation in the Male as a Cause of Certain Neuroses and of Acne was the title of a paper by Dr. Denslow, who first gave a brief review of the cases of contracted meatus reported by Dr. Otis. He then gave an account of a number of cases that had come under his observation in which there were reflex conditions associated with morbid states of the urethra—such as contracted meatus, stricture, and excessive sensitiveness of the prostatic urethra. In these cases removal of the urethral trouble produced an alleviation or cure of the affection to which attention had been directed. He also reported four cases of severe acne in which the same treatment had been followed by marked improvement or cure. In some of the cases ergotin was also employed. He simply reported the cases as so many observed facts, and did not express any theory. He would keep the cases under observation, and at a subsequent meeting give a further report.

Dr. Sherwell thought that acne was largely a reflex disorder, but was not in the habit of introducing a sound in every case of acne. He produced good results with other measures. He believed in the action of ergot in connection with local applications, especially in females.

Dr. Hyde thought that many of these patients with urethra trouble associated with acne had probably been taking balsamic preparations for some time, and, as a result, had acne.

Dr. Denslow said that in all the cases reported the acne had existed since puberty. The patients were not hypochondriacs, and they were not masturbators. He was satisfied that no drugs had been used by any of them.

Friday's Proceedings.

Remarks on Electrolysis and other Practical Topics was the title of a paper by Dr. Heitzman. The reader spoke very highly of electrolytic epilation. For this purpose he used the Leclanché battery. He employed a needle devised by Lister, of Vienna, which permitted the depth to which the needle penetrated to be measured. He had had good results from electrolytic destruction of dilated blood-vessels in the face, but less satisfactory results in the treatment of port-wine marks, a perma-

nent cure of which was only exceptionally attainable. Sodium ethyl had been highly recommended for the destruction of angioma of the face, but it was in no way superior to nitric acid. The author maintained, after observing two hundred cases of falling of the hair caused by seborrhœa, that the method he recommended in 1876 gave fair results. This was the application of a ten- or twenty-per-cent. ointment of crude oleum rusci in vaseline and paraffin. For the removal of freckles he used an ointment recommended to him by Wertheim, of Vienna:

White precipitate, Subnitrate of bismuth,	each.....	1 drachm;
Glycerin ointment.....		1 ounce.

This was to be applied in a thin layer every other night, and in from four to six weeks the result would be found to be highly satisfactory. As to the permanency of the cure he was unable to state. In regard to the reappearance of hair after removal by electrolysis, he considered it to be due to the growth of the fine hairs, which was increased by the transfer to them of the nutrition which should have gone to the hairs removed.

Dr. Hyde said that, in the removal of hair by electrolysis, the question was not what the result would be at present, but what it would be in the future. Electrolysis produced a hyperæmia, which tended to stimulate the growth of the remaining hair. He had found the rectified oleum rusci very valuable.

Dr. Fox had used nitric acid for angioma, making the application in the form of small dots, a quarter to half an inch apart, with great advantage. In one case in which a nævus occupied half the body he had used this treatment with much success. In regard to the return of the hair after electrolysis, if the needle was carefully inserted and gentle traction was made on the hair, that hair would not return. In some cases there was a constant increase in the downy hairs from some cause, but these were exceptional cases. He did not think that the removal of hairs increased the growth of others. In the case of a young woman with a heavy beard he had removed, by actual count, eight thousand hairs. This process had required two or three years. Since then it had been necessary to remove only a few dozen hairs.

Dr. Robinson had used a similar ointment for the removal of freckles, but its effect had been only temporary. He thought that the growth of the remaining hairs was increased by the removal of a portion.

Dr. Wigglesworth had for the past fifteen years used the following ointment, which was almost identical with that mentioned by Dr. Heitzman:

White precipitate, Subnitrate of bismuth,	each.....	10 parts;
Vaseline.....		100 "

The President had performed the operation of electrolysis for ten or twelve years, probably longer than any other member of the association. He used the iridio-platinum needle, which had the advantage of being bent and was not likely to pass through the follicle-wall. The moment the follicle was entered there was an escape of sebum. One case, that of a woman with a heavy black beard, had been entirely relieved. Electrolysis with a fine needle afforded a method of getting rid of freckles. The plan was to dot the surface covered by the freckle with the needle.

Dr. Heitzman said that the percentage of recurring hairs was greater in some situations than in others. In the submaxillary region it was greatest.

Syphilitic Reinfection.—Dr. Taylor read a paper on this subject. He first referred to the literature, and gave a brief review of the authentic cases on record, with the names of the reporters. The number of cases previously reported was between thirty and forty. To these he added the histories of three more. A fourth case had been observed by him, but, as the complete history had not been prepared, it was not given.

Case I.—A barkeeper, aged twenty-five years, was first seen in 1868, suffering with gonorrhœa. Three years previously he had had indolent enlargement of the lymphatic glands in the groins. Examination showed the presence of lymphatic enlargement in certain regions. Inquiry into the history showed the existence of a chancre three years before, which had been slow in healing. About two months later he became sick and suffered with a roseolous eruption, sore throat, falling of the hair, and rheumatic pains, worse at night. Under treatment he improved, but afterward exhibited a papular eruption. He was then seen by the late Dr. Van Buren, who pronounced the case one of syphilis and ordered mercurial treatment. He recovered after two years, but of his own accord continued the treatment two years longer. He then remained well until the attack of gonorrhœa. In February, 1870, he again appeared, presenting a typical indurated chancre on the pubes. It presented every evidence of a primary infection. Afterward a papular syphilide appeared over the body, there were several mucous patches on the pillars of the fauces, and the throat was red and swollen. The joints soon became the seat of nocturnal pains. The patient also presented a form of syphilitic epididymitis. Under mercurial treatment there was some improvement, but a year later there were some tertiary manifestations. By 1874 he seemed very well. During the next three years there were no evidences of syphilis, but he continued the "mixed treatment." In the autumn of 1882 it was learned that his good health had continued and that he was the father of a healthy child. The child was examined, and no evidence of hereditary syphilis was detected.

Case II.—In June, 1873, the patient had a typical indurated chancre, followed by distinct secondary symptoms, which disappeared under treatment. He then passed from observation. In February, 1874, he presented several ulcero-tubercular lesions on the outer aspect of the forearm. He then remained under treatment six months. In January, 1875, he had spots of thickening of the periosteum of both tibiæ. He was again treated with benefit. In June, 1876, there was a typical indurated nodule on the prepuce, from which indurated lymphatics extended to the inguinal lymphatic glands. The incubation of this sore had lasted about twenty days. This was followed by malaise, sore throat, and swelling of the post-cervical and epitrochlear glands. Over the body and arms there was a fine mottling of a light pink color. The patient then went to Europe and was not seen until March, 1885, when it was learned that the symptoms had been well marked, and that he had been under treatment for them by several Continental physicians.

Case III.—A man, forty-one years old, had had a typical indurated chancre in 1874. There had been inguinal adenitis, followed by roseola, falling of the hair, and subsequently severe iritis. He was treated with mercury. In February, 1882, he returned with a typical hard chancre. In April he became sick, having rheumatic pains and a mixed erythematous and papular eruption. In May iritis again appeared. In 1883 he had a late secondary rash.

These cases were reported with the object of throwing some light upon the natural history of second infections of syphilis. In all of them relapsing indurations had been carefully excluded.

Observations on the Oleates. Dr. Stelwagon read a paper on this subject. In regard to the chemistry and preparation of the various oleates, both as to their manufacture by the direct combination of the acid with the base and by double decomposition, almost, if not entirely, as much could be found in the

English translation of Gmelin's "Handbook of Chemistry," published in 1866, as in the writings of the past several years. Of all the oleates, those of mercury, zinc, bismuth, and lead had a place in the treatment of diseases of the skin; and, in view of their costliness, the seeming unavoidable frequency of badly made preparations, the disagreeable oleic-acid odor, and the irritation so frequently observed after their use, it was probable that of these four only the mercuric oleate promised to retain a permanent value. This last was especially valuable in ringworm of the scalp, but for inunctions in the treatment of syphilis it was of doubtful utility, as it was questionable whether it was absorbed. Oleate of copper, which had been so highly recommended for ringworm of the scalp, was not comparable in that affection to oleate of mercury or to tar and sulphur preparations.

Dr. WIGGLESWORTH had practically renounced all oleates except the oleates of zinc, lead, and mercury as parasiticides.

Dr. DUHRING's experience with these preparations had been in accord with that of the reader of the paper. He had employed the oleate of copper in varying strengths in thirty or forty cases of ringworm, but it had seemed to exert no influence whatever. But they had been obstinate cases. Other methods of treatment had afterward been tried, and they were finally cured. As to its efficiency in acuter forms of ringworm, he was not prepared to speak.

Dr. HEITZMAN had tried the oleate of copper in chronic cases of ringworm, without any result, but in the acute cases it cured after a time. It was not so efficient, however, as the preparation recommended by Dr. Taylor—four grains of bichloride of mercury to the ounce of tincture of myrrh.

The PRESIDENT had almost entirely discarded the oleates. In some recent cases the oleate of copper had seemed to be successful, but in chronic cases it had entirely failed.

A Case of Syphilitic Aphasia and Paraplegia followed by Death, with an Account of the Autopsy.—Dr. DENSLOW read a paper the object of which was to put on record a case in which an autopsy had been obtained in early syphilitic cephalalgia. The patient was seen in consultation April 29, 1885. Two months previously he had begun to suffer with severe headache, worse at night. There was also a papular eruption. He acknowledged the existence of a sore six months previously. Iodide of potassium with chloral had been given. Two weeks later the patient was free from pain, but it returned in one month and he stopped taking medicine. Iodide of potassium was again given, with the effect of relieving the pain. Aphasia and paraplegia then developed, and the patient died four days later, within nine months of the initial lesion. At the autopsy, the dura mater, along the superior longitudinal sinus, was thickened and adherent. There were numerous small gummata in the pia mater, situated along the right border of the longitudinal sinus and extending back to the fissure of Sylvius. The pia mater exhibited evidences of simple acute inflammation.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of March 3, 1885.

Dr. E. NOEGGERATH in the Chair.

Drainage-Tubes. The CHAIRMAN showed a series of drainage-tubes for use after laparotomy. The first one was the straight glass tube known as Tait's, the second was Sims's rubber tube, and the third was one which Dr. Noeggerath had himself used on one occasion. The large curved glass tube used by Hegar was next shown. Its wall was perforated in numerous places at its lower portion, the openings being not above 1 mm. in diameter. The advantages of the instrument were its large size, which not only admitted of free drainage, but allowed a reflector to be passed into the tube so that the neighboring parts could be explored. The lateral openings permitted the fluid to enter the tube readily from all sides. They should not be too large, as there was danger of the intestines becoming engaged in them.

The CHAIRMAN also gave an outline of the after-treatment of Hegar's ovariotomy cases. For the first twenty-four or forty-eight hours the patient received only ʒ ss. of cold water every hour, then ʒ ss. of sour wine every hour for the next twenty-four hours.

Dr. J. B. HUNTER asked in what cases such large drainage-tubes were indicated, and how the inference could be drawn that there would be so much fluid secreted as to require one.

The CHAIRMAN replied that they were used in cases in which there were extensive adhesions, not only to the parietes, but to the abdominal viscera. He admitted that the necessity for their use was rare.

Dr. B. MCE. EMMET asked if it was not difficult to close a wound after the introduction of so large a tube.

The CHAIRMAN replied that, on the contrary, the wound contracted so rapidly that a smaller tube must be introduced immediately after the withdrawal of the large one.

Dr. W. G. WYLIE thought that, judging by his own experience, the cavity would only drain for a short time. He had sometimes found it necessary to move the lower end of the tube about to break up adhesions.

Dr. B. F. DAWSON thought that the excessive outpouring of fluid to which the chairman had alluded might be the ordinary peritoneal secretion, which, being innocuous, did not require to be drained away.

Dr. HUNTER said that he had used even smaller tubes than Tait's, and had never found any difficulty in removing all of the fluid by means of a syringe. He preferred straight tubes, since they could be carried down to the very bottom of Douglas's pouch.

Dr. WYLIE also favored the use of small tubes.

Dr. W. M. POLK recalled a case, related to him by Dr. Thomas, in which a hernial protrusion of the intestine took place through one of the lateral openings in a drainage-tube.

Hysterectomy for Fibroma.—Dr. H. D. NICOLL presented a fibroid tumor with a portion of a uterus removed by Dr. Thomas at the Woman's Hospital. The patient gave a history of profuse hæmorrhages. The diagnosis of interstitial fibroid located in the posterior uterine wall was made, and Dr. Thomas resolved to perform a myomotomy. The usual incision was made through the abdominal wall, the uterus was rolled out of the cavity, and its neck was constricted with an instrument devised for this purpose, consisting of two semicircular pieces of steel, provided with handles, something like a pair of tongs. The tumor was found to occupy the posterior wall. An incision was made down to the capsule, which was opened, and the tumor was readily enucleated. On relaxing the pressure of the clamp the hæmorrhage from the wound was so profuse that Dr. Thomas saw that it would be necessary to remove the entire uterus. This was then accomplished, the stump (which was long and rather narrow) being secured with Dawson's clamp. The patient's condition had been perfectly satisfactory. Dr. Thomas was for a time under the impression that he was the first who had followed this method of enucleation, but he now yielded the priority to Dr. Hunter.

Dr. P. F. MUNDÉ said that Schröder had first performed this operation.

The CHAIRMAN was of the opinion that Martin was entitled to that honor.

Dr. HUNTER asked if Martin used drainage.

Dr. Mundé replied that he drained the wound through the vagina in cases where the growth extended down into the pelvis or between the folds of the broad ligament.

Dr. B. McE. Emmet asked concerning the relative merits of myo-hysterectomy and removal of the ovaries as a means of relief from hæmorrhage resulting from the presence of uterine fibroids.

The Chairman said that the question was not yet settled, English surgeons being rather in favor of oöphorectomy, while the Germans preferred hysterectomy.

Dr. Dawson, referring to the fact that his clamp had been used in this operation, said that his idea in devising it had been: 1. To secure perfect constriction of the stump by an instrument which should compress it into the form of an ellipse. 2. To have a smooth lower surface which should allow the external wound to heal perfectly and to become perfectly adherent to the stump.

Dr. Hunter said that he preferred to transfix the stump with needles and to encircle it with a rubber ligature.

The Chairman thought that by the use of the clamp the adhesion of the skin, as well as of the peritonæum, to the sides of the stump was secured.

Dr. Dawson explained that he removed the clamp after a few days and substituted for it transfixion with needles.

Salpingo-oophorectomy.—Dr. Hunter presented the following specimens: 1. A specimen of double hydrosalpinx, removed at an autopsy from a case of cancer of the omentum, the patient having died from fatty heart several days after the operation. 2. Pyosalpinx (private case). The patient was a young single woman who had suffered with extreme dysmenorrhœa. She had been completely relieved by the operation. 3. A case at the Woman's Hospital. A married woman who had suffered greatly from menorrhagia and metrorrhagia, symptoms which disappeared after operation. 4. In this case the operation was done for dysmenorrhœa, and was easy. Another case was also related, but the specimen was not shown. The patient had had severe hæmorrhages. On examining her, Dr. Hunter thought that he detected a small tumor behind the uterus, and also an enlarged tube. At the operation a small ovarian cyst was found upon one side, with an enlarged tube. During the attempt to remove it, the tube ruptured, and a quantity of fœtid pus escaped. The opposite tube was so firmly bound down by old adhesions that it was removed with great difficulty. There was a good deal of hæmorrhage, which was not checked until much time had been spent. In the search for the bleeding points the operator was greatly assisted by the combined use of a cylindrical speculum and the small electric light which had been designed for this purpose. The patient developed septic peritonitis, and died on the sixth day.

Dr. Hunter stated, in general, that it was his custom to introduce a drainage-tube if there was much hæmorrhage, but it was soon removed. In regard to the symptomatology of pyosalpinx, he said that an important point was that the patient complained of pain just *before* her periods, excessive flow, and a subsequent discharge of fœtid pus. In one case he had even seen this purulent fluid escaping from the os. He concluded with the remark that he now used spray in the operating-room, although it was not thrown directly upon the wound. This was a necessary precaution in the presence of a miscellaneous crowd of spectators; he also endeavored to have his ligatures perfectly aseptic.

Dr. Mundé mentioned a case which showed the difficulty of making an accurate diagnosis before operation. A patient was sent to him with a history of recurrent attacks of peritonitis. On examining her, he thought he detected an ovoid, fluctuating tumor upon the right side; on the left side nothing could be felt but a diffuse swelling. On opening the abdomen, nothing could be differentiated; the pelvis was filled with an inflammatory deposit, in which both ovaries and tubes were indistinguishable. The only thing which could be done was to ligate the broad ligament in two places by carrying a threaded needle deep into the pelvis and removing the mass by burning it through with Paquelin's cautery. The patient made a good recovery. Dr. Mundé admitted that there were cases in which it was possible to make the diagnosis of enlargement of the tubes, but it was frequently quite impracticable. He had at the time a patient under treatment, on examining whom for the first time he had discovered a sausage-shaped mass situated on the right of the uterus. He aspirated this tumor through the vagina and withdrew about ʒiij of clear fluid, in which was found cylindrical non-ciliated epithelium. This was undoubtedly a cast of hydrosalpinx.

Dr. Wylie said that it was not necessary to make such an exact diagnosis. If a patient had been under observation for some time, and the subjective symptoms were such as to warrant an operation, he did not disturb himself about the exact condition of the tubes. But, he added, it was possible in many cases to so clear up the inflammatory deposits by a course of treatment with boro-glyceride tampons that the diagnosis could be positively made. He believed that many of the so-called cases of "thickening in the broad ligaments" were really cases of enlarged tubes.

B. McE. Emmet, M. D.,
B. F. Dawson, M. D.,
H. C. Coe, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The International Medical Congress.—Professor Hansen-Grut, of Copenhagen, who was president of the ophthalmological section of the last meeting of the Congress, and took an active part in the affairs of the organization, has written the following letter to a New York physician:

"I am sorry you have so much bother about the Congress. The spirit that is at the bottom of the dispute is to me a proof of such exclusiveness as I should not have expected to find in your country. I will answer to your question:

"1. That the controversy about codes was never thought of, as we have nothing resembling your codes of ethics.

"2. The invitation was decidedly given for the *whole* medical profession; none of us thought of, or even mentioned, the American Medical Association.

"3. The *only* qualification required was, that the member be a *legally acknowledged* medical practitioner in his country. *Our* homœopathists who were legally acknowledged practitioners (Dr. Siemsen-Ferish and others) were actually members, and undisputed members, of our Congress.

"I have sent your letter to Prof. Lange, who will, no doubt, corroborate my statements. To my knowledge, he has already had similar questions addressed to him from America, and answered them in the same way as I have now done.

"The way across is long, the fear of the sea is strong. I do therefore firmly believe that it is injurious to the interests of the Congress to have too many restrictions put for admittance."

The "New Orleans Medical and Surgical Journal" says:

"Since the August issue of the Journal there has been but little change in the controversy over the organization of the American meeting at Washington in 1887. The disagreement remains as irreconcilable as ever.

"The situation is certainly without precedent, and all brought about by the action of a very small majority of a very small meeting of the American Medical Association, an organization which itself represents only about one twentieth of the American medical profession. The association has unjustly been held responsible for the action of scarcely one fourth of its members, and on this account has suffered severely of unfriendly criticisms. We trust that these criticisms, instead of impairing the usefulness of the association, will rather enliven the interest of many of the older and more sturdy members whose conservative presence at the last meeting surely would have averted all our recent troubles; very likely the new committee would never have been created. However, let us speak of the realities.

"No sooner was the new committee organized than it evinced the temper of the resolution under which they were appointed. They began to revise, alter, and amend the work of the original committee with a vengeance. They announced a new plan of organizing the Congress, based upon an illiberal policy, which, for one reason and another, excluded from membership on the sub-committees and sections a number of names of international prominence. There was at once dignified opposition to the course of the committee, which was all the more determined because of a lack of respect for their authority, owing to the unpardonable impropriety of the proceedings under which they were appointed. Numerous resignations from the sub-committees and sections have followed in rapid succession. So far, upward of one hundred and twenty names, all told, have been either dropped by the committee or voluntarily withdrawn from all official connection with the Congress. Many of these names are classical in the history of American medicine, and their disaffection alienates from the coming Congress the friendly interest of our more distinguished *confrères* abroad, without whose support the American meeting can not succeed. Our brethren from over the sea are very emphatic in expressing their views of the situation. Their criticisms are sharp and well directed. In the pages of those solid contemporaries, 'The Medical Press,' the 'Lancet,' and 'The British Medical Journal,' we can see ourselves as others see us.

"Public professional opinion in the United States demands a truce of all our domestic differences and the organization of the Congress upon a broad and liberal basis, recognizing the representatives of American medicine, those so considered at home and abroad, regardless of all local code, or purely personal issues, which are so entirely irrelevant to the purposes of the international body. We say *demand* advisedly, for the sixty odd thousand American physicians, in whose name (whether right or wrong) the invitation was extended and so accepted, as well as the foreign gentlemen of our own profession, invited to our shores, surely have some rights entitled to respect.

"If the committee continue much longer in disrespect of those rights, with as little progress in organizing the Washington meeting, then the officers of the Congress may see proper, as intimated in some of our foreign exchanges, to recall acceptance of the American invitation in favor of Berlin, or some other European medical center, where, as the 'Lancet' says, 'the medical profession will not find it impossible to combine for international purposes.' The stigma upon us of such an occurrence the present generation would not outlive.

"The committee must surely by this time realize the impossibility of organizing the Congress in further pursuance of their present policy. As gloomy as the outlook appears, we yet hope that at the coming meeting of the committee in New York, on the 3d of September, some way may be found of reconciling all our differences and organizing the Congress upon a high and broad basis, upon which we can all stand for the time without jostling and jarring.

"NOTE.—Since the above went to press, we have received a circular entitled 'The Pennsylvania Physicians Indorse the Code of Ethics,' which demands a word from us. The circular is signed by a number of the ex presidents of the State and various county medical societies of Pennsylvania, and others, who indorse the action of the American Medical Association at New Orleans, as well as the action of the new committee at Chicago, and call all this sustaining the code of ethics. This would intimate that those who have not approved of the action of the American Medical Association or its Chicago committee, on the subject of the International Medical Congress, do not indorse the code of ethics of the association. We desire to place ourselves right in this matter. This journal indorses the code of ethics of the American Medical Association, but emphatically disapproves of the action of that body regarding the meeting of the International Medical Congress. While we support the code of ethics, we do not believe that it was expedient or right to inject that code into the organization of an International Medical Congress. We believe that the organization of the Congress, as proposed by the original committee, ought to have been accepted, or at least should have been less radically modified. We do not take sides with the new-code physicians of New York or elsewhere, but we sincerely believe that it was inexpedient and unwise to exclude them solely on account of their ethical sentiments. We are advocates of the national code, and shall exert our influence to uphold it; but we favor no plan of organizing the International Medical Congress that is not high and broad and liberal, in full accord with the spirit of the international body, and entirely acceptable to the better sentiment of the home profession, as well as to the guests invited to our shores.

"Under the circumstances, having foreknowledge of the views of many of our foreign brethren on this subject, we should be more consistent with the principles enunciated by the Chicago committee, under direction of the American Medical Association, if we should frankly acknowledge our mistake and withdraw the invitation we have extended. Either do this or meet them in the spirit they demand."

The "Cincinnati Medical Journal" says:

"It was hoped that the enlarged committee of the American Medical Association, at its Chicago meeting, would so shape its deliberations as to escape the imputation of being actuated by sinister motives. The further we get away from that meeting, however, and the more we learn of its inside workings, the more are we convinced that personal pique, local jealousies, sectional prejudices, college hatreds, and clique antipathies, were more responsible for the changes made than were any considerations of professional morality or ethical punctilio, or what should have been first, foremost, and alone, a desire to strengthen the Congress by bringing to the front our ablest and most representative men."

The "Chicago Medical Journal and Examiner" says:

"In the organization of the Congress, the same rules should govern in the next that have obtained in the past. No distinction should be made between the foreign and the American members. The fact should be distinctly kept prominent that it is not a delegated body. It has not been in the past; there is no valid reason why there should be any effort to make the next one such. There should not be two or more classes of members. All must meet on the same plane—with equal privileges, equal duties, and equal responsibilities. Let all local ethical questions be eliminated. The foreign representatives expect and demand this, and such is their right. There may be honest differences of opinion, in our own country, on certain points of principle and policy, but there can be no valid reason for thrusting them, or their effects, upon foreigners who may come here. Sight should not be lost of the fact that science and humanity are the objects for which these congresses convene, and that all matters of selfishness and partisanship should be subordinated thereto.

"As our faith, as a profession, was pledged, when our invitation was accepted, to do all in our power to make a success of the Congress, we can not do less. Everything that might conflict therewith and diminish the prospect of such success must be kept in abeyance."

The "Maryland Medical Journal" says:

"In view of the fact that the American Medical Association committed an unjustifiable and unnecessary blunder in authorizing a new committee to organize the preliminary arrangements for the Ninth International Medical Congress, we had hoped that this committee, after the experience of its late meeting at Chicago, would recognize the absurdity of its position and gracefully decline to take further steps looking to an arrangement for the Congress.

"It has seemed to us that the action of this committee has been so universally condemned, and its resignation so loudly insisted upon by the almost unanimous voice of the profession, both in this country and in Europe, that it would not have the boldness to proceed with its work in face of such outspoken opposition. At first we were disposed to lay

the entire blame for the present muddle of the affairs of the Congress upon the shoulders of the association. We assumed that this committee was acting under the instructions of the association, and, therefore, in accordance with these instructions, had performed the work assigned to it in as mild a way as was to be expected under the circumstances which had called it into existence. After the utter failure of its efforts at Chicago, and in view of the disturbance its action has brought about, we have felt that this committee was in duty bound to decline any further participation in the work of re-organization of the Congress. Having so signally failed at Chicago, we are unable to understand upon what ground it can hope to be more successful in its future undertakings. From a circular which has recently come into our possession, we fully recognize the part which this new committee will attempt to perform. Bracing itself up under the issues of the 'code,' this committee will urge the re-organization of the Congress upon this platform. It proposes to stand by this issue alone, and to distribute its loaves and fishes to those only who obligate themselves to support the national code of ethics.

"We have already shown the absurdity of this issue as applied to the organization of an International Medical Congress. We must insist that this attempt of the association and of its committee to hoist this issue into prominence is an insult to the medical profession throughout the entire world, and an insult to scientific medicine wherever it is taught and practiced. To attempt to enslave individual opinion in this manner is a stab at ethical principles which will penetrate into the very heart of the national code of ethics and create a prejudice against these time-honored observances which the association can not stay. The association and its committee is standing on dangerous ground, and is inviting a controversy and a strife about medical ethics which will surely plunge the association into the deepest grief. The American Medical Association is yet an infant organization. It has not the power to dictate its terms to the intelligence of the profession in this country. With a membership of less than three thousand it is assuming prerogatives and asserting principles which may endanger its very existence.

"But, after all, this cry of the 'code' has a tamer significance than a casual observation would indicate. We have already noticed the fact that the 'code' issue has been repudiated by the very best scientific minds in this country and in Europe. The present committee has caught on to this issue as a possible popular wave to ride into high official position and authority.

"In our opinion it cares but little for the success of the Congress apart from the popular conception of such an organization. Its proposition to organize a Congress simply means a jolly good meeting, with code for breakfast, scientific medicine for lunch, and the American Medical Association for a sumptuous dinner. On this mixed diet our foreign friends are to be hospitably banqueted, and, if enough foreign guests will not come across the waters to partake of this repast, the jolly feast will be enjoyed all the same by the code adherents and their friends. Indeed, the whole outlook for the Congress is utterly ridiculous and absurd. The profession in this country may well cry shame over its present humiliation. Who can look on and not blush over such an arrangement as is proposed by our National Medical Association in honor of a great and influential body of scientific workers? Who can indorse the work of a committee or accept its proffered honors when one has considered the fact that it would gauge scientific opinion and practice by a standard of conduct which is applicable only to the most ignorant or unprincipled members of the medical profession? The empire of science is not bounded by the restrictions of narrow opinions and prejudices. It demands liberty of action and conduct, and it can only make large and enlightened progress when endowed with these functions.

"The effort of our National Medical Association to impose upon a Congress of scientific men absurd rules of ethical conduct recalls to mind the narrow prejudices of the middle ages, when men were punished for asserting that the sun stood still, or that the world was not made in six days. In the last quarter of the nineteenth century will the rank and file of the medical profession tolerate such narrow-mindedness? We believe not. The utter absurdity of the association will surely reach upon its unwise and impious head."

The New York Polyclinic.—We learn that during the sessions of 1885–1886 there will be fifteen clinics in gynæcology each week, including operations at Mt. Sinai, Bellevue, St. Elizabeth's, and the Woman's hospitals; six clinics in the department of diseases of children; fourteen surgical clinics, including operations at Mt. Sinai, the German, and St. Elizabeth's hospitals; six, each, in diseases of the skin and of the mind and nervous system; eight in physical diagnosis, including ward lessons at Bellevue Hospital; eight in diseases of the eye, including operations at Mt. Sinai and the German hospitals and the Manhattan Eye and Ear Hospital; four in diseases of the throat and nose; two in diseases of the ear; and four lessons and clinics in obstetrics—making a total of seventy-three clinics every week. The laboratory of pathological histology and State medicine will be open every day and evening up to ten o'clock, and the laboratory of physiological chemistry on Tuesdays, Thursdays, and Saturdays. Special attention has been paid to the outfit for the laboratory, which is fully furnished with all the necessary apparatus for day and evening work in microscopy, bacteriology, chemistry, etc.

THERAPEUTICAL NOTES.

Cocaine in the Treatment of Vaginismus.—Iwow ("Russkaja Medicina"; "Dtsch. Med.-Ztg.") reports the case of a woman, thirty-two years old, who had been married ten years, and had suffered with vaginismus all that time, in spite of every kind of treatment. She was of slender build, very anæmic, and easily thrown into nervous excitement. The external genitals were normal, as well as the uterus. The vagina was short. Only remnants were found of the hymen. A five-per-cent. vaseline ointment of cocaine was ordered to be rubbed upon the vulva before each coitus. This was late in February, and in April it could already be ascertained that she was pregnant. In May indisposition to coitus supervened, but it yielded to tincture of damiana leaves (twenty drops every two hours). The author attributes the cure of the vaginismus not to the action of the cocaine alone, but in great measure to the moral effect of his positive assurance that it would do away with the pain.

The Choice of Excipients for Topical Applications.—Vigier ("Gaz. hebd. de méd. et de chir.") has written a note on this subject, with special reference to vaseline and some of its congeners, such as *pétréoline, neutroline, carburine, and pétrobaseline*, the last-mentioned of which is the newest of the series and is described as a liquid of fine appearance. Valuable as these hydrocarbons are, the author deprecates their indiscriminate use, and summarizes the principles which should guide prescribers in choosing excipients for external applications. Lard and the oils which resemble it in their action on the skin are the best vehicles for medicaments. The mineral fats, solid or liquid, although having the great advantage of being unalterable, offer a certain impediment to absorption, retarding it at least. Glycerin prevents absorption, and should never be used as an excipient, but only for its own effect. On the contrary, it should be chosen when it is an object to avoid absorption, as in the use of corrosive sublimate, or to temper the action of irritants, like carbolic acid or arnica. *Pétrobaseline* seems destined to play a prominent part in therapeutics, but its properties, which are curious in some respects, need to be studied further. It does not dissolve boric acid at all, but it dissolves borax. A formula is given for a four-per-cent. solution, made with the aid of gentle heat and filtered.

The Treatment of Chronic Neurotic Diarrhœa.—J. V. Solomon ("Brit. Med. Jour.") remarks that, in hospital and private practice, he is sometimes consulted by women of nervous temperament, on account of a chronic diarrhœa of several years' standing, which has resisted treatment. When he has failed to discover organic abdominal disease he has produced considerable mitigation, and sometimes perfect relief, with the following formula:

Dilute nitric acid	½ drachm;
Battley's *liquor opii sedativus*	1 "
Tincture of gentian	½ ounce;
Infusion of gentian	4½ ounces;
Strong peppermint water, enough to make	8 "

One ounce to be taken three times a day. He is inclined to consider the disorder a neurosis.

Original Communications.

IMMUNITY FROM CONTAGIOUS DISEASES.

BY D. E. SALMON, D. V. M.,
WASHINGTON, D. C.

ALTHOUGH the theory of immunity which I formulated several years ago has been given a prominent place in recent discussions, it was not my intention to take any part in this philosophizing so long as my views were treated with ordinary consideration and fairness. This theory was not developed as a mere piece of speculation to while away an idle hour, nor was its object to excite discussion or controversy. In the course of a long series of original investigations, in which very important facts were discovered, I was brought face to face with this question of immunity, and, in order to continue the investigations intelligently, it became necessary to have a working hypothesis which explained and connected the facts so far as known. The theory of immunity in question was the result of that necessity. It was a sincere endeavor to get at the truth with the facts at hand, and I only desire that it shall stand or fall on its merits. The tendency of working scientists has certainly been very favorable to it; no facts have been brought forward through more recent researches which oppose it, while many strongly confirm it. It does not appear to be so fortunate, however, when it comes in contact with the arguments of those who discard the facts bearing most directly on the subject, and reason from questionable premises and comparisons of doubtful application. A notable example of this may be seen in the article of Dr. J. Romaine Curtiss which appears in the issue of the Journal for July 18th.

Dr. Curtiss scores his first point by reversing the terms of my theory—a rather remarkable piece of carelessness when we find him stating it correctly in a quotation from Dr. Eccles, only a few sentences farther on. "The oxygen theory of Dr. Salmon," he says, "is too narrow a conception for the occasion, and there are no verifications to sustain it. Who can imagine that tubercle bacilli in the lungs can consume the oxygen inhaled so rapidly that there is not a sufficient supply for the lungs? The inhalation of oxygen is found to do harm in consumption as well as many other diseases. If Dr. Salmon's hypothesis is true, the inhalation of oxygen ought not only to cure, but prevent all diseases of zymotic origin." Skipping only one sentence, we come to Dr. Eccles's very clear statement of my theory in these words: "The poison of the microbes intoxicates the cells. Retarded function (of the cells) allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to resist the poison, use up their own oxygen, and so asphyxiate the microbes."

That is to say, of these two contending parties it is not the microbes but the cells which injure their antagonists by exhausting the oxygen supply. Consequently, an artificial increase of the oxygen supply in the tissues would simply give the microbes a better chance in their struggle for existence. The theory here is in accordance with the clinical fact stated by Dr. Curtiss, and is not opposed to it, as he would have us believe.

The next objection is that "Dr. Salmon has not made an estimate relating to the ventilation of the human body with oxygen and the relative amount consumed by the microbes and cells." Here again Dr. Curtiss reasons from a false premise. The most careful chemical investigations show that the liquids of the interior of the body contain either no free oxygen or only a trace of it. The cells of the body which obtain their oxygen from these liquids are, therefore, able to exist and perform their functions with this limited supply of oxygen. In other words, the living protoplasm seems to have such a chemical affinity for this gas that surrounding liquids are kept practically exhausted. The very recent investigations of Ehrlich ("Das Sauerstoff-Bedürfniss des Organismus"), made by a new method and apparently incontestable in their results, confirm this view and place this part of the theory upon a foundation which a wise man will not attack without mature deliberation. Equally careful studies of microbes show that their oxygen requirements are very different, and that some of them require relatively large quantities of free oxygen in order to multiply at all. So far, then, as investigations have gone in this direction, the facts discovered are in accord with my theory of immunity.

The comparison between a combat in which a dog attempts to kill and eat a man in a well-ventilated room and the contest of the microbe and the animal cell in the interior of the body, which Dr. Curtiss next introduces, is one of the most remarkable arguments which it has been my fortune to see introduced into the discussion of a scientific question. It reminds me of the arguments that, only a few years ago, were hurled by certain members of our medical profession against the whole germ theory of disease. Notwithstanding the very positive statement that "the cell and microbe and man and dog present problems of warfare the terms of which are parallel and alike," I can not restrain an equally positive assertion that the comparison is chiefly remarkable for being far-fetched and having no application to the question. There is nothing "parallel and alike" either in the means of attack and resistance or in the conditions under which the two contests are maintained.

Although Dr. Curtiss thinks that the part of my theory which admits recovery to be due to the ability of the cell to resist the poison excreted by the microbe is correct, he does not appear to be able to free his mind from the belief that the contest is, after all, a physical one, and that it consists in the attempt of each to "swallow" the other. That a free, wandering, or amœboid cell might easily "swallow" or take into its interior a microbe, as supposed by Metschnikoff, is freely granted; but that the terms of this proposition can be reversed, and that a microbe with a smooth, rounded body, without external organs of any kind, without an opening in its body to take in its food, without the power of locomotion in the most restricted sense, should make a physical attack upon and "swallow" a cell, certainly requires a free use of one's imagination.

But why does Dr. Curtiss insist that the combat between the man and the dog should be in a "well-ventilated" room in order to be parallel with a combat between a microbe and a cell in the interior of the body? Does not the most superficial knowledge of anatomy and physiology make it apparent that the interior of the body is not well ventilated, that a contest there, instead of being in the open air, is under liquid, and under a liquid which itself is not in contact with the air, and from which the cells of the body are continually drawing the oxygen necessary for their existence? Then, again, the oxygen requirements of the man and dog are substantially the same, and any exhaustion of this element would affect each alike. On the other hand, the oxygen requirements of microbes are very different among different species, some of them requiring an abundant supply, and, as a consequence, a large proportion of these species must have requirements different from the cells of the body.

To make the comparison at all parallel and applicable, it would be necessary to assume that the room in which the man is located is a close one, that he is able to live in an atmosphere that would immediately place the dog *hors de combat*. We must also assume that the dog, even in this partially asphyxiated condition, continues to live and exhales a poison which would gradually accumulate and overcome the man unless its production was so slow that the man would become inured to it before it had been produced in sufficient quantities to overpower him. In the former case we might suppose that the slight ventilation of the room and the smaller amount of oxygen used by the man would in time place the dog in a condition to make an attack. And here, after all our attempts to make the conditions parallel, we fail miserably, for the dog's attack must be essentially a physical one, while the microbe's attack partakes but slightly, if at all, of that character.

Of what use, then, is such a comparison for the elucidation of a question of this nature? Surely any conclusions drawn from it must be unsafe, misleading, or diametrically opposed to the truth.

"It is evident," says the learned doctor, "that we can substitute nitrogen or bile in place of the oxygen of this problem, and do no violence to the sense or the results." Here, again, the conclusion seems to be most hasty and without that consideration which we should expect in discussing a question of this importance. A moment's thought would have convinced our able critic that, if the multiplication of microbes is to be prevented by withdrawing an element from the liquid in which they exist, it is a necessary condition of the case that the element should be one *essential* to the growth and multiplication of the germs. As a matter of fact, neither free nitrogen nor bile is essential to such growth and multiplication. The germs of various contagious diseases can be and have been cultivated where neither nitrogen nor bile exists; but all microbes that have been carefully studied and which produce diseases that are followed by immunity, so far as I have been able to learn, require a certain amount of free oxygen.

Finally we are told: "Dr. Salmon admits the solution of the question by natural selection when he says the 'recovery is due to the ability of the cells to resist the poison.' Immunity is also due to the same fact. The oxygen theory is, therefore, only a rider to the true solution—very much such a rider, too, as Mazeppa was, in so far as ability to guide the horse is concerned." If Dr. Curtiss will consent to lay aside his dogmatic assertions for a moment and consider the, to him, apparently dry and uninteresting facts of the problem, I may once more be able to show how far astray even a philosopher may be led by trusting to a too superficial glance of a subject. Take the disease known as fowl cholera for example. The germs of this disease multiply so rapidly outside of the body that gallons of any nutritious liquid in which a few are placed would be swarming with them within thirty-six hours. Still, inoculate a susceptible chicken weighing not over a pound, and it will be four to six days before the first signs of the disease appear. In other words, although the germs have found their way into the nutritive liquids of a susceptible organism, their multiplication has been checked in a remarkable manner by the influence of the body protoplasm. If a sufficiently small quantity of the virus is used for the inoculation, the microbes are unable to multiply in the body at large even after the period of incubation has passed, but their multiplication is confined to the locality in which they are introduced. Again, if the number of microbes introduced into the tissues is sufficiently small, say twenty-five or fifty, there is apparently no multiplication at all; the bird does not contract the disease, nor are there any signs of local irritation, although the cells have never before been subjected to the influence of the poison, and consequently have not acquired in that way any ability to resist it. Take one more fact; the germs of a contagious disease are unable to multiply in the liquids of an animal that has acquired insusceptibility, although they are placed directly within the blood or lymph channels.

These phenomena are all of the same nature, and they demonstrate, each in its way, the same fact—viz., that the protoplasm of the living body has a means of combating microbes which is not physical, and that it exerts this influence over the fluid which surrounds it to a considerable distance beyond the layer that is in actual contact with it.

These facts are evidently very intimately connected with the question of immunity, and any theory which attempts to explain immunity must not only show how the cells acquire the power to endure and recover from the effects of the poison excreted by the microbes, but it must also explain why the multiplication of these micro-organisms ceases and becomes impossible even in the liquids of the body and where they are not in actual contact with the cells. The tissues are, as we know, penetrated by channels some of which contain blood and others lymph, and there are everywhere spaces between the cells filled with a nutritive liquid which sustains the life of these minute constituents of the body. These channels and spaces, compared with the size of the microbes, are simply enormous, and, without the part of my theory relating to the oxygen supply, we can no more understand how the cells (in their walls) can prevent the multiplication of the microbes in the liquids flowing between them than we can conceive of the

trees on a river's bank preventing the multiplication of the fish in its waters. There are only two conceivable explanations of the phenomenon; one is, that the cells excrete something injurious to the microbes, and the other is, that the cells withdraw something essential to the microbe's growth. The former is untenable, because the liquids which are unsuitable to the microbe's growth when within the body of the insusceptible animal become very favorable for its growth when removed from the influence of the living protoplasm. Evidently, then, they do not contain any injurious principle. Turning to the other explanation, we must admit for the same reason that whatever is abstracted by the cells must be something that can be supplied by contact with the atmosphere. Now, is there any other element than oxygen which can be supplied by the atmosphere and at the same time is so essential to the multiplication of the microbes?

From the facts I have mentioned, and from many others which I have neither the time nor the space to enumerate, it has seemed to me that when the cells are exercising their functions in a normal manner, they have such an affinity for oxygen that this gas is completely removed from the liquids in the interior of the body; and, consequently, microbes which require oxygen can multiply only when sufficient poison is introduced with them, or when they are present in sufficient number to produce enough poison to depress the activity of the cells and prevent them from so completely taking up the oxygen. This theory may be wrong, but it certainly explains facts which have not been explained in any other way; and, if it is to be overthrown, I presume this will be accomplished by bringing forward some facts with which it can not be reconciled and by developing a different theory which, while it explains the new facts, will not contradict the old ones.

It seems unnecessary for me to answer the charge that my theory is too narrow, for Dr. Curtiss no sooner makes it than he sets himself about whittling down even this narrow theory, and soon asserts that a part of it—the part which assumes the acquired ability of the cells to resist the poison—is all that there is to the whole question of immunity. The inconsistency of this part of his argument is too apparent to need any criticism.

Now a final word as to the utility of the studies of immunity, and I hope I shall be permitted to withdraw from the discussion. I shall not attempt to conceal my astonishment that a professor of hygiene can be found in this country who deliberately writes that "the study of physically acquired immunity from disease is interesting only as a means or end of scientific accomplishment, and is of no great practical value. . . . Why not destroy the microbe before it attacks the man, and gain the immunity by this means? . . . Immunity from disease gained by costly combat with poisonous microbes is the method of nature without intelligence. The method is not worth imitation except provisionally." That is to say, vaccination for the prevention of small pox, the method of all others which is relied upon in every civilized country to hold this disease in check, "is of no great practical value, and is not worth imitation except provisionally." How is it, I would like to ask, that we still rely upon vaccination to prevent small-pox if it could be so easily combated by destroying the microbe before it attacked the man? Why is it that we at the present day, in the United States, are losing every year 20,000 human lives from scarlet fever, 45,000 from diphtheria, 14,000 from whooping-cough, 11,000 from measles, and 120,000 from tuberculosis, and all of these germ diseases? Is it not because the destruction of the germ before it attacks the man has been found impracticable and, in the present state of society, impossible?

The prevention of small-pox by vaccination has been a grand and wonderful success—it is the one solitary success to which the medical profession can point with pride in its long struggle with the indigenous, contagious diseases. And this we are told is not worth imitation, because it is the blind method of nature. What is there so terrible in gaining immunity through actual disease as is practiced on so large a scale in this same vaccination? And who dare predict at this time that we shall not, in a few years, have the virus of the greater part of the contagious diseases so mitigated that their effects will be as mild as those of vaccine lymph?

There is another possibility even more desirable than this. We have seen that immunity is acquired by the cells becoming accustomed to the action of a certain poison excreted by the disease germ. Suppose, as the result of such studies, the chemist of the future is able to separate this substance from the germs and supply it, as quinine is now supplied, in a condition of purity. And suppose, as is very likely, that the introduction of this substance into the tissues would confer as complete an immunity as occurs when it is produced there by the germs, would this not be a solution of the question worthy of many years' investigation?

Until we succeed better than we have in the past in destroying the germ before it attacks the man, let us not insist upon this method to the exclusion of all others, at least so long as over two hundred thousand of our population annually testify by the sacrifice of their lives to the inefficiency of this method.

DARWINISM AND IMMUNITY.

By R. G. ECCLES, M. D.,
BROOKLYN.

Broad generalizations are excellent. They co-ordinate a host of facts in a general way. To rest satisfied with such a mere outline is essentially unscientific. It is a deplorable fact that many intelligent people use them to juggle with. They seem to imagine that everything is settled when it is found that some magic formula does not disagree with the facts. They may dimly see, but fail to appreciate, the truth that within every general hypothesis many particular ones must be held. Waves of ether can in a general way explain the phenomena of light, but, when diffraction requires explanation, we must supplement it with curvings around a sharp edge and interference. The theory of natural selection has, by the consensus of the competent, been pronounced tenable. We need not on this account dazzle our mental vision with its luster until unable to de

tect its minute interactions in particular cases. To say that natural selection is an essential factor in the acquisition of immunity from disease is only to utter a truism. Immunity, in its broad sense, is clearly due to the survival of such animals as have acquired some power of resistance against disease. In stating this we explain nothing more than is usually perceived by all medical men. Our entire period of life is only possible because of the accumulated gifts of heredity. The power to adjust every part in a manner favorable to the resistance of antagonistic forces constitutes the totality of physical life. In gaining a new readjustment against disease, our cells do nothing more than all cells appear to have been doing since the very beginning of life upon this planet. Variation has been going on incessantly and in all conceivable directions. The conserving force of heredity, with its strange and occasionally acting form of atavism, has preserved these wonderful powers of immunity we now possess. When, however, we wish to explain particular cases of the subtle interactions of variation and retention, new facts and new hypotheses are involved. The mere fact of immunity is no longer the only thing we require light upon.

In the "New York Medical Journal" for July 11th and 18th Prof. Curtiss advances as his the general theory of selection as applied to immunity. It is a true theory, but very incomplete, and entirely too elastic to suit particular cases. There can be little doubt of its having been entertained by Dr. Salmon before he supplemented it with his own. In fact, they are parts of one another. The most general part being inadequate required the particular addition to explain particular cases. While the general law covered the fact of immunity, it gave no hint as to why one disease was self-limited and another was not. Why do the pathogenic microbes of measles soon die out, while those of tuberculosis remain for many years to multiply, and finally destroy the patient? There must be some reason for the rapid adaptation in one instance and its slow appearance, or perhaps non-adaptation, in the other. To this question the general theory has no reply. The particular one explains it lucidly. Why does one attack of small-pox give greater immunity than ten attacks of intermittent fever? Why does cultivation of pathogenic microbes in limited supplies of free oxygen make them more virulent? Why do harmless bacteria become dangerous disease-breeders when so cultivated? Why does cultivation of anthrax in large supplies of air, as accomplished by Pasteur, render it so mild that it can be used for inoculation, and, when carried far enough, make it harmless? Salmon's theory has a rational explanation of all these and many more facts which the general theory can only ignore. The weakest link in the whole chain of Dr. Salmon's theory is the one commended by Prof. Curtiss. The strongest one he rejects. Every experiment so far tried has utterly failed to verify the assumption that the method of warfare of pathogenic microbes is by poison, and that immunity comes from resistance by the cells to this poison. If this point could be established the hypothesis would be demonstrated. It can only be verified by experiments upon the cells. Prof. Curtiss tells us that this is the only truth in Salmon's theory. Dr. Salmon would certainly be rejoiced if Prof. Curtiss would give him the proof of its truth. He has waited and worked nobly for years trying to get this proof, but, alas! it does not yet appear. The oxygen part of the theory for which the professor shows so much contempt is based upon the nature of the microbes, so that its substantiation is as perfect as it possibly can be until it is verified as a whole. Aërobic microbes become pathogenic when modified by submersion into amphibious. This is the full extent of modification to which they have been proved susceptible. Prof. Curtiss tells us that *Bacillus subtilis* has been transmuted into *Bacillus anthracis*. He therefore indorses Buchner's idea, which is rejected totally by all bacteriologists. It has been proved that when Buchner was at work trying to accomplish this miracle his room was full of *B. anthracis* spores, and that, his alkaline solutions being their natural medium, they necessarily had a sowing and growth. The *B. subtilis* which he planted, being only capable of development in acid solutions, perished. The common morphological appearance of the two species deceived him. No one has ever been able to do it in a non-infected room. Prof. Curtiss is unfortunate in indorsing unsubstantiated positions.

Given such micro-organisms as can barely live in the quantity of oxygen supplied by our blood, and without some toxic principle by which to damage the cells they would be harmless. Given now a deadening ptomaine to arrest cellular function, and the air-supply will at once increase. Experiment has shown that harmless bacteria become pathogenic when introduced with a heavy physiological dose of atropine. Experiment has also shown that such bacteria perish unless the solutions containing them are well aërated. With such organisms and their poisonous ptomaine, their rapid multiplication will soon overwhelm the cells. We shall have disease. Now given a modification to the cell by virtue of which it can resist the paralyzing action of the ptomaine, function will be re-established, oxygen consumed, and the already half-choked microbes perish rapidly. The life-history of such microbes, under the given conditions, runs exactly parallel with the invasion, incubation, and self-limitation of such diseases as measles, scarlet fever, and small-pox. Such microbes require more air than the cells, since the cells meet their exact adaptation to the work of the skin and lungs. But there is known to be another class of microbes which Pasteur calls anaërobic. They can live on even less free oxygen than cells. These, according to Dr. Salmon, cause an entirely different class of diseases. The general theory championed by Prof. Curtiss can make no such distinction. It explains all alike, and, according to it, there should be no such difference in diseases. In intermittent and remittent fevers, tuberculosis, etc., there is no such self-limitation nor following immunity. Why? In malaria the system is overcome by the poison and the microbes, but fails to gain immunity. Rally as it will, it can not expel its foes. Their power of absorbing oxygen is too great to ever be damaged by the restored function of the cells. Tubercle spreads in spite of any limitation of oxygen. It can steal from cell-tissue if not secured from the blood. The facts of the dis

ease and the facts of microbic nature agree precisely. Dr. Salmon points out this agreement. Immunity to anaërobic microbes can only come after generations of selection, if at all. Immunity to aërobic or amphibious results from personal experience. No other hypothesis tells wherein these broadly contrasted classes differ.

Prof. Curtiss says that, according to Dr. Salmon's theory, "the inhalation of oxygen ought to not only cure, but prevent all diseases of zymotic origin." The professor seems to be as unfortunate in the inferences he makes as in the proofs he cites. The very reverse of what he says must be true. To supply more oxygen is to save the microbes from asphyxiation and add to their ability for ill. How he drew a reverse conclusion from the words he quotes is certainly a mystery. Facts support the true implication as he has pointed out. To say that "it is evident that we can substitute nitrogen or bile in place of oxygen" is to talk nonsense. Do microbes perish for lack of free nitrogen or bile? Does cultivation of them in limited supplies of nitrogen or bile make them more virulent? Is free nitrogen or bile a life necessity for them and cells? Would their excreted poison arrest the absorption by all cells of nitrogen or bile?

The man and dog illustration is anything but apt. Almost every condition is subverted. Had he put man and dog into a diving-bell, with a pump supplying barely enough air for the man, the cases would have been nearer parallel. Let the man now use up all the oxygen from the dog. The gasping animal, by grasping for his trachea, will succeed in securing a supply for itself. As soon, however, as the man frees himself from the dog, the latter must die. With the case so stated, the oxygen theory becomes much more than a Mazeppa rider. If the professor thinks that the surplus of oxygen is as large in the blood for the number of cells it sustains as it would be in a well-ventilated room for only a man and dog, perhaps he will not object to close the ventilation of his body and see whether it will last as long as that of a room containing a man and so closed. The inhibition of cellular function is the inhibition of oxidation. Will the professor kindly inform us if it likewise is the inhibition of nitrification, or of the absorption of bile in the same extensive manner?

Innovations that oppose established custom are usually considered bad affairs. The promulgators are pronounced absurd and illogical. On the whole, this is right. The vast majority of proposed innovations are but the chatterings of cranks. The conservative instincts of men socially represent the biological law of heredity. Innovations are but variations. For every useful variation there are probably millions of useless or even mischievous ones. Conservatism does a good work in challenging all, and only surrendering when the last credential is presented and understood. He who proposes an innovation is unmanly if he dares not defend it when called to the task. It is not pleasant to stand amid an army of semi-lunatics and be classed with them. One's only consolation lies in the fact that extremes are all alike. The ultra-violet rays of the spectrum are as dark to our blind eyes as real darkness. A man with clear ideas beyond his fellows seems the same to them as the fool or lunatic, whose utterances he knows are folly. But even the brightest thinkers have erred, so that it is the part of wisdom to challenge everything new. To assert that inoculation or vaccination after exposure to small-pox is a dangerous proceeding is to fly in the face of established custom and wage war with conservatism. There are two theories now in the field regarding this point. The first asserts that, so far from being dangerous, it will mitigate or altogether prevent an attack. This theory, like the geocentric one in astronomy, has the sanction of age and customary belief. The fathers taught it, and the sons must believe it. Its genesis can be traced to the bastard generalization, *similia similibus curantur*. It offers no other rational explanation for its existence. Its anomalies are as mysterious as the sphynx. The little sound experimental knowledge we possess seems to negative it. Its defenders appear to be as utterly oblivious of what constitutes valid proof as religious zealots in an experience meeting. It offers no scientific proof of any kind. The same custom, to which it is indebted for its very being, forbids our attempting to either prove or disprove it in the only way it can ever be satisfactorily done. By human vivisection we must discover the power of resistance of those we propose to use for proof. By the same we must learn to measure our doses of virus. With a standardized virus and standardized patient we can prove or disprove the point. Without these we are totally at sea. Accidental inhibitions of virus can never give sound premises upon which to reason. If we could measure our doses of small-pox virus and discover just how much a patient could stand without taking the disease, the matter would soon be settled. If, after taking a given quantity of standard virus, a number of persons with a common resistance were divided into two parties, the one vaccinated and the other not, and while the former escaped the latter took the disease, the case would be clear. But where can we find such proof? Instead of it, a lot of ill assorted and little understood personal experiences is cited. Every so-called fact must be supplemented by an assumption fatal to even an approach to accuracy. They must assume that the person had never before been vaccinated. They must assume that he had no extra supply of resistance, and would have taken the disease or been worse with it, but for vaccination. They must assume that he imbibed just enough of the virus to produce certain results. In fact, every important point must be assumed to suit the fancy of the reasoner. What wonder that the conclusions are always just such as are wanted? Even if we had results from large bodies of men like soldiers to reason from, the law of general probabilities would avail but little. Our data would be so very insecure, scarcely anything could be made out. Proof, therefore, from human experience, of the truth of either theory is utterly valueless, and it is but a waste of effort to cite it. Our only available proof must be derived from general principles and from experience among animals with analogous diseases. The second theory is opposed to the one given, and declares that vaccination after exposure to small pox assures to some of those so exposed and vaccinated an attack of the disease which they would have escaped but for the vaccination. It also asserts

that such as have imbibed a minimum amount of the virus before vaccination will suffer more than by being vaccinated at another time. So far as experimental proof on human beings is concerned, this theory is as baseless as the first. So far as any proof is concerned, they are both merely guesses of great or little probability. Experiments upon domestic animals have, in the hands of several investigators, shown the last theory to be true, at least for animals in their diseases. This proof is the same in kind as that upon which we accept the germ theory of disease. We are not allowed to prove either upon men. Even condemned criminals, who, by their death, might do that good to humanity they failed to do when alive, are wasted upon the gallows. If Salmon's theory of immunity is true, this vaccination theory is likewise true. The latter is implied by the former. Even the more general theory accepted by Prof. Curtiss appears to imply it. There can be no curative power in the virus of either kine-pox or small-pox. To believe otherwise is to believe homœopathy. The latter insures protection to the former, not because they antagonize one another, but for a reverse reason. Meeting the one teaches how to resist the other, because of likeness. They vary only in degree of strength, not in quality or mode. Such is positively known to be the case with all artificially prepared viruses of charbon, chicken cholera, hog cholera, and hydrophobia. Kine-pox is but a weak or sickly form of small-pox, as experiment has shown, and as the history of the former, so far as known, seems to confirm. A short period of incubation, in inoculation, appears, from Pasteur, Salmon, Detmar, and Law's experiments, to be due to its local character. A tenth of a milligramme of microbes or less will not take as long to develop and fill a local sore as ten or more milligrammes to infect the whole body. Vaccination produces a local sore in which the microbes are confined. The ptomaines osmose through into the blood, producing the constitutional symptoms and weakening the vital resistance of the cells. With weakened vital resistance, even according to Prof. Curtiss's natural-selection theory, the microbes should have more favorable conditions for rapid multiplication. The period of incubation is only the period of microbic multiplication by fission. How, then, can immediate vaccination mitigate or destroy a threatened attack of small-pox? Wherein does a shorter period of incubation of the former make it give protection to the latter? Its short period can only shorten the period of the latter and hurry up the attack. They are not bane and antidote, as Prof. Curtiss assumes. They are either identical or synergistic poisons, and in no respect comparable to atropine and morphine. They have no antagonisms. At least, none have ever been proved. They aid each other, not because of antagonisms, but because of identities. The cells learn to antagonize both from one, because of their features of identity. When Prof. Curtiss smells such antagonism between them, he gives up his natural-selection theory of immunity. He says: "Their antagonism may depend upon the priority of their invasion of tissue." We have not one particle of proof that they have any antagonism. He merely assumes such. He forgets, too, when trying to give a reason for this imaginary antagonism, that the small-pox virus enters first and the vaccine virus last. The long period overlaps the short one so that their terminations may coincide, and they fortify one another with all their might. If such antagonism was a fact, the period could not possibly have anything to do with it, as is here seen. It must be radically lodged in the viruses. But how will he explain Pasteur's virus, Salmon's virus, and the many other artificially prepared viruses where we positively know there can be no antagonism? If the viruses are radically antagonistic, we can have no immunity from them by any acquired antagonism of the cells. The tobacco habit gives no immunity in the use of arsenic or strychnine. Either Prof. Curtiss must give up his theory of immunity by natural selection or his theory of antagonism between the viruses of kine-pox and small-pox. They are thoroughly incompatible and mutually destructive. His Socratic and Durham arguments are funny but not to the point. Does he not take a little too much license in using atavism (L. *avus*, a grandfather) as synonymous with heredity (L. *heres*, heir)?

REFLECTIONS ON THE ÆTIOLOGY OF THE SIMPLE INFLAMMATORY AFFECTIONS OF THE UPPER AIR-PASSAGES.

By JOHN N. MACKENZIE, M. D.,
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(*Concluded from page 290.*)

Besides being predisposed to or conditioned by pathological states of the system as a whole, *catarrhal affections of the nose and larynx are not infrequently the result of reflected irritation from its individual parts*, as, for example, disease, over-stimulation, or suppression of the functions of the cutaneous (eruptions, suppression of perspiration, etc.), gastro-intestinal (habitual constipation, hæmorrhoids, parasites, etc.), or genito-urinary apparatus (Bright's disease, utero-ovarian irritation, etc.), teeth and gums (caries, dentition, etc.), external auditory meatus or middle ear (inflammation, impacted cerumen, parasites, etc.). Let us examine this subject more closely: As the respiratory passages and skin are the sole avenues through which oxygen reaches the blood, and as they are held in close consent by virtue of their community of function, it naturally follows that the abrogated activity of the one will necessitate vicarious action on the part of the other. This supplementary or compensative action, if prolonged, sooner or later transcends its physiological limits and eventuates in morbid conditions of the organs whose machinery has been thereby overtaxed. Familiar examples of this vicarious action are the congestion or inflammatory disorders of the respiratory apparatus which follow sudden or prolonged interference with the cutaneous functions, as in sudden chilling of the external surfaces or in the exanthemata, the sudden suppression of tinea capitis and eczema, and, on the other hand, the night-sweats of consumption. One word in regard to the eruptive fevers. The catarrhal naso-laryngeal disease may usher in the attack (especially is this the case in measles), may occur coincidently with the exanthem, or may follow the disappearance of the latter, or, finally, it may not develop until convalescence has begun. The catarrhal affections complicating the essential fevers may dis-

appear completely during the latter period, but in many cases go on to the chronic state. This is especially true, in my experience, in regard to affections of the naso-pharyngeal space. *There seems to be a special tendency to the localization of the disease in this region, and a large majority of the cases of hyperplastic conditions of the adenoid tissue coming under my observation, are directly traceable to some acute blood-poisoning in infancy, as scarlet fever, measles, diphtheria, etc.* This is doubtless due, to a great extent, to the fact that the naso-pharyngeal affection is overlooked by the attendant; but it may be that the *tendency of the eruptive fevers to leave traces of their existence in the glandular structures of the throat* (*notably the tonsils*) *may determine diseased conditions of the adenoid elements of the nasal pharynx.*

It now and then happens that during convalescence from acute infectious processes *irregular fluctuations in the temperature* occur, and even a veritable septicæmic condition, inexplicable by the ordinary examination of the functions of the patient, and which depend upon the persistence of the inflammatory process in the retro-nasal space. I have observed this after scarlet fever and diphtheria, but there is no reason why it should not occur in other and allied affections. This is an important practical point, for by simply cleansing the naso-pharynx of decomposing secretion (I find bichloride of mercury to be the best agent for this purpose) the temperature becomes normal and the disagreeable symptoms dissipated. In this connection let me observe that in all infectious processes characterized by inflammatory manifestations in the pharynx the greatest relief to the child may be secured through careful cleansing of the retro-nasal cavities. In diphtheria, for example, the greatest comfort is experienced by attention to this expedient. To digress still further: In the ordinary acute catarrhal throat affections of infancy much comfort may be given, and the tendency to spasm diminished, by careful attention to the nasal and retro-nasal cavities.* There is an old woman's saying in this part of the country that "if a croupy child sneezes, it is well." But no one ever thinks of the nasal passages in connection with a croupy infant. Yet there is, nevertheless, always more or less inflammation of the post-nasal passages, and the tendency to spasm may be diminished by cleansing the passages of mucus, especially before the child retires for the night.†

There is an affection of the skin which is observed in connection with certain forms of coryza, and notably that of sympathetic origin, or rhinitis sympathetica. I refer to urticaria. It appears and subsides with the coryza, and seemingly depends upon the imperfectly defined neurosis or vaso-motor influence which is probably the connecting link between the two affections (possibly some functional derangement of the cervical sympathetic).

Passing now to the *reciprocal relationship existing between the turbinated nasal tissue and the auditory meatus and middle ear*, it is not an uncommon matter in my experience to find that the subjects of chronic nasal inflammation suffer from a more or less constant dryness and itching of the former or a tendency to the inspissation of cerumen, and this, apart from existing disease of the middle ear. I have on several occasions adverted to the rôle of congestive conditions of the erectile tissue in the production of middle-ear affections (doubtless through reflex influence). It remains for me to call your attention to the fact that unilateral coryza, either acute or chronic, sometimes depends upon irritation of the external auditory passage. Two years ago I was consulted concerning a case in which a severe unilateral discharge, with stoppage of the nostril, hemicrania, and other phenomena referable to the same side, of a number of weeks' duration, was completely dissipated by the removal of a mass of impacted cerumen from the ear of the affected side; and recently a similar case has come under my professional care in which the swelling of the erectile tissue disappeared upon removal of the ceruminous plug. In the presence of these facts the conclusion is irresistible that an intimate physiological relationship exists between the nasal cavities and the auditory meatus.*

It has thus been shown *that nasal and laryngeal inflammation may proceed from the direct or indirect* (*reflex*) *irritation of a host of substances derived from the external world, from an almost indefinite number of pathological conditions of the system as a whole, or from irritation or disease of organs distant from the seat of local inflammation.* The predisposing influence of *certain structural peculiarities of the nasal chambers* remains to be briefly adverted to. These consist most commonly in deflection (or malposition) and perforation of the septum, anomalous conditions of the turbinated bones (hypertrophy, abnormal position, atrophy?), and disturbance of the anatomical relations of the nasal fossæ either through accident or disease. There are certain anomalies of structure of the throat and nasal passages that are seen in several members of the same family which are undoubtedly inherited and which are of such a nature as to give rise to no inconvenience, or, on the other hand, encourage the development of inflammatory processes; in the latter cases their influence is purely mechanical. There also exists in some families a *peculiar vulnerability of the mucous membrane* of the nose and throat which is sometimes conspicuous for several generations. Such persons are said to "inherit" catarrhal inflammation or to be the subjects of the "catarrhal diathesis"—a view which has descended to us chiefly from the earlier French physicians. It is un-

* In this disease, too, the paralytic condition of the palatal muscles interferes materially with the voluntary removal of secretion from the retro-nasal space.

† *The influence of the febrile state is also occasionally exerted in the direction of cure of existing catarrhal disease of the nasal passages and throat.* This is especially true of those affections with special tendency to local manifestation in the throat, and the cure may be permanent or temporary. I have also observed complete disappearance of a naso-pharyngeal catarrh during the course of malarial fever. (See paper read before this association at its last session.)

* In certain persons, notably those of highly developed nervous organization, or in the hysterical or hypochondriacal, coryza is occasionally produced by direct impression upon the olfactory nerve, or, from simple association of ideas, by physical or mental excitation or emotional excitement. Here there is usually some coexisting local nasal disease or vaso-motor neurosis, and such cases are closely allied to, if not a part and parcel of, the sympathetic form of rhinitis (rhinitis sympathetica). (See abstract, in "Maryland Medical Journal," April 11, 1885, of paper read before the Clinical Society.)

doubtedly true that the children of parents debilitated by disease, excesses, or other causes, or who inherit, for example, the enfeebled constitution of the syphilitic or tubercular, diatheses well known as predisponents to catarrh, may, by virtue of the inheritance of a vice of constitution, yield more easily than those of healthy parentage when exposed to the exciting causes of the disease; but there is no evidence yet adduced that puts beyond a reasonable doubt the descent of a simple inflammation from father to son. These remarks apply with equal force to the so-called catarrhal diathesis, which latter may be looked upon simply as a generic term for a multitude of varied physical peculiarities, each susceptible, upon close analysis, of reference to a definite and tangible cause, or to a combination of injurious influences.

*Catarrhal inflammations of the nose and throat in the newly born, when not due to gonorrhœal inoculation, probably owe their origin to causes operating during intra-uterine life.** It occasionally happens that inflammatory affections of these cavities are *ushered in at some physiological epoch, as puberty, or existing disease dissipated by the nutritive changes which occur at that period.* The subacute laryngitis which occurs at puberty occasionally develops into a chronic inflammation, especially in the subjects of inherited constitutional vices—a fact which it is well to bear in mind both in a prophylactic and prognostic point of view. Inflammatory conditions of the throat and nasal passages occasionally make their appearance at the menstrual period, appearing either coincidently with the uterine hæmorrhage or as the vicarious representative of that process, and I have seen one case where a catarrhal affection of these passages ushered in the menopause and subsided with the termination of menstrual life.†

Ætiology of Pharyngeal and Laryngeal Inflammation.—The chief predisposing causes of acute pharyngo-laryngeal inflammation are the existence of chronic hyperæmia or inflammation of the naso-bronchial tract, abnormal state of vitality from inherited or acquired disease, excesses, subjection to imperfect sanitary conditions, and constant confinement to a vitiated atmosphere. While in the vast majority of instances acute inflammation of the pharynx or larynx occurs as a complication of acute or chronic naso-pharyngeal (or bronchial) catarrh, it may nevertheless be met with as a primary affection. I do not share the extreme view of my friend Dr. Bosworth, who has written so well upon this subject, that acute laryngitis only occurs as a symptom of the chronic form. While I regard the existence of the latter as its most prominent predisposing cause, it is nevertheless true that the disease may appear as a primary affection limited to the laryngeal or pharyngeal structures.

Apart, then, from the inflammation resulting from local pathological processes, mechanical or chemical injury, abuse of the forces of expiration and inspiration, the isolation of this disease in the larynx (acute primary laryngitis) is one of the rarest of pathological events. In adult and infant it most commonly occurs as a complication of acute nasal catarrh or as a part of a general inflammatory condition of the naso-bronchial tract. I am inclined to believe that in the irritable state of the nasal tissues, and notably the cavernous bodies, resides an important ætiological factor in the adductor spasm which characterizes the disease in the infant; the engorgement of the sensitive area when the recumbent posture is assumed, and the gravitation of the nasal secretions into the laryngeal vestibule, being the most important agents in awakening the reflex laryngeal spasm. In the adult, acute catarrh of the larynx is a relatively rare disease, a fact which is remarkable, as Flint* has pointed out, in view of the frequency of acute pharyngeal inflammation, and illustrates the conservatism of the natural law in regard to the extension of inflammation.

The reflex or collateral hyperæmia of the larynx which is present in inflammatory conditions of the nasal and pharyngeal cavities is too often mistaken for acute inflammation, and confusion too often arises, especially when the laryngoscope is not available, from failure to remember the simple truth that hoarseness is not laryngitis.

Chronic catarrhal laryngitis as an isolated affection is rarely met with; it is almost invariably secondary and associated with inflammatory disease of the nose or nasal pharynx, upon which it, in the large majority of cases, depends. Indeed, setting aside the inflammation which results from purely local irritation, it may be laid down as a law that the vast majority of cases of catarrhal, pharyngea , and laryngeal disease originate primarily in inflammation of the nasal cavities. Catarrhal rhinitis leads to inflammation of the pharynx and larynx in one or all of the following ways:

1. By mouth breathing, which I may say acts not only through the irritation of the cold, dry, and impure air inspired through the mouth, as in nasal obstruction, or through the nasal passages, as in atrophy of the turbinated structures, but also by crippling the respiratory and vocal forces, shortening both inspiration and expiration, compelling rapid respiration and resulting vocal and respiratory fatigue.

2. By the constant endeavor to overcome the loss of nasal power and resonance, and the consequent pharyngeal and laryngeal fatigue.

3. In certain cases, by interference with the normal motility of the palatal structures.

4. Through reflected irritation.

5. By the irritation of the atmosphere, vitiated in some instances, not by virtue of its passage through the mouth, *but through the nasal chambers themselves.*

6. By so-called extension of inflammation.

7. Possibly by irritation of secretion.

In studying the pathological conditions of the naso-pharyngeal space and middle ear, we may, for practical purposes, regard these cavities as accessory to the nasal chambers, so intimately interwoven is their pathology with a diseased condition of the nasal fossæ. As stated else-

* See article by the author in "Phila. Medical News," October 1, 1884.

† See on this subject a paper by the author on "Irritation of the Sexual Apparatus as an Ætiological Factor in the Production of Nasal Disease," Am. Journ. of the Med. Sci., April, 1884. (Prize essay, Maryland Academy of Medicine.)

* "Principles and Practice of Medicine," Philadelphia, 1873, p. 263.

where,* in a large proportion of cases of so-called middle-ear inflammation the latter "is merely a symptom of nasal catarrh, and gradually disappears without special treatment upon the removal of its primary cause." When the middle-ear affection is thus symptomatic, it is generally traceable to mechanical causes or to reflected irritation.

Inflammatory conditions of the naso-pharyngeal cavities are encouraged and existing disease of these structures perpetuated by paralytic conditions or defective muscular power (*e. g.*, from existing chronic inflammation, enlarged tonsils, defective innervation, etc.), or from abnormal approximations of their walls (from adhesions). As a consequence of the impaired functional exercise of the structures thereby induced, congestive and catarrhal processes develop in the laryngeal cavity, which result from the constant endeavor by abuse of the expiratory forces to overcome the loss of power in the pharynx. Both loss of power and adhesions, which latter act by crippling the muscular action and disturbing normal anatomical relations, tend also to prevent voluntary cleansing of the retro-nasal space, and thus form another factor in the persistence of the chronic inflammatory process.

Finally, I wish to observe that in a large proportion of cases it will be found, upon careful examination, that the existence of the nasal, pharyngeal, or laryngeal affection is not due to any one particular cause, but to a combination of injurious influences—the resultant of a number of internal and external forces.

DISCUSSION.

Dr. J. Solis-Cohen: We gather from the essay the fact, not fully appreciated, that many catarrhal affections are due to climatic and constitutional conditions, and that this indicates a feature in the treatment which is too frequently ignored. Climatic conditions can not be altered, but the susceptible individual can be protected by suitable hygienic and dietetic supervision. The function of digestion and the secretions of the intestines and kidneys must be attended to, the skin be kept in good order, and thus revulsive measures be adopted to withdraw morbid influences from the upper respiratory tract. Too great an attention to local measures without due consideration to constitutional conditions does not fulfill the requirements.

Acute laryngitis, in my experience, occurs frequently in individuals who are not at all suffering with chronic catarrhal disease, and subsides without such a sequel. On the other hand, subacute inflammations occur most frequently, in my experience, in the subjects of chronic disease as exacerbations due to some special exposure.

The spasmodic affections of infants alluded to in the paper as occurring in the subjects of chronic naso-pharyngeal catarrh are similar in origin to the night-cough of infants, being due to trickling of mucus into the larynx. The indication, then, is to place the sleeping infant in a position which will not favor the entrance of secretions into the larynx, and, of course, to treat the catarrhal disease.

Dr. H. A. Jonsson: Naso-pharyngeal catarrh is common around our lakes, and is frequently benefited by a change of climate to the Western plains, up to an altitude of five thousand or six thousand feet. In the high mountains the disease is aggravated. In the treatment of this trouble tonics are usually of great value, and we are tempted to overlook the general conditions in the presence of the local lesion.

Dr. Glasgow: I can not strictly agree with the speaker in the relative importance of atmospheric change and dust in producing catarrhal diseases. Although rapid changes of atmosphere lead to catarrhal disease, I fully believe that dust or atmospheric dirt holds the most important place in their production. We find evidence of this in the fact that people living in atmospheres laden with dust are particularly liable to catarrh. For instance, persons living in my own city—St. Louis—are especially prone to these troubles. Removal into the purer air of the country invariably lessens the difficulty, and it is again aggravated by a return to the city. I believe this is the general experience in all dust-laden cities.

We also see evidence of the importance of dust in the experience of people in the alkali regions of the West, and this without special regard to the elevation. Catarrhal disease is the rule in this section. If previously existing, it is aggravated; if the naso-pharyngeal membrane was previously healthy, a commencing catarrhal inflammation is soon noticed.

Dr. Ingals: I agree with the other speakers as to the necessity for attending to the constitutional condition of the patient, but we must not lose sight of the constitutional manifestations due to the nasal disease. In many cases great impairment of the general health, which may have existed for years, is dependent upon nasal obstruction, and remarkable improvement will immediately succeed removal of the nasal affection.

Dr. Allen: The study of catarrh should be considered in great part as a phase of morphology. The careful study of each separate case is important. It is always well to treat individuals rather than diseases. The identification of the local structural cause of the catarrh is, in the majority of instances, alone possible after unremitting scrutiny.

Dr. Mackenzie: I fully agree with Dr. Allen as to the importance of local treatment; at the same time it should not be forgotten that in many instances the balance between cure and failure may be easily turned by neglect of constitutional measures. Cases occur in which local measures must be carried out before relief can be obtained, while, on the other hand, constitutional measures must be employed in order to secure the maximum of good in treatment. Dr. Glasgow misunderstands the position which I took in regard to dust as a factor in the production of catarrh. My proposition is simply this: That the localization of catarrhal processes in the retro-nasal space or the geographical limits of the disease have little to do with the presence of dust in the atmosphere. While it is true that dust accidentally lodged in the naso-pharynx may give rise to inflammation, I believe that few cases originate in this way, for reasons which I have explained in my paper.

* "Trans. of the Med.-Chir. Fac. of Maryland," 1883.

ON THE PROLONGATION OF THE ANÆSTHETIC EFFECTS OF THE HYDROCHLORATE OF COCAINE WHEN SUBCUTANEOUSLY INJECTED.

AN EXPERIMENTAL STUDY.

By J. LEONARD CORNING, M. D.

The uses to which the various preparations of cocaine have been put since Koller first discovered the local anæsthetic properties of the alkaloid are legion. To recapitulate these manifold applications of the drug would be manifestly a work of supererogation. Enough that they are such as would naturally suggest themselves to an imagination of

average capacity familiar with the fundamental experiment of the talented young physician of Vienna. So far as I am aware, there has been no departure in principle involved in the various uses to which this truly remarkable substance has been put. And yet I believe that improvements in this direction are not only desirable, but readily attainable. For instance, it would be a matter of practical moment if, by some device, we could prolong the local anæsthetic effects of the alkaloid when used hypodermically for surgical and other purposes. How can this object be attained? To answer this question we must for a moment consider the manner in which cocaine, when subcutaneously injected, is capable of acting upon the filaments of the sensory nerves.

In the first place, it is reasonable to infer that, after the introduction of cocaine beneath the skin, a certain period of time elapses during which the anæsthetic agent is diffused throughout the surrounding tissue. That the blood-stream in the capillaries renders efficient service in this process of distribution may be accepted as proved, since, when the amount of cocaine injected is considerable, characteristic constitutional symptoms are developed.

Secondly, when the terminal filaments of the sensory nerves which ramify in the saturated tissue are exposed for a sufficient length of time to the influence of the cocaine, changes are set up in the nerve-substance of sufficient magnitude to cause interference with conduction, and we have all the symptoms of local anæsthesia. The more extended and important the nerve-stems affected, the wider will be, of necessity, the expanse of the anæsthetic zone.

But, if this is the true logic of local anæsthesia, if we are to look upon the capillary blood-stream as the means by which the anæsthetic substance is distributed, how does it happen that the effects of cocaine, when subcutaneously injected, are evanescent, except where large doses, frequently repeated, are employed? To this question I would reply that we are to look upon the capillary circulation in a two-fold manner: first as a distributor, it is true, but afterward as a *diluter* and *remover* of the anæsthetic substance. The rapid decline in the local anæsthetic effects of the hydrochlorate of cocaine, then, is, according to this theory, owing to the subsequent diluting or *removing* attributes of the blood-stream. The constitutional symptoms developed when cocaine has been extensively injected for local anæsthetic purposes constitute evidence in favor of this view.

Is it possible to adduce inductive evidence in favor of this *a priori* reasoning? I believe so; but not only do I believe that such evidence may be had for the seeking, but I feel assured that the data thus gained may be turned to practical account in the exigencies arising in practice.

Guided by a train of reflections in keeping with those detailed above, I have had recourse to a series of experiments which I will first summarize as briefly as possible, and then offer a word or two of comment, trusting that by so doing I may not incur the criticism of being too prolix.

Experiment I.—This and the following were performed upon Mr. A. M. Guerin, who kindly placed himself at my disposal.

I injected five minims of a four-per-cent. solution of the hydrochlorate of cocaine in the neighborhood of the external cutaneous nerve of the forearm, a short distance below and to the right of the biceps tendon. In a short time the effects of the agent became apparent. The skin for some distance around, and particularly below the puncture, was anæsthetic. After the lapse of a few minutes, judging that the anæsthesia had reached its maximum extent and intensity, I applied an Esmarch's tourniquet around the arm a short distance above the elbow. On examining the radial artery, I found that the pulse was entirely obliterated.

From time to time I examined the condition of sensibility in the forearm, and particularly about the region of the puncture. After the lapse of fifteen minutes the anæsthesia had extended, contrary to my expectations, down the right anterior aspect of the forearm several inches, and was of sufficient intensity to admit of pinching and pricking *ad libitum*. One of the amusements of the gentleman experimented upon, at this and subsequent stages of the investigation, was to thrust needles into the anæsthetic portions of the skin, which was all the more remarkable in him inasmuch as he is a person of rather susceptible and nervous temperament. When I attempted to do the like on other portions of the integument, energetic reflex contractions were evoked, and lively sensations of pain. After the tourniquet had remained in place for over half an hour the anæsthesia was decidedly more profound than during the first twelve or fifteen minutes of the experiment, this profundity of insensibility being without doubt attributable to the long saturation of the nervous filaments in the anæsthetic. Such saturation was evidently only rendered possible by the use of the tourniquet, which, arresting the circulation, prevented the elimination and dissipation of the anæsthetic by the blood. After the lapse of nearly forty minutes I removed the tourniquet, not, however, because the anæsthesia showed the slightest diminution, for the latter, on investigation, proved to be as profound as ever, but on account of the unnecessary tightness of the tourniquet, which caused the gentleman experimented upon considerable inconvenience. In a few minutes after the access of the blood to the forearm the anæsthesia began to decline, and was soon entirely lost.

Experiment II.—I exsanguinated the left forearm by means of the elastic bandage of Esmarch. I then applied the tourniquet above the condyles as before. Ten minims of a four-per-cent. solution of cocaine were then injected at short intervals, the injections forming a line which extended from the radial to the ulnar side of the upper portion of the arm. After the lapse of ten minutes I noticed that the inflated, blister-like elevations which marked the points of injection were quite prominent, and showed no tendency to diminish. I also ascertained, by examinations with a needle from time to time, that the zone of anæsthesia was exceedingly circumscribed, being mostly restricted to the immediate neighborhood of the elevations at the points of injection. Five minutes later, as there was no appreciable diminution in the size of the elevations, and as there was no sign pointing to the slightest diffusion of the anæsthetic, I massaged the parts immediately above the line of injections, and, having thus succeeded in causing some diffusion of the cocaine, I was not surprised to find

that shortly afterward the zone of anæsthesia had increased in width and extended in a band about an inch and a half broad across the entire breadth of the forearm. Into this region needles could be thrust without causing the slightest pain or reflex action of any kind. The extension of the anæsthesia along the districts supplied by the cutaneous nerves of the forearm was, however, not sufficiently pronounced to merit notice. This was perhaps owing to the extremely superficial nature of the injections.

The tourniquet remained in place for over forty minutes, during which time the zone above described was quite insensible to the prick of a sharp needle.

Experiment III.—I first injected five minims in the neighborhood of the external cutaneous nerve of the forearm, as in the first experiment. Five or six minutes afterward, however, instead of applying the tourniquet immediately, as in the first experiment, I first exsanguinated the forearm by means of Esmarch's bandage, taking care *not to compress the tissue immediately above the point of injection.* I then applied the tourniquet. The anæsthetic zone in this case was proportionately much larger than in the previous experiment, following the general direction of the external cutaneous nerve, so far as I was able to judge, in a downward direction, for some three inches or more. The maximum breadth of the anæsthetic zone was perhaps a little less than an inch.

The tourniquet was allowed to remain in place for about an hour, during which time I was unable to note the slightest diminution in the anæsthesia.

Summary.—Experiment I goes to show that simple arrest of the circulation in the part, shortly after injection of the anæsthetic, is sufficient to prolong and intensify the anæsthesia.

Experiment II shows that, if the injection is made *after* exsanguination and compression, there is little diffusion of the anæsthetic, and, consequently, a commensurate diminution in the number of nerve-filaments exposed to the influence of the solution. It is true, however, as we have seen, that by the aid of massage some purely mechanical diffusion may be produced.

Experiment III seems to prove that, if the injection is made a few moments before exsanguination and the application of the tourniquet, a sufficient amount of saturation of the tissue is obtained to expose a large number of nerve-filaments to the influence of the anæsthetic; and yet, unless we wait too long, there is no danger of diluting or dissipating the solution (by the access of too much blood) to such a degree as to weaken or nullify the anæsthetic influence.

The essential advantages of this method of local anæsthetization consist in our ability to expose the nerve-filaments for any length of time to the influence of the anæsthetic. We are thus practically able to prolong the anæsthesia to an indefinite degree. We are furthermore enabled to do this by the use of comparatively small quantities of cocaine, repeated injections being unnecessary to prolong the anæsthesia, as is necessary when the circulation is not arrested. There is, consequently, no danger of constitutional disturbances from overdosing.

It is clear that this method may be applied in the surgery of all the extremities; and in the treatment of neuralgias and other disorders of the peripheral nervous system it is, I believe, destined to render good service.

26 West Forty-seventh Street, *September 14, 1885.*

CONGENITAL ANKYLOSIS OF THE RADIO-ULNAR ARTICULATIONS.

By B. FARQUHAR CURTIS, M. D.

Omitting the cases of congenital dislocation of the radius and those of entire or partial absence of the bones of the forearm, we find congenital radio-ulnar ankylosis to be a not very common deformity, even if we include those cases in which there is also an ankylosis of the elbow or wrist joint proper. For this reason I think the following case worthy to be placed on record. For the opportunity to report it I am indebted to Dr. William T. Bull, of this city.

Alexander McG., three years old, is the fourth child of healthy parents. The other children are all well formed and healthy, and so is this boy with the exception of a malformation of the forearms. He has had one severe accident, causing the fracture of his right clavicle, six months ago, but the recovery has been perfect. Several months ago his parents noticed for the first time that he did not have the full use of his arms.

Examination.—The arms, forearms, and hands of both sides are of normal strength and of normal outward appearance, the forearms being in a position of semi-pronation. The hands and wrists are normal in form and motion. In both elbow-joints flexion and extension are complete, and the bony points are in their normal relations. But both forearms are firmly fixed in a position midway between pronation and supination. Examination under ether gave in addition only the negative information that the ankylosis remained as complete as before, and that no malformation could be detected in the shape of the bones. It was impossible to discover any abnormal deposit of bone in the interosseous ligament or elsewhere, nor could it be decided whether the obstruction to motion was in the superior or in the inferior articulation, or in both.

The bilateral occurrence of the deformity, and the absence of a history and of any marks of injury or of disease, point to a congenital malformation. The rigidity of the ankylosis indicates a synostosis of the radius and ulna, and, although it is impossible to say at what point this synostosis has taken place, cases already on record make it probable that it is situated at the superior end of the bones.

As to treatment, it does not seem wise to attempt any. The forearms are ankylosed in the most favorable position, so that the only object of treatment would be to gain the rotary motion of the forearm. Robert* maintains that in cases of congenital synostosis the muscles which produce the motions rendered impossible by that synostosis are undeveloped, and consequently an operation is never justifiable; but dissections in such cases have indicated that the failure of development in the muscles is not always so complete as he appears to believe. Still, it is very doubtful whether any improvement could be made or not, and at this early age an operation would be not unlikely to cause failure of growth in the bones by interference with the

* "Des vices congénitaux de conformation des articulations." Thèse de concours, Paris, 1851, p. 219.

epiphyses. Probably time will develop a compensatory action of the other joints, particularly of the shoulder, which will make operative measures unnecessary.

A careful search through the available literature shows such a rarity of similar cases that a short account of them may be of interest.

A. Mitscherlich (Langenbeck's "Arch. f. klin. Chir.," Bd. vi, p. 218) reports the following unique case:

A poorly developed girl, six years old, of healthy family, had been relieved of double congenital club-foot by operation. Both elbows were found partially ankylosed, flexion of the right being possible only to 70°, and of the left to 100°. Extension was normal. Both forearms were in almost complete supination, only a slight degree of pronation being possible. The left elbow was resected; the child died of pyæmia. Anatomical examination showed that in both joints the head of the radius was fixed in front of the external half of the coronoid process of the ulna, where it had been felt during life as a protuberance in the bend of the elbow.* The lesser sigmoid cavity of the ulna was absent. The trochlear surface of the humerus was encroached upon by a circular articular facet for the head of the radius. A projecting crest divided the two articular surfaces, and it was the contact of the coronoid process of the ulna with this crest which limited flexion of the elbow, the head of the radius not coming against the shaft of the humerus. The head of the radius was fixed in its abnormal position by a strong ligament, which, arising from the external condyle of the humerus and the coronoid process of the ulna, surrounded the neck of the radius like the normal annular ligament. The anterior ligament of the elbow-joint was also attached to the head of the radius.

M. Josso ("Bull. de la soc. anat. de Nantes," 12 Nov., 1879) reports on the deformed forearm of a dissecting-room subject whose antecedents were unknown. The superior ends of the radius and ulna were fused together into a single bony mass, the remainder of the bones being in extreme pronation, so that the posterior surface of the radius presented anteriorly. The ulno-humeral articulation was normal, but the external condyle of the humerus was absent, as was also the head of the radius. On the anterior surface of the common bony mass was a protuberance which represented the bicipital tuberosity.

Dubois ("Bull. de la soc. anat. de Paris," 1852, xxvii, p. 67) reports a specimen of an old (congenital?) dislocation of the radius and ulna, the radius being elongated superiorly and fused with the ulna from the superior limi of the interosseous space upward. The bones were in extreme pronation.

Dr. v. Becker (Schmidt's "Jahrb.," Bd. 179, p. 13) showed to the Vienna section of the "Ver. der Aertzte Nied. Oest." a boy of a family among the members of which many malformations were present. He had both upper extremities deformed, the left forearm and elbow being absent, while on the right side the humerus was too short, and the radius and ulna were fused into one bone one third of the normal length.

T. Jones ("Brit. Med. Jour.," 1878, i, p. 709), in describing a case of multiple exostoses in a boy of nine years, mentions that the patient also had a deformity of the left forearm, the lower part of the ulna being quite rudimentary and united to the radius, movements of rotation being impossible, but he does not describe the position of the forearm.

Girandeau ("Bull. de la soc. anat. de Paris," 1881, lvi, p. 271) reports a malformation of the left forearm in a woman twenty-six years old, the arm being small, the elbow ankylosed, the forearm in extreme pronation, the hand deformed, the carpal bones fused together and to the radius and ulna, and the metacarpal and phalangeal bones absent.

Pye-Smith ("Med. Press and Circ.," Lond., 1883, Dec., p. 504) describes a family having various deformities. Among others, we find that in the father the right hand can not be fully supinated; one son has the same defect in both forearms; in a daughter neither elbow can be fully extended; and in two other children there exists a congenital dislocation of the radius in one elbow.

J. H. Pooley ("Illustr. Med. and Surg.," July, 1883, p. 163) describes a girl, ten years old, with absence of the left radius, who had on the right side a very short curved (concave radially) forearm in which all the motions are "circumscribed and imperfect, from what cause, however, does not clearly appear." The right thumb was also absent.

Lenoir presented to the Soc. anat. de Paris ("Bull.," 1827, ii, p. 95) the left forearm of a young girl who had suffered from rhachitis, in which the bones were crossed as in pronation and fused together for a considerable space at their upper extremities.

Congenital ankylosis of any joint, excepting those deformities which occur with club-foot and club-hand and in monstrous fœtuses, is so rare a condition that a few more references will exhaust the list of recorded cases which I have been able to find.

In the fœtus at full term ankylosis has been observed by Busch (all the joints in one case,* those of the lower extremities in another†), Jänecke (one case,‡ both elbows and right shoulder), Hohl (several cases ⁋), and Bécourt (one case, ‖ one knee) △.

In the adult and child we find only the following additional cases:

Gurlt gives a case of congenital synostosis of the second and third cervical vertebræ, and several cases of synostosis of the pelvic bones in deformed pelves.

Bordet ("Bull. de la soc. anat. de Paris," 1836, xi, p. 82) reports a case of fusion of the radius and humerus, with partial absence of the ulna, in a man of twenty-seven years.

In the same society's records ("Bull.," 1854, xxix, p. 72) is described a specimen of bones showing fusion of the humerus and ulna, the radius preserving "free movement"; the history of the subject from whom it was taken is unknown.

Finally, Velpeau saw a case ‡ in which the medullary structure of the humerus was continuous with that of the radius and ulna, with no trace of a joint.

Volkmann‡ teaches that, while congenital synostosis of the bones of the hand and foot may occur in well-developed

* The ? the early fœtal position of the head of the radius, from which it passes outward and backward with the growth of the parts to the position in the fully developed joint. See Henke and Reyher, "Ueber die Entwickelung der Extremitaten des Menschen," review in Schmidt's "Jahrb.," 1875, Bd. 165, p. 225.

* "Neue Zeitschr. f. Geburtskunde," v, p. 190.

† *Ibid.*, xxviii, p. 233.

‡ See Joulin, "Des cas de dystocie appartenant au fœtus," Paris, 1863, pp. 107 *seqq.*

⁋ "Die Geburten," etc., pp. 1–230. Halle, 1850. Quoted by Joulin.

‖ "Gaz. méd. de Strasbourg," 1846, p. 25. Quoted by Joulin.

△ Joulin refers also to Braun ("Neue Zeitschr. f. Geburtsk.," xviii, p. 302) and Bird ("Boston Journal," xi, No. 16), but there was no ankylosis in their cases.

◊ "Beitrage zur vergleich. path. Anat. der Gelenkkrankh.," Berlin, 1853, pp. 159, 214.

‡ V. Pitha and Billroth, "Handb. der Chirurgie," Bd. II, ii, 1, p. 586.

‡ *Ibid.*, p. 592.

subjects, when it is in the larger joints the whole extremity is rudimentary. The truth of this statement is shown by the fact that I have been able to find only the few exceptions mentioned above. I would also draw attention to the fact that the great majority of these cases concern the upper extremity, and to the frequency of pronation of the forearm in them.

A CASE OF
DISEASE OF THE SUPRA-RENAL CAPSULES.*

By EDWIN W. MOORE, M. D.,
FRANKLIN, PA.

Dr. Thomas Addison in 1855, by autopsical and general evidences and by crucial analysis, associated a geometrically increasing anæmia, with or without pigmentary deposit, with a diseased condition of the supra-renal capsules. He furnished the profession with the pathological conditions which lead up to and make the pernicious anæmia a possibility; he also associated the general history that this condition is found in subjects beyond the middle period of life and with a predisposition to the deposit of fat. As far as my reading goes, there is but one exceptional authority—*vide* article by Samuel Wilkes, page 562, Reynolds's "System of Medicine," published in 1880. This gentleman takes the position that the disease is of more frequent occurrence before the middle period of life.

My case falls under this exceptional authority, for the subject was of slender build, twenty-two years of age, six feet high, and weighed about one hundred and forty-five pounds. He was of good family history, free from inherited disease, and of good habits of life.

For a period of two years, and possibly more, he suffered a physical depression unaccountable to himself, his family, or his physician; but the inroads were gradual, and sapped his energy until he was compelled to take his bed.

My attention was first called to C. G. C. in October, 1884. At this time I found my patient yellow, with a disposition to bronzing, with a pearly sclerotic, with a weak, compressible pulse, with nausea and vomiting, with furred tongue and red margins, with pain referable to the stomach, with a history of constipation, and, after a meal of indigestible matter, with a degree of depression incompatible with general evidences. At this time I ordered castor-oil and turpentine to unload the primæ viæ, gave a hypodermic injection of morphine and atropine to control the inordinate nervousness, and suggested hot fomentations, sinapisms, etc.

This appeared sufficient, and with a tonic regimen he rallied, got up, and went to his usual work. I suggested a further general treatment, but it was not followed out.

My attention was again called to him May 1, 1885. At this time the general evidences were increased pigmentary deposit; skin of face and hands as dark as any mulatto; nausea; vomiting; furred tongue; constipation; pearly white sclerotic; great feebleness and loss of vitality; restlessness; weak and easily compressible pulse, rate 85; pain over region of capsules, no chill; no fever. I directed small doses of mild chloride of mercury, guarded by morphine, to be followed by a saline; adjuvants, foot-bath, sinapisms, perfect rest, and artificial heat to extremities.

May 2d.—Bowels and kidneys acted, but did not see excreta, because patient went to bath-room; pulse 86, temperature 97°; vomiting less, and yet persistent nausea; restlessness decreased. Directed quinine, bismuth, and morphine.

3d.—Quite comfortable; less nausea; tongue furred in center and red at margins; pulse 90, feeble. Directed small doses of calomel, pepsin, and morphine. Have directed foods and alcoholic stimulants from the beginning, but have found a perfect abhorrence for anything of the kind.

4th.—Tongue cleaner, moist; pulse feeble, better sustained, rate 90. Treatment continued.

5th.—Tongue fairly clean, moist; pulse feeble, rate 84; bowel action *nil;* nausea less; urine fair in quantity and quality. Directed carbonate of ammonium and quinine, with continued frictions, baths, etc.

6th.—Pulse better sustained, rate 86; retains nourishment fairly well; urinary excretion one pint and a half in the past twenty-four hours; specific gravity 1·022, acid in reaction, dark red in color; no sediment. Continued treatment with addition of Apollinaris water.

7th.—Pulse more feeble, rate 84; very sick at stomach during night; vomited largely; excreta green, flaky, with mucus. Directed rectal injection to unload lower bowel; unsatisfactory; little fæcal discharge. Added tincture of iron to treatment. His grand-uncle, Dr. Byles, in consultation at 4 P. M. Result, gave saline cathartic. At 9 P. M. had a thorough dejection; discharge dark brown, with some scybala.

8th.—Pulse 86, feeble; skin moist; kidneys acted freely; no bowel action; tongue moist and clean; nauseated during the night, and very restless. Dr. Byles, who was in the house, gave Dover's power to allay the restlessness and with a hope that the ipecac might allay the nausea. Passed a very restless night.

9th.—More comfortable than in past twenty-four hours; bowels moved three times; stools bilious; rest fairly quiet. Treatment continued.

10th.—Pulse more feeble, rate 96. Directed morphine.

11th.—Condition unchanged.

12th.—Resting fairly; thinks he has had a good day. Treatment continued.

13th.—Quiet; slept peacefully six hours; less nausea; urine normal; pulse 86, temperature 98°.

14th.—Nauseated all day; pulse feeble, rate 90; urine normal in quantity, amber in color; singultus. Added asafœtida to treatment.

15th.—Comfortable; facies indicates extreme exhaustion; circulation very feeble, rate 90; bowels moved three times; excreta green, flakish, offensive; urine normal; tongue moist. Directed quinine, iron, and nux vomica, with friction, and sponging with whisky, etc.

16th.—Passed restless night; less nausea; skin dry; kidney action fair; urine amber; pulse feeble, rate 90, difficult to get at the wrist; temperature normal; foods and stimulants abhorred. Dr. Byles in consultation. On account of extreme restlessness, gave hydrate of chloral.

17th.—Pulse very feeble, and at times imperceptible; tongue furred in body and red at margin; no bowel action; skin dry and harsh; urine abundant; fed by force. Directed digitalis and arsenic, and suggested rectal injections of brandy, milk, and beef-tea, but the patient took the same by mouth in preference. Were retained.

18th.—No bowel action; pulse 90, with better force but easily compressible; very restless. Mother gave hydrate of

* Read before the Venango County, Pa., Medical Society, July 21, 1885.

chloral to allay restlessness. Patient pleasantly affected, but, when asleep, the eyes were turned up, the lower jaw dropped; is nervous and jerking; haggard. Takes food and stimulants by mouth, but with great reluctance.

19th.—Stupid; when aroused, rational; urine scanty; no bowel action; yawning, sighing, singultus; pulse feeble; nausea; restless. Directed carbonate of ammonium, niter, and carbolic acid to allay nausea.

20th.—8.30 A. M.—Passed restless night; pulse rate 90; respirations hurried, lips red as usual, extremities colder, skin dry and harsh; vomited largely; excreta bilious in character. 8 P. M.—Called hurriedly; found patient pulseless, haggard, restless, etc. Gave carbonate of ammonium, brandy, and beef-tea *per rectum*. Continued to sink; heart failure great; anxiety and restlessness indescribable; remained conscious until 12.30 A. M.

21st.—Gradually became quiet, comatose, and died at 1.20, May 21, 1885.

A *résumé* of this history is epitomized thus: Discoloration, exhaustion, pain referable to the capsular region, pearly sclerotic, nausea and vomiting, restlessness and anxiety.

The discoloration through its gradations was sallow, bronzed, smoky black, the last being the tint when last under observation. The discoloration was general, but was most marked on the parts exposed to the air. The exhaustion was very great, the nausea and vomiting were persistent, and the restlessness and anxiety in harmony with the heart failure.

The important feature which attracts attention is the progressive anæmia. And it may be said that this is largely unaccounted for.

The conditions from which it must be differentiated are pityriasis nigra, silver poisoning, Bright's disease, septic poisons in general, and icterus.

The diagnostic points of the four first are known and readily ascertained, but from icterus there is more difficulty to disassociate. I will tabulate the stronger evidences:

Icterus.	Addison's Disease.
1. Slow pulse.	1. Normal to excited pulse.
2. Color sallow.	2. Color anæmic primarily, secondarily sallow, bronzed, smoky black.
3. Sclerotic yellow.	3. Sclerotic pearly.
4. Nausea and vomiting.	4. Persistent nausea and vomiting.
5. Urine impregnated.	5. Urine normal.
6. Bowel action torpid.	6. Bowel action torpid to natural.
7. Appetite fair to good.	7. Appetite seriously impaired.
8. Debility commensurate with poisoning.	8. Debility greater than evidences would indicate.
9. Nervous depression approaching hypochondria.	9. Depression progressive, with a clear mind.

In the general management of my case I found a perfect abhorrence for alcoholic stimulants, for all stimulants, for all foods save such as fountain water and ices.

I made no autopsy, therefore I can not describe the supra-renal capsules, can not add anything to the sum of pathological investigations.

ON A RARE CASE OF CAFFEINE POISONING; RECOVERY.

By EDWARD N. LIELL, M.D.

Cases of poisoning by caffeine are of such rare occurrence that a record of the following case, which came under my observation but a short time ago, I deem may be of interest:

On the morning of July 16th I was hastily summoned to see Miss W., thirty years of age. Found her greatly prostrated and completely exhausted, and in a state of semi-unconsciousness, with cold extremities, clammy perspiration, and anæsthesia and slight paresis of the muscles of the hands and feet. Temperature normal; pulse 55, and somewhat irregular; respirations diminished in number to 16 a minute, slightly irregular. Pupils but slightly contracted, responding readily to light. One thing remarkable was a persistent contraction of the flexor muscles of the fingers and toes, with paresis of the extensors, especially of thumbs and great toes. There was a certain spasmodic action of the muscles of the calves of both legs, which, when conscious, she termed cramp-like pains. She vomited occasionally.

I immediately applied warmth, with revulsive measures to the extremities, and gave atropin. sulph., $\frac{1}{60}$ gr. (tablet triturates), hypodermically; also whisky, ʒj every five minutes, administered cautiously in order to avoid exciting the vomiting. These measures of treatment were continued, repeating the atropin. sulph., $\frac{1}{60}$ gr., hypodermically, as before, in twenty minutes.

A change for the better was apparent almost immediately after the second injection of atropine. She gradually regained consciousness, when she informed me as to the cause of her illness, saying she had taken some eighteen grains of citrate of caffeine inside of one hour and a half during the night. Her mind was still somewhat confused, and she was exceedingly restless and anxious.

She complained of severe paroxysmal pains in the abdomen, simulating very much those of intestinal colic, also of a dimness of vision, with a blur before the eyes. At one time, becoming quite delirious, partly due to the pains in abdomen, she got out of bed and endeavored to walk across the room, but, being unable to stand on her feet, reeled like one intoxicated, complaining of a sudden vertigo with a feeling of numbness in the soles of her feet, and would have fallen but for an attendant close at hand. A certain tremulousness of the fingers of both hands, with tremors of the tongue, was present.

Thirst was excessive, with dryness of the mouth and tongue, relieved by small pieces of ice. There was no headache whatever, except a fullness in the supra-orbital region. Speech was somewhat indistinct, her utterance being at times thick, and there was also some difficulty in deglutition. The heart's action was diminished in rapidity, and its rhythm was irregular. The bowels were constipated. The kidneys were excited to increased action; urination was frequent.

To relieve the intestinal pains, warm turpentine fomentations were applied over the hypogastrium, the nausea and vomiting being relieved by the following: ℞ Sodii bromid., ʒss.; bismuth. subnit., gr. x; acid. hydrocyanic. dil., gtt. j. M. This dose was repeated in fifteen minutes.

About three quarters of an hour after my arrival she complained rather suddenly of a severe cramp in the muscles of the calves of both legs, extending upward, gradually implicating the muscles of the abdomen, chest, and neck, when a sudden and severe convulsive seizure followed, of a marked tetanic character, the abdominal and chest muscles becoming retracted and

rigid; the eyes were suffused, and the facial expression was that of great pain, the respirations being entirely checked and cyanosis very prominent, with the jaws quite rigid, and the fingers firmly contracted. This was followed by a second convulsive seizure of the same character some three minutes later.

℞ Chloral. hydrat., gr. xv, potass. bromid., ʒij, was then given at one dose, and repeated within half an hour. This had the effect of checking the convulsions and rendering the patient quiet. When she recovered sufficiently to collect her thoughts the following *history* was obtained:

After a somewhat immoderate use of stimulants the previous day, and having been up the greater part of the night before she complained of a severe headache and of being very nervous, when a friend advised her to take a two-grain powder of citrate of caffeine; misunderstanding the quantity directed, she had prepared and took a three-grain powder instead. Not getting instant relief, she repeated the dose, and had taken six powders (eighteen grains in all) within one hour and a half, when she began to feel the effects of the combined doses. In the mean time she had sent out for some quarter-grain morphine pills, but had only taken one, being prevented from taking more by a high state of mental excitement. (It may be mentioned here that, according to her statement, she had never been subject to hysteria, but was naturally of a very nervous and excitable temperament.)

During the night she was exceedingly restless and wakeful, tossing about the bed one moment and the next moment walking the floor, the insomnia being persistent, which, combined with her excited condition, bordered on delirium. Respiration was at the time disturbed, her breathing becoming hurried and irregular, with excited and irregular heart action. Reflex excitability was quite marked for a time, when general muscular weakness supervened. In this condition she passed the night, conscious of what was going on and recognizing things about her.

Toward morning the delirium gave way to a condition of stupor or semi-unconsciousness, in which state I found her. After the second dose of chloral and potassium bromide was given her she fell into a quiet slumber, lasting about an hour, when she awoke without manifesting any untoward symptoms or signs of her late trouble, except that a certain stiffness of the muscles, especially of the lower extremities, remained.

From this time on, with rest and quiet in bed, under the treatment described and light stimulating diet, she improved rapidly, the vomiting having entirely ceased, and the ill effects of the caffeine disappeared. The anæsthesia, with paresis of the muscles of the hands and feet, began to gradually diminish, disappearing entirely on the fifth day.

Sodium bromide, in thirty-grain doses every four hours, was kept up for some two days thereafter.

In conclusion, a brief *résumé* of the peculiar effects of caffeine upon the system may not be amiss. They may be divided into *two stages*—that of *excitement or delirium*, and that of *depression or stupor* with unconsciousness.

During the first (*stage of excitement*) the heart action is accelerated; the pulse is increased in frequency; the respirations are more or less rapid and irregular; there are restlessness, persistent insomnia, with confusion of mind, and increased activity of the kidneys. Delirium may or may not be present, the person retaining full consciousness of what is going on and recognizing everything about him. Colicky pains with occasional vomiting are also present. Following on this comes the second (*stage of depression*): the heart action and pulse are diminished in frequency; the respirations are below normal; the pupils are slightly contracted; there are persistent contractions of the flexor muscles of the fingers and toes, with anæsthesia of the same, and paresis of the extensors; there are cramp-like pains, with weakness and stiffness of the muscles of the calves of the legs; there is no cephalalgia, but, later on, stupor or unconsciousness. In this special case almost twelve hours had elapsed from the time of her taking the powders until I was summoned.

As to the controversy in various medical works whether *true convulsions* are ever produced by caffeine in *human beings*, it is a settled fact in my mind that they do occur, as proved in this case.

268 West Thirty-eighth Street.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. VI. Heastie–Insfeldt. Washington: Government Printing-Office, 1885. Pp. 11–1051.

A Treatise on Nervous Diseases; their Symptoms and Treatment. A Text-Book for Students and Practitioners. By Samuel G. Webber, M. D., Clinical Instructor in Nervous Diseases, Harvard Medical School, etc. New York: D. Appleton & Co., 1885. Pp. ix–415.

The Use of the Microscope in Clinical and Pathological Examinations. By Dr. Carl Friedlaender, Privat-Docent in Pathological Anatomy at Berlin. Second Edition, Enlarged and Improved, with a Chromo-lithograph. Translated, with the Permission of the Author, by Henry C. Coe, M. D., M. R. C. S., L. R. C. P. (London), Pathologist to the Woman's Hospital in the State of New York. New York: D. Appleton & Co., 1885. Pp. x–195.

A Complete Pronouncing Medical Dictionary: embracing the Terminology of Medicine and the Kindred Sciences, with their Signification, Etymology, and Pronunciation. With an Appendix, comprising an Explanation of the Latin Terms and Phrases occurring in Medicine, Anatomy, Pharmacy, etc.; together with the Necessary Directions for Writing Latin Prescriptions, etc. By Joseph Thomas, M. D., LL. D., Author of the System of Pronunciation in Lippincott's "Pronouncing Gazetteer of the World," etc. On the Basis of Thomas's "Comprehensive Pronouncing Medical Dictionary." Philadelphia: J. B. Lippincott Company, 1886. Pp. 844.

Acne: its Ætiology, Pathology, and Treatment. A Practical Treatise based on the Study of One Thousand Five Hundred Cases of Sebaceous Disease. By L. Duncan Bulkley, A. M., M. D., Physician to the New York Skin and Cancer Hospital, etc. New York and London: G. P. Putnam's Sons, 1885. Pp. x–280. [Price, $2.]

Moisture and Dryness; or the Analysis of Atmospheric Humidities in the United States, etc. By Charles Denison, A. M., M. D., Professor of Diseases of the Chest and of Climatology, University of Denver, etc. Chicago: Rand, McNally & Co., 1885. Pp. 30 and charts. [Price, $1.]

Health Statistics of Women College Graduates. Report of a Special Committee of the Association of Collegiate Alumnæ, Annie G. Howes, Chairman, etc. Boston: Wright & Potter, State Printers, 1885. Pp. 78.

First Annual Report of the New York Cancer Hospital.

Oleate of Manganese. By Franklin H. Martin, M. D. Read before the Chicago Medical Society, August 3, 1885.

A New Bandage for Fixation of the Humerus and Shoulder-Girdle. By Charles W. Dulles, M. D., etc. [Reprinted from the "Medical News."]

Complete Laceration of the Perinæum, etc. By A. B. Cook, A. M., M. D., etc., Louisville. [Reprinted from "Gaillard's Medical Journal."]

Correspondence.

LETTER FROM BOSTON.

The Boston Water-Supply.

Boston, *September 14, 1885.*

In my last letter I gave a general outline of the way in which our water-supply is contaminated. I will now go more into detail as to one source. One of the acts of the recently displaced Water Board, and one upon which they prided themselves, was the purification of the various water-basins, but especially that known as "Ashland, No. 4." This is situated in the town bearing its name, and is on a tributary of the Sudbury River known as Cold Spring Brook. This basin is the largest of the Sudbury system. It covers an area of 270 acres, and, when full, will hold 1,100,000,000 gallons of water. It runs through a deep, narrow valley, with high hills rising abruptly on either side. It arises from various springs. The valley consists largely of bogs, and the black mud is very deep in places, with a hard, clean, sandy bottom beneath it, from which hundreds of springs bubble up. During the construction of the basin work was going on in making new parks in Boston, and, as the loam was needed, it was removed and taken to the city. But, as the excavation progressed, it was found that deep pockets of muck or peat existed, extending in some cases over acres and to the depth of seven or eight feet. Beneath them there was a layer of hard, green sand, which was perfectly pure. With the experience of Farm Pond (where the same state of things existed) still fresh in the minds of the people, one would think that the Water Board would have acted in accordance, but, instead of the muck and decaying vegetable matter being hauled out, the surface was simply skimmed, and a thin layer of gravel put over it.

The estimated expense of the work at this basin is a little short of $1,000,000, and yet, after this outlay, the water, which comes from the springs pure and sparkling, is so contaminated that it is not fit for use, and, in order that the money already spent may not be lost, this whole area will have to be dredged till the hard subsoil is reached, after which we may expect the water from the springs to reach us in something like purity. The brook that connects Basin No. 2 with No. 4 not only has its water defiled by the same kind of decomposing material, but also receives the drainage from the houses on its course. This brook also will have to be thoroughly dredged, and the outhouses and other sources of contamination removed, other outlets being provided for the sewage.

Many of our people do not believe that the condition of things is so bad as it is reported, saying that they have no trouble in their houses. If such people will inspect their water-tanks they will soon be convinced. In many instances that I know of, two or three inches of muck and detritus have been found on making such an examination. In places where water is drawn from the street main direct, without the intervention of a tank and the water is allowed to settle, the presence of foreign matter is easily detected.

THE

NEW YORK MEDICAL JOURNAL,

A Weekly Review of Medicine.

Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, SEPTEMBER 19, 1885.

THE SURGEON-GENERALSHIP OF THE MARINE-HOSPITAL SERVICE.

In far greater measure than commonly falls to the lot of public officials, even medical officers, has Surgeon-General Hamilton had to contend with envy, hatred, and malice, and all uncharitableness. Thus far he has manfully and successfully striven against these malign influences, while he has not deviated from the decorousness and fairness that should always characterize officers of the Government. At the same time, by his careful, prompt, and unostentatious use of the Congressional epidemic fund, he has shown the utter groundlessness of whatever genuine distrust may at one time have been felt of the committal of such grave and comprehensive responsibilities to a single individual. Add to this the efficient and satisfactory conduct of the Marine-Hospital Service that has marked his incumbency of the chief office of that bureau, and we certainly have the picture of a faithful performance of duties that entitles him to the highest consideration.

And yet there are rumors—but too well founded, we fear—of serious and determined efforts to displace him. There is no pretense, as we understand matters, that any fault is found either with his capabilities or with his official acts, except, indeed, in so far as they may have been distasteful to some *soi-disant* sanitarian; but the honors and the emoluments of his position are coveted as the means of paying off a debt of gratitude to some one of a number of political "workers."

If there were any serious danger of the success of these plots against Dr. Hamilton—and we shall decline until compelled to the contrary to believe that there is—the situation would be grave enough, in these times of civil-service reform, even supposing that his office was one that made him subject to the vicissitudes of the spoils system as heretofore interpreted by politicians. But the post of surgeon-general of the Marine-Hospital Service is one to which Dr. Hamilton rose in quite the same way as a surgeon-general of the army usually arrives at his position, in accordance with considerations partly of seniority and partly of the good of the service. Such appointments are commonly made in complete disregard of partisan motives, and the tenure of office is regarded as secure, in the absence of special cause. Even the machine politicians pass the office over as beyond their grasp.

It is said that a high official of the Government is one of those who have set their covetous eyes on the surgeon-generalship of the Marine Hospital Service. If this is true, it is reassuring to observe that he is not the only one, for non-interference may prove to have its firmest ground in the antagonisms of rival schemers. Fortunately, however, it is not in

this reflection alone that Dr. Hamilton's undisturbed possession of the office he has adorned finds its chief guarantee; if all indications are to be interpreted in accordance with their plain drift, neither the President nor the Secretary of the Treasury is the sort of man to remove the present surgeon-general with no other motive than to make way for some aspirant whose pretensions may be urged on personal or partisan grounds.

SMALL-POX.

The country has been measurably free from small-pox for a considerable period. Limited outbreaks have occurred here and there at various times, but there have been none of sufficient magnitude to arrest public attention. In particular, the metropolis, where epidemics might naturally be expected to take their start, has, thanks to the vigilance and energy of the boards of health of New York and Brooklyn, been exceptionally free from the disease for a long term of years. Even in the "pandemic" of 1871 to 1873, when Boston, Philadelphia, and Chicago suffered severely, New York was but lightly attacked; and since that time it has been quite the exception for small-pox to figure in our reports of infectious diseases. All this should not lull us into a false feeling of security, however. Thus far—and it is well on toward cold weather—we have escaped the cholera, of which the community has stood somewhat in dread, but for several weeks past there have been warnings which we can not afford to disregard of one of those epidemic waves that have always marked the history of small-pox.

During the greater part of the summer the disease has been rife in Montreal, a city which is in close communication with the United States, and which seems to constitute, so to speak, an ever-active nursery of the infection, in consequence, it appears, of the peculiar obstinacy displayed by a large proportion of its population in opposing vaccination. For a number of weeks, too, it has not been an uncommon occurrence for victims of the disease to effect a lodgment in New York from immigrant ships, especially those coming from Germany. A notable instance of this sort came to light week before last, when a lad was found in a house in Pitt Street who is said to have arrived recently by a German steamship, and to have had small-pox for a week before the nature of his illness was made known Ordinarily such an event would have little significance, even although, as in this instance, the sufferer was lodged under the same roof that covered a daily assemblage of school-children. Taken, however, in connection with the undiminished and apparently increasing prevalence of variola in Montreal, and its isolated outbreaks in various localities in our own country—at Fall River, for example—it can scarcely be viewed with the equanimity that might otherwise be felt.

Not the least significant of the circumstances that should put us on our guard is the fact that the occurrences alluded to have taken place in summer. It is usually in cold weather by preference that small-pox proves epidemic, but it may not be amiss to recall that the great epidemic of the last decade, which swept the greater part of our country, made its first decided outbreak in Lowell, Massachusetts, during the summer. It would perhaps be going too far to argue from that that an epidemic arising in summer was particularly likely to prove unusually destructive, but it is difficult to avoid the thought.

It is with no desire to play the alarmist that we have thrown out these suggestions, but simply to put our readers on their guard. In the case of small-pox, however, there need be less hesitation in sounding the alarm than with regard to most other pestilential diseases, for popular anxiety may readily be exchanged for security; prevention is within every man's reach.

MINOR PARAGRAPHS.

NEWSPAPER NOTORIETY.

We quite agree with our correspondent who signs himself "Practitioner." On several occasions we have expressed ourselves in regard to the rage for newspaper notoriety which seems to have blinded some of our brethren to the decency and modesty of a truly scientific life. If we have restricted our remarks to those outcroppings of this spirit which have appeared in New York, it is because we have preferred to try to set things right at home before criticising our colleagues elsewhere, and by no means because we have been willing to confess that the offenses referred to have been in any way peculiar to our immediate neighborhood. The metropolis, as being presumably the most advanced in civilization of all places on the continent, should certainly be freest from the foibles of a callow community. If our own sense of propriety did not urge this upon us, we should at least be spurred on to it by the comments which reach us from other parts of the country, and our excellent contemporary the "Medical News," of Philadelphia, has lately made pointed and most amply justified allusion to the breach of taste in question. Moreover, New York is in a certain sense on trial before the country; it is here that the formal restrictions of the code of ethics have in a measure been cast off, and that very fact makes it all the more incumbent on us to show that there are other incentives to a decorous course of life. Our readers will have no difficulty in imagining what the occurrences are to which our correspondent alludes, and we will therefore only add an expression of the hope that no more specific reference to them may be necessary to recall our erring brethren to a proper sense of what is due their own dignity as well as that of our common profession.

THE CURIOSITIES OF LOCAL ANÆSTHESIA.

In this issue of the Journal we publish two communications which set forth remarkable facts connected with the subject of local anæsthesia. We refer to Dr. Corning's article and to Dr. Halsted's brief letter. The explanation given by Dr. Corning of the decided prolongation of the effects of cocaine which he has been able to obtain by annulling the local circulation for the time being is apparently correct and very creditable to his ingenuity. Indeed, it is hardly fair to speak of it as an explanation; it was rather the conception which led to the experiments. If further trial shows that the practice is free from drawbacks which can not now be foreseen, an immense addition will undoubtedly be found to have been made to our resources in local anæsthetization.

Quite as striking and no less interesting, even if its practical utility should prove to be more restricted, is the curious fact set forth by Dr. Halsted, that the intra-cutaneous injection of simple water, properly managed, is capable of giving rise to a temporary and circumscribed anæsthesia. In the light of these two contributions to our knowledge, we may well indulge in the

fond anticipation that general anæsthetization, with all its attendant inconveniences, may soon be found necessary only in exceptional cases.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 15, 1885:

DISEASES.	Week ending Sept. 8.		Week ending Sept. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	36	10	48	9
Scarlet fever	15	1	24	1
Cerebro-spinal meningitis	1	1	5	5
Measles	3	1	1	0
Diphtheria	35	15	38	18
Small-pox	2	0	2	0

The International Medical Congress.—We learn that Dr. R. B. Maury, of Memphis, Tenn., declined the honor of serving as one of the vice-presidents of the Section in Obstetrics and Gynæcology as soon as he received the notice of his appointment.

The New York Post-Graduate Medical School and Hospital.—We have received the first issue of the "Quarterly Bulletin," published by the Clinical Society connected with this institution, and we find it a very creditable production. It contains a well-executed chromo-lithograph showing a syphilitic affection of the lung. The Faculty announce the following courses for the winter of 1885–'86: Diseases of the eye and ear, nineteen hours a week, and a course in the operative surgery of the eye as frequently as classes are formed; diseases of women, obstetrics, and the anatomical basis of gynæcology, sixteen hours a week; general, minor, operative, and orthopædic surgery, nineteen hours; diseases and the anatomy and physiology of the nervous system, twenty-one hours; diseases of the throat and nose, six hours; clinical medicine and therapeutics, urinary analysis, and work in the histological and pathological laboratory, twenty-one hours; venereal diseases, ten hours; diseases of the skin, six hours; diseases of children, twenty-seven hours. Opportunities will be afforded the class to witness autopsies at the Presbyterian Hospital, as well as those that occur in the practice of the instructors in the children's department. The laboratories will be open all day, and every possible means will be employed to facilitate instruction. It will be seen that the institution offers its pupils one hundred and forty-four hours of clinical and practical instruction every week.

A Testimonial to Professor Koch.—The "Medical Times and Gazette," of London, says: "A testimonial has been recently presented to Geh. Med.-Rath Professor Dr. Koch by the practitioners who last winter attended his course of lectures on cholera at the Reichsgesundheitsamt, Berlin. It consisted of an ebony casket richly ornamented in silver, having a silver shield in front bearing the inscription 'Dedicated to Herrn Geh. Med.-Rath Professor Dr. Robert Koch with thankfulness by his first pupils, Berlin, 1884–'85.' A silver platé is let into the lid, on which, in raised work, is a bust of Dr. Koch, on a pedestal, against which the goddess Hygeia leans holding in the one hand the staff entwined by the serpent, the symbol of the medical art, and in the other a laurel crown. A nude child seeks to conceal itself amidst her flowing drapery in fear of a haggard woman at the foot of the pedestal, who with a scythe in her hand symbolizes the devastating disease which Dr. Koch has chosen for the special object of his study. On either side of the pedestal are groups of palms. Prof. Echternmeyer is the author of the design for this relief. The casket is lined inside with dark blue satin plush."

The University of Vienna.—The "Medical Times and Gazette" learns that Prof. Fuchs, of Liège, is likely to be given Prof. Jäger's chair of ophthalmic surgery.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 6 to September 12, 1885:*

McKee, J. C., Major and Surgeon. Sick leave still further extended three months on surgeon's certificate of disability. S. O. 204, A. G. O., September 7, 1885.

Patzki, J. H., Captain and Assistant Surgeon. Assigned to duty as post surgeon, Jackson Barracks, New Orleans, La. S. O. 192, Department of the East, September 8, 1885.

Polhemus, A. S., First Lieutenant and Assistant Surgeon. When relieved at Fort McDermit, Nev., assigned to temporary duty at Presidio of San Francisco, Cal. S. O. 87, C. S., Department of California.

Kendall, William P., First Lieutenant and Assistant Surgeon. Relieved from duty at Presidio of San Francisco, Cal., and assigned to duty as post surgeon at Fort McDermit, Nev., relieving Assistant Surgeon Polhemus. S. O. 87, Department of California, August 31, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending September 5, 1885.*

Stewart, Henry, Surgeon. Leave of absence extended one year from October 15th, with permission to remain abroad.

Steele, John M., Passed Assistant Surgeon. Detached September 1st from Constellation, and to report for duty at Naval Academy, Annapolis, Md.

Bright, George A., Surgeon. Detached September 1st from Constellation, and to wait orders.

Dickson, S. H., Passed Assistant Surgeon. Ordered to Naval Academy, Annapolis, Md., as relief of Passed Assistant Surgeon A. A. Austin.

Fitts, Henry B., Assistant Surgeon. Detached from Coast-Survey steamer Gedney, and to wait orders.

Austin, A. A., Passed Assistant Surgeon. Detached from Naval Academy, Annapolis, Md., and ordered to Coast-Survey steamer Gedney, to relieve Assistant Surgeon H. B. Fitts.

Society Meetings for the Coming Week:

Monday, *September 21st:* Medico-Chirurgical Society of German Physicians (New York); Hartford City, Conn., Medical Association; Chicago Medical Society.

Tuesday, *September 22d:* New York Dermatological Society; Buffalo Obstetrical Society (private); American Gynæcological Society (first day—Washington); Medical Society of the County of Lewis (quarterly), N. Y.

Wednesday, *September 23d:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational); American Gynæcological Society (second day).

Thursday, *September 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia (conversational); Cumberland County, Me., Medical Society (Portland); American Gynæcological Society (third day); New London County, Conn., Medical Society (extra—New London).

Friday, *September 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

WATER AS A LOCAL ANÆSTHETIC.

SEPTEMBER 16, 1885.

To the Editor of the New York Medical Journal:

SIR: My communication on the use and misuse of cocaine, as published in the latest number of this Journal, appeared, through an oversight of mine, minus a foot-note which, referring to the passage introduced by the word "*into*" (italicized, and occurring eight lines before the last one in the printed article), had been appended to the original manuscript.

Apropos of *cutaneous* as distinguished from *subcutaneous* injections, I would like to present now the statements which were to have been embodied, more briefly, in the foot-note.

1. The skin can be completely anæsthetized to any extent by cutaneous injections of water.

2. I have at times, of late, used water instead of cocaine in minor operations requiring skin incisions.

3. The anæsthesia seldom oversteps the boundary of the originally bloodless wheal, but does not always vanish just as soon as hyperæmia supervenes.

W. S. HALSTED.

NEWSPAPER NOTORIETY.

To the Editor of the New York Medical Journal:

SIR: Will you not give expression in the Journal to the sentiment of contempt so generally excited by the vulgar newspaper notoriety that appears to have been sought by several of the profession in the city during the last few months? Recent items, with which you must be familiar, have been so peculiarly offensive and numerous that the time for a public rebuke appears to have come. I hope your judgment will confirm this opinion, and that you will remind the offenders of the impropriety of their action, and warn them that notoriety is not reputation, or rather that it is reputation of a kind that can only do them harm.

If the matter concerned only the offending individuals, we might look on in silence at their vulgar vanity and their exploitation of "wonderful cases" or fortuitous connection with prominent personages; but, unfortunately, the profession is held to a measure of responsibility for the acts of its members, and upon each of us falls some portion of the contempt so freely expressed for them.

PRACTITIONER.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of March 17, 1885.

The Vice-President, Dr. B. McE. EMMET, in the Chair.

A Dilating Forceps.—Dr. W. T. LUSK showed a forceps, with narrow blades, which he had found very useful in several cases for the purpose of dilating the cervix.

Dr. E. L. PARTRIDGE thought it undesirable to employ blades which had so much spring, since there was danger of compressing the child's head unduly.

Dr. LUSK explained that he only aimed at dilating the cervix with this forceps, the delivery being subsequently effected with a different one.

Pyo-salpinx.—Dr. J. B. HUNTER resumed the discussion begun at the preceding meeting, presenting three additional specimens of pyo-salpinx. He gave the following *résumé* of the most important symptoms which he had noted: "In reviewing the cases of pyo-salpinx of which I have presented specimens to this society, and others which I have had opportunities of observing, I am inclined to think that there are certain symptoms and physical signs by which these cases may be distinguished, not only from those significant of ovarian disease, but also from other and less serious diseases of the tubes themselves. The symptoms common to suppurative disease of the Fallopian tubes I believe to be: Severe pain two or three days before menstruation, located in the affected side and running down the corresponding limb; constant pain during the menstrual period; comparative freedom from pain for a week or ten days after its cessation; profuse menstruation, and sometimes constant, though slight, metrorrhagia; a discharge of pus (having frequently an offensive odor) after the flow has ceased. The physical signs are: A mass is found posterior to the uterus, often so hard that it is mistaken for a fibroid tumor; the uterus is enlarged, globular in shape, and generally movable. When palpated after a period, the organ appears to be smaller than before, and the tumor behind it feels softer. There is often so much general tenderness around the uterus that an accurate examination is only possible during anæsthesia. In cases of hydro-salpinx (which it is important to differentiate from those of pyo-salpinx) the tubes are often much larger, and are, as a rule, freely movable, not being adherent to the uterus. Another point of difference between the two is that, while there may be a considerable amount of local pain in hydro-salpinx, there is not so much general disturbance as in suppurative inflammation of the tubes; in the latter case there is a marked deterioration of the patient's health from month to month. Doran, in his recent work on the ovaries and tubes, says: 'There can be no doubt that some of the most intractable cases of pain in the pelvic and iliac regions, often attributable to other causes, are really due to disease of the tubes.' The pain due to ovarian disease uncomplicated with tubal disease is of a more intermittent character, and is generally referred not only to the affected region, but also to the breast on the same side, and is very commonly accompanied by nausea—a symptom which is not noticed when the tube alone is affected.

"It is important to distinguish between catarrhal and purulent affections of the tube, because the treatment is radically different; cases of pyo-salpinx go on rapidly from bad to worse, and probably never recover without surgical interference, while simple hydro-salpinx, not complicated by serious ovarian disease, is not dangerous to life, and may remain stationary for years."

In conclusion, Dr. Hunter quoted recent statistics of Hegar's operations, which seemed to prove that the *ovaries* and not the *tubes* (as maintained by Tait) were actively concerned in the function of menstruation. Out of 134 patients (from a total of 149) who recovered from the operation there was a marked diminution of the size of the tumor, together with a cessation of the menses in 76 cases. It was certain that the premature menopause could not be effected by removal of the tubes alone.

Dr. WARREN asked if the speaker had not generally noticed a displacement of the uterus in his cases.

Dr. HUNTER replied that this was frequently, but not invariably, the case.

Dr. H. C. COE protested against the commonly received opinion that nearly all cases of pyo-salpinx could be traced d...

rectly to gonorrhœal infection. He thought that it was extremely difficult to trace this sequence, and was inclined to believe that many authors had simply copied their statements from others without taking the trouble to verify them. He had examined specimens of pyo-salpinx removed from unmarried females and from other patients in whose cases it was impossible to establish any previous specific affection; moreover, tubal disease was occasionally seen in animals, as had been shown by Mr. Sutton in his report of autopsies made at the London Zoölogical Gardens. As a rule, however, hydro-salpinx was the condition generally found in animals.

Dr. W. G. Wylie thought that a history of previous gonorrhœa could be obtained in many cases, but that post-puerperal septic endometritis was the most common cause of pyo-salpinx. He said that he had purposely kept cases of gonorrhœa under observation in order to see how they would terminate. In two instances undoubted peritonitis developed from a direct extension of the specific inflammation. A third cause was undoubtedly simple catarrhal inflammation of the uterine mucous membrane.

Dr. E. Noeggerath stated that there were, in all, five varieties of salpingitis, viz.: tubercular, syphilitic, actinomycotic, gonorrhœal, and septic. As regarded the most common cause of salpingitis, he did not propose to discuss its gonorrhœal origin, because those of the profession who formerly opposed his views most strongly had now accepted them, among others Hegar, Martin, Haeser, and many of the most prominent German gynæcologists. As regarded the variety to which Dr. Wylie had referred, and which he had designated as "septic salpingitis," Dr. Noeggerath said that many cases of salpingitis which followed premature delivery and were apparently of septic origin could be traced to a latent gonorrhœa, which had been the direct cause of the abortion. He cited a case in which a specific endometritis that had existed before pregnancy reappeared after delivery. He acknowledged that it was difficult to prove the causative relation in which gonorrhœa stood to pyo-salpinx, because the former disease, as communicated by the man, was always of a chronic nature, and therefore it was not easy to trace its beginning; in order to establish positive facts, a large number of observations must be made. "Suppose," said he, "we admit that septic salpingitis *does* arise from a purely septic endometritis; we do not know the true nature of the infection, because we are only just beginning to understand what puerperal septicæmia is." In order to prove the entity of a puerperal salpingitis, it would be necessary to trace the disease from the endometrium directly into the tubes; but this had not yet been done. A great change would be occasioned in the current views upon salpingitis if the characteristic gonococcus could be found in the morbid contents of the tubes. He had searched for it in the fluid from dilated tubes, but hitherto without success. He thought that, undoubtedly, other varieties of salpingitis would be discovered, due to the presence of other characteristic microbes. He had examined very carefully a drop of pus from one of Dr. Hunter's specimens, and had cultivated two varieties of micrococcus found in it, both of which resembled the gonococcus, but could not be considered as identical with that microbe. It was possible that the coccus of gonorrhœa might change its characteristic form after entering the tube, since it was then in a new soil and subject to new influences; but this interesting matter could not be settled without a large number of observations.

In reference to the matter of diagnosis, Dr. Noeggerath referred to a remark made by Dr. Wylie at the preceding meeting, that it was not necessary to make out the actual presence of diseased tubes in order to justify an operation, provided the local symptoms were sufficiently urgent.

He showed an instrument which he had found useful in cases in which it was desirable to make an exact diagnosis. It consisted of a double hook opening outward, one arm of which terminated in a long extremity resembling a uterine sound. The sound was introduced so far into the uterine cavity that the hooks were half an inch within the cervix; the uterus was then pulled downward by an assistant, while the surgeon, with one finger in the rectum and the other hand upon the abdomen, could thoroughly explore the pelvis. The uterus could be moved toward or away from the examining finger, and the appendages could be more perfectly examined than in any other way. If necessary, the urethra could be gradually dilated (the process being repeated two or three times a day for two or three weeks) until the forefinger could be passed into the bladder, when the ovaries and tubes could be plainly felt. It was sometimes very important to be able to make an exact diagnosis, because it made a great deal of difference in the prognosis of an operation whether the tubes were much diseased or were unaltered themselves, but were surrounded by inflammatory adhesions. In the former case the prognosis was good, but where the symptoms were due to other causes than diseased tubes or ovaries it was unfavorable. If, however, there was a history of a subacute peritonitis which had become chronic, one could infer, in nearly every instance, that the tubes were diseased and that an operation was necessary. Disease of the tubes was the *cause*, and not the *result*, of the perimetritis. There were peculiar conditions in individual patients which it was important to recognize; as an example, he cited the case of a lady who had an attack of acute perimetritis six years ago, and had been under treatment ever since. He examined her six months ago by the method before described, and found both ovaries atrophied, the tubes being only slightly enlarged, but buried in a mass of adhesions, whereupon he refused to operate. It was in such a case as this that the instrument devised by him had proved most useful.

Dr. Wylie had not wished to give the impression that he did not try to make an exact diagnosis in cases of enlarged tubes; on the contrary, he always made a practice of keeping his patients under observation for weeks, or even months, before operating, so that he was frequently enabled to clear up the inflammatory deposits sufficiently to ascertain the precise condition of the appendages. He disapproved of the practice of pulling down the uterus for diagnostic purposes in these cases, or even of passing a sound into the cavity, since there was great danger of lighting up peritonitis. By anæsthetizing the patient and passing the left forefinger into the rectum, he could ordinarily map out the pelvic contents and detect any enlargements in the broad ligaments. In some instances he could not decide whether the tumor was an enlarged ovary or a tube. (Specimens were shown illustrative of this difficulty.)

Dr. Hunter agreed with Dr. Wylie in his disapproval of forcibly depressing the uterus. To illustrate the difficulty which was sometimes experienced in diagnosticating pyo-salpinx he mentioned a case in which several experienced gynæcologists had pronounced as a fibroid a pelvic enlargement which proved, on operation, to be a dilated tube filled with pus. He asked Dr. Wylie if he had ever seen a case of pyo-salpinx in which the tube was not adherent.

Dr. Wylie had seen only one such case; as a rule, the tubes were prolapsed and adherent posteriorly to the uterus or to the pelvic floor. When the tubes were not prolapsed, their fimbriated extremities were generally adherent to the uterus.

Dr. Lusk asked if it was necessary to remove both ovaries and tubes in Tait's operation. He had left a tube and ovary in two cases with subsequent bad results.

Dr. Wylie and Dr. Hunter had each had a similar experience, the disease being confined to one side.

The CHAIRMAN asked Dr. Noeggerath whether it was common for only one tube to be involved in gonorrhœal salpingitis.

Dr. NOEGGERATH replied that unilateral pyo-salpinx was very rare, so that he could not say how often this condition prevailed in specific cases. Reasoning from analogy, he could see no reason why the disease should not be limited to one side, since one epididymis frequently became involved as a result of gonorrhœa in the male, the other being spared. If there was any doubt as to the existence of pyo-salpinx at the time of operation, he believed that the surgeon was justified in squeezing out a drop of the secretion of the tube from the fimbriated end. He mentioned a case in which a woman had died of acute peritonitis in twenty hours after receiving a severe mental shock. On autopsy, both tubes appeared to be healthy, but a small amount of sanguineous fluid could be pressed from them, which, on microscopical examination, proved to be identical with similar fluid found in the pelvis. The contents of one tube escaping into the peritoneal cavity had undoubtedly led to the fatal result.

Dr. WYLIE questioned whether the chronic peritonitis which was present in cases of pyo-salpinx was due to the condition of the tubes or *vice versa;* he thought that the diseased tubes probably acted as inflammatory foci.

Dr. LUSK recalled a case of peritonitis developing on the second day after a normal labor, and terminating fatally in forty-eight hours. At the autopsy nothing abnormal was found except an inflammatory condition of the tubes, the precise nature of which he could not recall; there was a possible element of latent gonorrhœa in the case, as the husband was treated for a stricture and gleet before marriage.

Dr. B. F. DAWSON also remembered a case of acute peritonitis in a young woman which terminated fatally, the tubes being found at the post-mortem to be full of pus.

Puerperal Septicæmia.—Dr. WYLIE reported a case of fever, which developed on the fifth day after delivery, which he attributed to a diphtheritic process in the uterus, because regular pseudo-membranous masses came away during the injections. He found that by using intra-uterine injections of sublimate solution every hour the temperature could be brought down to normal, but when the treatment was discontinued for two or three hours it speedily rose to 104° F. He did not see why a diphtheritic inflammation could not extend to the tubes.

Dr. NOEGGERATH believed that puerperal endometritis was frequently diphtheritic in character. The elder Martin had gone so far as to say that all these cases were diphtheritic, but this was too sweeping an assertion. Dr. Noeggerath had observed three cases in which pseudo-membranous casts of the uterine cavity were discharged.

Dr. WYLIE, in reply to a question from Dr. Hunter, said that a solution of carbolic acid (1 to 60) brought away sloughs and controlled the temperature much better than the sublimate solution (1 to 5,000). Quinine had been used absolutely without effect. He remarked in conclusion, with reference to the objections to Tait's operation, that there were undoubtedly many patients whose local condition improved so much under treatment that an operation became unnecessary; he agreed with Dr. T. A. Emmet that this experience was a very common one in practice. It seemed to him, too, that it was often possible to remove the results of a previous peritonitis by appropriate treatment without operations.

Dr. NOEGGERATH insisted on a line being drawn between perimetritis and parametritis, the presence of the latter condition being a distinct contra-indication to laparotomy. He thought that the term "cellulitis" should be abandoned as a relic of the old speculative pathology. Parametritis, as a rule, was only present as a result of some lesion of the uterus (puerperal or otherwise), but not in disease of the tubes, the latter being accompanied by perimetritis.

B. MCE. EMMET, M. D.,
B. F. DAWSON, M. D.,
H. C. COE, M. D., *ex officio*,
Committee on Publication.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of September 9, 1885.

The President, Dr. JOHN A. WYETH, in the Chair.

Vesicular Mole.—Dr. H. J. BOLDT presented the specimen, which was principally interesting as illustrating the extremes to which a patient might be reduced by a remediable condition. The woman, who had been flowing profusely for several days, had become very anæmic, and the pulse was almost imperceptible. A physician had employed a tampon, but without benefit. Dr. Boldt found the os dilatable but not dilated. He at once introduced a sponge-tent, dilated the canal, and found a vesicular mole slightly adherent to the fundus and sides of the uterus. The patient probably would have died within twenty-four hours had the growth not been removed.

Coincidence between Vaccine Inoculation and the Development of Bone Abscess.—Dr. W. P. WATSON presented a girl five years of age who had always been well until two years of age; the family history was also good. When two years old the child was vaccinated, not by a physician, but by a man who had vaccinated many other persons, so far as known without injurious effects. In the case of the girl presented two incisions were made below the deltoid, which bled profusely; it was not known whether the matter used was animal or human. A few days after vaccination the mother noticed a swelling on the outer aspect of the left forearm, which was very much inflamed by the sixth day. A week later a swelling appeared on the right arm in a similar position; two weeks later there was one over the left scapula, and two months later one on the outer aspect of the right leg. Unhealthy pus discharged from some of the abscesses for two years, and several spiculæ of bone came from the sinus on the left forearm. The sinuses were now entirely closed, but there was ankylosis at the left elbow-joint. The axillary glands enlarged but did not suppurate. The question arose, Was there any causative relation between vaccination and the development of the abscesses? The mother very naturally attributed the trouble to vaccination.

Dr. BOLDT asked whether the child might not have sustained an injury after it had been vaccinated. [The mother replied in the negative. There were an erysipelatous eruption and swelling at the point of vaccination, which, however, were simultaneous in appearance with the swelling on the left forearm.] Dr. Boldt then related the case of a child whom he had vaccinated, and in whose case multiple abscess developed. The mother denied that any traumatism had occurred, but it was learned that one day during her absence from the house the child sustained a slight injury, which was followed by an erysipelatous eruption and bone abscesses.

Idiopathic Nephritis in Infants.—Dr. J. LEWIS SMITH presented some specimens from the body of a child which had died, aged seven months. It had been fed by a wet-nurse, and was seen by Dr. Smith only a few times during the course of its illness. It had done well until nearly six months of age, when the mother called attention to the fact that it had not passed urine for some hours. Some sweet spirits of nitre restored the secretion. As bearing upon the etiology, he said there had not been any case of scarlet fever or diphtheria in the institution recently. Five days later the urine was again suppressed, but was restored by the same medicine. The child

then did well for about eleven days, when diarrhœa occurred. After the second day the passages did not exceed four in number during the twenty-four hours, but the child did poorly, and died September 1st. August 2d it had general convulsions lasting five minutes. Following the convulsions there were marked nervous symptoms lasting three days, and a constant rolling of the head on the pillow afterward. During the last two weeks of life the child had occasional cough. During August the morning temperature was usually about 100° F., the evening temperature two or more degrees higher, the highest temperature reached being 106° F. The lesions of special interest were in the kidneys. The organs were much enlarged; the cortex of the right kidney was thickened; the pyramids were congested; the mucous membrane lining the calices and pelvis was deeply congested. The left kidney was intensely congested, the pyramids and cortex being of one color. The capsules were not adherent. The bladder showed catarrhal inflammation. The urine found in the bladder contained mucus, a large amount of albumin, and hyaline, granular, and epithelial casts in abundance; mucous corpuscles and red blood-corpuscles were present. Dr. Dana, who made the autopsy, attributed death to acute nephritis. The case was interesting as going to show that idiopathic nephritis might occur in the young infant, a fact almost universally overlooked. [The specimens were referred to the Microscopical Committee.]

Dr. Boldt had that day made an autopsy in the case of a child which had had diarrhœa for three months. There was suppression of urine the day before death. The temperature reached 108·3°. Acute nephritis was found to exist. The child was thirteen months old at the time of death.

Perforating Ulcer of the Duodenum.—Dr. Frank Ferguson presented two specimens, the first consisting of the duodenum perforated by an ulcer, the base of which was circular and nearly an inch in diameter; the upper surface was triangular in form. The patient was a tailor, forty-five years of age, who was unable to speak English or to give a full account of his symptoms. It was learned, however, that he had been sick for a month, complaining of pain in the stomach and constipation. On admission, he was emaciated, and the abdomen was tender and retracted. He vomited several times. The temperature remained between 100° and 105°; the pulse was 82; the urine was negative. Death took place two days after admission. Dr. Ferguson remarked that he had seen three cases of perforation of the duodenum, and in all of them the peritonitis had been of a type not easily diagnosticated. He thought the peritonitis had probably existed a month and a half or two months. Aspiration, perhaps, might throw some light on the diagnosis. The danger of perforating the intestine with the needle he thought was not great.

Cardiac Dilatation and Hypertrophy; Perforation of the Inter-ventricular Septum; and Vegetations on the Aortic, Tricuspid, and Pulmonary Valves.—The second specimen presented by Dr. Ferguson was the heart of a boy, thirteen years of age, who had probably had rheumatism. He also suffered from difficult breathing and slight general anasarca. The sternum and the jugular veins were prominent; the cardiac area was increased; the apex beat could not be felt; there was a distinct epigastric impulse. There was a loud blowing thrill in the seventh intercostal space, on a line with the nipple, transmitted to the left; in the second intercostal space, just to the right of the sternum, was a double systolic murmur, transmitted upward. Before death the respiration and the pulse became very rapid. At the autopsy the lesions of chief interest were found in the heart. It was dilated and slightly hypertrophied, and there were vegetations on the aortic, the tricuspid, and the pulmonary valves. There was an opening through the inter-ventricular wall, and it was not improbable that vegetations from the left side of the heart had found their way through this opening into the right side. At any rate, vegetations in the right heart were seldom seen. There was no history of embolism.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of September 3, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

Ovarian Cystoma complicated with Peritonitis and Phlegmasia Alba Dolens; Double Ovariotomy.—The President read the following report of a case:

"Mrs. M., aged thirty-one, has been a widow nine years. She had one child ten years ago, and had enjoyed good health until about three years before I saw her. At that time she observed that her abdomen was increasing in size. This gradually progressed for eighteen months, when she was large enough to attract the attention of her neighbors. After this the growth remained almost stationary, and did not affect her general health until the latter part of March of the present year, when she was suddenly seized with pain in the left iliac region. The pain was acute and radiating in character, extending principally down the anterior portion of the left thigh. She attributed the attack to an unusual exertion. Although she made an effort to continue her avocation —that of a seamstress—she was compelled to give up and send for her physician, my friend, Dr. John R. Haney, of Camden, N. J. When Dr. Haney first saw her, her abdomen was very tender over its entire surface, purple from congestion, greatly distended, and tympanitic in its upper, but dull in its lower, portion. She was suffering great pain, and had constant nausea and vomiting; her skin was hot, pulse 120, and temperature 130° F. From the history, symptoms, and physical signs elicited, the doctor diagnosticated ovarian cystoma, with supervening peritonitis. He administered quinine *per rectum* and morphine hypodermically, and employed counter-irritation over the abdomen. Within a week the patient appeared to be better, when, through the kindness of Dr. Haney, I first saw her. The tympanites had disappeared, and the pain was not so severe, but the abdomen was still very tender on pressure, especially in the left iliac and right umbilical regions; her features were drawn and flushed, and presented an anxious expression; her tongue was dry and heavily coated, her pulse quick, and her temperature 102° F. She lay quietly in the dorsal position, with her thighs flexed. The abdomen was as large as at full term of gestation, and was projecting. It was dull on percussion everywhere, except along the line of the colon and in the epigastrium, and there was evident fluctuation. The uterus was retroverted, not freely mobile, and very tender on pressure on the left side. Above and upon it could be felt the lower border of the circumscribed growth which occupied the abdominal cavity. I fully agreed with Dr. Haney's diagnosis of ovarian cyst, complicated by peritonitis. As she seemed to be somewhat better, I advised a continuance of the treatment as previously pursued, with the hope of obviating the necessity of ovariotomy during the unfavorable condition in which she then was. The peritonitis continued to improve slowly, but a new trouble presented itself in a very painful swelling of the left lower extremity. This continued until the limb was greatly increased in size. Its temperature was much higher than that of its fellow, which seemed to be in a normal condition. She now required large doses of morphine to relieve her pain, and she was losing flesh and strength. She still had nausea, and took scarcely any nourishment. Her temperature and pulse had again risen to the highest point noted. Both she and her friends were willing and anxious that we should do something more radical than simply wait for a more favorable condition for operating if we deemed it proper. I believed, from the symptoms and physical signs, that the inflammatory action was external to the cyst and not within it, and for that reason decided to wait for a subsidence of the acute symptoms, which I rather confidently expected. At the same time I held myself in readiness to operate at once should the patient not improve or become worse. The next

day she showed signs of slight improvement. The treatment, both local and general, was continued. The acute symptoms gradually subsided to those of a subacute condition. The temperature had decreased to 101° F., the pulse was 100, but weak. She was still unable to retain food, and was extremely weak. I advised further delay. But she did not improve much after this, her temperature and pulse remaining about the same as that noted above. Her stomach had regained its power to a slight degree to retain and digest liquid food. She had now been confined to her bed more than two months. Her left leg was powerless. There had not been the slightest improvement during the two previous weeks. We therefore decided to remove the tumor.

"*Operation.*—June 19, 1885, assisted by Dr. J. R. Haney, Dr. W. A. Davis, and Dr. H. M. Christian, and in the presence of a section of the class from the Polyclinic, I made an incision three inches in length down to the peritonæum, and then checked the hæmorrhage, which was free, with clamp forceps. I next very carefully incised the peritonæum and found, as I had expected, that it was closely united to the cyst-wall. These adhesions of the cyst to the peritonæum were universal, and it required careful and patient manipulation to separate them. The parts were exceedingly vascular and the hæmorrhage was profuse. After separating it as far as possible, I tapped the cyst and allowed the contents, which were semi-liquid and chocolate-colored, to drain away. I next closed the puncture made by the trocar, and then completed the separation of the cyst from its adhesions and removed it. As there was a very general and free oozing of blood from the broken vessels, I introduced a number of large, flat sponges, and spread them over the bleeding surface. An assistant now made firm pressure upon the external surface of the abdominal walls, while I ligated the pedicle and removed the tumor. The cyst had developed in the left ovary, and the pedicle was slender, not unusually vascular, and of good length. The right ovary was diseased, containing a number of small cysts, and was of double the normal size. I removed it also. Examination now showed that the hæmorrhage had almost ceased, but there were still a number of points from which blood flowed. The peritonæum was intensely injected, and I disliked very much to pick up bleeding points for fear of making the hæmorrhage worse. I therefore reapplied a large flat sponge, and had firm pressure again made from without, while I proceeded to place the sutures for the closure of the incision. I then removed the sponge and found very little blood upon it. I replaced it by a long narrow strip of sponge, which I allowed to project from the lower angle of the wound, and then again cleansed Douglas's *cul-de-sac* and other dependant portions of the peritoneal cavity, after which I quickly tied the sutures from above downward, removing the long sponge through the lower angle of the wound before I had encroached so closely upon it as to compress it in its removal. It was only slightly stained. I quickly applied the external dressing, making an unusual amount of pressure by cotton and bandage. The operation was finished, but the patient bore it badly. Her extremities were cold and purple, her face livid, and her pulse very weak. Stimulants hypodermically, and the application of external heat, which were begun during the operation, were continued after she was returned to bed. She remained in an almost collapsed state for many hours, but gradually reacted, and the next morning was in a fair condition. Her temperature was lower than it had been for weeks; pulse 112, but weak; stomach quiet, no pain, no tympany. She had taken an occasional small piece of ice, but nothing else except the morphine since the operation.

"*21st.*—Temperature 102°, pulse 120. Slight pain and tenderness in the left iliac region. She had been very weak and faint during the night, for which brandy had been administered in repeated small doses. The swelling and pain in the limb had diminished; she had not vomited since the operation, and felt hungry. Ordered a teaspoonful of milk every second hour.

"*22d.*—Comfortable and doing well. Temperature 99·4, pulse 90 and strong; slight metrostaxis, passed flatus *per rectum*. Milk increased to a tablespoonful and retained.

"*24th.*—Temperature 99°, pulse 85. General condition greatly improved, no pain, no tympany. Examined the wound and found it united throughout; removed the sutures.

"*25th.*—Doing well, and is bright and cheerful. She has taken nearly a quart of milk during the last twenty-four hours, and digested it.

"*30th.*—She has been gradually improving. Temperature normal, pulse 95; bowels moved to-day. She is taking solid food and expresses herself as feeling quite well. Limb improving. She can now move it.

"*July 12th.*—Sat up to-day for the first time, the twenty-second after the operation.

"*August 30th.*—A note received from Dr. Haney to-day informs me that Mrs. M. is going about attending to some of her duties, but that she has not yet regained her strength fully, and that her limb is still weak.

"The recovery of this woman under the forlorn circumstances just narrated is certainly a great triumph for our art; but the case serves a better purpose in forcibly illustrating the danger of deferring operative interference in ovarian cystoma simply because the patient is comfortable and suffering no inconvenience from the presence of the tumor. The subject of an ovarian tumor is in constant danger of injury from slight causes which may produce such changes in the tumor as to render what might have been a simple and safe operation one of extreme hazard. This had been a simple, slow-growing cyst, and had not markedly affected the health during its three years of existence; yet it suddenly became inflamed and the patient narrowly escaped death as a result. The case furnishes a strong argument in favor of operation as soon as the disease is diagnosticated. Of course there are qualifications, and each case must be decided on its own merits; but the rule that an ovarian tumor should be removed as soon as it is known to exist is the only safe one to follow."

Polycystic Ovarian Tumor; Double Ovariotomy.—"As a striking contrast to the case just related, and to show the value of the principle enunciated," continued the PRESIDENT, "I will report the following case:

"A. R. was sent to me August 5, 1885. She was nineteen years of age; single. Puberty was established at sixteen, and she had menstruated regularly until six months previously. She then without cause, so far as she knew, began to flow more freely at her periods and they continued longer. About the same time she noticed a small lump in the right iliac region. This increased in size so that soon the entire hypogastrium was distended, and when I first saw her she was as large as a woman at the eighth month of gestation. Her face showed marked signs of emaciation and pallor, and the drawn, anxious expression of ovarian cystic disease. She was then having a profuse metrorrhagia every two weeks. She had not suffered any pain, and up to within a few weeks very little inconvenience, except from the frequent metrorrhagia. During the last month, however, her health had been failing, she had lost flesh, had a weak, languid feeling, and suffered much from the weight of the growth. Physical examination in the dorsal position revealed a projecting, slightly irregular abdomen, larger on the right side, dull on percussion over the entire anterior surface, but resonant along the line of the colon. Palpation showed imperfect fluctuation and several firm, irregular masses within the abdominal cavity. The vagina was virginal, the cervix uteri was pointing forward, the body of the uterus retroverted, the whole organ enlarged and soft. It was only slightly movable independently of the tumor. The sound gave a measurement of three inches.

"I diagnosticated polycystic disease of the right ovary, and advised immediate operation. Six days afterward, on August 11th, she entered my private hospital, and on the 13th I operated, with the assistance of Dr. H. M. Christian and Dr. J. N. Richards. I made an incision two inches and a half in length and came upon the surface of the tumor, which presented the white, glistening, nacreous appearance especially common to thick walled polycysts. I tapped it with Hodge's trocar. The contents were so thick that they flowed very slowly, and it was necessary to puncture several smaller cysts, which was done without removing the instrument. Even then the mass did not collapse much, because of a large number of young or child cysts. After closing the puncture I enlarged the incision to three inches, but I had considerable

difficulty in removing the tumor. It was necessary to make firm traction with rotatory movements while Dr. Christian exerted a counterforce and pressure through the abdominal walls. Fully ten minutes were occupied in extracting the tumor after it was tapped, but I was rewarded with an incision that looked so small that it seemed almost incredible that this large mass had passed through it. There had not been a single adhesion, but the pedicle was short, thick, and vascular. I tied it with Tait's Staffordshire knot, cut the tumor away, and dropped the stump. The tissues of the left ovary were found to be entirely disorganized and degenerated into a cyst as large as a walnut. This I also removed. The uterus presented a very vascular appearance and was somewhat enlarged. After assuring myself that the peritoneal cavity was entirely free from any foreign matter, I closed the incision, dressed the wound, and returned the patient to bed. Her temperature was normal, and her pulse 96. There was no pain, but, as she felt a little sore and restless, a quarter of a grain of morphine was given hypodermically, and she took small pieces of ice for thirst.

"*14th.*—8 A. M. Temperature 99°, pulse 84. Had passed a good night. At 1 P. M., twenty-six hours after the operation, milk in teaspoonful doses was allowed, and water when she desired it.

"*15th.*—Metrostaxis began this morning.

"*18th.*—Union complete; removed the sutures. Her recovery was uninterrupted. She sat up for a few minutes on the eleventh day and went home, eight miles, in a carriage on the eighteenth day after the operation. To-day she sent a request to be permitted to go out, because she was feeling so well.

"Certainly nothing could have been gained by procrastination in this case."

Dr. Goodell congratulated the president on the good result obtained in such a serious case as that first reported. Great care as to asepsis should be observed in these cases. In one of his cases of septicæmia before the operation, after complete union had been secured, after the stitches had been removed, and after the patient was up, an abscess was observed forming in the line of union and was very persistent. Finally, after careful search, a ligature which had been tied around the pedicle of one of the ovarian cysts was found and removed. Subsequently the other appeared, and, after its removal, the abscess healed. He did not like to remove the stitches so early as the president removed them; and he reminded him of a case in which he had assisted him (Dr. Goodell). The operation was performed on December 5th. Convalescence was rapid, and the patient was so impatient to be home on Christmas that she could not be restrained, and on the nineteenth day after the operation she took the cars for home. The train was derailed and the jolting caused the cicatrix to open. The physician who was called in closed it immediately and the patient recovered. In another case a cough caused the wound to burst open and reveal the bowels after the stitches had been removed. This patient also recovered. For these reasons he never removed the stitches before the eighth day and not until the bowels had been opened. The speaker inquired of the president what his method was of closing the opening in the cyst after it had been tapped preparatory to its removal from the abdominal cavity. Did he employ pressure forceps? What method did he use of dressing the abdominal wound?

The President closed the cyst puncture with Wells's clamp-forceps when the cyst-wall was strong enough. In some cases he stitched up the opening, or tied a string below it when the cyst-walls were loose and soft. He closed the external wound, as he had been taught by Dr. Goodell, with silk sutures, and dressed it with salicylated or absorbent cotton, adhesive strips to hold the cotton in place and take the strain off from the stitches, and over all a bandage. He removed the sutures on the fourth or fifth day in order to avoid the danger of pus forming in the suture tracks, as had sometimes occurred when he had allowed them to remain as long as eight days.

A Uterine Dilator.—Dr. Goodell exhibited his improved uterine dilator. He said that the main difficulty in the operation for the rapid dilatation of the cervical canal lay in the liability of the blades of the instrument to slip out. This he had in a great measure overcome by having shallow grooves cut into them. Into these grooves the tissues sank, and the resulting friction kept the instrument in place. Since he had called the attention of the society to his instrument, not quite a year ago, he had performed the operation forty-one times for dysmenorrhœa and sterility, making in all two hundred and nine such cases. In not a single instance had dangerous symptoms followed, and the average of success was a very large one. He had become firmly convinced that for dysmenorrhœa and sterility the operation of rapid dilatation of the cervical canal would, except in some very rare cases of stenosis of the os externum, wholly supersede the cutting operation, the use of tents, and slow dilatation by any means whatever; for by the former not only was the measure of success far greater, but the danger from inflammation was very much less. He dilated the parts from three quarters of an inch to one inch and a quarter as measured off by the register in the handles, watching the cervix carefully to see what strain it could bear. His instrument could be opened to the width of an inch and a half, but he resorted to that extreme divergence only when wishing to introduce his finger for diagnostic purposes. This he could not ordinarily do unless the parts were relaxed from hæmorrhage. Usually, however, when suspecting the existence of a polypus, he did not find it needful to pass in his finger, for after a moderate dilatation he introduced a fenestrated forceps and opened it at hap hazard. In this manner he had repeatedly caught and twisted off a polypus without knowing it was present, the subsequent removal of the growth through the os uteri being the most difficult part of the operation.

The President had been strongly impressed, by the case of a lady whom he had delivered to-day, as to the advisability of entirely giving up division of the cervix. A year and a half ago he had slit up the cervix posteriorly, and to-day he had felt very anxious during the first stage of labor as to the probability of laceration of the uterus starting from the seat of the former operation. The anterior lip was very long, coming down under the bubes, and the posterior lip could not be felt. The case would be reported in full.

When the uterus contained a polypus the continued hæmorrhages reduced the contractility and a single dilatation would sometimes enlarge the os sufficiently to admit the finger or forceps; but, if the uterus was healthy, it contracted immediately after the withdrawal of the dilator. He could not recall an instance of inflammation following rapid dilatation. Sterility of long standing was seldom cured by dilatation or any other means.

Dr. C. M. Wilson had seen recently, in the practice of Dr. Ellwood Wilson, a uterus the cervix of which had been divided bilaterally some years ago. The operation had resulted in the development of the symptoms peculiar to a bad laceration of the cervix, with ectropion. Trachelorrhaphy was performed by Dr. Agnew, with complete relief to the patient. Dr. Wilson mentioned this case to call attention to the change in opinion and practice since Emmet proposed his operation.

Dr. Longaker inquired as to the prevention of slipping of the dilator, and called attention to the original method of pressure over the fundus of the uterus.

Dr. J. G. Allen had performed rapid dilatation over seventy-five times, and had never seen any bad results from the operation. The blades of his instrument diverged as they separated, and there was then no disposition to slip out. The blades were more curved than in Dr. Goodell's instrument. He thought

that an advantage in holding the instrument in place; the handles were turned up so as not to touch the bed or table.

Dr. Goodell preferred the slight curve, so that in flexion of the uterus he could introduce the dilator with its curve reversed to the bend in the womb, and; by opening the dilator in that position, rectify the flexion of the organ. He preferred parallelism of the blades because the stenosis of the cervix was greatest at the external os, and there was no need of dilatation above the internal os. He considered it dangerous to press the fundus of the uterus down while using the dilator, for fear of wounding or even penetrating the tissues, and he used a strong tenaculum to hold the organ; but, since he had got Mr. Gemrig to roughen the blades by grooves, he had not been annoyed by the slipping of the instrument. He rarely found it necessary to separate the blades more than one inch, but he sometimes did so to the extent of one inch and a half, especially when he wished to introduce his finger into the uterine cavity.

Parovarian Cysts.—Dr. Goodell exhibited two specimens. In each case the cyst was so detached from the ovary that the former could have been taken away without injury to the ovary. He was greatly tempted to practice conservative surgery in these cases, and leave the ovaries untouched; but, on account of apparently incipient cystic degeneration, they also were included in the ligature and removed. Both these patients were operated on in his private hospital, and both had recovered. In his experience the removal of parovarian, or of broad-ligament, cysts was one of the most successful of operations. Out of a large number which he had performed he could recall but a single fatal case, and in that the result seemed hardly due to the operation. The lady lived in a distant city, and he did not see her after the operation, which was a very easy one. At the end of a week the bowels were moved, the stitches removed, and everything gave promise of an unusually prompt convalescence. On the twelfth day, however, she was seized with uncontrollable vomiting, and she died on the seventeenth day. Six months previously she had had an analogous attack of vomiting, from which she barely escaped with her life. Thus far this year he had had eighteen ovariotomies, and this was the only fatal case among them.

Dr. Montgomery wished to ascertain the opinion of the society as to the advisability of removing the second ovary when in an operation for the removal of an ovarian cyst the other ovary was found to be slightly diseased. In his first ovariotomy, performed in 1879, the second ovary was found to contain numerous small cysts; it was not removed, and the patient had since been twice pregnant and there had been no appearance of another tumor, nor any symptoms referable to the remaining ovary. If the climacteric had been passed there would be no question about it.

The President inquired if tapping ever cured parovarian cysts. It was formerly reported as a means of cure. Did they always return after tapping? Would Dr. Goodell recommend tapping in undoubted parovarian cyst? He himself felt strongly inclined toward abdominal section in all cases. He thought the second ovary should be removed when it was not healthy, as the idea of a second operation was very depressing to a patient.

Dr. Montgomery knew of one instance of parovarian cyst which had been tapped and had refilled seven times. It was finally removed by him by pulling out the cyst, as, on opening the abdomen, he found the tumor universally adherent. Only one ligature was required—viz., on the stump of an enlarged ovary which bulged prominently into the cyst cavity.

Dr. J. G. Allen considered that, as an ovary somewhat diseased might give rise to a pregnancy, it should be left. We knew too little about the probability of the development of such small cysts into large ones. Until we had certain data on the subject it must be considered a case of want of information and knowledge.

Dr. Parish was in accord with Dr. Allen as to the want of knowledge. He had seen diseased ovaries containing numerous small cysts in many autopsies, and there had been no symptoms during life to excite a suspicion of their existence. The existence of minute cysts could not be considered as proving any liability to the production of large ones. If the second ovary contained a cyst as large as a partridge's egg he would remove it, but if numerous cysts as small as split peas were present he would not. The possibility of conception should be considered as well as that of a cyst.

Dr. Goodell acknowledged the truth of the points made by Dr. Allen and Dr. Parish, and he believed that he had repeatedly removed the second ovary unnecessarily. Yet the history of his own ovariotomies showed a return of the disease in the remaining ovary in about two per cent., and he thought he erred on the safe and right side. The social conditions of the patient would always have a great weight with him. If an heir was wanted or the patient was young, he would leave a suspicious-looking ovary, or try to remove the diseased portion of it. But in the majority of his cases where there was any doubt he removed the ovary. Of course, under such a rule, he must remove ovaries which might never give any trouble in the future. But the mental agony of women when informed that the operation must be performed a second time upon them, and, on the other hand, the great joy and satisfaction of patients when assured, after the close of an operation, that both ovaries had been removed, had convinced him that, other things being equal, it was better to remove the second ovary.

As to the cure of parovarian cysts by tapping, his own experience was not sufficient yet to decide absolutely. He would advise the radical operation, but if the patient, after understanding the liability of return, wished it, he would tap, as there was but little danger from tapping such cysts. A patient was tapped by Dr. Atlee some twenty years ago; five years afterward the cyst filled and was tapped by the speaker. It then partly refilled and so remained for a long while; the fluid then was gradually absorbed and never returned. He had had besides this one two cases in which he tapped, one five years ago and the other three years ago, and there had been no return whatever of the fluid. On the other hand, he had had two or three cases in which the cyst burst spontaneously several times and yet refilled invariably. The rupture was followed immediately by some collapse and pain, and subsequently by an excessive secretion of urine, with complete subsidence of the tumor. He had also heard of several cases of rupture, but, so far as he had learned the history of such cases, the cyst had always returned. The reports of the cure of ovarian cysts by tapping and injection of tincture of iodine must be true only of parovarian cysts.

Dr. Harris knew of a case of parovarian cyst in which fourteen years had elapsed between the tapping and the subsequent refilling.

Bromide of Ethyl.—Dr. E. E. Montgomery read the following *supplement* to his paper: "I read a paper on bromide of ethyl as an anæsthetic in labor before the April meeting of this society. Although I did not attempt a history of the early administration of the drug, subsequent investigation has shown me that I did Dr. L. Turnbull injustice in not mentioning that to him we are indebted for the revival of this agent and its first use in this country. In following the German literature, by which I was led to use this drug in labor, I ascribed its first obstetrical use to Lebert, of Paris. The first case in which he used it was for the application of the forceps, and occurred in March, 1881; but a paper published by Dr. Turnbull ('Med. Bull.,' June, 1880) shows that he had then used it in a second

case of labor, and spoke in high terms of its peculiar advantages. Dr. H. Augustus Wilson had used it in labor prior to August 7, 1880, when he published an article upon this drug ('Med. and Surg. Rep.,' August 7, 1880). It becomes quite evident that the first obstetrical trial of this agent was made in this city, and the priority lies between the gentlemen named. Various mixtures of the ethyl have been advocated in labor and minor surgical operations. Booth, of Ohio ('Therap. Gaz.,' 1884–'85, p. 159), recommends alcohol two parts, chloroform and bromide of ethyl, each one part. W. A. Byrd, of Quincy, Ill. (*Ibid.*, March, 1884), has used bromide of ethyl one part, chloroform three parts, alcohol four parts, in some ninety-eight cases without a single unpleasant symptom. It has not everywhere received the same condemnation that is shown by the hesitancy to use it in this city. In spite of the bad name given it by two deaths under its use and the apparently dangerous symptoms induced by experiments upon the lower animals, its use has been revived by Chisolm ('Maryland Med. Jour.,' 1882–'83, ix, 388) and Prince ('St. Louis Med. and Surg. Jour.,' 1883, xiv, 297), who strongly urge its use in minor operations, and preliminary to the administration of ether. The last named has reported five hundred cases in which it was used without a single unpleasant symptom. A leading article in the 'Therapeutic Gazette,' June, 1885, advocates a redistillation of a mixture of bromide of ethyl and olive-oil as a valuable and safe anæsthetic in labor. These facts are referred to simply to induce the profession to give this anæsthetic a fair trial in ameliorating the terrible suffering of natural labor."

Fibroid Polypus of the Uterus.—Dr. Montgomery exhibited a uterine fibroid polypus. Miss R., aged thirty-eight years, began to menstruate at seventeen years. The flow was regular, quite free, lasting a week, and was attended with pain the first three days. Ten years ago she had a hæmorrhage, and subsequently several such attacks. Two years later she had a severe hæmorrhage followed by a bloody discharge continuing several months, since which time she had never been regular. The flow would occur too frequently, be very profuse, and be attended with pain and loss of flesh. The symptoms had been more marked during the last year. At one of the hospital clinics, some years ago, the difficulty was ascribed to anteversion of the womb. Dr. Bournonville examined her three weeks ago, diagnosticated the condition fibroid polypus, and referred the case to the speaker for treatment. She was quite pale, her lips were bloodless, and she complained of pelvic pain and of a constant bloody discharge, which amounted to hæmorrhage upon the slightest exertion. The vagina was dilated by a tumor of the size of an orange, about the pedicle of which could be felt the neck of the uterus. The finger passed into the os and about the tumor without difficulty. Every examination was followed by severe hæmorrhage. The pedicle was cut through by means of the wire ecraseur, and the tumor removed by means of a polypus forceps. Considerable hæmorrhage followed its removal. As this was not controlled by applications of hot water, a tampon saturated with a solution of subsulphate of iron was introduced. This was renewed on the second day. On the fourth her temperature ran up to 103°, she had a chill, and pain in various parts of her body. These symptoms vanished under the use of quinine, digitalis, and opium. Five weeks after the operation, she appeared much improved, had had no bleeding, her appetite and strength were greatly increased. The uterus was normal in size, the cervix was still dilated and would admit the finger with pressure, and the cervical canal was in good condition. The tumor was of the size of an orange. The mucous membrane of the lower surface was ulcerated, so that vessels were ruptured, allowing hæmorrhage on any exertion. The case was of interest from the long continuance of the hæmorrhage, and illustrated the importance of early and careful examination of the cavity of the uterus in cases of protracted hæmorrhage.

Dr. Goodell seldom used the wire now for the removal of uterine polypi. He preferred traction with twisting or enucleation by the finger. There was less bleeding, and he was afraid of "cupping" of the fundus uteri and its injury by being included in the wire loop. He had made traction with the obstetric forceps, and enucleated tumors so large as to rupture the perinæum even after lateral incisions had been made in the labia. He had partially inverted the womb, enucleated the tumor, and then restored the organ to its proper form. The tumor sometimes occluded the os, and fœtid pus from necrosis of the growth was imprisoned above it, giving rise to a suspicion of cancer.

The President thought Monsel's solution might have caused the high temperature. Vinegar would have been a better hæmostatic, and it was also an antiseptic. From the appearance of the specimen a portion of the adventitious growth seemed to have been left behind, and it would be interesting to know the history of the stump.

Dr. Parish had removed many fibroids of various sizes, and sometimes with degenerated tissues and noisome odors. The rapid recovery of Dr. Montgomery's patient was remarkable. It was much to be regretted when any portion of the tumor was left, as necrotic change was rapid and decided in such tissue, and there was danger of blood-poisoning. The pedicle, however, generally shrank and disappeared.

Dr. Goodell remarked that this tumor appeared to be sessile, and had been wholly removed. The pedicle proper was usually simply mucous membrane, without adventitious tissue, and it made very little difference if some of it was left behind, as it shriveled away and was absorbed.

Dr. Allen had sometimes regretted that he was compelled to leave a portion of pedicle or tumor in the uterus, but he had never seen any bad consequences follow it. He preferred vinegar to iron as a hæmostatic, and considered it as good an antiseptic as carbolic acid.

Dr. Montgomery remarked that the wire had evidently brought away all the tumor. There was no evidence of any remnant on examination to-day. In one case a portion of tumor or pedicle had been unavoidably left, and he had removed it some time afterward by means of a tenaculum. He wounded his finger in doing so, and suffered from septicæmia. The woman had an attack of cellulitis.

Miscellany.

The International Medical Congress.—In its September issue, published before the recent meeting of the committee in New York, the "American Practitioner," of Louisville, says:

"When the handful of agitators who made all the commotion and din at New Orleans in May meets in New York, on the third of this month, they will assume a very different tone from that they used at Chicago in June. Much of their zeal will have been quenched. The wet blanket which public opinion has wrapped about them will have cooled their enthusiasm, while the almost universal condemnation of their movements, both at home and abroad, has demoralized the leaders of the ill-timed and ill-started revolution and reduced their followers to a mere corporal's guard.

"To speak without mincing words, failure was written all over the new committee from the very start, and it already totters to its fall. Even though it were vouchsafed the wisdom to undo all it did at Chi-

cago, the public mind has been so exasperated by its behavior that nothing short of an unconditional surrender would now be entertained. The feeling of the profession demands this, nor will it accept less. Let the agitators make no mistake on this point. They must lay down their arms and submit, with what grace they can, to be marched to the rear. Nothing short of this will be received as a settlement. This, and this alone, will open the only road that will lead to an International Congress in 1887.

"The National Association made an egregious blunder when it appointed at New Orleans a new committee. It blundered again in the selection of the men who composed the committee. And the committee, true to its origin and its instincts, has blundered from that day to this. Conceived in error, all its steps have been marked by unwisdom and stained by selfishness. Fortunately for the best interests of the profession, not only in this country but throughout the world, its mischievous career is fast drawing to a humiliating close. Before these lines are read the committee will have realized that 'consequences are unpitying.'

"The leaders were bold enough when precipitating this deplorable imbroglio, and remained deaf to all reason. Their ears have been made to hear since that time. The voice of the profession has reached them, and not one of them all is so daft but he realizes that an overwhelming majority of the forty thousand physicians in the United States declines to lend countenance or support to the new committee or its schemes. The more thoroughly the committee digests this fact the better will it be all round. For what manner of congress would a congress be without representatives?"

Commenting upon what is known of the action taken in the committee meeting lately held in New York, the "Medical News," of Philadelphia, says:

"Without wishing to prejudge the work of the committee, we can not refrain from giving voice to the regret that will be universally felt that no effort was made at the meeting to harmonize the grave differences which exist in the profession, and that the expressed views of the European members of the Congress were not deemed of sufficient importance to be accorded consideration."

The "Journal of the American Medical Association" publishes an official report, signed by Dr. Shoemaker, of the doings of the enlarged committee at its sessions in Chicago and in New York. The report includes the rules adopted, the first of which reads as follows: "The Congress shall consist of members of the regular profession of medicine, and of such other scientific men as the Executive Committee of the Congress may see fit to admit, who shall have inscribed their names on the register and shall have taken out their tickets of admission."

The report contains the following statement: "Lists of vice-presidents, secretaries, and councilmen for each section were named by the Committee of Arrangements, but, as it was not practicable to ascertain at once who would accept the places assigned them, or who of those who had been announced in the medical press as declining to accept positions before the present rules and organization had been adopted, as given heretofore, might wish to withdraw such declination, the final adjustment of these offices was referred to the Executive Committee of the Congress, and all correspondence in relation thereto was transferred to the Secretary-General of the Congress."

Editorially, the same journal, after referring to the action taken at the New York session, asks: "May we not hope, therefore, that a spirit of harmony will be fostered, and that all who hold the honor and interests of the profession above all personal considerations will cease to discuss the past, and cordially co-operate in making the International Congress of 1887 an honor to our country and a benefit to the profession of the world?"

The American Gynæcological Society will hold its tenth annual meeting at the Columbian University, in Washington, on Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885. Among the papers announced to be read are the following: "The Natural Hygiene of Child-bearing Life," by Dr. S. C. Busey, of Washington; "Remarks on the Use of Tarnier's Forceps," by Dr. Ellwood Wilson, of Philadelphia; "Facial Paralysis in the Infant from the Use of the Obstetric Forceps," by Dr. T. Parvin, of Philadelphia; "The Genu-pectoral Posture in the Prolonged Nausea and Vomiting of Pregnancy, with Cases," by Dr. H. F. Campbell, of Augusta, Ga.; "On Two Rare Cases in Abdominal Surgery" (the President's Address), by Dr. W. T. Howard, of Baltimore; "The Care of the Perinæum during Labor," by Dr. T. A. Reamy, of Cincinnati; "Report of a Case of Cæsarean Operation," by Dr. E. W. Jenks, of Detroit; "Puerperal Diphtheria," by Dr. H. J. Garrigues, of New York; "A Modification of Emmet's Cervix Operation in Certain Cases, with a Case," by Dr. R. S. Sutton, of Pittsburgh; "Inflammation of the Parotid Glands after Ovariotomy," by Dr. William Goodell, of Philadelphia: "A Study of an Unusual Type of Puerperal Fever," by Dr. Fordyce Barker, of New York; "Peristalsis of the Genital Tract," by Dr. J. R. Chadwick, of Boston; "Four Cases of Oöphorectomy, with Remarks," by Dr. Joseph Taber Johnson, of Washington. Members of the profession are cordially invited to attend the meeting.

An Important Discovery concerning the Venous Circulation in the Fingers.—Until now the injection of minute venous radicles in a manner calculated to be of practical service has been impossible, chiefly on account of the resistance of the valves. It is true that injections could be make to reach the veins through the arteries, but in that case both arterial and venous vessels were filled with a material of the same color, so that the two were with great difficulty, if at all, to be distinguished from each other. M. Bourceret has recently overcome the difficulty of injecting the veins in a direction contrary to that of the blood-current, and has thus already been able to demonstrate some striking facts. As described by M. Poirier, in a recent issue of the "Progrès médical," M. Bourceret's process is as follows: The part to be injected is kept in a warm bath (from 104° to 113° F.) for five or six hours. A colorless injection is then slowly and steadily thrown into the main artery. It passes into the subcutaneous veins, and the injection is stopped as soon as those veins appear well defined under the skin, and before they are distended. The largest of the superficial veins is then punctured with a trocar, and the cannula is left in place. Through this, and the cannula which has been left in the artery, both vessels are now at the same time very gently injected, in a direction away from the heart, the artery with a red and the vein with a blue liquid. The result is that each injection penetrates to the capillaries, and the part assumes the hue proper to it in life. The reason why this procedure enables the venous injection to pass the valves is supposed to be, that the liquid previously injected has either distended the veins sufficiently to make the valves incompetent, or has actually forced them against the sides of the vessels. At all events, there is no doubt that the device is successful, but its practice is said to demand a great deal of skill and patience.

By means of this method of injection the following facts have been learned in regard to the circulation in the fingers: There is a special collateral (functional) circulation in the fingers, quite distinct from that which simply nourishes the tissues. The branches given off by the collateral arteries are so few and so thin that the trunks reach the last phalanx but little reduced in size, and terminate in an arch at about the middle of the palmar aspect of the phalanx. Numerous arterial "bouquets" are given off from the arch, and divide in the pulp of the finger. They have no *venæ comites*. The capillaries show a special disposition in the pulp of the finger which is quite characteristic; an arteriole of comparatively large size is seen to divide suddenly into a "bouquet" of large capillaries (from 0·04 to 0·08 mm. in diameter). These capillaries form glomeruli, and then come together again to form a venule. The glomeruli are found in great abundance at the middle of the palmar aspect of the last phalanx, under the upper two thirds of the nail, and at the thenar and hypothenar eminences. At all these points the ordinary type of nutritive vascularization is found side by side with this special circulation.

The veins of the fingers arise for the most part from the last phalanx, their radicles unite almost at once to form trunks of comparatively large size, which proceed toward the root of the finger, forming a subcutaneous layer which almost covers the dorsal aspect. These veins do not form irregular plexuses, but follow a longitudinal course to the first phalanx, anastomosing freely.

The chief characteristic of this special circulation lies in the great caliber of the vessels in proportion to the nutritive demands of the

first phalanx. M. Bourceret thinks that the object of the arrangement is to supplement the nutritive circulation and to warm the parts, but M. Poirier suggests that it may have something to do with the exquisite sensibility of the localities concerned.

"The Micrococcus Limbergeri," says the "American Practitioner," "has recently been the subject of numerous investigations. In fact, every stranger, soon after his arrival in Germany, attempts to investigate it, and with very various results. Unlike those mentioned above, it is very difficult to isolate. One plan, lately suggested by Prof. O'D. Rossa ('United Ireland,' 1885), seems to be feasible. It consists in isolating the micrococcus, together with its pabulum and a large portion of the adjoining sidewalk, by the judicious application of a few pounds of dynamite. This species is *not* good to eat. Your readers will now be relieved to learn that for the present they will be spared any further remarks upon bacteriology, as the *spiro-gyra barrel-organi* is breeding so freely upon some pieces of Lohengrin, just outside the window, that all other matters must be suspended till the disease has been isolated with a boot-jack and destroyed by a moist heat of 212° F."

Even-handed Justice in Paris.—The "Progrès médical" announces that the pharmaceutical interne Reinchard, the involuntary author of the mistake which lately caused the death of two patients at the *hôpital Saint-Louis*, was arraigned before the correctional tribunal on the 26th of August, charged with homicide by imprudence. He was condemned to three months' imprisonment and fined fifty francs. The Sister who purged one of the patients without authorization, and thus caused his death, has not yet been prosecuted. "It will be remembered," says our contemporary, "that things went differently when it was a question of lay nurses. Singular justice; singular administration!"

The Disposal of Anatomical Material in Paris.—According to the "Progrès médical," the prefect of police has ordered that henceforth the *débris* of cadavers from the dissecting-rooms shall be incinerated in the special apparatus lately established in the *cimetière de l'Est*, or buried in some other Paris cemetery.

A Munificent Bequest.—The same journal says that the Countess of Bose, who died in 1883, bequeathed to the Marburg faculty of Medicine 800,000 marks (about $200,000) for prizes, for defraying the traveling expenses of young physicians, etc.

The Cartwright Lectures.—The "Medical News," of Philadelphia, learns that the next course is to be given by Dr. Osler, of that city.

Papine.—Concerning this preparation, Dr. H. T. Bruce, of Waverly, Ala., says: "I have tested papine; it acts charmingly as an anodyne. One of the patients could not tolerate morphine, owing to the nausea and vomiting it occasioned. In this patient pain was allayed and tranquil sleep produced, and no evil effects followed. I noticed that its effects were quicker than was usual from opium. So far I am much pleased, and deem it an indispensable remedy."

THERAPEUTICAL NOTES.

Nitro-glycerin in the Treatment of Hiccough.—Dr. O. T. Schultz, of Mount Vernon, Indiana ("American Practitioner,"), relates the case of a phthisical patient, fifty-eight years old, who had suffered for nine days with persistent hiccough, which had brought him to a very low condition, and had been only slightly ameliorated at times by various remedies, including galvanization of the phrenic nerves and of the epigastric region, and faradization along the attachment of the diaphragm. As the patient had formerly suffered from angina pectoris, the author reasoned that the hiccough might be due to a similar cause. Accordingly, on the tenth day he gave one drop of a one per cent. solution of nitro-glycerin at 8 o'clock in the morning, and repeated it at 9 o'clock. A moderate degree of bursting headache set in at once, the hiccough became easier and less frequent, and by 9:30 o'clock it had ceased altogether. The use of the drug was continued every two hours. At 2 P.M. after the patient had drank a glass of iced milk, the spasms appeared again, but yielded quickly to a fresh dose. During the afternoon and night there was only an occasional hiccough, but the next day there were two short attacks in the afternoon. The medicine was continued, and an occasional dose was given on the twelfth day, when the hiccough had entirely ceased.

Ficus Doliaria in the Treatment of Miners' Anæmia.—Bouchut ("Paris méd."; "Nouveaux remèdes") describes doliarina as a powder prepared with the juice of the *Ficus doliaria*, a plant indigenous to Brazil, where the *Ankylostoma duodenale* (the parasite which causes miners' anæmia) prevails endemically. The powder contains also aromatics and iron. The dose for an adult is a drachm three times a day. In the case of a patient treated by Bäumler the ingestion of the first few doses was followed by borborygmi with pains in the upper part of the abdomen. The next day there were several loose stools, and the evacuations contained great numbers of the ankylostoma. On account of the patient's general condition, due to phthisis, the treatment soon had to be suspended, but it was afterward resumed with success. Bäumler remarks that doliarina, although slower in its action than male fern, and doubtless less energetic in dislodging the parasite, involves no danger, while the use of male fern demands great care. The juice of the *Ficus doliaria* contains vegetable pepsin, which digests the worms, so that, like papain, it is a worm-consumer (*vermivore*).

Sulphide of Carbon as a Revulsive.—"Nouveaux remèdes" says: Take a piece of cotton of the proper size, sprinkle it lightly with sulphide of carbon, apply it to the skin, and cover it with oiled silk. In fifteen seconds the revulsive action will be observed, as shown by brisk burning. If the application is continued for more than thirty seconds the pain becomes intolerable.

Hydrofluoric Acid as an Antiseptic.—According to the same journal, hydrofluoric acid is one of the most powerful antiseptics, and has been used in tuberculosis, both pulmonary and surgical (wounds and glandular inflammations in tuberculous subjects). As a surgical antiseptic it has yielded interesting results. Commercial hydrofluoric acid should be diluted in the proportion of 1 to 2,000, 1 to 1,000, or 1 to 500. Internally, it may be used by inhalation. The patient is to be placed in a cabinet in which two drachms and a half of the commercial acid, diluted with its own weight of water, in a leaden vessel, are evaporated over a water-bath. The inhalation, which should last at least an hour, is to be repeated every day.

Sulphate of Iron in the Gastric Catarrh of Infants.—When absorbents and tonics fail to correct the acidity, Roth ("Pest. med.-chir. Presse"; "Conseiller méd."; "Rev. des mal. de l'enfance") resorts to sulphate of iron, which acts favorably in a variety of ways. In the first place, it is a disinfectant; under its use, the evacuations are changed in color and lose their offensive odor. Being an astringent, it contracts the turgid mucous membrane and coagulates albuminous matters. In order that these effects may be decided, its use should be continued for several days. The author employs the following formula:

Sulphate of iron		1½ grain;
Mucilage of acacia, Syrup,	each	5 drachms.

A teaspoonful to be given every two hours.

Mercury in the Abortive Treatment of Typhoid Fever.—According to Kalb ("Berl. klin. Woch."; "Gaz. hebd. de méd. et de chir."), mercurial frictions, practiced before the ninth day, produce complete defervescence in a few days. The inner aspect of the thigh is to be chosen, and the frictions should last half an hour. At the same time Kalb gives large quantities of alcohol to counteract the damage to nutrition.

Injections for Fœtid Leucorrhœa.—A contributor to the "Union médicale" gives the following formulæ:

Chlorate of potassium	12 parts;
Wine of opium	10 "
Tar-water	300 "

Add three tablespoonfuls to half a pint of warm water.

Salicylate of sodium	20 parts;
Salicylic acid	1 part;
Tincture of eucalyptus	45 parts;
Wine, or white vinegar	300 "

Add two tablespoonfuls to half a pint of warm water.

Lectures and Addresses.

A CLINICAL LECTURE ON DISEASE OF THE HEART AND LUNGS, WITH SPECIAL REFERENCE TO PHYSICAL DIAGNOSIS.

By STEPHEN S. BURT, M.D.,

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WHILE directing our attention more especially to the physical diagnosis of disease of the heart and lungs, we are constantly reminded of the intimate relations that exist between them and the remaining organs of the body. A study of these relations forces upon us the conviction that only by thorough knowledge of disease in general may we hope to arrive at anything like precision in the diagnosis of special subjects.

He is indeed a poor practitioner who allows himself to be so carried away by some absorbing specialty as to lose his interest in the general health of the body. But what shall we say, on the other hand, of the physician who believes physical exploration unnecessary, and goes his way, having prescribed for symptoms only?

To the general practitioner an understanding of the methods of physical diagnosis has now become a necessity, and one that is well recognized. It is expected by his patient and demanded by the profession, so universally, indeed, that some are forced to go through a sort of mummery for its moral effect upon the patient, when in reality there is little if any true perception of what the examination reveals. Fortunately, however, this class is in the minority. There is a desire prevalent in the profession, as shown by the increasing numbers at our clinical schools, to grasp the subject of physical diagnosis, and ere long no doctor will think of prescribing for a cough until he has discovered the cause thereof. No practitioner will mistake a functional for an organic disease of the heart; nor will he make life miserable to a patient just because an organic murmur *has* been found. He will be capable of explaining that life may continue in comparative comfort so long as compensatory hypertrophy lasts. Furthermore, he will be able not only to recognize failing compensation, but also to ward off its fatal effects, perhaps for years, by judicious treatment, and finally he will be less likely to interfere when nature does not call for aid—an achievement perhaps one of the greatest in medicine.

Now, let us turn to the study of diseases of the chest as they are presented, not in books, but at the clinic. It is one thing to learn the symptoms and physical signs of disease, and quite another to recognize them in the patient. Here lies the difference in medical men. Book knowledge is important, but some never get beyond it.

The first patient that it is our privilege to examine gives a good family history. She is thirty years of age, has not had rheumatism, nor any severe illness. She complains chiefly of loss of appetite, headache, and flatulence. Upon exertion and on exposure to cold she has a slight cough. You observe that it is not until the leading question has been asked that she tells of any shortness of breath on exertion. Her symptoms are mainly those of dyspepsia. But those disorders of the digestive tract that receive the name of dyspepsia are not always so innocent as they might seem. Not infrequently a grave kidney lesion may be found lurking in the background, and then again the heart may be at fault. A careful examination has excluded the probability of a kidney complication in this case. We will now investigate the heart. Upon inspection, it is seen that the apical impulse is somewhat to the left and below its normal position. The impulse, on palpation, is found to be slightly increased in force. Percussion does not give a marked increase in the cardiac area. Auscultation, however, reveals a soft, blowing systolic murmur, extending to the left, with the point of maximum intensity in the mitral area. Mitral insufficiency is the lesion, and for this the heart muscles fairly compensate. There is neither œdema nor cyanosis.

This is a very instructive case, illustrating as it does one of the secondary symptoms of heart disease—namely, flatulent dyspepsia. Long before serious engorgement becomes apparent there is this slight alteration in the circulation which results in defective digestion. And, too, a little unusual exertion or some slight exposure of the neck and shoulders produces a dry cough. Besides, if you closely watch these patients you will see that there is dyspnœa, not upon ordinary exertion, so long as it is confined to a plain surface, but during an ascent of a very slight elevation, or on any unusual exercise. As a result also of this, the bright-red color of the lips is seen to change to a much darker hue. I have had just such an instance under observation for the past four years. The patient was treated for simple dyspepsia, with very indifferent results, her heart lesion being unrecognized. But when the real cause of her trouble became known she made rapid improvement. A pill containing a grain each of digitalis, iron, and quinine, in addition to the stomach mixture, with, now and then, medicine for the intestines, comprised most of the treatment. The slight cough, which is provoked by a similar condition in the pulmonary circulation, is prevented by taking only moderate exercise and by keeping the superficial circulation active with sufficient clothing.

There is still another very interesting example of venous congestion resulting from heart disease that occurs to me. A patient who was completely prostrated each month by menorrhagia came for treatment, but her errand was as fruitless as it had been elsewhere until I discovered that she had a stenosis of the mitral orifice. No lesion could be found as a local cause. Concluding, therefore, that the excessive haemorrhage was due to venous stasis, I put her upon large doses of the infusion of digitalis during that period, and the treatment proved most efficacious.

On the other hand, it is a matter of frequent remark, the number of patients that come firmly convinced they are suffering from an organic disease of the heart, because of the pain and palpitation that often attends dyspepsia. A physi-

cal examination enables the physician to dispel all these fears, while properly directed remedies will remove the cause, quiet the heart, and quell the pain.

Here we have exemplified the interdependence of viscera, and, at the same time, the importance of not attending to one to the neglect of another part of the body.

We now have a patient on whom the ravages of time and disease have set their stamp. It is seen, by pitting on pressure, that his ankles are both œdematous. His face, marked with fine red streaks, is pale, and his lips are slightly cyanotic. The pulse is irregular and small. He tells us that exertion produces shortness of breath, and that upon two occasions he has had hæmoptysis. Thus we have evidence of an increased venous and a diminished arterial pressure. By palpation we find the apex of the heart a little to the left of its normal position, with its impulse fairly strong, while epigastric pulsation is forcible. Upon auscultation there is accentuation of the pulmonary second sound, and just over the apex can be heard a systolic murmur. This murmur is not heard in the back; neither is it carried to the left nor to the right. It is the indication of mitral regurgitation, but there is probably very little regurgitation as compared with the amount of obstruction at this orifice.

Delafield says: "The same lesion frequently produces both stenosis and insufficiency of a valve." And here we have the physical signs that most commonly proclaim this condition.

Such a murmur is much oftener present than the auricular systolic, or so-called mitral presystolic, murmur with this lesion. A feeble mitral systolic murmur, due to a weak ventricle, is also confined to the area of the apex, but that is not the case in hand. Exceptionally, a systolic murmur of the kind we have here gives place temporarily to a presystolic murmur. Obstruction of the mitral orifice produces an accentuation of the pulmonary second sound. This is brought about in two ways—first, by pulmonary engorgement and consequent hypertrophy of the right ventricle, and, second, by the diminution of the aortic second sound from decreased arterial pressure in the general circulation.

When hypertrophy of the left auricle is sufficiently in excess of dilatation to follow up the at first passive flow of blood by a firm contraction, in the completion of auricular systole, we may observe the so-called mitral presystolic murmur. But under other conditions of stenosis, unless the valve is closed during ventricular systole, such a systolic murmur will be produced as we find here. The case is of further interest in that we are able to restore the arterial circulation sufficiently at least to do away with the dropsy. In order to accomplish this we must increase the quality of the blood by food, rest, and tonic medicines. By the addition of digitalis, compensation will be re-established, and the patient assisted by a timely and not unintelligent interference.

The history and symptoms of patient number three are as follows: Attacked at one time by white frothy sputa, at another by more purulent expectoration. This began with an hæmoptysis early in the spring. She has night-sweats, and believes she is losing flesh and strength. A brother and a sister died of consumption. We are led naturally to suspect incipient phthisis; but the diagnosis of the early part of the first stage, by physical signs, is not always an easy matter; and it is quite beyond the reach of one who has not given some special attention to the subject. We know that fremitus is more marked at the right apex in health than at the left, that the pitch is higher on percussion, that expiration is higher in pitch and longer in duration upon auscultation, and also that vocal resonance is exaggerated. With these signs at the left apex we should be almost certain of phthisis. How, then, are we to determine whether there is phthisis upon the right side? In the first place, the disparity seems to be greater than is found ordinarily in health; and, secondly, there is evidence of a circumscribed bronchitis, shown by the localized subcrepitant râles. Besides, there are a few crackling and crepitant râles, indicating some slight co-existing pleurisy and pneumonia.

These adventitious signs are confirmatory evidence, and, taken in connection with an elevation of temperature, complete the diagnosis.

The advantage of detecting the presence of phthisis at an early stage is very great, for that is the time in which judicious treatment is productive of the best results. While, unfortunately, the greater number do not, still it is a well-established fact that patients do recover from phthisis. We find this demonstrated in autopsies, when death has taken place from other causes, by the presence of cicatrices or encapsulated cretaceous remains of old phthisis. It is also within the experience of many of us to have watched the progress toward recovery. Localized pneumonia undergoes resolution, circumscribed bronchitis disappears, and with them all decisive evidence of pulmonary phthisis.

The next patient comes with a history of a cough which has lasted nearly two years, associated with night sweats, loss of flesh and strength, but no hæmoptysis. His father and a brother died of what he thinks was consumption. Upon inspection, we see that he is much emaciated, especially about the chest. Under both clavicles there is depression, the retraction being more marked upon the right side. On palpation, we find fremitus exaggerated upon the right side, and his respirations are twenty-four a minute. Light percussion shows dullness in the upper part of the right infra-clavicular region and over the upper half of the left side of the chest, while forcible percussion brings out cracked-pot resonance from the left infra-clavicular region. Auscultation reveals bronchial breathing and bronchophony over the right, with amphoric respiration and whispering pectoriloquy in front upon the left side, while behind on the left side are large and small bubbling râles. Thus we have an example of the beginning of pulmonary phthisis at the same time with one approaching its end. It is but ill-conceived advice that sends a patient with lungs in this advanced stage of destruction from home and friends, to find discomfort and finally death among strangers in a strange land; and it would seem that a knowledge of the physical signs of disease should enable physicians to avoid doing this thing.

There are a few cases, to be sure, where phthisis advances to the stage of excavation and remains stationary, the patient practically recovering, but this is rather exceptional. If the physician can decide that the phthisis is non-progressive, and finds the pulse good and the general condition of his patient fair, he may give a guarded favorable prognosis, and possibly allow him to try a change of scene and climate.

To return, then, to our opening proposition, we see in all these cases that a comprehensive knowledge of disease is quite indispensable to a specific understanding of the malady under which each patient labors. And without physical exploration there is no certainty, for different diseases have so many symptoms in common that dependence upon symptoms alone is often misleading. By a thorough examination of each case the physician exhausts all possible causes of any given complaint. He begins to know definitely the matter in hand. He knows what is not as well as what is before him. He can direct his remedies to the true seat of the disorder, and he is not under the necessity of trying what may prove an ill-judged experiment, while without this examination his diagnosis is more or less guess-work. He may be right, for a guess has always one chance of being right; but he will often be wrong, and wrong, too, from avoidable causes.

I can not, therefore, urge upon the student too forcibly the importance of a thorough familiarity with physical diagnosis. He will not fail to be convinced of its supreme value in all cases of thoracic disease.

Original Communications.

PHYSIOLOGICAL, PATHOLOGICAL, AND CLINICAL NOTES ON HYDROCHLORATE OF COCAINE,

WITH SPECIAL REFERENCE TO ITS USE IN MELANCHOLIA. A PRELIMINARY STUDY.*

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This remedy is one of the great discoveries of the present century. Notwithstanding its recent triumphs in ophthalmological fields, I believe it will have its greatest future in the treatment of many forms of obstinate nervous disease. Anæmia, depression, prostration, neurasthenia, and particularly many disturbances of the vaso-motor system, will be the domain of its most brilliant therapeutical achievements. Having experimented extensively and perseveringly with this wonderful drug, I feel it incumbent upon me to lay before the profession the conclusions I have reached, although many of them are still not sufficiently matured by time and experience.

My attention to the internal use of the drug was first awakened early in January of the present year by reading an able article by a German physician, Dr. Fleischl, of Vienna, detailing the results he had obtained in the treatment of alcoholism and morphinism, in which he enthusiastically maintained that inebriate asylums were a thing of the past.

I shall consider the drug in relation to its effects on all the more important organs.

THE STOMACH.—After the exhibition of a dose of cocaine to one unaccustomed to it, intense and persistent nausea generally manifests itself. So certainly is this a fact that it is necessary to administer it several hours before a meal is taken; otherwise the anorexia which follows, along with the nausea, will prevent the taking of nourishment. This fact is to be especially remembered in the treatment of melancholia, in which (so far as can be learned) I was the first to suggest its use. If this is not remembered, it will, of course, greatly militate against the result to be attained, since systematic feeding holds an important place in the treatment of this condition.

One of the most striking and, at the same time, interesting effects of cocaine upon this organ, from a therapeutic standpoint, is that *vomiting is not possible*, however intense the nausea may be. This is due either to a paralysis of the gastric motor-nerve supply, which seems to be almost *sui generis*, or to a selective anæsthetic effect. Although the appetite is abolished, there is no interference with the digestion of food taken, in spite of the anorexia. The following incident led to this discovery:

A patient, to whom cocaine was administered some hours after the ingestion of an excessively large meal, was suddenly seized with violent symptoms of indigestion. As he was in great distress, an ordinary domestic emetic was given; this failing to act, one or two more strong doses of a similar character were administered with no result—such as large doses of salt, mustard, and warm water. They were given until the stomach was distended, with no effect except to add to the patient's distress. Ipecacuanha and alum, in fair doses, likewise proved futile. Everything having failed, and the patient's distress from the emetic agents becoming very great, efforts in this direction were stopped. In due course of time the contents of the stomach were carried off by a profuse diarrhœa, which afforded the first relief the patient experienced.

From this and analogous cases I concluded that cocaine should be ranked among the most efficient of anti-emetic remedies. For this I also claim priority, for, early in January, 1885, I suggested to my friend, the late Dr. P. V. Schenck, to make trial of it in cases of the obstinate vomiting of pregnancy. He soon reported before the Medico-Chirurgical Society of St. Louis most complete and brilliant success in two cases in which all ordinary remedies had failed. He was enthusiastic on the subject, and warmly urged me to publish my results. His early death, unfortunately, prevented further experiments in this direction, as I myself have not treated cases of this character for many years.

I have already referred to the loss of appetite which the drug produces. The anorexia is the most certain and complete I have ever witnessed as resulting from the use of any drug.

* Read before the American Neurological Association, June 17, 1885.

In cases of the ordinarily uncontrollable vomiting of hysteria, as well as in all cases in which it is desirable to administer nauseating drugs to patients presenting gastric irritability—ipecacuanha in dysentery, for example—I am convinced that cocaine will prove very useful.

Genito-urinary System.—Although I have made no chemical or microscopical investigation of the urine as modified by the use of cocaine, the time at my disposal having been too limited, I believe that the urinary organs offer an extensive field for observation. It is certain that it produces a largely increased flow of urine, and, as a result of its abuse, a slightly paralytic condition of the bladder. The patient finds it difficult to begin the act of micturition, and, when the act should have been finished, the urine continues to dribble away for some time, as in the incontinence observed after overdistension from retention. From this fact it has occurred to me that it would be well to try the remedy in cases of irritable bladder, whether due to cystitis or to perverted nervous and muscular action, a condition which so frequently baffles the best efforts of the physician.

Upon the sexual organs cocaine acts as a direct stimulant. Among aphrodisiacs I have found it the only reliable agent. In this as well as in other regards it proves directly antagonistic to morphine, which, as is well known, is a powerful anaphrodisiac. The most remarkable results may be effected by bringing the system under the conjoined influence of the two drugs. Veritably atrocious teasing effects are thus induced; the individual will be swayed by the stimulation of his desires to violent and frequently repeated sexual efforts which will almost invariably prove futile or be held in abeyance by the restraining influence of the morphine. The tortures of Tantalus will be repeated, the punishment being transferred to the sexual appetite, which can not be gratified, and being, if anything, more acute than that caused by excitations of thirst and hunger.

A singular effect of the drug is sometimes to be observed in the act of coition. There seems to be present a state of erethism, making it difficult for the individual to determine precisely when the orgasm has been begun or completed. This singular state of affairs is, in some instances, so pronounced as to perplex the individual as to the time when withdrawal should be accomplished. The condition is probably due to a morbid irritability resulting in a disturbance of the reflexes.

Circulatory System and Respiration.—The heart's action is increased both in strength and in frequency under the influence of medicinal doses of cocaine. This is confirmatory of the effects observed by South American travelers from chewing the leaves of the plant. When the dose is excessive, or its use too long continued, the pulse becomes weak and still more frequent, and dyspnœa follows slight muscular effort. The respirations are always increased in frequency to correspond with the acceleration of the heart's action.

The Vaso-motor Nervous System.—It is probable that many of the phenomena already described are due to the effect of the drug upon the nervous apparatus of the arterioles and capillaries, but I desire to lay some stress upon certain effects of this character not alluded to before. Immediately after the hypodermic injection of a full dose of cocaine the capillaries of the skin become contracted. If there has been any flushed condition of the face, it is immediately replaced by very pronounced pallor. The mouth and throat become dry—at least subjectively—the pupils dilate, and profuse diaphoresis usually occurs, if the dose is large and repeated.

In these results there is a strong resemblance to the action of pilocarpine, and at the same time a very remarkable dissimilarity, all therapeutically in favor of cocaine.

Jaborandi and its alkaloid produce nausea, but also vomiting; they cause diaphoresis, but at the same time salivation; they depress the action of the heart, sometimes to an alarming degree, the reverse of the ordinary effects of cocaine. Not quite so certain nor so persistent in its effects upon the secretions of the skin as pilocarpine, it is far more agreeable and safe in its action in cases of cardiac dropsy.

The Cerebro-spinal Nervous System.—The reflexes are all exaggerated. This is peculiarly shown in the act of defecation. It should be observed that, in consequence of the increased secretion of the skin and kidneys, the alvine evacuations become dry, hard, and infrequent. When there is an attempt made to relieve the bowels, the act is accompanied by spasmodic contractions of the abdominal muscles, efforts simulating the throes of the parturient female; the hardened fæces are expelled with force, and every muscle in the body seems to partake of the spasmodic action. There is thus danger of laceration of the sphincter ani, formation of fissure of the anus, aggravation of hæmorrhoids, and, in persons of advanced age whose arteries are degenerated, cerebral hæmorrhage, as a consequence of these violent expulsive efforts.

As soon as a medicinal dose of cocaine has reached the general circulation, a feeling of well-being is experienced; all sense of physical or mental fatigue which may have been present disappears as if by magic; the mind becomes excessively clear; ideas constantly flow, and the faculty of speech seems especially exalted. In fact, it would thus appear that the island of Reil and adjacent speech centers felt especially the force of the drug. So long as these effects are continued, sleep is impossible; no fatigue is experienced from continued muscular movements, no matter how prolonged.

These effects upon the cerebrum give the key to its employment as a therapeutic agent.

Therapeutic Effects.—It has been well known for some time that the fluid extract of coca was a valuable remedy in the treatment of alcoholism and the opium habit, but it is not to be compared with the alkaloid cocaine in this regard. For a remedy of uncertain strength and action we have in cocaine one whose effects can be predicted with mathematical certainty. It not only replaces alcohol and morphine, but it generates a positive disgust for these agents. They can be withdrawn completely and at once without the slightest suffering or injury, and the cocaine itself may be gradually dispensed with, thus eventuating in perfect recovery.

The only caution to be observed in these cases is *to administer the drug hypodermically, and this by the hand of*

the physician himself. This I particularly insist upon. The drug should not be known to the patient, nor the amount of the alkaloid which is being given. If these precautions are not adopted there is great danger—nay, a certainty—that a *cocaine habit* will be formed, more disastrous in its results than alcoholism or morphinism.

I have already referred to its uses in the obstinate vomiting of pregnancy and of hysteria, and would only add in this relation that there is nothing which relieves any of the ordinary manifestations of hysteria so rapidly and completely as a hypodermic injection of cocaine. The same effects may be expected from its use in cerebral and spinal anæmia, "spinal irritation," neurasthenia, and, in general, in all those cases where the brain and spinal cord do not properly perform their functions from want of proper blood-supply; in all these I believe cocaine will prove the remedy *par excellence.*

I have tested its powers in the cold stage of intermittent fever, and have secured the happiest results. There is a return at once of a feeling of warmth, and the skin begins to act, thus bridging over both the cold and the hot stage of the fever. In pernicious cases I have no doubt it would prove of the greatest value. Indeed, as the temperature is increased, both subjectively and objectively, at least 1° F., I have great expectations of its value in the algid stage of even such a disease as cholera.

In chorea gravior, in convalescence from protracted illness of any kind, in blood-poisoning—in fine, in all cases where there is excessive tissue metamorphosis without corresponding constructive changes—I believe cocaine to be a most valuable remedy.

Insanity, however, I believe furnishes the great therapeutic field for the useful administration of cocaine. Especially is this true of melancholia and hysterical and hypochondriacal insanity; in these especially there is a great future before it.

The records of all asylums will show that melancholia is usually a long-continued and tedious disease to treat—one which most alienists naturally dread to encounter. The rapid relief and satisfactory therapeutical results which are observed in mania so frequently, the shortening of its duration, and the control of its more prominent manifestations, are not observed in the treatment of melancholia. Protracted mental depression with accompanying physical prostration are the constant conditions present. Anything which will alleviate this condition and shorten its duration is a boon to suffering humanity. I therefore urge upon the profession to fairly, extensively, and perseveringly test this drug and verify or disprove the wonderful results I profess to have secured in this direction. These effects are so wonderful that they must be witnessed in order to be believed.

As yet I have not had so much time as is desirable to fully experiment with this remedy, but my results obtained at St. Vincent's Institution during the past six weeks have been in every case eminently satisfactory. In certain cases, only to be ascertained by experiment with the drug, it certainly appears to act as a specific. In most cases of melancholia, even those of very long standing, its effects are manifested almost instantly after giving it hypodermically. My usual method has been to inject one grain, dissolved in ten minims of distilled water. Making all allowance for idiosyncrasies, differences in individuals, variations in the purity of the drug, and other factors not necessary to mention, it may be said that within five minutes the specific effects are fully manifested. The patient who has been morose, silent, taciturn, a prey to the most profound grief or sadness, recovers his normal self, begins to talk about his case, and wonders how he could ever have experienced such gloomy ideas. The cloud over the mind is dispelled, and, instead of the anorexia felt by the normal individual who takes the same dose experimentally, the melancholiac no longer refuses food, and, in place of inveterate insomnia, will have a good night's rest. It is in recent cases that its curative effects are most manifest. In those of prolonged standing these results are apt to be rather transitory. In one case, that of a suicidal melancholiac from Arkansas, recently admitted into St. Vincent's Asylum with an ugly gash in his throat, the duration of the disease was less than a month from the time of his arrival at the institution. Only five injections of cocaine were given, and he was discharged, completely restored to mental health, before his injury about the throat had completely cicatrized.

About fifteen patients are yet under treatment, some of whom are greatly improved, some almost convalescent, while a few have received very little permanent benefit from its administration.

A very intelligent young man (still my patient) has written a graphic description of the effects of the cocaine treatment upon his melancholia, for which he alleges the best results, even declaring that it has induced an abolition of his suicidal tendencies. This letter I shall be happy to read to any of the gentlemen present who so desire. In chronic cases the effects are to produce a "lucid interval" which may continue from one to twenty hours. It is too much to expect that permanent good results can be effected in such cases from any course of treatment whatsoever.

Toxic Effects.—Too frequently repeated medicinal doses or very large quantities of the drug, injected subcutaneously at once, produce results alarming both to the subject and to the spectators. The entire surface becomes pale and covered with perspiration; the pupils dilate gradually and are insensible to light; profound nausea, but no vomiting, follows; the muscles of mastication become more or less rigid and affected with clonic contractions, this effect being produced only among the earlier physiological and toxic effects; there are violent grating and gnashing of the teeth, so that small portions of the enamel are ground off. Tonic contractions of the same muscles (trismus) are sometimes observed, but exceptionally. The eyes assume a fixed, wild, staring gaze that is as characteristic as it is indescribable. There is ceaseless jactitation, with a sensation of wild nervousness that is almost unbearable. There is voluminous loquacity, an extraordinary fluency of speech, the volubility of which must be witnessed to be credited. Excitations of the sexual propensities, one rapidly succeeding the other with astonishing celerity, of a teasing character, are generally observed. Superadd to these phenomena visual and

auditory hallucinations and illusions of the most painful character, and you have a conception of the clinical characteristics of acute cocainism. I do not know the lethal dose of cocaine. If given in sufficient quantity, it would doubtless induce epileptiform convulsions, terminating in death from exhaustion.

Chronic cocainism, or the cocaine habit, presents in an exaggerated form most of the phenomena just described, and some additional ones worthy of record. One case has come under my observation which I will give *in extenso:*

In February last a retired druggist was committed to my charge. He had for many years been a hopeless victim to the morphine habit. The morphine was suddenly withdrawn and hypodermic injections of from a grain to a grain and a half of cocaine, twice daily, were substituted. The result was brilliant and marvelously rapid. The craving for morphine immediately ceased, and all the distressing phenomena usually following the sudden cessation of the use of the drug failed to manifest themselves. Cocaine answered every purpose as a nervous stimulant. But I was somewhat alarmed at ascertaining that a corresponding demand for cocaine was rapidly developing itself—that *a cocaine habit*, the literature of which is as yet a blank, was being formed. Alarmed and dreading the responsibility of subjecting him to unknown and, probably, pernicious influences, I sought immediately to diminish the doses he was taking. Against this, however, he rebelled, and my protests and arguments failed to withdraw him from the rapid formation of a habit apparently more alarming in its results than the terrible slavery entailed upon him by his former habit. My consent to the further administration of cocaine was therefore withdrawn. At that time all craving for morphine and all necessity for its use had disappeared.

Owing to his former occupation, he had no difficulty in procuring the drug in large quantities and taking it by the subcutaneous method. His familiarity with drugs made him all the more reckless, and he daily became more and more enthralled. He often took from twenty to thirty grains daily. He has frequently endeavored to shake off the habit, but he finds this impossible. It is vastly more powerful and fascinating than his previous tyrannical master. I have frequently prescribed the free and narcotic use of morphine as an antidote, but this he has refused to use, seeming to entertain a veritable disgust for the agent which had formerly exercised such a power over all his life and actions.

About this time he sustained a severe concussion of the spine, and came under my daily observation, so that I have had ample opportunities for observing and studying the effects of the constant use of this powerful alkaloid in full doses.

The teeth also are implicated in the ravages of this drug, decay and absorption of the roots occurring.

The effects of its internal use upon the eyes have not, so far I know, been thoroughly studied, but I am convinced that the sight becomes enfeebled—a tendency to amblyopia—which is more intensified in the later stages of chronic cocainism. I have also observed diminution of the sense of hearing. Visual hallucinations and illusions, depending upon cerebral disturbances, and, of course, not upon ophthalmic factors, will be referred to subsequently.

The appetite is completely abolished, and, while there is a subjective sensation of dryness of the mouth and fauces, they are found moist on inspection. For weeks—nay, for months—during the continuous administration of the drug and impregnation of the system by it, all desire for food ceases, and I am satisfied that inanition would ensue were not the will-power exercised or forced feeding accomplished. Although very little nourishment is taken, the body does not emaciate to any such extent as under ordinary circumstances of deprivation. There must be some nervous impression or stimulation produced which greatly compensates for the want of physiological nutrition. This is probably due to a lessening of tissue metamorphosis to a minimum.

As regards sleep, the effects are as extraordinary as they are certain. Insomnia is the rule—an insomnia which is not followed, commonly speaking, by the exhaustion ordinarily thus produced. It is astonishing how night after night, during which sleep is almost entirely unknown, are succeeded by days during which the subject is not apparently greatly depressed, not unrefreshed, during which he is able—not, however, without effort and procrastination that are characteristic, increasing—to resume his daily labors, and even perform brain-work of considerable complexity. In fact, I have seen this insomnia kept up for three and four consecutive days and nights, and yet no very marked injury could be observed as a consequence. The nights are sleepless, yet so great is the fascination of the drug that the patient prefers his insomnia to his accustomed rest, although aware that the most arduous duties await him in the morning. This, to my mind, is an all-conclusive proof of the dangerous power and terrible slavery to which this alkaloid subjects its hapless victims.

Nausea and excitations of the sexual functions, already alluded to, add to the patient's distress; but these he bears, overpowered by a fascination which can not be resisted. He experiences the paradoxical delights of "enjoyable suffering."

Visual and auditory hallucinations and illusions of a very painful character make him fear that at every pass he will encounter some dread object. These cocaine effects will make cowards of the bravest men, causing them to arm themselves heavily to guard against the ever-anticipated dread encounter. When the dark vistas and oppressive silence of night arrive he excludes the pure air of heaven, however overheated the room may be, and he blocks up the very key-holes of his doors to exclude unknown and unreal dangers.

In concluding a study of the phenomena produced by the poisonous effects of this drug, I may say that the most alarming are: the most debasing enslavement of the will, a general demoralization which is as diabolical as it is indescribable, and which tends rapidly toward depravity and to the development of everything that is degrading and ignoble in human nature. The influence of alcohol and of other alkaloids and narcotics, so well known and so frequently described, pale into insignificance when compared with that of cocaine. Habits of the most detestable character; a settled indifference to every interest of life; destruction of the most noble affections and affiliations; the utter death of friendship and of all the nobler qualities; complete disregard of all social and domestic duties, of even pressing family necessities and the common interests

of daily life; the radical extinction of every previous religious spark that has enlivened the soul; the development of the most intense selfishness—these are the certain results of indulgence in this the most powerful and devilish drug which it has ever been the misfortune of man to abuse. The most powerful morphine habit of which we can conceive is to the power and bondage of cocaine as the weakest sapling to the full-grown oak.

Note.—A case has just been reported to me by Dr. A. B. Nichols, of this city, in which he used one quarter of a grain of hydrochlorate cocaine internally for vomiting in a woman advanced seven months in pregnancy. The vomiting was arrested by the first dose administered.

ON THE USE OF COCAINE IN MINOR SURGERY.*

By HENRY TUTHILL HALLECK, M. D.,
BROOKLYN.

Considerable has been written and said during the last few months, in the journals and elsewhere, relating to the use of this new drug. Its use in medicine is of recent origin, as it has only been known to the profession since October last.

As time passes, however, this drug seems to be gaining a firmer foothold in therapeutics, and its field of usefulness is constantly widening the better it becomes known. Almost every day we hear of some new application to which this new remedy has been put, and in which it has been found decidedly useful.

The only drawback to a more extensive use of the remedy is the very high price at which it is sold; weight for weight, it is considerably more expensive than 18-carat gold.†

Since its discovery, or rather its application to medicine, in October last, it has been used by a large number of physicians in one or more cases both in surgical and in medical practice.

I have used the drug in two cases in minor surgical operations. The most important evidence in its favor, however, is based upon notes obtained from the surgical practice of Dr. George Wackerhagen, of this city.

Case I.—This was that of an adult forty-five years of age, and a case of phimosis. The operation was done under somewhat peculiar circumstances, as it was not in reality a necessary one. The patient had recently had his two sons operated upon, and partly for that reason and partly because he was a man of some scientific acquirements and was anxious to test the efficacy of cocaine, he was desirous of having the operation performed—so much so that he told the doctor if he would not perform it he would get some one who would. Under these circumstances Dr. Wackerhagen consented. As the patient was determined to be a martyr to science, the doctor would not deter him. A four-per-cent. solution of the hydrochlorate of cocaine was introduced hypodermically at the dorsal base of the penis, on either side, simultaneously painting the prepuce thoroughly, two or three times, over the point where the incision was to be made, after which he waited for fifteen minutes to get the desired effect. At the expiration of this period there was still some tenderness of the foreskin, when the forceps was applied for the purpose of extension. Five minims more were introduced hypodermically. Soon the penis became numb, cold, and blue. Five minutes later the doctor commenced the operation, using a clamp after the usual custom in operating for phimosis. This patient did not have the slightest pain at any time during the operation, according to his own statements. He said, further, that he would not have known that the operation was being performed if he had not been looking at it.

Case II.—Another adult, twenty-eight years of age. This was a case of stricture of the urethra. Dr. Wackerhagen commenced the operation by introducing 30 minims of the hydrochlorate of cocaine with a urethral syringe, afterward closing the meatus and holding it so as to prevent any escape. Then he injected 10 minims into the tissues at the dorsal base of the penis. After waiting a sufficient length of timef or the anæsthetic to take effect, he introduced the urethrotome and cut up to No. 37, French measure, the patient having no pain. He then introduced a bougie, and found the stricture had not been fully divided. The urethrotome was reintroduced and the stricture cut to 40, watching carefully at the same time for any symptom of pain that should manifest itself. At this cutting the patient did complain of some pain, but said it was very slight. So little pain did he experience, according to his own statement, that he would not think of taking ether were the operation to be performed again.

Case III.—This was another case of urethral stricture in the male adult. It was very similar to the last, but here no hypodermic of cocaine was used. Thirty minims (ten minims three times, ten minutes apart) of a four-per-cent. solution of hydrochlorate of cocaine were introduced into the urethra and retained for a sufficient length of time to produce anæsthesia, after which the urethrotome was introduced and the canal cut to No. 40 in the French scale. The urethra was cut from three inches and a half back of the meatus to the corona. This man manifested no symptoms of pain during the operation.

Another marked feature from the use of this drug was that no chill was experienced in any of the foregoing cases, and in all, especially in the operation for phimosis, its marked hæmostatic action was readily apparent.

Case IV.—This patient was also an adult, but with an ulcer of the rectum. He was a man of forty-two years. The anæsthesia in this case, however, was a failure, the effect was nil, and the patient complained of pain all through the operation. The mucous membrane of the rectum was painted with a four-per-cent. solution as high up as could be reached. No hypodermic was employed. After waiting for twenty minutes for the anæsthetic to take effect, the operation was commenced. The patient complained that he felt the pain just as keenly as if nothing had been used. The non-success of the drug in this case was attributed to two causes: first, that the preparation used was of American manufacture, whereas in all the former cases the foreign make had been used; secondly, to the much greater difficulty of properly applying the drug to the mucous membrane on account of the locality. The doctor finished the operation while the patient uttered maledictions on the drug.

Dr. Wackerhagen remarked that he preferred not to use it in the case of children, for the reason that it would be impossible to keep them still enough to operate with any degree of satisfaction, even when absolutely no pain was produced.

Case V.—This was the case of a man, thirty two years of age, affected with urethral spasm, who was taken to New York to see Dr. Fessenden N. Otis. He also had a stricture. Dr. Wackerhagen demonstrated to Dr. Otis that a No. 7 sound was

* Read before the Brooklyn Pathological Society, March 12, 1885.

† Since this was written the price has declined, so that Squibb sells it at 18 cents a grain.

firmly held in the urethra by the spasm. After removing the No. 7 sound, however, and injecting about thirty minims of the hydrochlorate of cocaine and waiting for an appropriate length of time, a No. 28 sound would slip out and in easily. Several other New York surgeons were present and witnessed the operation, which was eminently successful in two ways: first, by proving that the drug could relax spasm, and, secondly, that there are sometimes strictures with spasmodic complications.

For notes of the two following cases I am indebted to the kindness of my friend, Dr. A. H. P. Leuf:

Case VI.—This patient was a young man with an old sebaceous cyst, located over the middle of the right sterno-mastoid muscle. The offending body was inflamed and pointing, and surrounded by a wall of inflammatory new formation about half an inch thick. The skin was repeatedly painted with a four-per-cent. solution of the hydrochlorate of cocaine for some time before operating. Five minims were injected hypodermically on either side of the sac. The anæsthesia produced here was so very superficial and unsatisfactory that the operation was concluded under ether. It is possible that a stronger solution might have been used with a better result.

Case VII.—This was the case of a young English surgeon, from whose tarsal cartilage Dr. Leuf removed a small tumor. This tumor was of about the size of a pea. The cutaneous surface of the upper eyelid was thoroughly painted with the solution, by means of a small brush, several times before the operation was commenced. The incision was made and the cocaine was continually applied, waiting by spells for the anæsthetic to take effect. He proceeded very slowly with the operation, which he was compelled to do in consequence of these interruptions, and, after all the care that was exercised in this case, much pain was evinced, and the anæsthesia was very unsatisfactory. Dr. Leuf stated that under the influence of ether the operation ought not to have taken more than five minutes, whereas with the cocaine it took nearly an hour, the pain being felt almost as acutely as if no anæsthetic had been used. No hypodermic injection could be given on account of the locality.

The next and last two cases which I shall relate occurred in my own private practice. These were more satisfactory than those in which Dr. Leuf used the drug.

Case VIII was that of a youth nineteen years of age. The operation was for phimosis. The foreskin was not so tightly contracted but that the mucous membrane could be easily reached with a fine camel's-hair brush and painted, which I did very thoroughly with a four-per-cent. solution of the hydrochlorate of cocaine (Merck's). This was repeated several times, and I waited for fully half an hour before operating, painting the foreskin, both on the mucous membrane and on the cutaneous surface, at very short intervals during the whole half-hour. I did not use any hypodermic injection in this case. I had given the patient his choice before the operation whether he would take ether or would have the cocaine, and he preferred the latter. The pain he experienced was extremely slight during the cutting part of the operation, the sutures causing somewhat more, but not enough to give rise to any very serious discomfort. He said he greatly preferred it to ether, which he had taken on a preceding occasion. The operation performed was that of Professor Wright. I also noticed that the hæmostatic effect in this case was good. The hæmorrhage was far less than in those cases in which I have used ether as the anæsthetic.

Case IX was that of a lady who very much dreaded to go under the influence of ether. The removal of a sebaceous cyst from the scalp was to be the operation. I doubted the efficiency of cocaine very much in this locality; however, I resolved to give it a trial, and, as I could not hope to produce any anæsthesia from its external application, I accordingly injected with my hypodermic needle fourteen minims of Merck's four-per-cent. solution of hydrochlorate of cocaine. Seven minims were injected at the anterior base and seven minims at the posterior base of the tumor. I then waited for twenty-five minutes for the cocaine to take effect. On making the linear incision, the patient felt some pain, and, as the spot was not a particularly sensitive one, I doubted somewhat whether the cocaine had anything to do with relieving the pain. However, on pulling out the sac, I thought that the sensation was very much deadened. She complained of some pain, it is true, but did not make half the fuss I expected.

I have also applied cocaine to the mouth with very good effect in one case. It was that of a child only a few months old. It was teething, and I rubbed the swollen gums with my index-finger, first moistened with the solution of cocaine. The child appeared decidedly easier after a quarter of an hour or so, and ceased crying after having it applied a second time. My experience with cocaine has been fairly satisfactory, and I shall continue to use it whenever I think it practicable.

There seems to be a goodly number of conflicting statements with regard to its efficacy, but whether only apparent or real remains to be demonstrated. It is said by some that the American article is useless, and that the imported one only is of use as an anæsthetic. One strong point in its favor is, that in every case where it will take the place of ether it does not leave the patient sick for hours afterward, as is usual after the use of that anæsthetic.

It would also be an interesting point to learn just how strong a solution could be used with safety to the patient to avoid sloughing, gangrene, etc., which might possibly be the effect if too strong a solution should be used, because of its astringency and possible effect upon the trophic nerves. Its application in medicine is likely to be far more extensive than in surgery, and any method by which its field of usefulness can be extended, whether by experiment or otherwise, is certainly praiseworthy.

THE HOME TREATMENT OF PHTHISIS.*

By F. C. SHATTUCK, M. D.,
BOSTON.

About ten years ago, when making a visit in a French hospital, I heard the epigrammatic professor say to those who accompanied him: "For phthisis, gentlemen, there are but two remedies, opium and lies." Of course he did not mean his statement to be taken in absolute literalness, but the remark affords a good illustration of the view which has been held in the past by the profession and the laity alike, but which is undergoing, and will undergo, further modification. Let me quote what another French professor, M. Jaccoud, says in his work, the English translation of which has just appeared: "To sum up what has been stated, pulmonary phthisis is curable in all its stages. This is the prolific notion which presides over the whole history of the

* Read before the American Climatological Association, May 27, 1885.

disease, and which should unceasingly inspire and direct all medical action." *

There is very little disagreement among doctors as to the fact that the chances of recovery are much better for patients so situated that they can have a suitable change of climate, or, at all events, move from the city to the country; but is removal indispensable to cure? The experience of nearly every physician in active practice answers this question more or less conclusively. Dr. Flint has shown that a certain proportion of the phthisical recover not only without climatic, but practically without any treatment; that in some cases phthisis ends by self-limitation. But allow me to dwell for a moment on the vital statistics of my own State. In 1857, 39·50 deaths from consumption occurred in Massachusetts for each ten thousand of the population; in 1883, 29·90, the diminution being gradually progressive during this period, as is seen in the accompanying table which I take from the registration reports. These figures show a still larger decrease in the mortality from consumption among the native population, for the decrease has taken place in spite of the constant influx of foreigners, and notably of the Irish, who are proved, by the studies of the late Dr. T. B. Curtis and others, to be especially prone to this disease.†

Death-rate from Consumption in Massachusetts per Ten Thousand.

1857	39·50	1871	33·93
1858	38·42	1872	36·26
1859	38·85	1873	35·36
1860	37·02	1874	32·80
1861	36·77	1875	34·73
1862	34·28	1876	32·35
1863	37·26	1877	32·93
1864	37·89	1878	32·00
1865	36·79	1879	30·42
1866	35·33	1880	30·81
1867	32·55	1881	31·50
1868	32·20	1882	30·10
1869	32·88	1883	29·90
1870	34·33		

This decrease is altogether too large to credit to greater accuracy in diagnosis and to the transference of consumptives to other States, but is mainly attributable to the prevention of phthisis by improved hygiene, especially among the native-born. Still it seems to me fair to carry some of the improvement to the account of the arrest and cure of actually developed disease through early diagnosis and more rational home treatment, hygienic as well as medicinal.

There are two classes of consumptives for whom the home treatment is the only treatment—those whose means do not allow a change of climate, whatever the condition or stage of their disease, and those whose condition is such that, whatever their means, they had better stay at home and die among their friends, surrounded by the comforts which are to be found in the homes of the well-to-do, but which can so rarely be secured, especially in this country, in hotels or boarding-houses. It is true that some of the latter class, buoyed up by the hopefulness so often characteristic of this disease, will not be said nay, and succeed in finding a physician who counsels a change or else take the matter into their own hands; these do not, however, immediately concern us. Nor does it come within the scope of my paper to discuss the questions as to the rules which are to guide us in selecting cases for which a change of climate is desirable, or in selecting a climate for any particular case. The fact remains that the vast majority of consumptives must, perforce, remain at home. How can we best aid the recovery, prolong the life, and alleviate the sufferings of these patients?

I have no novel or startling views to lay before you, and shall probably not be able to tell you anything which you do not know already. In the discussion which follows the paper, if not in the paper itself, there will be valuable suggestion. What I have to say is, of course, without special reference to the particular climate which may belong to the home of the can't-get-away consumptive.

The consideration of the treatment of phthisis falls naturally into two great divisions, the hygienic and the medicinal; let us take up the more important first, including under hygiene food, morals, fresh air, rest and exercise, dress, and bathing.

Phthisis (or the tubercular bacillus, if you will) resembles one of those weeds which grow only on poor or neglected soil, but it also exhausts completely what measure of virtue the soil may have; hence, by every means at our disposal, we should seek to improve the general health of our patients, that we may aid nature in choking out the disease. The key to the position in the present state of our knowledge is in attention to digestion. A patient of mine, a brilliant example of complete recovery, said to me: "As long as my stomach held out I was not very anxious." Every consumptive should eat the maximum amount of nourishing food which he can digest—which he can digest, let me repeat—for, as Lauder Brunton pithily says, we should always remember that food within the gastro-intestinal tract is still practically outside of the body. There are general laws of dietetics, and we know how long it took the stomach of St. Martin to deal with many different articles of food. Certain materials and certain methods of preparation agree better than others with the majority of mankind; but in dealing with patients we give our advice to individuals, not to men or classes of men collectively. In dietetics, as in a Western mining camp, every man is in large measure a law unto himself. I am often reminded of a wretched child suffering from congenital syphilis and rickets, among other things, the bowels were loose, did not improve readily under treatment which I considered to be suitable, and the weather was close to the end of the season—summer; so I sent the child and its mother to a healthy place in the country, with careful directions as to diet and drugs. After some weeks the mother returned

* "Curability and Treatment of Pulmonary Phthisis," translated by Lubbock, pp. 27 and 28.

† For full details on this latter point, which it is impossible for me here to further develop, I must refer to the very able "Report on the Sanitary Condition of Boston," written by Dr. Curtis in behalf of a medical commission appointed by the city. The report was published by the city in 1875.

with more of a child than she took away, and, on questioning her, I learned that for a time she conscientiously followed my directions, but was not rewarded by seeing any improvement; blueberries were plenty in that part of the country, the child craved them, the mother with misgivings gave them, and the diarrhœa promptly ceased. Our distinguished member, Prof. Flint, says, in writing of dyspepsia, that sufferers "must follow the dictates of instinct rather than any precise rules." I was delighted to find this warrant for the assent which my far more limited experience has led me often to accord to the request of patients, and particularly consumptives, for special articles of food, however bad the reputation of such articles as regards digestibility might be; never in the case of a consumptive have I had reason to regret the indulgence. I think we are perhaps oftener called upon to give minute directions as to the frequency with which food is to be taken than as to the form which it is to assume. Much more work can often be got out of the stomach without remonstrance by five, six, or seven light meals a day than by three heavier ones. A glass of milk or the like, with or without a raw egg, and a little alcoholic stimulant, midway between meals and at bedtime, may be of more service than anything contained in the drug-shops; and a cup of hot bouillon, as soon as possible after waking, will carry a patient over his morning cough, bath, and toilet, with a good appetite for breakfast. I have repeatedly seen this simple expedient make a great difference in the comfort of the whole day.

Alcohol, in such form and quantity as careful observation of the individual patient shows is best tolerated, is indicated in most, though not in all, cases. Any toxic effect is to be avoided, and the influence on the appetite and digestion is to be watched; there is room for the exercise of much judgment in the use of this form of food, and that a certain amount of alcohol is, under certain conditions, a food, I have myself no question.

With forced feeding after the manner of Debove I have no personal experience, and dismiss the subject of diet with the repetition of the axiom that in phthisis the physician should see to it that his patient takes all the nourishment he can digest.

The moral management of the case requires a few words. Here there is scope for the most delicate tact and the most intimate knowledge of human nature. Some patients need to be frightened, some to have their fears allayed. Let science clarify and sharpen our vision; let it not render us so hypermetropic that we do not see distinctly the individual in the patient before us. I think we are sometimes inclined to forget what a powerful therapeutic agent prognosis may be. Let us give the patient the benefit of every doubt, remembering that the prognosis represents our opinion, not inevitably the truth. An unfavorable opinion should often be reserved for a near and judicious friend, if the patient be so fortunate as to have one. All patients are not so tenderly considerate of their physician's mistakes as was the young lady who recovered after she was given up by her doctor, and ever thereafter, when she met him, blushed for shame. Occupation is another branch of moral treatment which must not be lost sight of.

Dress need not detain us long. Consumptives are apt to err on the side of too many and too heavy clothes, keeping the skin in perpetual action and wearying the body by mere weight. The ordinary house-dress of the average man in our climate in the winter season weighs eight to ten pounds. Let the consumptive wear wool or silk next the skin from the neck to the toes, and let him change them frequently; a change of stockings several times in the day will often obviate the discomfort of cold feet. It is important, especially with the poorer class of patients, to insist on wool, and warn them not to allow the shopkeeper to pass off a cotton for a woolen garment.

Too much stress can scarcely be laid on the importance of fresh, pure air. Carbonic acid and carbonic oxide are poisonous enough to well people, but how vastly more deleterious to those suffering from a constitutional disease manifesting itself in the lungs! Fortunately, sounder ideas prevail on this point than was formerly the case, but there is still room for improvement. The apartments occupied by the patient should face the south if possible; it seems to be thought by some that the exposure of a bedroom is of no consequence, as if a third of the life of a healthy person were not passed there. An open fire of wood or soft coal should be kept up in the living-room if possible, and ventilation should be carefully provided for. In severe or windy weather a simple frame fitted to the window and covered with flannel can be put in at the top, a weather-strip on the lower edge of the upper sash preventing the rush of cold air which would otherwise occur between the sashes. Fresh air can thus be constantly introduced without causing any appreciable draught. Equal solicitude should be given to the ventilation of the sleeping-room. I am often struck by the appearance of the houses in our most fashionable streets. In streets running east and west land is apt to be higher in price on the north side, which, of course, alone gets any sun during more than six months of the year. Of shades and curtains there are often half a dozen series, and during the forenoon the shades are pulled down and fastened at the bottom that the precious furniture and carpets, more highly valued by the owner than health, may not be faded; the sun is paid for and then excluded for the sake of the furniture. Those who can not afford delicate fabrics are better off.

So much for fresh air and sunshine in the house. Fresh air without the house is naturally considered in connection with exercise. We should insist on out-door exercise in such degree and form as the strength of the patient, the length of his purse, and the season will allow. Driving should, if possible, be in an open vehicle, which for a weak person should have a high back, and in windy weather a veil or a respirator should be worn by the occupant. People are finding out that sleighs are not the only open conveyances which can be used in winter. I believe that with proper precautions there is, as a rule, more risk of catching cold in a close than in an open carriage. Exercise in the saddle, if desirable or practicable, has the great advantage over walking that it distracts the mind as well as uses all the muscles.

We find that a certain number of those who consult us

have been doing too much. I have repeatedly seen fever greatly diminish or cease entirely after putting the patient to bed, with abundance of fresh air, for a few days. It is not enough to tell patients to avoid over-fatigue; very few know what this means. I often try to explain somewhat as follows: "A fatigue which passes away after resting an hour or so on the completion of your exercise is natural and healthy, and therefore does you good rather than harm; but if you find that, in spite of a reasonable rest, you are still tired, you have done too much." Such a rule I believe to be safe.

There is a popular idea that there is something about the night air which is particularly dangerous to consumptives—an idea which, like many of those bearing on medicine and current with the laity, probably came originally from the profession, which advances in knowledge faster than the public. The night air is all the air there is at night, and in non-malarious regions the danger of going out in the evening does not lie in the quality of the air, but in the fact that persons are at that time often tired and, consequently, more sensitive to alterations of temperature, or any other demand upon the vital forces; the bearing of this observation is sufficiently patent.

The character of the employment of the consumptive is also to be borne in mind, and an out-of-door occupation, involving no severer toil than the patient can stand, should be followed if possible. Too often this is impossible; but we must do the best we can under the circumstances.

Patients who are too weak to take any active exercise often derive great benefit from a sun- and fresh-air bath. In the country a little shed can be built, open toward the south and sufficiently deep to keep off the wind from the patient sitting in a chair or lying on a mattress. In the city an easy-chair can be placed near a widely opened southerly window. The invalid should have as many blankets or robes as he wishes. No matter how low the thermometer, if the sun shines brightly there is rarely any difficulty in keeping warm, and a small sun-shade or similar contrivance is often needed to protect the head. No artificial heat has the penetrative power of the sun, and I have repeatedly found patients, who were horrified at the idea when first presented to them, enthusiastic in their expressions of satisfaction at its practical working. In city streets people often object to this measure from a fear of appearing peculiar to their opposite neighbors or passers-by. I have found it a most valuable means of treatment for those who are debilitated from any cause.

Gymnastics, with the view of expanding the chest and promoting the absorption of diseased products in the lungs through the improved circulation thereby brought about, have perhaps not received so much attention from the regular profession as they deserve. Of course, exercise of any kind quickens the circulation; but this is not clearly understood by the laity, and the imagination is more excited by means which are manifestly directed immediately to the seat of the disease. Respiratory gymnastics have thus a double value, and precise directions are more likely to be followed than those which are purely general. I know of a "doctor" who has apparently found it very profitable to teach people how to breathe, and I do not doubt that some of his patients have found it profitable to learn; he thus prevents and cures consumption, reduces the weight of those who are too fat, and augments that of those who are too lean. A grain of truth is none the less precious because it is covered with an investment of quackery.

Another and the last branch of hygiene on which I shall touch is bathing. Cleanliness is desirable in itself, and it is quite as important for the phthisical as for the healthy to maintain a proper action of the skin. After a warm bath, unless it is followed by a cold douche, exposure to cold is to be carefully guarded against. A cold bath is a powerful tonic; but how are we to determine in a special case the proper temperature? Of course, in many cases cold baths are out of the question, but probably not in as many as is generally supposed. It is the reactive power of the patient rather than the thermometer which should decide the temperature of the cold bath; the colder the better, provided that thorough, prompt, and persistent reaction follows, promoted by a brisk rubbing with a coarse towel or a flesh-brush. The use of a cup of hot bouillon before the bath has already been alluded to, and reaction may often be further aided by the addition of rock salt or some other cutaneous stimulant to the water. That the systematic study of hydro-therapeutics as one of our weapons against debility will receive more attention in the future than it has in the past, I have no question.

The medicinal treatment may be divided into the general or curative, and the symptomatic or palliative, the object of the former being to stimulate and improve the general nutrition, that of the latter to check as they arise such symptoms as militate against the recovery or the comfort of the patient. Such a division may be artificial, but, for our present purposes, is convenient.

If we always bear clearly in mind the fact that our aim in giving general medicinal or tonic remedies is simply to promote assimilation, and thus put our patients into a condition more favorable to recovery or less favorable to the rapid advance of their disease, among other advantages we are apt to choose more judiciously the special form of tonic which is most likely to be of service. Cod-liver oil, either pure or in one of the numberless disguises which it is made to assume, and some of which certainly have their places, needs no commendation from me. It is, perhaps, a food rather than a drug; but a food which demands a certain amount of digestive power, and we all see it prescribed when it does more harm than good, for the very simple reason that digestion is not equal to it. With many physicians the diagnosis phthisis is followed by the prescription oleum morrhuæ as the thunder follows the lightning. "The doctor told me to take cod-liver oil, but I can't keep it on my stomach," said a feverish young girl without appetite who consulted me only yesterday. In my experience this remedy is generally to be avoided if the tongue be coated and the appetite poor; if, in addition, there be fever, the case is still clearer. The fever requires always fresh air, often rest, with quinine or another antipyretic, and the stomach a bitter tonic, as a rule, combined or not with a laxative, according to circumstances. After a week or two

of such treatment the appetite and digestion are often so much improved that cod-liver oil is borne. If there is any doubt as to its toleration, it is better to begin with teaspoonful doses and gradually increase to the full dose as warrant is found for doing so, the full dose being much larger than most of us have been in the habit of using, if the views of Jaccoud are correct. If the pure oil is well borne, I believe it to be better than the more palatable though weaker preparations, and the remedy is not to be thrown aside without a fair trial, inasmuch as a stomach which is rebellious at first sometimes accepts the situation with apparent cheerfulness after a few days' cautious persuasion. It is not needful that I should enumerate or dwell upon the various emulsions, etc.; the advertising pages of our journals, circulars, and the periodical visits of the affable gentlemen with hand-bags, remind us of them sometimes in moments when we would fain forget them. The fact remains that cod-liver oil pure, or never so skillfully emulsified, is worse than useless unless it can be digested; if it can be digested, it is a most valuable form for the administration of fat, a material which long and wide experience has shown to be especially indicated in consumption.

Jaccoud recommends highly glycerin, ℥ jss.–ij daily, as a substitute for cod-liver oil when there is fever.

Ferruginous tonics are sometimes of use for short periods if there is notable anæmia, but are contra-indicated by a coated tongue and sluggish bowels. Arsenic, on the other hand, either in solution or pill, has a much wider application than iron in phthisis, and should often be continued for long periods. The dose should be as large as is perfectly well borne, and it is sometimes well to omit it for a week and then resume. It interferes in no way with the administration of cod-liver oil or glycerin. The diastatic tonics and the hypophosphites also have their place, and often seem distinctly to aid a feeble digestion, thus contributing toward a gain in flesh and strength.

The leading symptoms which call for interference, and to which I shall briefly call your attention, are cough, pain, night-sweats, diarrhœa, and hectic with its attendant nervousness.

Patients often say to us, "Doctor, I have taken your medicine, but my cough is no better," the cough representing to them the disease. In a semeiological sense they are largely right, but in a therapeutic sense very far wrong. When the cough ceases entirely the patient is at the door either of recovery or death; but we know, even if our patients do not, that, as long as there is mischief in the lung, cough must persist. How often do we see consumptives who, generally on their own notion or acting on the suggestion of friends, but, unfortunately, sometimes in accordance with medical advice, are taking cough mixtures to their detriment! In advanced cases, which must sooner or later prove fatal, such an error is of less consequence; but in early cases the effect on the appetite and digestion is often disastrous. Coughing may be very hard work, but before we interfere with it there is one main question we should ask ourselves: Is the cough in the case before us useful or needless? I speak of cases relatively, not absolutely. A cough which is followed by expectoration is not entirely in vain, while that which is simply irritative wears out the patient. The former is not to be checked by any means which involves the risk of impairing the digestive power unless it provokes vomiting or breaks up the night's rest, which is of such vital importance that we are justified in seizing the two-edged-sword opium to obtain it if milder means fail. The surest way to diminish excessive expectoration is to pay close attention to hygiene and diet, though suitable inhalations will sometimes help. The type of the useful cough is that which occurs on waking in the morning, and which clears out the secretions that have accumulated during the superficial respiration of sleep. The value of a hot drink, which with a spirit-lamp at the bedside and five minutes' time is ready, as an expectorant at this time has been already spoken of. If this is not sufficient, a little alcohol or a stimulating expectorant, like carbonate of ammonia, can be given in addition.

The teasing and irritative cough, on the other hand, it is our duty to check if we can, but by the mildest means at our disposal which will accomplish our object. Oftentimes I have found chloroform-water stand me in good stead; but there are cases in which the narcotics, and especially morphia, must be used; the great danger of morphia is that it is so efficient in relieving cough that we are tempted to use it indiscriminately, thus doing great harm. One of the most distressing forms of cough met with in the phthisical is that hard variety which leads to vomiting, consuming the patient like a candle lighted at both ends; this generally calls for opium in some form, though it is well to try the effect of an alcoholic stimulant first. Especially in those cases with sharply localized pulmonary lesions, counter-irritation over the seat of the disease will often economize drugs and the stomach alike. The ammonia blister is a favorite form with me.

For the thoracic pain which is apt to be more or less pronounced at times in nearly all advanced and some early cases, and which is sometimes rheumatic or neuralgic, sometimes pleuritic, we are called upon to prescribe. Counter-irritation with mustard, chloroform, a liniment, croton-oil, and the like, generally proves sufficient, though here again we are sometimes forced to use opium. When the pain is fairly localized I find that the application of a dry cup or two, a simple remedy which has gone too much out of fashion and of which any untrained attendant can readily be taught the use, is often followed by marked relief.

Another symptom which demands interference is night-sweat, sapping the strength of the patient and marring his sleep. Sometimes it is a very easy matter to control this overaction of the skin, sometimes it is very difficult. Hence it is well to have many strings to our bow; we are not infrequently compelled to try successively aromatic sulphuric acid, oxide of zinc, ergot, atropia, quinine, or Dover's powder internally, or dusting powders, sponging with acids, alkalies, alcohol, or tincture of belladonna externally, before we meet with success. If the patient can bear it, active friction or shampooing of the skin is often desirable. I have given a good deal the pill used in the Victoria Park Hospital containing morphia and atropia, combined with a little capsicum and a laxative if required; night-sweats and

cough are both controlled by it, but my objection to atropia lies in the difficulty of so adjusting the dose that the desired effect on the skin is obtained without producing an undesirable degree of dryness of the throat. In two cases I have succeeded with picrotoxin after having tried in vain every other remedy of which I could think.

There can be no more question as to the propriety of trying to relieve diarrhœa than there is with regard to pain and night-sweats. When the loose discharges depend on ulceration, and still more when they depend on amyloid disease of the intestine, they are apt to be difficult to restrain; and yet in some cases of tubercular, as of typhoid ulceration, so far from diarrhœa being present, there is constipation. It is needless to say more than that the treatment is by astringents and opium, the particular remedy in any given case depending on the urgency of the symptom, trial, and any known peculiarity of the patient. In cases where there is any hope of recovery, if we give opium we should strive, while we give enough to attain our end, to give no more than is necessary.

For nervous irritability, whether manifested by a worried but healthy adult, a teething child, or a phthisical person, a plentiful supply of cool, fresh air is the first indication.

Against the fever of phthisis antipyretics have, as far as I know, been but little employed in this country. I certainly have made no systematic use of them myself. The fever is not the disease, and the cases must be very rare in which a diminution of the pyrexia for a few days may make all the difference between recovery and death, as is sometimes true of the more acute infectious diseases. At the same time fever works to the detriment of the patient in two ways—diminishing his income and also squandering his capital. Therefore, if we can combat it without destroying what little digestive power it is apt to leave, clearly our duty is to do so, and I propose to give the method which Jaccoud thinks has yielded him admirable results a thorough trial. It is perhaps scarcely fair, either to him or to you, to try to describe in a few words what his method is; but the gist of it is the administration of large doses of quinine for inflammatory fever by the mouth or under the skin, the hydrobromate being always chosen for the latter avenue of introduction into the system, while for the fever of absorption large doses of salicylic acid by the mouth or salicylate of soda hypodermically, if the stomach is irritable, are chosen. Whether we shall all find it as easy to differentiate the forms of fever in phthisis as does Jaccoud I do not know, but the subject of fever is far too large for our present opportunity.

My slight sketch of the home treatment of consumption is now finished. The different aspects of the question afford material for a dozen detailed pictures, and there are two important lines of treatment of which I have purposely omitted all mention—inhalation, notably by antiseptics and oxygen, and the use of artificially compressed and rarefied air. Perhaps I am wrong, but the published reports of the experience of Pepper, Beverley Robinson, and others, has not encouraged me to try antiseptic injections into the lungs; nor have I ever practiced the free incision and drainage of pulmonary cavities.

DISCUSSION.

Dr. P. KRETZSCHMAR indorsed the remarks of Dr. Shattuck. There were some points which perhaps deserved further consideration. One related to the sleeping-room. As we all knew, one third of the time of every human being was spent in the sleeping-room, and he therefore thought that more attention should be given to this matter in the hygienic treatment. He had in mind particularly the question of the size of the sleeping-room, the question of the consumptive sleeping with other persons, and the question of leaving the windows open at night. The home treatment of consumptives related especially to the poor, and here we were apt to find five or six persons sleeping in a small room badly ventilated. He thought more could be done by the administration of pure air if attention were given to the ventilation and size of the sleeping-room, where the patient spent a third of his life, than by other means. He, of course, approved of the author's remarks concerning the ventilation of the sleeping-room during the day. The second point was, Should we not advise our patients, especially those inclined to phthisis, against sleeping with others? A third point was, we did not usually pay sufficient attention to the frequent and thorough removal of the sputa from the sleeping-rooms. In addition to the remedies mentioned, he recommended cold sage-tea before going to bed.

Dr. ROBINSON said he did not wish in any wise to criticise the paper as far as it went, for he agreed with Dr. Armour, who considered the paper an admirable presentation of the subject, but he regretted that the author had not mentioned three modes of treatment which he believed physicians might find of advantage in the treatment of phthisical patients at their homes after other methods had failed. The first was forced feeding, giving patients more food than they craved, and even more than the stomach could digest if the food was swallowed. The second method related to intra-pulmonary injections; the third to antiseptic inhalations, with regard to which he had presented his views in a paper to-day. These methods had been tried in St. Luke's Hospital during the past winter. A young man came into the service of Dr. Ball six or eight months ago, afterward into Dr. Kinnicutt's service, and finally into his (Dr. Robinson's). On admission, there was evident pulmonary infiltration at the apices, and the stomach was absolutely intolerant of the smallest quantities of food. Nearly everything was vomited. By washing out the stomach and pouring food into it through a soft tube they were enabled to give the patient nutriment, and increased his weight at least six or seven pounds. Beyond this increase in weight, the patient's phthisical condition was in no sense ameliorated. We had to take such a case for what it was worth. We certainly could not take it as showing that phthisis was made better even by improved nutrition; but it showed that we could increase the patient's weight and thus better his condition.

With regard to injection of infiltrated lung areas, he could only repeat what he had before endeavored to emphasize, namely, that there were certain cases in which we were unable to arrest cough by other means, while this treatment benefited cough and local congestion.

One more word, which he knew to be but rudely, but which he believed nevertheless to be true. He had had charge of a good many phthisical patients at the Out-patient Department of the New York Hospital, and he could say that certainly very few of those persons having infiltration at the apices were benefited to any considerable degree by ordinary methods of treatment.

Dr. SHATTUCK, in closing the discussion, said he cordially agreed with all Dr. Kretzschmar had said. He had found it

hard to tell, in so short a paper, what to say and what to leave unsaid. With regard to what Dr. Robinson had said concerning forced feeding, he was glad to hear about it, and to know that it had been tried in New York. He had not mentioned it in his paper because he had had no personal experience with it. Inhalations and treatment with compressed and rarefied air he had left out purposely, because they were large subjects and he knew there were to be papers specially devoted to their consideration. With regard to injections into the lungs, he had read one paper on the subject by Dr. Robinson, and the impression which he got from it was that he did not do the patients any harm, but he could not say that he did them any good, and it was not pleasant to have the needle stuck into one unless it promised some good result.

THE RADICAL TREATMENT OF SYPHILIS.

By W. A. HARDAWAY, M. D.,
ST. LOUIS.

The article in this journal for July 11th, by Dr. Leuf, on the "Eradication of Syphilis during the First Stage by Surgical Means," will perhaps recall the fact that a paper of similar import was published by me in the "New York Medical Journal" for December, 1877. In von Ziemssen's "Handbuch der Hautkrankheiten," Neisser, in the article on syphilis, credits my paper on the extirpation of lymphatic glands in the radical treatment of syphilis to the "American Journal of the Medical Sciences" for 1877.* As a matter of fact, however, this subject was presented by me originally in the shape of a thesis for graduation in the year 1870. It was subsequently published in the "St. Louis Medical and Surgical Journal" for May, 1872, then enlarged and read before the American Dermatological Association in 1876, and afterward printed in the "New York Medical Journal," as stated above.

Before concluding, I should like to trespass on your space for a few general statements. Hill's case, well known to syphilographers, in which he cauterized a laceration of the frænum, made during violent intercourse, twelve hours after its occurrence, and with a negative result as to prevention of systemic infection, together with the oft-quoted inutility of the complete destruction of the vaccinal *bouton*, have been paraded time and again as proofs, both positive and analogical, of the utter futility of any local measures in the suppression of constitutional symptoms. While I am far from denying that the *complete* and *sufficient* destruction of the initial lesion, at the right time and in the right way, may, under certain circumstances, avert general syphilis, still I long ago said: "I believe that in a certain number of cases destruction of the initial lesion would prove futile, as I am of the opinion that the virus is soon carried to the lymphatic glands, as is evidenced by these glands undergoing the same processes as obtained in the primary sore, and this would explain why total destruction of the inoculated parts has generally proved unavailing." In the section on treatment, in the paper referred to, which I shall take the liberty of quoting at length, I made the following statements:

"As a logical result of the views which have been expressed as to the pathology of syphilis (that is, absorption by the lymphatics), it has long seemed to me that an early extirpation of the enlarged lymphatic glands contiguous to the initial lesion would in some instances avert constitutional infection. This would certainly be, to say the least, as legitimate an operation as excision of the chancre itself, which is looked upon favorably by some excellent authorities, although, even from my standpoint, I would regard this latter procedure as generally unavailing for reasons already given. By writers such as Lee, Lancereaux, and others, who do not deny that the syphilitic virus is carried to the glands by the lymphatic vessels, this operation might still seem to be justifiable, as depriving the blood of one of its sources of infection. While not bearing directly on this subject, but still of interest in this connection, we find Niemeyer writing that 'it is quite possible that at no distant day the danger of pulmonary tubercle, which the presence of the cheesy residua of enlarged glands produces, will take a place among the indications for the extirpation of peripheral lymphatic tumors.' It would be advisable to remove enlarged lymphatics following the initial sclerosis at the earliest period practicable, when they had first begun to indurate. . . . Again, if it be admitted that lymphatic glands remain as foci of infection, . . . it would not be bad practice to remove them."

Some years after the foregoing was first written I had the good fortune to read the very remarkable papers by M. Raynaud, entitled, "Recherches expérimentales sur l'infection et l'immunité vaccinales," "Gazette hebdomadaire," No. 29 *et seq.*, tome xvi, 1879. These experiments of the late distinguished French physician, which seem to be little known, but, so far as I am aware, never contradicted, appear to my mind to be conclusive so far as vaccinia is concerned, and also by a logical analogy for syphilis. As I have already occupied too much of your valuable space, I shall content myself with merely giving an outline of Raynaud's experiments. Raynaud has demonstrated (*a*) that the virus of vaccinia is conveyed to the system at large by way of the lymphatics; and (*b*) that extirpation of the vaccinal *bouton* alone is ineffectual as regards general infection, but that this end is completely gained when (for reasons that he clearly indicates) both the *contiguous glands* and the vaccinal lesion are suppressed.

* The whole title of the paper is "The Lymphatic Theory of Syphilitic Infection, with a New View of the Relation between the Chancre and Chancroid and Suggestions for the Treatment of Syphilis."

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Fownes's Manual of Chemistry, Theoretical and Practical. A New American, from the Twelfth English, Edition, embodying Watts's "Physical and Inorganic Chemistry." With One Hundred and Sixty-eight Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxx-1056.

The Management of Labor and of the Lying-in Period. A Guide for the Young Practitioner. By Henry G. Landis, A. M., M. D., Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Philadelphia: Lea Brothers & Co., 1885. Pp. viii-334. [Price, $1.75.]

THE
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THE INTERNATIONAL MEDICAL CONGRESS.

WE are close upon the termination of the period of thirty days that the New York meeting of the American Medical Association's committee laid down as the time within which it would receive back into the fold any of the gentlemen who had declined to figure in its organization of the International Medical Congress, but who might be willing to withdraw their declinations. In the course of a week from now the period alluded to will have all but expired. So far as we know, only one person has seen fit to respond to the committee's overtures, while, on the other hand, the work of declination is steadily going on, and, as will be seen by announcements elsewhere in this issue, has been taken part in latterly by some of those to whose continued support the committee must have attached the utmost importance, and upon which it must have counted quite confidently. Not only has the committee thus signally failed to recall those who declined to share its fortunes, and to prevent others from joining them, but it is plainly evident from the expressions made use of in the committee's official report of its proceedings that it has at last come to recognize the fact that it must proceed with great caution in the work of making appointments, lest it may appoint gentlemen only to find them declining at the earliest opportunity.

It is manifest, therefore, that the committee has utterly failed to repair in any degree the breach of concord which its creation precipitated upon the American profession, and which, in the view of the great majority of well-informed and fair-minded men, has entirely done away with the possibility of a successful meeting of the Congress in this country in 1887. It was not to be expected that the committee would be able, even if it was willing, to take measures calculated to restore the harmony necessary to success; for it could not, of course, go counter to the implied instructions under which it acted. Having done its best to carry out those instructions at its Chicago meeting, it might at one time, when its efforts were first shown to have demonstrated the impracticability of reconciling the American Medical Association's usurpation with the possibility of a successful meeting of the Congress, have gracefully declined to proceed further in its thankless task. Instead of doing so, it chose to indulge in further attempts to accomplish the impossible, and it also took occasion—or occasion has been taken in its behalf—to inform the profession that its (the committee's) course was in no sense a compromise. Compromise it certainly was not, nor was it in any way conciliatory. As the committee, therefore, has no disposition to conciliation, it is useless to expect now that it will under any circumstances admit that its creation was detrimental to the proposed Washington meeting of the Congress. The question arises, then, whether it is incumbent upon the officials of the Congress to wait much longer before withdrawing the acceptance of the American invitation. Our own conviction is, that both the interests of the Congress and those of the American profession would be decidedly furthered by prompt action on the part of our European colleagues.

MINOR PARAGRAPHS.

THE NEW BRITISH PHARMACOPŒIA.

FROM the comments of our London contemporaries on the new British Pharmacopœia, we learn that certain changes of nomenclature have been made which bring it into close conformity with our own pharmacopœia, especially in the matter of the proximate principles of vegetable drugs. Such words as morphia, strychnia, atropia, etc., have been given up, as was done in our pharmacopœia three years ago, and we trust that they will soon disappear from medical writings. As with us, the alkaloids are now to be known by names ending in *-ina*, while the termination *-inum* is given to neutral principles. Now that the British and the United States Pharmacopœias are at one on this point, and in accord with the practice of contemporary chemists, we trust that their example will soon be followed in the pharmacopœias of other nations. As regards nomenclature, the oleates seem to have been put upon a different footing from other salts with names ending in *-ate*, for, while we read of sodii salicylas, sodii sulpho-carbolas, etc., we find oleatum hydrargyri, and so on. Paraffinum durum and paraffinum molle, which we take to mean respectively paraffin and "vaseline," seem to us to be preferable to our own terms for those substances. Among the coca preparations we find cocainæ hydrochloras and lamellæ cocainæ.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 22, 1885:

DISEASES.	Week ending Sept. 15.		Week ending Sept. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	48	9	59	13
Scarlet fever	24	1	15	1
Cerebro-spinal meningitis	5	5	4	5
Measles	1	0	4	2
Diphtheria	38	18	46	30
Small-pox	2	0	2	2

Small-pox in New York.—It is reported that a woman suffering from small-pox was found in a house in Grand Street. It is probable that other cases may result, as a number of boarders left the house as soon as the nature of the disease was discovered.

Small-pox in Canada.—The United States Consul-General reports to the secretary of the National Board of Health the number of cases of small pox to September 15th as follows: Province of Ontario.—Cornwall and vicinity, 2; Toronto, 2; Ottawa, 2. Province of Quebec.—St. Johns, 2; Farnham, 20 cases and 6 deaths since July 20th; Coteau Landing, 3; Longueil, 1; Three Rivers, 2. In villages in consular district, 8. Montreal, September 10th to 16th.—Cases reported 10th to 12th inclusive, 132, authenticated by Health Department, 54. Deaths reported from September 10th to 12th inclusive, 164. By order of the Board of Health, information concerning reported cases is

now withheld, on the ground that the information on which the reports are based is not reliable.

The Plymouth, Pa., Epidemic of Typhoid Fever, which it was supposed had come to an end, is reported to have again made its appearance. One case has already proved fatal, and several new cases have been reported.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, August 29th: *Montreal, Canada.*—For the week ending September 2d: 230 cases of small-pox and 96 deaths. For the week ending September 9th: 192 cases and 120 deaths. The number of cases includes only those reported by physicians or which have been verified by the Health Department. During the three days, September 7th to 9th inclusive, 80 cases were reported, as against 112 during the three days, September 3d to 5th. *Toronto, Canada.*—Up to September 5th there were only 4 cases of small-pox reported. *Three Rivers, Canada.*—September 5th: One case of small-pox reported; disease contracted in Montreal. *Concord, N. H.*—For the week ending September 10th: The secretary of the State Board of Health reports that there are 4 cases of small-pox in hospital at Manchester, the disease being confined to the members of a French family recently arrived from Montreal. There have been no known exposures to these cases, and precautions are being taken to prevent the spread of the disease. *Havana, Cuba.*—For the three weeks ending September 10th: 92 cases of yellow fever and 29 deaths. *Cardenas, Cuba.*—September 5th: Free from epidemic diseases. *Matanzas, Cuba.*—September 9th: Intermittent fever prevalent. *Cape Haytien, Hayti.*—In good sanitary condition. *St. Thomas.*—August 31st: 2 cases of yellow fever, in a family recently arrived. No cases among the shipping. *San Domingo.*—September 3d: Free from epidemic diseases. *Pernambuco, Brazil.*—August 7th: 1 death from yellow fever. *Acapulco, Mexico.*—September 3d: Pernicious fevers prevalent. *La Guayra, Venezuela.*—August 29th: Free from epidemic diseases. Yellow fever in *Caracas* abating. *Callao, Peru.*—From July 18th to August 15th: 5 cases and 4 deaths from small-pox. During the week ending August 8th 1 case of yellow fever was reported. *Guyamas, Mexico.*—August 23d: No epidemic diseases. Sanitary condition good. *Cartagena, Colombia.*—August 28th: Consul reports sporadic cases of yellow fever. *London, England.*—For the four weeks ending September 5th: 26 deaths from small-pox and 12 from cholera or choleraic diarrhœa. The number of cases of small-pox in the hospitals is 295 against 310 August 29th. *Bradford, England.*—For the week ending August 22d: 1 case of small-pox reported; the disease is also reported as prevalent at *Ilkley*, a neighboring health resort. *Paris, France.*—For the two weeks ending August 29th: 11 deaths from small-pox; 29 cases treated in hospital. *Bordeaux, France.*—For the month of August: 4 deaths from small-pox. *Antwerp, Belgium.*—For the four weeks ending September 5th: 13 cases and 3 deaths from small-pox. *Cadiz, Spain.*—For the week ending August 29: Deaths during the week about 40 above the average. The increased mortality is due to diarrhœal disease and cholera. Officially, the port is regarded clean, and clean bills of health are issued. *Gibraltar, Spain.*—For the three weeks ending August 29th: 24 cases and 12 deaths from cholera. *Malta, Spain.*—For the two weeks ending August 15th: Free from cholera and small-pox. *Barcelona, Spain.*—From August 1st to 10th: 125 deaths from cholera; from August 10th to 31st: 581 cases and 555 deaths from cholera. *Valencia, Spain.*—For the two weeks ending August 29th: 56 cases and 24 deaths from cholera; 5 cases and 2 deaths also occurred on a Danish vessel in the harbor, from Barcelona. *Tarragona, Spain.*—For the week ending August 29th: 22 cases and 8 deaths from cholera. *Genoa, Italy.*—For the two weeks ending August 30th: 6 cases of small-pox and 2 deaths. *Venice, Italy.*—For the two weeks ending August 22d: 8 deaths from small-pox; diarrhœal diseases also prevalent. *Treiste, Austria.*—For the three weeks ending August 29th: 50 cases and 10 deaths from small-pox; the disease is said to be increasing. *St. Petersburg, Russia.*—August 1st to 15th: 3 deaths from small-pox. *Warsaw, Russia.*—For the two weeks ending August 22d: 12 deaths from small-pox. *Bombay, India.*—For the month of July: 41 deaths from cholera. *Calcutta, India.*—For the three weeks ending August 8th: 89 deaths from cholera. *Hioga, Japan.*—From July 1st to 25th: 4 deaths from small-pox. *Osaka* and *Hioga, Japan.*—August 8th: No cases of contagious or infectious disease reported. During the first six months of the current year the following cases and deaths from infectious diseases have occurred in Japan, as reported by the Japanese Central Sanitary Bureau: Typhoid fever, 7,984 cases and 2,078 deaths; diphtheria, 1,442 cases and 856 deaths; typhus, 444 cases and 78 deaths; small-pox, 4,472 cases and 1,191 deaths; cholera, 16 cases and 10 deaths. The total number of cases and deaths from cholera in Spain from March 4th to August 16th is 159,173 cases and 63,640 deaths.

The International Medical Congress.—We understand that Dr. John C. Dalton, Dr. Thomas M. Markoe, and Dr. Charles Stedman Bull, of New York, and Dr. Thomas F. Rochester, of Buffalo, have declined to hold the positions to which they were appointed in the organization.

Personal Items.—Dr. Fordyce Barker, after a summer spent abroad, for the most part in sickness, returned to New York on Saturday last. Our readers will be gratified to learn that he is now slowly recovering and is likely soon to be in his usual state of health.

Dr. Lewis A. Sayre, after an illness of about a year, has, we are happy to hear, recovered sufficiently to have been able to deliver the introductory lecture of the course at Bellevue Hospital Medical College last Wednesday.

Dr. E. G. Janeway, who has been seriously ill with pneumonia, is convalescing, and it is to be hoped that he will soon be able to resume his practice.

The American Gynæcological Society.—The following gentlemen have been elected as officers for the ensuing year: Dr. T. A. Reamy, President; Dr. T. Parvin, First Vice-President; Dr. G. J. Engelmann, Second Vice-President; Dr. J. T. Johnson, Secretary; Dr. M. D. Mann, Treasurer; Dr. F. P. Foster, Dr. J. C. Reeve, Dr. B. B. Browne, and Dr. R. B. Maury, Council. The next meeting of the society will be held in Baltimore, September 21, 22, and 23, 1886.

Buffalo General Hospital.—Miss Mary K. Howell has been appointed superintendent of nurses, to fill the vacancy caused by the resignation of Miss Lizzie Johnson.

College of Physicians and Surgeons of Chicago.—We learn that Dr. J. J. M. Angear has resigned the professorship of the Principles of Medicine.

Obituary Notes.—The death of Dr. William C. Hunter, of New York, occurred suddenly on Saturday, the 19th inst. He was born in Burke, N. H., in 1829, and was graduated from the College of Physicians and Surgeons, of this city, in 1857. He was at one time associated with the late Dr. E. R. Peaslee in the Medical Department of Dartmouth College. He was a member of the Medical Society of the County of New York, of

the New York Pathological Society, and of the New York Academy of Medicine.

The death of Dr. Francis D. Cunningham, of Richmond, Va., took place on Wednesday, the 9th inst., at the age of forty-nine. He was born in Goochland County, Va., in 1836, and was graduated from the Medical College of Virginia in 1857, attending lectures subsequently at the Medical Department of the University of the City of New York, from which he was graduated in 1859. He was a member of the Richmond Academy of Medicine, of which he was president in 1872, and of the Virginia State Medical Society, of which he was president in 1875. He was also a member of the American Medical and of the American Public Health Associations, and had made a reputation as an ophthalmologist.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 13 to September 19, 1885:*

Campbell, John, Colonel and Surgeon. Retired from active service September 16, 1885. S. O. 212, A. G. O., September 16, 1885.

Society Meetings for the Coming Week:

Monday, *September 28th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *September 29th:* Boston Society of Medical Sciences (private).

Wednesday, *September 30th:* Auburn City, N. Y., Medical Association; Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *October 1st:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia; Washington County, Vt., Medical Society.

Friday, *October 2d:* Practitioners' Society of New York.

Saturday, *October 3d:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE USELESSNESS OF ALCOHOL AND CHLOROFORM AS LOCAL ANÆSTHETICS.

26 West Forty-seventh Street, *September 23, 1885.*

To the Editor of the New York Medical Journal:

Sir: In the last issue of the journal I took occasion to publish some experiments showing the possibility of prolonging the anæsthetic effects of the hydrochlorate of cocaine when subcutaneously injected. I would merely add that, since the appearance of the paper in question, I have injected dilute alcohol and chloroform beneath the skin, following the methods indicated in experiments 1 and 2 [*vide* article in the journal for September 19th]. The astringent coagulating effect of these fluids, is, however, so great that they are little adapted to the requirements of cutaneous or subcutaneous injection. Moreover, this pronounced chemical action gives rise to pain, the severity of which appears to be in the direct ratio of the quantity injected. I also passed a strong India-rubber ligature about the index-finger of the left hand, and, having allowed the latter to remain dipped in hot water until the skin was pliable, I subsequently immersed it in a glass containing chloroform. Although the immersion lasted several minutes, there was little or no anæsthesia, the prick of a pin being distinctly felt. Subsequently I removed the ligature, and again immersed the finger for many minutes, but with no better results; sensibility remained practically intact.

These observations tend to dissipate the expectations of Nunnely, of Leeds, who declared that by exposure to the vapor (!) of chloroform he had been able to cause sufficient insensibility in a finger to render the performance of a surgical operation painless. On the other hand, they confirm the opinion of Simpson, who was induced, after a series of experiments, to acknowledge that he had little hope that by the external application of chloroform a degree of local anæsthesia could be induced sufficient for surgical purposes.

Cocaine, then, still remains the ideal local anæsthetic for subcutaneous purposes when re-enforced by the good offices of the tourniquet.

J. Leonard Corning.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Tenth Annual Meeting, held at Washington, Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885.

The President, Dr. William T. Howard, of Baltimore, in the Chair.

Tuesday's Proceedings.

The Address of Welcome was delivered by Dr. Samuel C. Busey, of Washington, who said: "Mr. President and Fellows: I offer you the greetings of fellowship and bid you welcome as the guests of the Washington Obstetrical and Gynæcological Society. Your acceptance of the invitation to hold your tenth annual meeting in this city conferred a distinguished honor upon our young society. On the roster of fellowship the names of Atlee, Buckingham, Peaslee, Sims, Trask, Wallace, and White are marked with the asterisk of death. Then, here, at the nation's capital on this auspicious occasion, in the unity of a common purpose, let us join with you in that faith and devotion to duty which have been crowned with such marvelous success and rich rewards. You must lead, we will follow, and, when you have completed the labors of the present meeting, and the new and renewed friendships are interrupted by your return to the scenes of your daily work, if our gratitude as pupils shall be the measure of your pleasure as instructors, your second advent will not await the expiration of another decade."

The Natural Hygiene of Childbearing Life.—Dr. Busey, of Washington, read a paper with this title. The hygiene of pregnancy, he said, related to the preservation of the health of woman during the period intervening between conception and the commencement of labor. The processes of transformation, development, and growth which took place were physiological, but were, nevertheless, terminated with more or less violence and injury to both mother and child. The unavoidable mortality was, however, small. The processes of waste and repair, of growth and development, of organization and construction, were next considered. There was no boundary-line of health. We could not define where the physiological ended and the pathological began. The childbearing period began with puberty and ended with the expiration of the years of maturity. Fertility increased from the commencement of the childbearing period until the climax was reached, and then declined to its

extinction. The age of greatest safety of pregnancy coincided with the age of greatest fecundity. Beyond and under, the mortality increased with the increase and diminution of age, but the rate was higher with the increase beyond than with the diminution below the age of maximum safety or least mortality. The age of nubility should correspond with the age of maximum fecundity, maximum fertility, and least mortality. Puberty and nubility were not simultaneous. Too early pregnancies were to be deprecated. Nature presented the fifth quinquiniad as the period during which the laws of fecundity, nubility, and survival found their natural complement in relatively the highest perfection. First pregnancies were the most dangerous, and the danger was increased by too early and too late primiparity. The importance of lactation was next discussed. The extinction of the childbearing function protected the remaining vital forces from decay, but, if the seeds of disease had already been sown, the change of life might increase their activity. If the age of majority for women could be advanced so as to correspond with the first year of the period of maximum fecundity, popular prejudice and love of custom would sooner or later conform fashion to the law. Precocious matrimony was to be deprecated; it was the sequel of precocious puberty. In this country and in the higher walks of life the ratio of precocious matrimony was on the increase—whether equally so among the middle and lower classes, the speaker did not know. He concluded by saying that the principal object of his paper was to direct attention to this subject and to invite discussion upon it.

Dr. J. R. Chadwick had made some investigations in regard to the early appearance of menstruation in women of various nationalities in this country. In over four thousand cases he had found that American women menstruated earlier than women of other nationalities examined. Furthermore, American women of American parentage began to menstruate earlier than American women of foreign parentage. Scarcely enough observations in reference to the menopause had been made to justify absolute conclusions, but it had been found that the menopause was appearing later in American women. The fact that the childbearing period is increased both at the beginning and the end would indicate added vigor.

Dr. J. P. Reynolds, of Boston, agreed entirely with the statements made by the last speaker, and believed that the women of the upper and middle classes menstruated earlier than they did twenty-five years ago. He considered that this indicated an activity of function which would prolong menstrual life beyond the average period of cessation.

Puerperal Diphtheria.—Dr. Henry J. Garrigues, of New York, read a paper on this subject. This was a disease not referred to in the majority of text-books. It was one of the forms of puerperal fever, or rather one of the different diseases included under that term. It was distinguished by the appearance of diphtheritic exudation somewhere in the genital tract of the puerperal woman. It was accompanied by well-marked general symptoms, imperiled life, and called for active treatment. The paper was based upon twenty-seven cases treated in hospital practice and two in private practice. The characteristic feature of the disease was the diphtheritic infiltration, which was usually of a light pearl-gray color, generally appearing in small spots and coalescing or extending by involving new areas. The exudation was firmly adherent to and imbedded in the underlying tissue. It was most marked at the points where the canal became narrow. This might be explained by the more frequent occurrence of lacerations at those points. The posterior wall of the vagina was more commonly attacked than the anterior wall, which was probably due to the fact that it was bathed with the discharges from the uterus. The exudation might, however, appear on entirely healthy portions of mucous membrane, which had not been the seat of laceration. The surrounding parts were more or less swollen. The connective tissue of the pelvis was infiltrated with serous fluid and was sometimes the seat of ecchymoses. The skin was sometimes the seat of a dusky erythema, consisting of minute spots, disappearing on pressure and not elevated. In one case petechiæ as large as hemp-seed existed. These were not affected by pressure. The same patient afterward developed erysipelas. In five cases ending fatally autopsies were made. The uterus was much enlarged, sometimes reaching almost to the umbilicus two weeks after labor. The cervix, having been torn, might show diphtheritic patches or a thin gray film. In two cases large portions of the cervix sloughed and the vagina became gangrenous. The tissue of the uterus was friable and might be almost diffluent. The diphtheritic exudation might affect the Fallopian tubes. In some cases the muscular tissue of the uterus was scooped out as in dissecting metritis. This occurred in four of the cases of puerperal diphtheria. In one case the mass thrown off was four inches long, two inches wide, and one inch thick. These masses had a pyriform shape, their outer surface was of a gray color, and the inner surface of a flesh-color. They were perforated with a number of holes leading into the uterine sinuses. Under the microscope these masses were shown to consist of smooth muscular fiber in a more or less advanced state of fatty degeneration. The connective tissue was increased. Lesions were also found in other organs and occasionally in the joints. Difficult labors and a previous weakened condition of the patient predisposed to the development of the condition. The real cause of the disease was, however, an infection from without. He had never been able to convince himself that the poison passed from one patient to the other, but it seemed to be in the air of the ward. When a ward had been fumigated with sulphurous acid there would not be a seriously sick patient for weeks. That the poison came from without was also shown by the fact that, when the prophylactic treatment to which he would refer was adopted, the disease did not develop. The first symptom which showed a deviation from a normal course was usually the occurrence of fever, which mostly appeared from two to four days after delivery. Sometimes there would be a chill or chilly feelings. The temperature rose gradually as a rule. It had ranged from 100° to 107° F., the average being from 102° to 104°. Anorexia, vomiting, coated tongue, and diarrhœa showed disturbance of the gastro-intestinal canal. The patient complained of pain in the epigastrium and one or both groins, sometimes extending into the legs. Examination showed the uterus larger than it should be and quite tender. Tenderness was often also found in the groins and some swelling might also be observed. The lochial discharge was often scanty and offensive, but in some cases it had been normal. Where there was expulsion of the tissues of the uterus, there had been a purulent discharge until expulsion had been accomplished. The diphtheritic patch commonly appeared from three to seven days after delivery. It continued to spread for several days, and usually stopped in from three to eight days after the beginning of treatment. In one case the diphtheritic patches also appeared on the tongue, indicating that the disease was identical with the ordinary form of diphtheria attacking the throat. The irritation of the nervous system was shown by headache, stupor, and delirium. There was alteration of the renal secretion and sometimes painful micturition. Three patients had albuminuria. In two cases jaundice bore testimony to the perverted condition of the blood. The sweet breath and profuse sweats of septicæmia were observed twice. One patient developed painful arthritis of the elbow joint. When once the diphtheritic process was arrested, the patients recov-

ered rapidly. There was scarcely any difficulty in the diagnosis. When the injections of bichloride of mercury were employed they caused a yellow discoloration of abraded surfaces. This was strictly limited to the abraded surface, and was unaccompanied with general symptoms. When the chloride of zinc was applied to the affected surface in the treatment of the disease, a slough was caused having the color of the deposit, and the physician was sometimes at a loss to determine whether or not the disease was spreading. The point was decided by noting where the application was made and by observing the edge of the deposit. The diphtheritic deposit had a scalloped outline, while the outline of the slough from cauterization was smooth. As to prognosis, five out of twenty-nine patients died, giving a mortality of 17·2 per cent. Another might have survived, for she lived thirty-two days and died from rupture of the uterus, which had been thinned by sloughing, while an assistant was giving an intra-uterine injection. The post mortem showed the walls of the uterus to be extremely thin. The duration of the cases ending in recovery was usually about two weeks. In cases in which a portion of the uterus was scooped out the organ was left in a weakened condition, which in future pregnancies might predispose it to rupture. In the way of prophylaxis, it was recommended to limit the vaginal examinations during labor as much as possible. The finger or hand should not be introduced into the uterus unless absolutely necessary. The delivery should be so accomplished as to avoid as much as possible wounding of the genital canal. Instruments should be used with the greatest care. The most important element in the prophylaxis was the use of bichloride of mercury as an antiseptic. Everything coming in contact with the patient should be washed in the solution of corrosive sublimate, 1 to 2,000. After this treatment was introduced only one case appeared in six months, and that was due to carelessness on the part of a resident who delivered a woman immediately after removing a macerated fœtus from another patient. After the disease appeared the treatment must be energetic. The only treatment that had given him satisfaction was that with chloride of zinc. The affected parts were touched with a solution of equal parts of chloride of zinc and distilled water. This was rather painful and an anæsthetic might be used. A warm solution of corrosive sublimate, 1 to 2,000, was used for intra-uterine injection where this was required, and subsequently a suppository of fifteen grains of iodoform was introduced. If this was done the process need not be repeated more than once in the twenty-four hours. The vagina was to be douched every three hours. The parts should be examined every day, and, if the process was not arrested, the application of chloride of zinc was to be repeated. If the disease was limited to the vagina and vulva, the intra-uterine treatment was omitted. Ergot was also given with the purpose of causing contraction of the uterus. Morphine, quinine, and digitalis were used as indicated. High temperature was combated with sponge-bathing, salicylic acid, and, if necessary, the rubber coil. Carbolic acid was also given sometimes combined with the compound tincture of iodine. If the temperature was not very high, warm poultices were preferred. Where there was diarrhœa, warm poultices were also considered preferable. Samples of the occlusion bandage to be used after labor were exhibited. They consisted of a pad of absorbent cotton wet with the corrosive-sublimate solution, over this a piece of oiled muslin or gutta-percha tissue, and over all another piece of absorbent cotton and a piece of muslin or flannel to attach it to the binder.

Dr. W. T. Lusk, of New York, had treated, ten years ago, one hundred and fifty cases of this affection, with twenty-eight deaths. The epidemic could be traced to a patient brought into the hospital after a long labor. She was suffering at the time from a syphilitic ulcer of the vulva, which was excessively inflamed. The child was extracted with forceps and the inflamed perinæum was torn. Soon after this the diphtheritic deposit appeared, and the whole ward was infected. The first cases were the result of transference from the patient, for the question of contagion was not then recognized as it was now. After a time great care was taken to avoid every possible source of contact, but the disease continued, and could be only explained on the supposition that the air of the ward was filled with germs. In the first cases, the treatment consisted in the application of equal parts of solution of persulphate of iron and compound tincture of iodine. The disease usually began with a certain amount of mildness and gradually became more severe. Of the first twelve patients only two died, while in the second set of twelve only two recovered. In the progress of the epidemic the entire system seemed to be affected, even before the advent of labor. Since the adoption of the use of corrosive-sublimate injections he had not seen a case of puerperal diphtheria. Neither had he had a death from fever, nor any cases of fever, even the old-fashioned "milk-fever" being absent.

Dr. H. P. C. Wilson, of Baltimore, was averse to the use of bandages of any kind after delivery, preferring to have the napkins placed under the patient so as not to obstruct the free flow of the discharge, and to use frequent washing of the vagina with antiseptic solutions.

Dr. W. L. Richardson, of Boston, had treated many cases of puerperal diphtheria with ill success, until the appearance of Dr. Garrigues's paper. After the use of the pad and the corrosive-sublimate solution for the hands of the attendants and nurses was begun, the hospital had been almost entirely free from the disease. There had been no death since these measures were adopted.

Dr. John Byene, of Brooklyn, asked as to the frequency of cicatricial distortions of the vagina after diphtheria, and related an interesting case of that sort.

Dr. Garrigues thought that the indorsement of Dr. Lusk and Dr. Richardson would be sufficient to induce others to try the occlusion pads. During the year preceding the introduction of the new method of treatment the mortality was nearly seven per cent. During the next year, with the new method of treatment, the mortality was one and a half per cent. During the second year it was less than three fourths of one per cent. In the institution in which these observations were made there were many disturbing elements, one of the most important being its connection with a large general hospital. In this new method of treatment the antiseptics were applied only to the outside in normal cases. Only in abnormal cases were vaginal and intra-uterine injections employed. He had only seen two of the patients subsequent to recovery. In one there were great shortening and narrowing, but during pregnancy softening took place and the labor was quite easy. The second patient was pregnant and the vagina appeared to be in good condition.

Four Cases of Oophorectomy, with Remarks.—Dr. Joseph Taber Johnson, of Washington, read a paper with this title.

Case I.—Miss M. had suffered severely from chronic oöphoritis and menstrual epilepsy. She was twenty-nine years of age and had suffered for fourteen years. There was constant pain in both ovaries, but most of the suffering was on the left side. For two weeks out of every month she was under the care of an attendant, her education had been neglected, and she was in a most deplorable condition. She had been under the care of skillful physicians, and almost everything had been tried. Oöphorectomy was therefore decided upon and performed August 17, 1882. Both ovaries and one Fallopian tube were removed. For several months she had no periods and no spasms. Gradually her menses returned and with them the convulsions in

milder form. She was now menstruating with more regularity than before the operation.

Case II.—Miss W., aged twenty-one, took a severe cold at the monthly period five years before coming under observation. Since then she had suffered from chronic oöphoritis. She also had leucorrhœa and a displaced uterus, for which she was treated without material benefit. The reader treated her for three months without benefit and then removed the ovaries. She made a rapid recovery and had since been free from pain.

Case III.—Miss S., aged twenty-four, had been a great sufferer from dysmenorrhœa and reflex symptoms. She suffered with burning pain in the abdomen and head for ten days preceding menstruation. For several months there had been no flow, but the distressing symptoms continued. Both ovaries and tubes were removed. She made a rapid recovery and continued healthy.

Case IV.—Mrs. ——, aged forty, the mother of three children, had suffered with pain in the region of the left ovary for twenty years. She had a lacerated cervix and perinæum, which had been restored without improving the symptoms. She had been under treatment for ten years, and was practically bedridden for three weeks out of every month. She wished to have the ovaries removed, but the author advised her to wait five years longer until the menopause, which would accomplish the same result. She, however, insisted on the operation, and he performed it last February. She did well for three days, when vomiting set in, and she died exhausted on the sixth day. The speaker then referred to the great importance of an early diagnosis in such cases in order that the operation might be performed before numerous adhesions had taken place and before the general condition had become so depressed, referring to the statistics of various operators in confirmation of his statements. He thought that many patients who were now lost from prolonged operations, on account of numerous adhesions, might be saved if there were means by which an early diagnosis could be made.

Dr. R. S. Sutton, of Pittsburgh, thought that everybody admitted that a woman with a cystic tumor of the ovary was doomed to death if the tumor was not removed. But, when she was suffering from some disease of the ovary which did not give tangible evidence of its presence, the surgeon often had difficulty in deciding as to the question of operation. Was the woman to be allowed to go on suffering because evidence of disease that would justify an operation could not be obtained? It was better to give the woman the benefit of the doubt and open the abdomen and examine the organs. He did not think that any one could tell the exact condition of the ovaries before opening the abdomen. It had now come to be the practice, in obscure conditions for which no explanation could be found and in which it was probable that the ovaries or tubes were at fault, to do an exploratory operation. As a rule, exploratory operations were safe. He had yet to open the first abdomen and fail to find disease of the ovaries or tubes.

Dr. W. H. Baker, of Boston, feared that there was great danger of the pendulum swinging too far and the operation being performed too frequently. He would not discourage the operation in properly selected cases. Greater skill was shown in curing these patients without the removal of the organs. A better understanding as to when the operation should be performed and when not would be arrived at by studying the organ itself very carefully in those cases in which it had been removed. In all reports of the operation there should be an accompanying report of the microscopical examination. The question of early diagnosis had been referred to. It was a matter of the greatest importance. The ovaries and tubes were not the easiest organs to examine. Even where the ovaries were adherent to surrounding tissues it was often extremely difficult to determine this fact, and an exploratory operation might be the only way of determining it. Where an exploratory incision had been made, and the organs found healthy so far as their gross appearance was concerned, he insisted that they should be put back and the abdomen closed, even if the woman suffered excruciating pain with menstruation.

Dr. T. A. Emmet, of New York, said that he was not an advocate of the operation, and he thought that more harm than good had been done by its performance. There were cases where it must be done. Where there was salpingitis with the tubes filled with pus, the operation was certainly indicated. That it should be done, as it frequently was, for the relief of so many symptoms was a reproach on the profession. He did not advocate the opening of the abdomen for the purpose of making a diagnosis. If the diagnosis could not be made before hand, he did not think it justifiable to run the risk of opening the abdomen. For three years he had been looking for cases in which he considered the operation indicated, and had seen but two such cases. One was a typical case in which there had been several attacks of peritonitis following gonorrhœa. Both tubes were as large as the wrist, and the history indicated the existence of pus. An operation was urged, but the patient refused. For five months there was no improvement. The treatment consisted of hot-water injections, keeping the bowels regular, daily applications of iodine, and attention to the general health. After several months the tubes began to diminish in size, and in the course of a year the accumulation had entirely disappeared and she left the hospital apparently a well woman. The second case was similar. That patient also refused an operation. She was now no worse, and in some respects better, than she was some years ago.

Dr. Lusk thought great caution must be exercised in the performance of this operation. He did not condemn it, and had himself operated in four cases in which there was distinct evidence of disease of the tube, with good success.

Dr. E. W. Jenks, of Detroit, had seen several cases in which the operation had been performed without benefit. Where the ovaries and tubes were diseased there could be no question as to the propriety of its performance. In many of these cases of so-called hystero-epilepsy, which were often nothing more than hysteria, he considered the removal of the ovaries a positive wrong. The exploratory operation was not free from danger.

Dr. T. A. Reamy, of Cincinnati, said that a woman had been sent to him with dysmenorrhœa and hysterical symptoms, with the request that he should remove the ovaries. Five months' treatment of the cavity of the uterus, with change in the patient's surroundings and general treatment, resulted in entire recovery. He had seen several other striking cases. It was the exception to find the ovary healthy in women after the age of forty.

Dr. Emmet thought that the operation should never be done for dysmenorrhœa. He considered dysmenorrhœa a neuralgic condition, the result of anæmia. When dysmenorrhœa was relieved by the operation, it was because the general nutrition was improved by the removal of the ovaries.

Dr. Sutton agreed with Dr. Baker that where, in an exploratory operation, the ovaries and tubes were found to be healthy, they should not be removed.

Dr. Mann said that, although, as Dr. Emmet had stated, dysmenorrhœa was a neuralgic condition, he thought that that condition might become so firmly established that it could not be relieved without taking out the organ affected with the neuralgia. In two such cases he had thought the operation indicated. In one the patient was free from pain only three days of each month. He advised the operation, which was performed by Dr.

Clark, of Niagara Falls. The patient completely recovered. The second case was his own. The woman had suffered for a number of years with excruciating pain. The ovaries were enlarged and tender. The whole abdomen was tender. The ovaries were removed and the patient entirely recovered her health. He could not admit that there were no cases of ovarian dysmenorrhœa which could be relieved by the operation, but they were rare.

Dr. JOHNSON had not recommended the operation except under well-marked indications. He agreed with those who feared that the operation might be performed oftener than necessary. Its use in nervous and neuralgic conditions was not always so beneficial as in some other conditions, such as myoma of the uterus, for example.

(*To be concluded.*)

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of March 12, 1885.

The President, Dr. B. F. WESTBROOK, in the Chair;
Dr. A. H. P. LEUF, Secretary.

On the Use of Cocaine in Minor Surgery.—This was the title of a paper read by Dr. H. T. HALLECK. [See page 343.]

Dr. ARTHUR MATHEWSON remarked that it was in the room in which the meeting was held (in the Brooklyn Eye and Ear Hospital) that the first use of cocaine as an anæsthetic in the United States had been made. Dr. Noyes saw it for the first time in Germany, at the Heidelberg Congress; he also saw it privately demonstrated. The speaker had had Dr. Squibb make him a two-per-cent. solution of Merck's preparation, and it had proved very satisfactory—in fact, quite as effective as a four-per-cent. solution. The drug now prepared by Dr. Squibb was unexcelled. Some preparations caused a great deal of irritation at first, but this soon disappeared. The boric-acid preparation sent him by Dr. Squibb was the least irritating. Micrococci and bacilli formed in it, however, and it was almost impossible to prevent their formation. There was a difference in patients concerning the usefulness of this remedy—with some it did well, while with others it did not. As to its effect upon the lids, he referred to a case of cut lids that had been soaked with the solution previous to the operation, and the patient was anything but loud in its praise. It was usual to meet with failure in that class of cases. When he removed a cyst of the lid he cut from within (on the conjunctival side), pressed out the contents, and stirred up the interior with a small curette. The effect of cocaine on children operated upon for strabismus was quite striking; they were so very quiet.

Dr. R. G. ECCLES was reminded of hypnotism by some of the experiments with cocaine. A few years ago an American physician had made the same preparation, and called it erythroxyline hydrochloride. He left a specimen at the college with his thesis. The speaker had found cocaine satisfactory in parturition.

Dr. W. C. BURKE, Jr., had been told by Dr. Polk that he had been using it in a series of labor cases during the first stage. He injected it deep into the cervix and the surrounding connective tissue, with the result of causing a loss of sensibility in all the parts below the umbilicus, although pains in the back and the epigastrium persisted. The effect lasted from half to three quarters of an hour. It had no ill effect, and it did not influence dilatation. The speaker had used it before incising a pin-hole os, previous to dilatation of the cervix, which was accomplished with very little pain, the patient only experiencing a "pulling feeling." He had employed the American product, and had found it irritate the eye for several minutes.

Dr. C. N. D. JONES thought it as important to report failures as successes in the use of new drugs. The medical journals contained very few reports of failures, but failures could be grouped and studied to advantage. He had used the drug wherever it was applicable. He had found it useful in laryngoscopy. In enucleation of the tonsil there was some pain, also at times in manipulations involving the urethra.

Dr. G. W. BRUSH had tried a fifteen-per-cent. solution, but with very little effect. His experience had been with Merck's and McKesson & Robbins's preparations.

Dr. LEUF said that the unsatisfactory results mentioned in the two cases reported by Dr. Halleck might be accounted for by the preparation used having been of inferior quality. He had subsequently employed it in two prepuce operations in children, and also in several eye cases, with satisfactory results. The drug acted decidedly as a hæmostatic, at least on small surfaces. In all recent cases he had used Merck's cocaine.

Epithelioma of the Eyelid removed by Applications of Benzol.—Dr. MATHEWSON reported the following history of a case: An Irish laborer, fifty years old, was first seen October 31, 1883, when he had a growth on the right lower lid, projecting two thirds of an inch, with an ulcerated surface. It had first been noticed, as a warty excrescence, a year or two before, and it had lately begun to grow rapidly. Microscopical examination, by Dr. W. H. Bates, showed it to be clearly an epithelioma. At first the treatment consisted in dusting the granulating surface with calomel; afterward (at the suggestion of Dr. Bates, who had records of two cases of epithelioma treated successfully, in his own practice, with the agent) in applications of benzol. After about three months' use of these remedies, applied three or four times a week, the growth had completely disappeared, leaving a smooth, depressed cicatrix. On the 1st of March, 1885, the man came back, with the history of a small ulcerating spot having appeared some six months before at the outer edge of the cicatrix. This was extending rapidly, but quickly began to contract under renewed applications of the same remedies, and was much reduced in size when the patient was presented at the April meeting of the New York Ophthalmological Society. On the 1st of May, when the patient left town, it was scarcely noticeable. On the 8th of July the man appeared again, with a considerable increase in the size of the ulcerating surface, but it had again yielded promptly to the applications. The benzol was brushed over the ulceration and the adjacent surface after they had been carefully wiped, and calomel was then dusted on. The applications were made from two to four times a week.

A case of necrosis of the tibia was presented by the PRESIDENT, and specimens of cystic kidney, calculous impaction of the bile-ducts, and renal calculus were shown by Dr. H. D. BLISS, and the histories of the cases related.

Meeting of March 26, 1885.

Acute Dysentery.—Dr. C. N. D. JONES showed a portion of the intestine of a lad, fourteen years old, who had died of acute dysentery occurring while he was under treatment for a fracture of the neck of the os brachii and a comminuted fracture of the shaft of the os femoris. The injury was received on the 7th of July, 1884, by his falling to the ground from a roof on which he was at work, and he was taken to the Brooklyn City Hospital. He did well until the 1st of August, when he complained of griping pains in the abdomen. There was tenderness on pressure, especially in the left iliac fossa. The next day diarrhœa came on, and soon passed into dysentery. Death took place on the 19th of August.

At the autopsy it was found that the fracture of the thigh had not united. The small intestine was somewhat congested,

but otherwise normal. The transverse and descending colon were contracted, and the entire colon and the rectum were thickened. Their mucous membrane was extensively ulcerated, the ulcers being largest and most numerous at the lower part. Instead of the intestinal tube being examined in the usual manner, by slitting it longitudinally with an enterotome, the colon was separated from the ileum, and a portion of the severed end was then rolled outward, and, a part of the gut being invaginated, a forcible stream of water was thrown into the sulcus thus formed on the peritoneal surface, with the result of rapidly producing complete inversion of the tube. The intestine was then inflated with air, and preserved in that condition.

Acute Rheumatism complicated with Suppurative Nephritis.—Dr. Isaac H. Platt read the notes of the case of an Irish servant girl, twenty-seven years old, who had been treated at St. Mary's Hospital, in the service of Dr. Kuhn. When she was admitted, on February 19th, she presented the typical symptoms of acute rheumatism, which followed the usual course for a period of nine days. On the 26th the temperature, which had been ranging from 103° to 105·5° F., fell to 102·5° in an hour under the influence of forty grains of antipyrine. The drug was then given in doses of thirty grains every four hours; the next afternoon the temperature had fallen to 101°, and the girl seemed better. The next day, however (the 28th), the temperature rose again to 104° despite the continued use of the drug, and in the evening she became actively delirious. The next day she passed into a typhoid condition, with low muttering delirium, subsultus tendinum, and carphologia. Careful examination was made for thoracic and abdominal complications, but none were found. The urine had been examined a few days before, and found free from albumin and sediment. Stimulating treatment was pushed to the utmost, but she gradually sank, the delirium persisting to the last, and died on the 3d of March. For two days before that time there had been no joint symptoms.

Report of the Autopsy, by Dr. Leuf.—Rigor mortis moderate, thirty-one hours after death. Lungs normal, except for collapsed portions in the right lower lobe, and less marked in the left lower lobe, together with several very hard pigmentary nodules of the size of a millet-seed. The heart was pale, soft, and flaccid, with all its cavities containing blood, mostly fluid, the little that was clotted being soft and friable. The liver was dark, and of normal consistence and vascularity. The pancreas was pale and soft. The left kidney was pale and soft, but otherwise normal. So was the right one, except in its upper third, which was dirty-yellow and rough externally. Thin, ill-conditioned pus and *débris* exuded from the cut renal pelvis. An abscess was found in the upper part of the organ, involving exactly the superior pyramid—no more and no less. The apex of the pyramid next below was also full of cheesy material that was breaking down and had a marked tubercular appearance. The uterus was congested, anteflexed, retroverted, and deflected to the right by the rectum, which was distended with gas. The endometrium was congested and exfoliating. The right ovary contained an old corpus luteum, about six mm. in diameter. Microscopical examination, by Dr. J. H. Hunt, showed numerous minute abscesses, but no tubercles.

Dr. Josephine A. Dupré had had some experience with rheumatism produced, in rabbits and dogs, by intra-peritoneal injections of lactic acid (two per cent.). One case resulted in endocarditis; two others in acute articular rheumatism; and four others in additional acute suppurations—in one case acute suppurative nephritis, in another several abscesses of the abdominal wall, in the third a pelvic abscess, and in the fourth an abscess of which she had forgotten the situation. The clinical histories of these cases were typical of acute inflammatory rheumatism, and the suppurative processes were demonstrated by post-mortem examination.

Cerebro-spinal Meningitis in a Roller-Skater.—Dr. George W. Cushing said that, about midnight of March 11, 1885, he had been called to see the patient (J. C.), who was twenty-eight years old and of fine muscular development. He was restless, with a hot, dry skin, the pulse 135, the temperature 104° F., the respiration labored, headache, and the pupils contracted and intolerant of light. He also had marked pharyngitis and bronchial congestion. He was averse to talking and to being disturbed. A febrifuge mixture was ordered, also bromide of potassium. Subsequently the man's wife gave the following history: Her husband had been engaged in a roller-skating match at the Madison Square Garden the week before, ending at midnight March 7th. He was at home the next day (Sunday), and rested a part of the time, but was unable to eat, and seemed very much exhausted. He went to New York on Monday, for the purpose of getting the money due him from the proceeds of the contest, and did not return until Tuesday, when he had symptoms of an ordinary "cold." The patient's surroundings were so poor that it was impracticable for all the speaker's directions to be carried out, and, when he called the next morning, he found that stupor was gradually setting in. There were urinary incontinence and spontaneous bloody evacuations from the bowels; there was also great difficulty in taking food and medicines, and the head was rigidly drawn back. The ankles and feet were swollen and chafed from the pressure of the skates. Cerebro-spinal meningitis was diagnosticated, and counter-irritants were applied to the spine and the back of the head, with cold to the top of the head. He continued to grow worse until the 15th, when the speaker was called in haste, and found him dead—he had probably been dead for several hours. The autopsy confirmed the diagnosis, the case having been placed in the Coroner's hands as a matter of public interest in connection with the present furor in regard to roller-skating.

Report of the Autopsy, by Dr. Leuf.—"The thoracic, abdominal, and cranial contents were examined by Dr. A. Warner Shepard, while it fell to my lot to examine and take notes of the spinal canal and cord. The body was of average height and build. The muscles of the lower extremities were rather well developed. There was very little fat. The left great toe was blistered inferiorly, internally, and superiorly, but the nail was not affected. The lungs were hypostatically congested behind and at the bases. The right lower lobe was collapsed at its anterior margin and posteriorly at the base. The heart was normal, except the usual eccentric hypertrophy found in athletes. The stomach was empty and tubular. The liver was normal, with the exception of some occasional fatty infiltrations. The spleen was a little larger than usual. The kidneys were healthy, but large; the right one was darker than the left. The bladder was so distended as to half fill the pelvis. The portal vein and its tributaries were distended with blood. The dura mater of the brain and cord presented nothing abnormal. The pia mater, however, was yellow, and about 3 mm. thick over the anterior half of the cerebral convexity on either side. All over this area the convolutions, including the upper two temporo-sphenoidal convolutions, were hidden from sight; but over the posterior half of the convexity the convolutions were distinctly discernible, and only the sulci were filled with pus. The inferior, or orbital, surfaces of the frontal lobes were deeply injected, but not purulent. The yellow thickening of the pia was also noticeable in the anterior half of the great median fissure of the brain, and extended half-way down to the corpus callosum. This purulent condition of the pia extended to the base of the brain, along the Sylvian fissure, to the inter-peduncular space, where the same suppurative condition of the

pia was noticeable. That covering the pons and surrounding the medulla was affected in like manner. The intra-meningeal space of the cord was filled with pus to such an extent as to distend the dura, and well up in the incision made into the membrane in the lower part of the vertebral canal, preparatory to extracting the cord. The pia, throughout the whole length of the cord, was thick and yellow, while the cord itself was softened throughout its whole extent below the cervical enlargement. It was also sclerosed on the left side in the upper thoracic region, the white portion being principally affected."

In regard to the ætiology of the case, Dr. LEUF would differ with those gentlemen who would attribute the man's death to a healthful and beneficial exercise. That the prolonged mental and physical strain to which he had necessarily been subjected, together with the known privation and exposure, were important factors in bringing about the termination of the disease, no one could or would deny; yet it was wrong, he thought, to consider them the causes of the trouble. When we reflected how little there was in the way of precedent for such a supposition, in the face of extremely prolonged and excessive walking, running, rowing, swimming, and the like, it was fairer and more rational to infer that this meningeal inflammation had been brought about by a pre-existing cause. Still, the case might accomplish much good by checking the rage for roller-skating, although it was desirable that as many persons as possible should avail themselves of this graceful and harmless exercise within proper limits. Probably it should not be indulged in much more than half an hour at any one time. It was interesting to inquire how much work the craze was likely to bring to gynæcologists and to specialists in diseases of the chest, and perhaps to neurologists.

Meeting of April 9, 1885.

Exsection of the Upper Third of the Tibia.—Dr. GEORGE WACKERHAGEN read the notes of the case of a child, two years and a half old, who fell upon the pavement in May, 1884, and bruised the left knee. At first the injury seemed to be trifling, but a month later the part gradually became painful, red, and swollen. The services of a surgeon were not obtained until the 25th of September, when an opening was made just below the knee joint, which gave exit to a quantity of dark-colored blood slightly mixed with pus. After that the swelling disappeared, leaving a little opening just below the spine of the tibia, from which a small quantity of unhealthy pus was discharged daily. The speaker saw the child in consultation on the 15th of October, and found two sinuses leading to dead bone. At the operation, on the 19th, it was found advisable to remove the whole head of the tibia, together with about one third of the shaft, by subperiosteal exsection. The crucial ligaments were found to have been entirely destroyed, and the inter-condylar space was filled with unhealthy granulations. These were removed with a sharp curette, and the joint was thoroughly irrigated with a 1-to-2,000 solution of bichloride of mercury. A rubber drainage-tube was introduced into the joint, and the wound was packed with iodoform and bichloride gauze. No inflammatory reaction followed, and the temperature did not go above 99° F. The child had improved very much since the operation, and new bone had been produced from the periosteum. The knee could be flexed to an angle of about 45°, and extended as in the normal condition. Bauer's hip-joint instrument had been applied for the purpose of making continuous extension, and the shortening was not more than half an inch.

Gangrene of the Lower Extremity from Arterial Thrombosis.—Dr. F. A. JEWETT reported the case of a student, seventeen years of age, previously of good health, who had consulted him on the 30th of January, suffering apparently with a slight attack of intermittent fever. Several weeks before, he had indulged excessively in skating. Under the influence of quinine, he was soon able to be about the house. On the 4th of February, in the afternoon, he complained of pain in the back, but this had disappeared by the next morning, when, while dressing, he suddenly felt a numbness in both lower limbs, together with a "peculiar sensation" in the abdomen. He rapidly grew worse, so as to lose the powers of motion and sensation. By means of friction and a hot mustard bath sensation was restored to both extremities, but was soon lost again in the left leg. The speaker now arrived, and found the left leg blanched and cold below the knee, with loss of motion and sensation. There was little pain. The patient was placed in bed, and the limb was surrounded with hot bottles. The next morning there were ecchymotic spots on the lower third of the thigh and the leg and foot. On the 7th burning pains appeared in the knee and foot, and the temperature was 102·5° F. On the 6th of March, the line of demarkation having fully formed at the middle of the thigh, circular amputation was performed in the upper third, the incision coming within an inch of the healthy granulations. The femoral artery was found to be completely plugged, and the slight hæmorrhage which resulted came entirely from the smaller vessels. The patient died of shock two hours after the completion of the operation. In disguising the odor of the gangrenous parts, at the time of the operation, the best result was obtained with nascent chloride of lead, made by adding a drachm of aqueous solution of nitrate of lead to a pailful of solution of salt.

Autopsy, by Dr. Leuf.—The kidney connective tissue was markedly increased. The spleen was enlarged, and contained buff-colored spots. The liver was slightly fatty. A clot was found in the abdominal aorta, about four cm. above its bifurcation and extending down into the two common iliacs. It only partly filled the aorta and the right common, external, and internal iliacs, so that some blood had been admitted through these vessels to the parts below; but the left common, external, and internal iliacs were solidly and perfectly plugged with a firm thrombus adherent to their walls. This plug extended down into the femoral as far as the end of the stump, where it had been cut off during the operation. The plug fitted the vessel somewhat loosely below the lower part of the external iliac. The collateral circulation probably took place through the deep circumflex iliac and the lumbar arteries.

Gangrene of the Leg due to Popliteal Embolism.—Dr. LEUF related the case of a German midwife, about thirty-five years old, who had had rheumatism at times for fourteen years, also frequent attacks of dyspnœa due to cardiac valvular disease. The attack of rheumatism which terminated her life began in the latter part of April, and at that time she was attended by another physician. She had the ordinary symptoms of rheumatism, and presented inflammatory signs in both ankles. After some days' treatment the feet became better, and the physician had a pack of ice-water and salt applied to the left foot. This was continued under protest for upward of two hours and then removed. A few hours later the patient felt a sensation as of something darting down the left thigh, along the course of the femoral, and stopping with a sudden jar at the back of the knee. This sudden jar was a shock to her whole body, and caused the entire leg below the knee to feel as if suddenly electrified, and the leg had continued numb, with tingling sensations, from that time until the speaker was called in, two days later. The other physician could not be induced to pay any attention to these symptoms, or even look at the foot. The speaker found the foot cold and swollen, with the plantar surface of a dark hue. The sensibility of the foot was impaired, and it could hardly be moved. The patient complained of severe pains in the toes and

instep. Her pulse was very irregular and her heart feeble, with mitral stenotic and regurgitant murmurs well marked. Her face wore an anxious, expectant expression, and was of a leaden pallor. She had black hair and a dark complexion. Examination at the back of the knee revealed a rod-like body beneath the skin in the popliteal space, having a diameter of over 1 cm. This hardness extended almost the whole length of the popliteal space. The diagnosis was made at once of embolism of the popliteal artery, from the lodgment of a detached heart thrombus caused by valvular disease the result of acute inflammatory rheumatism. The treatment consisted in giving opium and *Cannabis indica* to relieve pain and mental depression; digitalis to strengthen the heart; *Cascara sagrada* and extract of malt to relieve constipation and promote a flagging appetite; wine to hasten reaction; and a good nutritious diet to maintain and increase her strength. The speaker's prognosis was gloomy, and he predicted gangrene of the left foot and leg. He considered it dangerous to operate, because of the patient's condition and the irregular action of her heart, and believed she had the best chances of recovery by patiently awaiting spontaneous amputation. Hot applications were made to the foot and leg. Her general health continued good, and she ate abundantly. The pain grew very much worse, so that she was not freed from it even by taking a grain of opium every hour almost continuously for days. The foot became darker, and the toes black and dry. Dark-red patches made their appearance about the ankle, and gradually extended up the leg almost to the knee, from which point they receded about 4 cm. and began to form a line of demarkation. This line was dentate, so as to form two side flaps if spontaneous amputation occurred. Dr. B. F. Westbrook was called in consultation by the speaker, and fully coincided with him in regard to the case. A few blebs formed on the foot and ankle, and afterward on the leg, exuding a semigelatinous, sero-sanguineous fluid. The stench was considerable, but it was easily controlled with carbolic acid and bichloride-of-mercury solution. On the 29th (twenty-four days from the time he first saw her) the speaker found the patient sitting up, panting for air, with all the signs of orthopnœa. Mucous râles could be distinctly heard without applying the ear to the chest. After consultation, and taking her preceding history into consideration, he concluded that she had a pulmonary infarction and œdema of the lungs. It was Sunday, so that no oxygen could be obtained; and large doses of chloride of ammonium were prescribed. The next day she was found in a dying condition. An autopsy was not allowed.

There had seemed every reason to believe that, had it not been for the unforeseen accident, her strength would be sufficient to carry her through the process of spontaneous amputation. Her heart's action was so irregular and incompetent that she would have been very likely to succumb to an anæsthetic. Taking into consideration the general results of cases of gangrene, we learned that the majority of the patients operated upon died, and death was often hastened by the shock of the procedure. It seemed to the speaker that a large proportion of patients would fare better with nature than with the surgeon; nevertheless, the reverse was true of many others. He felt certain, therefore, that, by a more careful selection of cases with reference to the advisability of operating, a much larger percentage of recoveries would result.

The two cases of gangrene being under discussion, Dr. Leuf remarked that, after careful consideration, he was disposed to ascribe a spinal origin to the thrombus in the first case, on the supposition that a special myelitis might set up nutritive changes in the coats of the aorta, and these in turn give rise to the thrombus. He thought this the best way to account for the formation of the plug. The excessive exercise of both lower extremities might be sufficient cause for the inflammation of the cord.

Dr. C. N. D. Jones thought the fever symptoms would have been interesting as bearing upon the question of whether the primary cause was a myelitis or an arteritis. He wished to know if there had been any syphilis.

Dr. Jewett replied that the case began with chills and fever on a Wednesday; there were no chills the day before, but there had been some on the preceding Monday. He did not see the patient on Thursday, but saw him afterward, when he was without fever. No syphilitic history could be obtained; if there was any syphilis, it must have been hereditary. The patient only complained of numbness of the left thigh. In Simpson's works mention was made of an obstetrical case almost parallel. The plug was about 2·5 cm. above the bifurcation, and the symptoms were about the same. The connection between the cord and the thrombosis that had been suggested was not very clear to him, and seemed a little strained. He also thought it questionable if excessive exercise was the cause of the trouble.

Dr. Leuf rejoined that the lack of much pain in Dr. Jewett's case would support the myelitis theory.

The President thought it rather curious that sclerosis and softening should have taken place, as it would appear in this case, with hardly any symptoms. He asked if the patient had been skating shortly before the onset of the sickness.

Dr. Jewett answered, "A few days before."

The President added that it was also curious to see interstitial nephritis in one so young. This kidney trouble and cord affection were sometimes associated. Perhaps this case was one of embolism, and not of thrombosis.

Dr. Jewett said that there was no post-mortem evidence of any possibility of embolism.

The President asked if the plug, extending so far down as it did, would not prevent the collateral circulation suggested by Dr. Leuf.

Dr. Leuf explained that the plug fitted the vessels loosely from a point in the external iliac about 2 cm. above the iliopubic ligament.

The President, in reply to a question as to the advisability of an operation in Dr. Leuf's case, said that it was absolutely contra-indicated by the gross incompetence of the heart.

Miscellany.

The International Medical Congress.—The "Maryland Medical Journal" comments as follows on the recent work of the American Medical Association's new committee:

"We present in another column a partial report of the new committee on the Congress, which held its meeting in New York city on September 3d. We invite attention to the recent work of this committee, and would urge our readers to compare this work with that of the first Committee on the Organization of the Ninth International Medical Congress, which was published in the number of this Journal of April 1, 1885. We will attempt, in a brief way, to show by way of comparison that the new committee has played its part in this affair in a manner in thorough accord with what might have been expected of it. This committee should never have had an existence in the first place. It has failed to do anything save provoke strife and differences in the profession in this country, and this last attempt to organize the preliminary arrangements for the Congress is but the crowning act of its incapacity and unfitness for the work it has undertaken. The committee was called into existence by a small faction of sore-heads at New Orleans, which introduced false and absurd issues into the plan of or-

ganization of the Congress, with no purpose of promoting the welfare and scientific work of the Congress, but simply to make prominent certain private grievances and petit ambitions. The agitators of this rebellious movement against the work of the first committee were chiefly men who failed to receive appointments in the organization of the Congress.

"In order to overthrow the work of the first committee the cry of the 'code' was raised, and sectional feelings were appealed to. The work of disorganization was in this wise inaugurated. We ask every impartial mind, What does this mean? In what way have the fortunes of the Congress been benefited by the work of the new committee? Will any one venture to assert that the Congress can be a success under the arrangement now proposed? We will endeavor to answer these propositions.

"First, we will call attention to the fact that the new committee has virtually thrown aside the 'code' issue. It has thrown open the doors of the Congress to all members of the regular profession of medicine in this and other countries, with no restrictions other than the simple inscription of their names on the register, and taking out of tickets of admission. The committee does not undertake to say who are members of the regular profession. This plan is the one proposed by the first committee, but not the one proposed by the new committee at the Chicago meeting, which forced a large number of the first appointees to present their resignations. In short, this new committee has accepted the work of the first committee after having driven out of the organization of the Congress a large number of the most distinguished members of the profession in this country. By introducing the absurd 'code' issue at Chicago, the committee has completely alienated from the organization of the Congress the very best scientific minds. It has rescinded its destructive work at Chicago in the face of the adverse criticism of the almost entire medical press in this country and in Europe, but not until after it had succeeded in filling a number of its appointments with men of second-rate merit. The committee adopts the 'code' issue in this respect only. It has made no appointments except with 'old-code' adherents. The present organization, therefore, will only be represented by 'old-code' men. In order to carry out the 'code' idea and the 'sectional' idea, the committee has filled the various offices of the Congress with men, a few of whom are scarcely known at home or abroad, and whose fitness for the positions to which they have been called may be regarded as of questionable character.

"Second, we direct attention to the fact that the rules for the government of the Congress are almost identical with those framed by the first committee. The first committee created nineteen sections, whereas the present arrangement provides for only seventeen; but this change has been brought about in this manner. The Section on Medical Education, Legislation, etc., has been dropped and the Section on Otology has been added to the Section on Laryngology. A number of verbal alterations were introduced into the rules adopted by the new committee, but the general purport of these rules is the same as adopted by the first committee.

"The only reformation made by the committee in the plan and organization adopted by the first committee is reduced to this: 'new-code' men have been dropped and 'old-code' men have been substituted for them. The changes in the *personnel* of the presidents of sections are thus shown. In the Section on Anatomy, W. H. Pancoast, of Philadelphia, has been substituted for Joseph Leidy, of Philadelphia; Section on General Surgery, William T. Briggs, of Nashville, for D. W. Yandell, of Louisville; Section on Medicine, A. B. Arnold, of Baltimore, for J. M. Da Costa, of Philadelphia; Section on Obstetrics, DeLaskie Miller (residence not known to us) for T. A. Reamy, of Cincinnati; Section on Therapeutics, etc., F. H. Tirrell (residence not known to us) for H. C. Wood, of Philadelphia; Section on Military and Naval Surgery, Henry F. Smith for David L. Huntington, U. S. A.; Section on Pathology, E. O. Shakespeare, of Philadelphia, for Francis Delafield, of New York; Section on Diseases of Children, J. Lewis Smith, of New York city, for Abraham Jacobi, of New York; Section on Ophthalmology, J. W. Calhoun (residence not known to us) for Henry D. Noyes, of New York city; Section on Otology and Laryngology, S. J. Jones, of Chicago, for Clarence J. Blake, of Boston, on Otology, and George M. Lefferts, of New York city, on Laryngology; Section on Dermatology and Syphilis, A. R. Robinson, of New York city, for William A. Hardaway, of St. Louis; Section on Public and International Hygiene, Joseph Jones, of New Orleans, for Hosmer A. Johnson, of Chicago; Section on Collective Investigation, etc., Henry O. Marcy, of Boston, for N. S. Davis, of Chicago; Section on Psychological Medicine, John P. Gray, of Utica, N. Y., for S. Weir Mitchell, of Philadelphia.

"It will thus be observed that the changes made by the committee in the appointees of the Congress are not of a character to inspire the very highest order of scientific work, nor do we believe that the Congress as now organized will attract that attention and interest it would have received under the plan of organization first proposed. The revolutionary work of the American Medical Association, in authorizing the changes made by its committee, is entitled to every atom of criticism and censure it has received. There was no reason or justice in its action. This action will have but one result, that of lowering the standard of scientific work in this country and of introducing into the ranks of the profession an element of discord and disturbance which can not be effaced during the next generation. The association has given its entire influence toward elevating the claims of men who care more for their own advancement than for the general professional good. It has favored an alliance with ideas and principles which have no existence in the scientific creed of our times. The present organization of the Congress, as far as it is known, bears no comparison in point of ability and authority to the first organization. Inasmuch as it has been called into existence out of deference to false issues and demagogical ideas, its results will not only prove highly prejudicial to the success of the Congress, but can have only an unfavorable influence upon the status of the profession in the United States."

The "Medical Record" says:

"For the first time in its history the International Medical Congress has fallen into the sole management of a society of the country in which it is to meet. Although Sir James Paget, an ex-president, expressly affirms that this was not expected or desired when an invitation was given, yet it is evident from recent events that the society referred to intends to retain its hold and force upon the Congress its own men and methods. The work of the committee which met here in such secrecy on September 3d but too surely confirms this. Details of its mysterious labors are given elsewhere. These show some indications of adroit wriggling to escape the results of previous blunders, but no manly meeting of the issues, and no recognition of the real demands of the profession. The committee have utterly eliminated and blotted out Drs. Cole and Shoemaker, trusting, we presume, to gain back Philadelphia by thus making scapegoats of these gentlemen. They have also filled the vacancies in the presidencies of the sections. Their list of names suggests both freshness and decay, but does not fairly represent American medicine. And the profession will very quickly ask who many of these new men are who thus take the seats which have heretofore been held only by recognized leaders. Is our country to be made ridiculous by their upheaval, and the Congress turned into a menagerie of unknown doctors and ethical sticklers?

"However, though the appointments are weak enough, they need not kill the Congress. But a much more serious thing remains: no attempt was made to remove the code issue from the Congress. It is still incumbent on an American physician to subscribe to the American Medical Association's Code of Ethics in order to hold any official position in the Ninth International Congress—if it meets in this country. The stupidity, as well as absolute wrongfulness, of failing to meet this point is certainly beyond parallel. The good Lord only knows, perhaps, what a number of nice, venerable, determined old gentlemen we have here trying to manage our little medical world; but many of us are getting some inkling of their immeasurable and fathomless fatuity. It appears, at any rate, that they are bound to destroy the Congress, for they persist in forcing upon it restrictions which cut off from the Congress and impugn the respectability of a large number of the most honored men in our profession. In thus doing they violate justice and right, break the pledges at Copenhagen, and affront their fellow physicians here. Of course a bitter controversy is inevitable; and we are sorrowfully forced to the conclusion that there is at present no hope for the Congress whatever. The profession here and in other centers

is almost a unit against the policy of the association and its committee, and it will continue to protest against the organization of a meeting which will be so thoroughly misrepresentative of American medicine."

In another article the "Record" says:

"The real trouble in the case of the Washington Congress is that, under the direction of a few gentlemen prominently interested in the American Medical Association, the local issue of the code has been forced upon an international scientific body. There was no justice or right in this, and it was in violation of all precedent and of tacit pledges made at Copenhagen. The consequence of their action is that a large number of our country's best physicians are incapacitated from holding any position in the meeting, and, of course, can not with self-respect take part in the work of a body which impugns their professional respectability. The profession has almost unanimously condemned this action. In proof of this we give here a list, which we believe is complete, of the journals in this country that have disapproved of the course of the association: *New York Medical Journal, Boston Medical and Surgical Journal, The Medical Record, Chicago Journal and Examiner, Maryland Medical Journal, Medical Age, Philadelphia Medical Times, Louisville Medical News, Atlanta Medical and Surgical Journal, Virginia Medical Monthly, Indiana Medical Journal, Pacific Medical and Surgical Journal, American Practitioner, New Orleans Medical and Surgical Journal, Cincinnati Medical Journal, Columbus Medical Journal, Medical News, Kansas City Medical Index.*

"We believe that there is not one of the few medical journals that defend the course of the present committee which has not some official or close personal connection with the organization of the American Medical Association and the Congress.

"There can thus be no doubt as to the sentiments of the profession. It is impossible that this sentiment should be changed by the mere fact that Drs. Cole and Shoemaker have been so completely effaced. This was a sop to the Philadelphia Cerberus; but it was a mean act and will win no support to the committee."

The "Medical News" publishes the following:

"At the stated meeting of the Luzerne County Medical Society, held at Wilkesbarre on Wednesday, September 9th, the following resolutions, offered by Drs. Mayer and Guthrie, were discussed and then carried, but one vote being recorded in the negative:

"*Whereas*, The International Medical Congress is a scientific body taking no cognizance of medical ethics or politics, therefore be it

"*Resolved*, That it is the sense of the Luzerne County Medical Society that the officers and members of the Medical Congress should be the most eminent representatives of the entire regular profession of our country without regard to their views as to extraneous subjects.

"*Resolved*, That the action of our brethren of Philadelphia, and of other cities, in declining to hold office in connection with the said Congress as now proposed to be organized, and in protesting against the method of its organization, is hereby heartily approved.

"In seconding the motion for the acceptance of the preamble and resolutions offered by Dr. Guthrie, Dr. Mayer said:

"I desire to state that I had intended presenting to you to-day other resolutions of similar tenor, but, upon learning of Dr. Guthrie's purpose, will content myself with endeavoring to further the passage of these, which I so highly approve.

"This whole matter referred to in the resolutions, when compressed into a nutshell, would seem to be as follows: That the committee of our National Association, originally appointed to secure a proper representation of delegates and committees for the coming International Congress, made selection which gave satisfaction to the best professional judgment of our country; that then certain aspiring and neglected members of the association conspired at the last moment to exclude from the appointed list a large number of men favorably known abroad and honored at home for their zeal and success in scientific labors, upon the plea that these gentlemen differed from the majority of the association about clinical matters, well the subjects of legitimate controversy. They succeeded in their plot, and in the enforced substitution for many learned names of others comparatively obscure. This action has caused a profound sensation in medical circles, and has aroused the best sentiment of the country in opposition to this usurpation. A large number of the oldest, the purest, and also the most conservative members of our profession, including, near at hand, such lights as D. Hayes Agnew, Bartholow, Stillé, Leidy, Mitchell, and Pepper, and at a distance other prominent men in New York, Boston, Baltimore, the South and the West, have combined in a protest against this action of the Modified Committee, and have declined to fill the positions assigned to them unless the original status of things be restored. In the mean time some of the members of this committee are inundating the land with proclamation and manifesto, and are endeavoring, by public circular and private solicitation, to whip and spur county societies and individual members into adherence to their views.

"I trust that our society will now speak 'with no uncertain sound' and place its stamp of reprobation upon this despotic attempt of a few to coerce the many, and, by a unanimous vote, confirm the manly protest made by our distinguished brethren in behalf of all that is broad, high-toned, liberal, and free in American medicine. Its name has been soiled in the dust of corrupt medical politics. Let us do our little to help cleanse it."

The Chicago correspondent of the "Boston Medical and Surgical Journal" writes:

"The International Congress, from the standpoint of the profession here, has a gloomy outlook. We can not see now from the present situation the gathering can be in any sense international. There may be a large meeting, but if only American doctors attend, and if, as the prospect is certain, many of the most distinguished members of our own profession are absent, what is the use of a Congress at all! Drs. Lyman, Hyde, Jackson, Parkes, and Senn have publicly announced that under the present organization they *could not* serve in the positions to which they have been appointed. Not only have a large number of the strongest men in the country declined to participate, but so large a class that the idea is growing among the profession here that the Congress will not be worth attending, that it is a foredoomed failure as an international gathering. This feeling is heightened by the indications from abroad of a growing sentiment of dissatisfaction with our ways of doing, which is entertained by the profession of Europe, and which promises to reduce to zero the small delegation of eminent visitors we had any reason to expect under the most favorable auspices.

"And the present prospects promise little for the amelioration of the situation. We can see how some of the difficulties would disappear if one side or the other would back down—a performance there is not the smallest chance of our seeing. The leaders of the association movement and the company of decliners to serve both belong to that class of mankind who do not retreat easily; they will not do it in this instance. And even if they did, and mutually did, the injury done in Europe to the prospects of the Congress are past repair. The spectacle is a humiliating one for the American profession."

The "Western Medical Reporter" says:

"Our readers may have noticed in former issues of the 'Reporter' a conspicuous absence of comments upon the war-cloud which now obscures the bright horizon that erstwhile encircled the coming International Medical Congress. We assure our readers that our silence has not been due to indifference upon our part, for the matter is certainly one of vital importance to every medical man of a progressive mind. There seemed, however, to be no probability that the prominent gentlemen who are most closely identified with the best interests of the American medical profession would so far forget themselves, and that spirit of liberality and scientific progress which has been pre-eminently the claim of the profession of the United States, as to seriously embroil themselves in a quarrel that could but engender the contempt of the majority of the profession both at home and abroad; we now, however, appreciate our mistake. To open the closet and exhibit to the world the skeleton of the American medical family, 'the code,' was indeed in very poor taste to say the least, especially when such an exhibition was absolutely certain to prove prejudicial to the coming Congress. It seems a trifle peculiar that we Americans, with all our boasted liberality and freedom of thought, should be the first to cast a stone at the medical freethinker, and it may well seem a trifle paradoxical to the scientific representatives of what we are prone to term the effete governments of the Old World to find the future of the International Congress endangered by the intolerance of American physicians.

"Our European brethren may perhaps appreciate the fact that the

American Medical Association in its action regarding the Congress has not voiced the sentiments of either the majority or the best of the members of the profession in America, but we are none the less disgraced in their opinion. It is perhaps wrong to lay this trouble at the door of the association as a whole, for, as in every other organization of a similar character, it will be found that the active management is in the hands of a very few individuals; but, as the matter now stands, there is nothing else to bear the responsibility of the family quarrel. With all respect to its venerable editor, the 'Journal of the American Medical Association' appears to be the only obstacle in the way of an amicable rearrangement of the committees and a resumption of the strictly scientific work which, if undisturbed, will make the coming Congress fully as successful as any of those which have preceded it. Pertinacity is an excellent quality under exceptional circumstances, but in the present instance concessions for harmony's sake would be in much better taste. The time is past for a body of men, scientific or otherwise, to attempt to forcibly coerce the opinions of the majority, and experience has taught the profession within a very few years that the code question had better be left to take care of itself.

"The physician's own conscience is his most trustworthy mentor. He may, from that purest of motives, honesty, decline to consult with one whose views are so dogmatic and so diametrically opposed to the results of scientific research that there could not possibly be any interchange of ideas which would be liable to redound to the patient's advantage. To accept a fee for such a consultation would be akin to larceny. To consult with a man who meets a consultant, not as a '-path' or an '-ic,' but as a respectable physician, is, however, above reproach, whether both are recognized by the association or not. The propriety of a consultation ought to be determined by the characteristics of the men and not by the school which has empowered them to practice. The relation of a certain proportion of physicians to the mass of the profession is a trifle like the old story of the pigs in the clover patch. They have protected themselves by a barbed-wire fence denominated 'the code,' that plainly says to the fellows upon the outside, 'Thou shalt not steal.' The favored ones have always seemed to be strangely familiar with the spaces between the wires, and, in case their less fortunate brethren should find a few plums upon their side of the fence, they have always been perfectly willing and eager to rush out and help themselves; now, however, that the outsiders have shown themselves both able and willing to jump clear over the wires, the protest of the fat fellows is most vehement. It is a singular fact that the young man who graduates at a reputable college and settles down in a new locality to earn his bread and butter will meet with less courtesy and more bitter opposition at the hands of the gray-haired adherents of ye venerable code than at the hands of the 'irregulars.' We have known instances in which the aspirant to medical fame has had his first cold-water bath at the hands of men whose names he had been previously proud to read upon his diploma.

"How long the profession will continue to depreciate itself in the eyes of the public by unseemly strife is a question, but the millennium is devoutly to be prayed for. The explanation of the fact that the medical profession commands so little respect at the hands both of the laity and various municipalities is simply that its members are continually employed in cutting each other's throats. They are expected to labor for nothing—or what is worse, glory—and to devote themselves to the welfare of a thankless public simply because there is not among them sufficient professional *esprit de corps* to encourage them to battle for their rights. Should a surgeon refuse to work for the State, city, or any private corporation for nothing, or, at most, for a mere pittance, there are a thousand others who will jump at the chance if offered them. Doctors do sometimes refuse to accept glory from conscientious motives, as is illustrated by the resignation of so many gentlemen whose names graced the committees for the coming Congress. As our respected contemporary, the 'Medical Age,' has aptly remarked, 'even the Michigan men have resigned their exalted positions upon the committees, and when a Michigan man resigns an office there must be something rotten in Denmark.' If the statement had been a little more comprehensive, and had embraced the profession as a whole, it would have been quite appropriate. There is no one, however, who is better qualified to express an opinion regarding the Wolverines than the editor of the 'Age.' We will live in the hope that the cement of brotherly love will be spread on hot and thick at the St. Louis meeting next year, and that certain prominent members of the association may become quite expert in the use of the trowel by that time. We fear, however, that there will be no peaceful interim in which to practice the new and to them novel exercise. There are others, too, who might find profitable employment in professional tailoring in order that our poor skeleton, the code, may be provided with garments new wherewith to cover his unseemly nakedness, in case the profession is bound to trot him out for the edification of the scientific world at the next meeting of the association."

The Erie County Midwifery Law, passed at the last session of the Legislature, reads as follows:

"SECTION 1. On or before the first day of July, eighteen hundred and eighty-five, the county judge of Erie County shall, by an order to be filed in the Erie County Clerk's Office, appoint a board of examiners in midwifery to consist of five members who shall have been licensed to practice physic and surgery in this State, and thereafter, as often as any vacancy shall occur in said board, said county judge shall, by a like order, fill such vacancy.

"SEC. 2. Immediately after the filing of said order said board shall organize by the selection of one of its members as president, and of another as secretary and treasurer, who shall hold their office for one year, and be thereafter annually elected, and shall adopt and have power to adopt and enforce such rules and regulations as are necessary to carry out the purposes and provisions of this act.

"SEC. 3. Such examiners shall meet on the first Tuesdays of October and April in each year, and on such other days as such board may appoint, in the city of Buffalo, after due notice thereof is publicly given, and shall then examine all candidates of the age of twenty-one years and upward, possessed of good moral character, who shall present themselves to be examined for license to practice midwifery in the county of Erie, and shall, on receipt of ten dollars, issue their certificate to any person so examined who shall be found by them to be qualified, which certificate shall set forth that said board has found the person to whom it is issued qualified to practice midwifery, and shall be recorded by the clerk of the county of Erie in a book to be kept by him for that purpose. All moneys going into the treasury of this board shall be applied to defray the expenses of this board.

"SEC. 4. Any person who has received and recorded such certificate shall thereupon be designated a midwife, and authorized and entitled within the county of Erie to practice midwifery in cases of normal labor, and in no others; but such persons shall not in any case of labor use instruments of any kind, nor assist labor by any artificial, forcible, or mechanical means, nor perform any version nor attempt to remove adherent placenta, nor administer, prescribe, advise, or employ any poisonous or dangerous drug, herb, or medicine, nor attempt the treatment of disease, except where the attendance of a physician can not be speedily procured, and in such cases such persons shall at once, and in the most speedy way, procure the attendance of a physician.

"SEC. 5. Said board of examiners shall have power, on proper cause shown and after hearing the person holding their certificate, to recommend to the county judge of Erie County the revocation of the same, and said judge shall have power to revoke such certificate and license.

"SEC. 6. Any person who shall practice or, without the attendance of a physician where one can be procured, attend a case of midwifery or obstetrics within the county of Erie after the thirty-first day of December, eighteen hundred and eighty-five, without being duly authorized so to do under existing laws of this State, or without having received and recorded the certificate provided for by this act, and any person who shall violate any of the provisions of this act shall be guilty of a misdemeanor, and on conviction thereof shall be fined not less than fifty dollars nor more than one hundred dollars, and shall forfeit any certificate that may have been granted under the provisions of this act.

"SEC. 7. This act shall take effect immediately."

The first meeting of the board of examiners under Dr. M. D. Mann, president, Dr. J. H. Pryor, secretary, Dr. H. R. Hopkins, Dr. P. W. Van Peyma, and Dr. J. W. Kennedy for the purpose of examining candidates

will be held Tuesday, October 6th, between the hours of 3.30 and 6 P. M., at the Fitch Institute. If necessary, the board will meet on other days, which will be announced. Any person applying for examination must furnish satisfactory evidence that she is of good moral character, twenty-one years of age, or more, and has attended, or assisted in attending, ten or more cases of labor. The examination will be both written and oral, and the answers to questions must be written or spoken, as the board may direct. Applicants will be examined in English or German, as they may desire. It will be the aim of the board to determine whether a candidate is competent to fulfill the requirements and instructions of the law as stated in Sections 3 and 4, and the character and scope of the examination will be planned with that intention. The candidate must possess a knowledge of the following essential subjects: The structure of the external and internal parts of the female generative organs and pelvis. The symptoms, mechanism, course, and management of natural labor. The symptoms and indications of complicated or abnormal labor, and the emergencies which render it necessary to seek a physician's advice. How to care for the mother and child after the child is born. The hygiene of the sick-room, including cleanliness, etc. The prevention of disease, and how to avoid infection and contagion.

Further information can be obtained by applying to the secretary, J. H. Pryor, M. D., 327 Franklin Street, Buffalo.

The French Society of Otology and Laryngology, as we learn from the "Union médicale," will meet in Paris on the 8th, 9th, and 10th of October.

Preservative Solutions for Embalming.—Santer (quoted in "Union médicale") recommends, for temporary use, injecting the vessels with the following solution:

Carbolic acid	1 part;
Glycerin	10 parts;
Alcohol	5 "
Water	40 "

If permanent preservation is desired, this is to be followed by a copious injection of a one-to-two solution of chloride of zinc colored with fuchsin, or of a solution (strength not stated) of sulphate of albumin [? aluminium] colored with cochineal. The surface of the body is then to be coated with vaseline or with a sandarac varnish containing carbolic acid, the cavities being filled with cotton treated with corrosive sublimate or soaked in a five-per-cent. glycerin solution of carbolic acid.

The Leuval Prize for an Improved Instrument for Deafness.—Baron Léon de Leuval, of Nice, has offered, through the Third International Congress for Otology, a prize of 3,000 francs for the best portable instrument, constructed on the principle of the microphore, for the improvement of hearing in cases of partial deafness. Instruments intended for competition must be sent before December 31, 1887, to one of the members of the jury appointed to decide upon their merits. The jury consists of Prof. Hagenbach-Bischoff, Ph. D., M. D., chairman of the jury, Basle (Missionsstr. 20); Benni, M. D., Warsaw (16 Bracka); Prof. Burckhardt-Merian, M. D., Basle (42 Albanvorstadt); Gellé, M. D., Paris (49 Rue Boulard); Prof. Adam Politzer, M. D., Vienna (1 Gonzagagasse 19). Perfected instruments only are to be considered, and with reference particularly to their mechanical construction, the proper application of the laws of physics and their power to improve the hearing. The prize will be awarded at the Fourth International Congress for Otology, to be held in Brussels in September, 1888. If none of the instruments presented are considered worthy of the prize, the competition will be kept open until the meeting of the Fifth Congress.

Companion for an Invalid.—An English lady, of extensive experience in the care of the sick, writes us that she is desirous of obtaining a position as traveling companion to an invalid, and that she is willing to come to America for the purpose of accompanying such an one back to Europe. We shall be happy to furnish her address to any of our readers who may wish to secure her services.

The American Public Health Association will hold its thirteenth annual meeting in Washington D. C., December 8, 1885. The Local Committee intrusted with perfecting arrangements for the meeting, which includes transportation and entertainment for the members of the association and place for holding the sessions, is as follows: Dr. Smith Townshend, chairman; Dr. J. C. McGinn, secretary; Dr. J. S. Billings, U. S. A.; Dr. John M. Brown, U. S. N.; Mr. William P. Dunwoody, National Board of Health; Hon. John Eaton, Sr., Prof. John Gamgee, Dr. A. Y. P. Garnett, Dr. A. L. Gihon, U. S. N.; Dr. Walter Gwynn, Dr. Charles H. H. Hall, U. S. N.; Dr. C. G. Hirndon, U. S. N.; Dr. Adrian Hudson, U. S. N.; Mr. E. S. Hutchinson, Dr. J. H. Kidder, U. S. N.; Dr. William Lee, Dr. George B. Loring, Dr. De Witt C. Patterson, Dr. Stephen O. Richey, Dr. Charles Smart, U. S. A.; Dr. Thomas J. Turner, U. S. N.; Dr. J. M. Toner, Dr. P. S. Wales, U. S. N.; Dr. Ralph Walsh, Dr. Charles H. White, Dr. T. S. Verdi, Mr. Samuel A. Robinson, and Dr. D. E. Salmon.

Extract of Pinus Canadensis.—Dr. C. H. Davis, of Tunkhannock, Pa., writes to the Rio Chemical Company as follows:

"I can speak positively of the great value of Kennedy's extract of pinus canadensis. I have been treating a case of protruding piles of twenty years' standing, making life almost intolerable at times; they have been treated for years with only palliative results. About a year ago an operation was submitted to, since which time the tumors have remained smaller and less sensitive, but a new trouble soon set in, namely, itching to a terrible extent, which nothing seemed to relieve until I tried the extract of canadensis, two parts to one of glycerin, two or three applications of which relieved the itching entirely, and the disease is being rapidly benefited in every way. Have used it only once a day after each evacuation. I find it an excellent remedy in leucorrhœa also."

THERAPEUTICAL NOTES.

The Physiological Action of Hydrastis Canadensis.—Fellner ("Med. Jahrb."; "Ctrbl. f. Gynäk.") has found, by experiments on dogs and rabbits that golden seal gives rise to changes in the blood-pressure and in the action of the heart. Increase of the blood-pressure arises chiefly from contractions in the vascular system, and its decrease from paralysis of the vaso-motor centers, dilatation of the vessels, and retardation of the pulse. The depressor nerve has no influence upon a diminution of the blood-pressure induced by hydrastis, although in the vascular areas of the splanchnic and other nerves contractions and dilatations occur. If large and then small doses are injected while the aorta is compressed above the diaphragm, the pulse is alternately retarded and accelerated; and this is followed by tumultuous action of the heart and its exhaustion and paralysis. The action of hydrastis, whether irritative or paralyzing, is not confined to the vaso-motor nerve centers, but it acts also upon the cardiac ganglia; it is therefore a cardiac as well as a vascular poison. The drug acts upon the muscular tissue of the uterus as it does upon the blood-vessels, causing contraction and relaxation. In certain cases this action may be observed even in the small intestine. From one to two drops of a ten-per-cent. solution of hydrochlorate of hydrastine, injected subcutaneously, give rise to energetic uterine contractions. According to the author, this salt and phosphate of berberine should be used in practice, as, in small doses, they exert the same action as the fluid extract of *Hydrastis canadensis*.

Capsicum in the Treatment of Delirium Tremens is no novelty, but the large doses used by Dulácska ("Pest. med.-chir. Presse"; "Ctrbl. f. kl. Med.") are noteworthy. He used the drug in four cases, one of which was complicated with pneumonia. Thirty grains of the powder were given every hour. After four doses had been taken, sleep took place, followed by profuse sweating and urination, and often by an alvine evacuation. The author attributes the effects to the action of the remedy on the intestinal nerves, but he did not observe any intestinal derangement result from its use.

Cocaine in Seasickness.—Manassein ("Berlin. kl. Wchnschr."; "Lancet") has used the following solution in several cases with gratifying results:

Hydrochlorate of cocaine	2½ grains;
Alcohol	q. s.;
Distilled water	4½ ounces.

He gives a teaspoonful every two or three hours.

Lectures and Addresses.

AN ADDRESS

DELIVERED BEFORE THE NEW YORK ACADEMY OF MEDICINE, OCTOBER 1, 1885,

BY THE PRESIDENT,

ABRAHAM JACOBI, M. D.

Fellows of the New York Academy of Medicine: It is a source of intense gratification to me to greet you this evening in the beginning of a new season of co-operative work, after a long vacation. May the labor of the coming months be successful both for ourselves and for the medical world, *ars longa, vita brevis.* Art is so extensive indeed and life so short that we have to concentrate all our efforts to accomplish a certain amount of result.

In behalf of our common interests I crave your attention first to a few facts which I consider of great importance in regard to medical progress. They are connected with the session of the International Congress held in Copenhagen from the 10th to the 16th of August, 1884. In a general meeting held on August 14th, upon propositions made by Sir James Paget, of London, Prof. Ewald, of Berlin, Prof. Bouchard, of Paris, and Dr. Billings, of Washington, the following resolution was passed: That an international committee be formed for the collective investigation of disease, in connection with the work of the International Congress, and that a certain number of gentlemen do represent their respective countries thereon. The gentlemen designated for that purpose were Trier and C. Lange, of Copenhagen; E. Bull, of Christiania; Rauchfuss, of St. Petersburg; Ewald and Bernhardt, of Berlin; Schnitzler, of Vienna; Pribram, of Prague; Koranyi, of Buda-Pest; D'Espino, of Geneva; Bouchard, of Paris; Lépine, of Lyons; Sir William Gull and Mahomed, of London; Humphry, of Cambridge; Sir Joseph Fayrer, for British India; Gutierrez-Ponce, for South America; N. S. Davis, of Chicago; A. Jacobi, of New York; and Isambard Owen, Secretary-General, of London. The only changes which have since taken place in the list of membership have been brought about by the untimely death of Dr. Mahomed, and the addition of Axel Key, of Stockholm, and Runeberg, of Dorpat.

According to a circular distributed by the Secretary-General some time ago, "the main objects which the committee seeks to attain through the collective investigation of disease are to widen the basis of medical science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of medicine rests—such as chemistry and other branches of physics, physiology, and pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It can not be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold that no single man, however gifted and long-lived, can hope to bring the whole within his range. The need, therefore, in medicine of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, can not be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our committee to supply.

Disease is many-sided, and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the army and navy and of workhouses and asylums, will be asked to contribute their quota of observations to the common fund.

These are both the motives and the propositions of the committee appointed at Copenhagen. In regard to them, and collective investigation in general, the favorable opinion of the profession has been expressed frequently. But now and then a voice is still heard disparaging its utility, and discouraging the collection of facts on a large scale for the reason that the procedure has not yet been demonstrated to be useful. Indeed it has not, for it has never been tried to a large extent. We shall hardly insist, however, that the ground-stone must not be laid because the tower is not yet on the edifice; that the seed must not be sown because the fruit can not be harvested to-day, or was not gathered yesterday.

Hesitation has also been expressed from another point of view. One of our foremost medical journals ("Boston Medical and Surgical Journal" of September 4, 1884) makes the remark that those who labor only for personal

renown will not enter enthusiastically into the work proposed by the committee. But its demands are very trifling indeed, the questions to be settled by the observations of large numbers are but few, and of such a nature as not to expropriate those who are able and anxious to arrive at and be credited with scientific results of their own, and benefit by the reputation attached to them.

If the remarks above quoted were founded on reality, whoever worked for personal reputation only would not even participate in the discussion of a scientific society, for fear that his remarks, coupled with the essay of somebody else, would miss the opportunity of being listened to as the main topic of an evening's conversation. Now, on the contrary, we are in the daily habit of seeing experience published and ingenuity displayed in just such discussions. Nor do I believe that, as another journal has it ("New York Medical Journal," September 4, 1884), "the answers coming from a great body of men of diverse views would constitute but a catalogue of raw impressions," and that, "when the facts to be observed are of a nature to call for exquisite discrimination on the part of the observers, to multiply the number of the observers is to depreciate the general quality of the work." For the more uncertain the correctness of observations is apt to be, the more numerous they ought to become. Single observations have settled a fact but very rarely. The very existence of large societies proves the instinctive demand for variety and comparative appreciation of observations. Is not every physiological fact known to us the outgrowth of a number of experiments of many men? and pathological knowledge the result of a great many autopsies by different men in many countries? What is individual experience but the accumulation of a multitude of facts of a similar nature by one man? What is science but the result of accumulated experience, collected and compared, of many men, countries, and ages? Are a hundred meteorological stations more efficient or less so than one would be? I do not belong to that class who believe a problem easy of solution merely because its solution is anxiously sought for, nor do I deny difficulties because they are obstacles to the accomplishment of cherished ends, but I know that we are in a better position to serve the co-operative work of all countries now that steam and telegraph have reduced distances, mail and travel have multiplied intercourse, and we are to-day as near St. Petersburg as our ancestors were, a hundred years ago, to Lake Erie or the James River.

Thus it appears evident that the difficulties are not excessive. As to the usefulness of collective investigation, the opinions will become all but unanimous. The efforts of the British Medical Association and the Medical Society of Berlin, and the fair success of an attempt at solving a problem connected with the ætiology of croupous pneumonia, made in the Medical Society of the County of New York during the last year, are sufficiently promising for the collective investigations of the future. In their interest it is that I propose to make a further communication and request your co-operation.

The Central Committee on Collective Investigation of the International Congress has selected the following subjects, viz.: Rickets, chorea, acute rheumatism, and cancer, planned a number of simple questions in regard to them, mainly to their ætiology, and expects as simple answers. Being the secretary of the American sub-committee, I have gathered all of them in pamphlet form, added a few introductory general remarks, supplied by the Central Committee, and present herewith a specimen for your inspection. Those of you—I hope all of you—and those of the profession at large who will learn of this request, are respectfully asked to interest themselves and their friends in behalf of the undertaking, notify me of their desire to be furnished with a copy, and comply with the suggestions of the committee contained therein. We do not look for immediate achievements. For the complex of sciences and arts called medicine has required thousands of years to arrive at its present condition; the aggregation of many wills and forces has resulted in a slow evolution only. No single discovery even, nor the first attempts at collective investigation, will effect a revolution in medicine. But what we do hope to accomplish is the gathering of facts on the strength of an improved method, the confirmation of old and the acquisition of new knowledge, and thus to contribute to the success of at least this one committee. It need not matter how much may have, nay, has, been done to mar the success of the next International Assembly, and to deprive us of the opportunity long looked forward to of greeting the giants of science, the celebrated teachers, the ingenious experimenters, and our literary or personal friends of Europe, on our own soil. For an International Congress will never convene under the roof of a house divided in itself, though the division may be the work of a few sacrilegious hands only.

But this is a sad theme, known to everybody here, deplored by everybody who feels as both a personal grief and a public calamity the humiliation which is involved in the hesitation on the part of the Congress to assemble in our country.

It is in profound sorrow that I pass by the subject; I prefer to speak of another topic, which, while it is not directly connected with any of the aims and immediate purposes of this Academy, concerns us as professional men of the State of New York and the Union. I allude to the almost unexpected success on the part of the profession of the State of New York in harmonizing a large majority of the medical men of the United States.

Let me explain. Chap. II, Art. IV, Sec. 1 of the Code of Ethics of the American Medical Association reads as follows: "A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known and acknowledged responsibility recognized by their association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultations

when it is requested by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

This paragraph has so often been criticised by both friends and adversaries that it is unnecessary to refer again to its contradictions, its "nevertheless" and "but," and to its implied acknowledgment of modern "homœopathy." For let us not forget that the code of ethics of the American Medical Association saw the light forty years ago, and that what they call "homœopathy" nowadays differs from the Hahnemannism of those times in everything but the name. They now maintain that their practice is not based on an exclusive dogma; they profess to teach in their schools—and do teach—anatomy, physiology, pathology, and organic chemistry, and thus come up to the requirements of the above-quoted article of the code of ethics of the American Medical Association. *Indeed, if there were no better grounds for their rejection, they would to-day be entitled to membership in the association.*

What the Medical Society of the State of New York, in its sessions of 1882 and 1883, adopted in its stead ("Trans. of the Med. Soc. of the State of New York" for the year 1882, p. 75), in a code of medical ethics which covers two pages instead of the eighteen pages of the code of medical ethics of the American Medical Association ("Proceedings of the National Medical Conventions, held in New York, May, 1846, and in Philadelphia, May, 1847," Philadelphia, 1847, pp. 91–106), reads as follows:

"Members of the Medical Society of the State of New York, and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

Compare with these brief sentences the explanatory declaration of the American Medical Association, passed unanimously in its session at New Orleans of April 30, 1885. There and then it was "*Resolved*, That clause first of Art. IV in the National Code of Medical Ethics is not to be interpreted as excluding from professional fellowship, on the ground of differences in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said code of ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

"2. *Resolved*, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

"3. *Resolved*, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the code which relates to consultations can not be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is pressing or immediate need of them. On the contrary, to meet the emergencies caused by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire code.

"But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who have voluntarily disconnected themselves from the regular medical profession, in the manner indicated by the preceding resolution."

After these resolutions had been passed in New Orleans many of the professional men who always persisted in adhering to the code of the American Medical Association were of the honest opinion that they had, by accepting them, removed every discrepancy of opinion or difference of action on the part of those adhering to either the old or new code. For it is true that the explanatory declaration of Chap. II, Art. IV, Sec. 1, exhibits a great resemblance to the New York Code of 1882. For the Medical Society of the State of New York it must be a source of intense gratification to be convinced by the passing of that declaration that a few years have sufficed to so change public opinion as to oblige even the American Medical Association to recognize the justness of most of the New York proceedings. Upon this result the New York State Society can but be sincerely congratulated, and the spirit of equity and justice as displayed by the committee drafting the explanatory declaration must be commended.

The expressions of opinion in regard to the wholesome effect of the New Orleans declaration have been very numerous. I am in possession of several letters containing remarks full of satisfaction and hope. A gentleman well and deservedly known in the professions of both hemispheres, and markedly so with us for his allegiance to the code of ethics of the American Medical Association, gave enthusiastic expression to his delight over the satisfaction that declaration must give, and to the hope that the New York Academy of Medicine would give a public utterance in that direction. That would "immediately settle all difficulty about the code, and at once restore peace and harmony in the profession." I had to tell him that the Academy excluded all politics, ethical or other, from its discussions, and that the only societies which could act in the matter were the medical societies of the county and of the State of New York. There the matter then rested, for I believe I was right in excluding it from any consideration in our midst.

Still, while this Academy is no political body, old and new codes, as far as I know, being equally represented with us, we are an integral part of the body medical, and the events in the professional world affect our interests and sympathies intensely. Thus we have to regret that the wording of the resolutions of New Orleans is very likely to obscure their meaning. Emergencies are acknowledged to be binding, but, while the New York code admits that a physician may (not shall, or must) consult with a legal practitioner in a case of emergency, the explanatory declaration of the association insists that such a meeting is not a meet-

ing in the usual meaning of the term, and such a consultation "no formal professional consultation."

The differences are rather slight, it is true. If, in spite of that, the code question is still made a war-cry by some, that fact reminds us of the bloody wars and persecutions directed against former friends because of nominal differences of ecclesiastical opinions in the history of the church. It is also explained by the intense enmity exhibited under all circumstances by those who have been convinced against their will. In a few instances we have to deal with the zeal displayed by converts who, after they had greeted the birth of the new code with congratulations, were induced, by certain external circumstances, to change what they call their minds within the period elapsing between the appearance of two monthly numbers. Or, what is still more—shall I say surprising, shall I say sad?—there are those who fought the new code because they longed for a fight without caring on what account. A gentleman who edited an upright and rattling journal at that memorable time, and voted "the regular ticket," and was by no means gentle toward the new-code men and principles, has convinced and assured me he never read the new code. I believe him. There are others again—their number has been large at all times—whose souls and sensibilities are moved by shibboleths, by single words, provided these words are skillfully handled by shrewd calculation.

> "Just where fails the comprehension
> A word steps promptly in as deputy.
> With words 'tis excellent disputing;
> Systems to words 'tis easy suiting;
> On words 'tis excellent believing;
> No word can ever lose a jot from thieving."
> —*Bayard Taylor's "Faust."*

This is the element which, in skillful hands, determines for a moment the result of meetings, caucuses, assemblies. It is the emotional element, which is swayed by sentiment both false and true, by gesticulating oratory, and by implicit temporary confidence in the veracity and sound motives of its presumed leaders, which, therefore, "takes the specialists of the new-code persuasion by the tops of their heads and cuts their throats," but, after all, is cooled down by common sense, consciousness, and conscientiousness, when left to itself. Such men are in the majority. They are the waves of the ocean, always changing, now smooth and smiling, then turbulent and raving, and still always the same, steady in their general effects, now and then a disturbance and an injury, but always the eternal source of healthful development. We never cease to bless the ocean, even when it is doing its temporary worst. Let us, therefore, not despair of the future peaceful and blissful development of the country or the profession in times of turbulent commotion.

What difference is left unabolished may be left to itself until acrimony is soothed and bitterness replaced by kindness. Greater discrepancies than these have been wiped out. When the actions of men are weighed, their opinions in regard to dogmatic utterances will be disregarded. When deeds are counted, let creeds be tolerated. But let us have patience, all of us; great improvements in the universal conscience do not take place by hard fighting and refuting. Lecky is right when he says that the greatest errors can not be annihilated; it takes time for them to fade out.

In the face of the explanatory declaration passed in New Orleans which, in its main aspects, I take it, indorses the New York State Society and the spirit of the new code, the majority of those present in the meeting of the American Medical Association were guided into believing that they must protect a sacred code from infidel invaders. The main complaint was that new-code men had been given offices in the organization of the International Congress. On page 101 of the "Journal of the American Medical Association" you will find the following complaint: "Directly upon the threshold of the most important part of their work a majority of the original committee practically ignored all allegiance to the American Medical Association, and, assuming an entirely independent attitude, at once placed in the front of their ranks . . . one who was well known to have repudiated the National Code of Ethics." And, in a voluminous circular addressed to State and county medical societies, composed almost exclusively of editorials of the "Journal of the American Medical Association" and signed by the permanent secretary of the association and four other gentlemen, the following language is used: "The editorials of the 'Journal of the Association' . . . present the case" (the differences in regard to the proposed organization of the International Congress) "so clearly that there can be no doubt of the duty of the friends of the association, or of the animus of its enemies. We feel assured that your society will indorse the action of the Association, and stand firm in support of the Code of Ethics."

It is, however, fairly understood by this time that the war of the codes is over. In fact, it has always appeared to unsophisticated people that the fighting about the code was not reciprocal at all; for when the New York State Society had settled its code question to its satisfaction and that of the country societies in affiliation therewith, it appears that, in them and by them, the subject was not mentioned again except on strong provocation. You remember that it took a great deal of emphasis to relieve even this Academy of the proffered dispute. The code question is dying a great deal more easily than the bloody shirt disappeared from the politics of the country. If it is puffed up as the pivot of the organization of the International Congress, everybody is perfectly aware that this is either a pretext or a grave mistake. I believe it is both. Europeans, who were not afraid of admitting laymen and homœopathists, expected to meet, if ever they should consent to cross the Atlantic for an International Congress, the American medical profession. No International Congress must be caught in domestic quarrels, or audaciously kidnapped by a society, or a party, or the faculty of a medical school.

We are presenting a sad spectacle. In our first attempt at welcoming the medical world to our shores we have failed. The humiliation connected with this fact we have to submit to; to trace it to all its causes I can not under-

take here. The least we can do is to admit it; if the task we hoped to accomplish was too much for us, let us try to prepare for the future by attending to those duties of our own which we can perform without hindrance or disturbance.

The affairs of the Academy will require our undivided attention. In many respects we have been very successful indeed. The hall and building in which we meet is practically our own and free of debt. Thus we can look forward again to improve our quarters, enlarge our facilities, and think of securing in some near future a fire-proof building for our ever-increasing bibliographical treasures. Our income has increased with our membership. Both, however, require additions. There are many desirable men in the profession whom we ought to carry on our lists for mutual advantage.

The hopes I expressed in my inaugural address a few months ago have begun to be fulfilled. Old sections have been revived, new ones have been formed. I may here assure the gentlemen who have undertaken the task of organizing them that whatever aid the President and Council can give them in their labors will be freely offered. The sections will not only contribute to the improvement of their own members, but will enhance the interest of the general sessions by the communications coming to them from the sections, and the discussions emanating therefrom.

To enable them to begin their work, Article VI of the Constitution had to be altered. That change was brought about, in the manner prescribed by law, some months ago. It has also appeared to many fellows that more alterations are required; they have given notice of their desires in this respect, but have been unwilling to come before the Academy with any propositions to make radical changes, though in the manner prescribed by law. Now, both the constitution and by-laws may be repealed or amended by a three-fourths vote at a stated meeting, provided notice of the same has been given in writing at a previous stated meeting. But it will prove more satisfactory to guard against any mistake by trusting the work of moving proposals to change our by-laws in the hands of a committee carefully selected for that purpose. Off-hand legislation is always dangerous; it often errs, and always weakens the conservative tendencies which must underlie any political, scientific, or social structure if it is expected to last. The president expresses the hope that, if such a committee is appointed, it will be slow in considering and quick in reporting. If I am at liberty to state a wish of my own, I should say that one of the articles which require amending is that which refers to the Committee on Medical Ethics. This committee is almost powerless; it has no initiative whatsoever; in every case calling for interference or judgment, it has to wait for a charge to be preferred by a fellow: the odium of an accusation falls always on an individual member, whose unselfish interest in the welfare of the Academy or the profession is at once published, as it were, by arraying him personally against the accused. To prefer a charge is thus almost rendered an impossibility. Thus, indeed, our law is more apt to encourage derelictions of ethical duties than to prevent or punish them. Now, I am of the opinion that the interest of an accused must always be taken into account, but that that of the Academy is at least of equal importance. What the district attorney and the police are in the political and social commonwealth, the Committee on Ethics ought to be in our midst. It ought to be both authorized and directed not to wait for personal charges, but itself watch over the moral welfare of our community. If such an authority is established, the ethically weak will know that he is observed, and may be held responsible without a fellow being compelled to draw upon himself odium or revenge.

No society, either political or other, can ever do without a penal code—old or new; thus there is no harm in admitting that the Academy is in need of a committee on ethics like any other society. If the number of those who necessitate its existence or interference is but small, so much the better; but the few, when not stopped, act as bacilli of moral putrefaction. Human kind is so organized that disease-germs will operate rapidly and persistently. A committee on ethics endowed with the authority to warn and censure in time, without any procrastination, will strengthen the feeble when he feels the first symptoms of struggling against temptation, may frighten the man of harder fiber who would otherwise rely on his facilities and the difficulties on the part of the committee, and protect the interest of society and the endangered dignity of the profession.

That I speak of no imaginary evil we all know too well. What I said a few months ago of the growing tendency of a few to make the public acquainted with their merits and accomplishments through the columns of the secular press was considered timely and met with the appreciation of many members of the profession, both old and young, here and elsewhere. I mean to deserve the respect of my peers and superiors in the profession by again directing your attention to the fact that the penny-a-liners of the daily press are being utilized in the interest of, and by, weak-kneed brothers who can not stand on their own legs, who mistake cheap notoriety for reputation, and the grin of derision for the smile of approval. The more power is concentrated in commerce, the greater the prevalence which is conquered by trade, the more rampant the spirit of grasping egotism which is pathognomonic of modern industrial pursuits, the more is it the domain of the liberal professions to approximate their aims to an ideal. Let us not forget that learning by heart the action of medicines, or the working of articulations, or the proper use of an instrument, does not exhaust the possibilities of a medical man. The physician requires all that, but beyond that all the characteristics of a man of principle and intellectual and moral culture. Neither can be inculcated by the demands of old or new codes. Still, as a corporation and a profession, we are responsible for the existence of these qualities in our members. It is true, we can not supply ideals to order, nor can we make those whose eyes seek the mire raise their brow to the skies. But such as find it difficult to develop those qualities spontaneously must be taught and aided in acquiring them.

As far as I am concerned, I hope there will be no occa-

sion again to refer to the same subject during my term of service. If there is, I shall repeat my warning; for I take it for granted that when you elected me to the highest office in your possession you did so both in the belief that your candidate would have opinions and principles of his own, and on the condition that he should do his full duty.

Original Communications.

PNEUMATIC DIFFERENTIATION.*

By HERBERT F. WILLIAMS, M. D.

The article which first drew the attention of the profession to this process appeared in the "Medical Record" of January 17th of the current year. It made no pretensions to completeness, and was written with the hope that extended observation by competent men in the profession would give to the subject treated its proper therapeutic position.

This process presents some facts so self-evident that their discussion is idle. To deny all therapeutic value to such an invocation of natural laws and forces would be absurdity itself. On the other hand, the claims in its behalf already made by overzeal are equally unwarrantable. There is, therefore, a position in our therapeutics for pneumatic differentiation.

While it can not be said that experience hitherto gained has defined this position in all its relations, a few points already demonstrated will be presented, in the hope that their significance will provoke and encourage an inquiry that can not fail of wholesome results.

The five patients with phthisis reported as recovered in the original article remain in apparent health to-day, and, with the exception of two treatments given in Case No. 1 for acute bronchitis, there has been no necessity to resume. In Case No. 2 the patient has lost but one half-day from his employment as machinist since his discharge from treatment one year ago last March.

The subject of Case No. 5 has become a longshoreman, does the work of a man in his position, and commands a man's wages.

In Case No. 3 the patient remains at his employment in perfect health.

In Case No. 4 the patient is the same as reported. The slight drain from the fistulous opening in his side, however, prevents the rugged appearance of the other cases.†

On my first examination of this case, in which the principal lesion was in the left lung, I found what I regarded as primary changes taking place in the apex of the right. The present immunity from disease in the latter locality has suggested recent investigation of the other cases in which the phthisical process was confined to one lung.

I find that in no instance has the sound lung become diseased during the time of observation, and almost invariably I have been able to watch the patients until death or a subsidence of their symptoms. These observations, with their inevitable conclusions, furnish, to my mind, arguments in favor of a system of thorough antisepsis more suggestive and cogent than any hitherto offered.

The six patients with primary infiltration remain in perfect health with one exception. This patient, until two months ago, had exceeded the best weight of his life. In his occupation as solicitor he contracted a fresh cold, which ended, as before, in consolidation. Treatment was resumed, and Dr. De Watteville reports him rapidly improving.

In my investigations, formerly reported, I personally conducted the treatment. Since then the immediate administration has been in the hands of Dr. Fox in Brooklyn, and Dr. De Watteville and Dr. Tiegel in New York. Their clinical experience in more than seventy-five cases will doubtless be detailed by themselves.

They have, however, afforded me daily opportunity for consultation and continued access to their memoranda. Their courtesy enables me to make confident assurance that in their practice the relative results have been such as to confirm and emphasize the deductions originally published. Enough time has not elapsed to permit of extensive exploration in advance of the points then indicated.

I have deemed it profitable to collate many considerations which have been impressed upon me by the contemplation of this method and of the conditions in which it may be either appropriate, inadvisable, or doubtful. Many of the suggestions which I make in this connection have neither novelty nor significance except such as old and well-recognized material always assumes when brought into relation with original research in the same field.

It is suggestive of the value of the treatment that its development is in line with, and depends upon, physiological axioms. The continued use of this method will discover all degrees of adaptability and every shade of fortunate result.

If there is one thing known concerning pulmonary phthisis, it is that well-directed treatment must be early.

It is a safe, though not necessarily a correct, conclusion that, however careful may be the physical diagnosis, if we get evidence of lobular infiltration the probability is that more than one lobule is affected. If the ear detects a râle, there are several too distant for recognition.

I have long since come to base my prognosis upon an estimate of more trouble than I am able to detect. There is a great deal of truth in what I have recently seen written by an unprofessional pen: "Pure air is the life of the lung-tissue; irregularity in the supply is lung disease."

There may have been a time in our individual history when a catarrhal concretion, lodged in a remote bronchus, was the smoldering ember threatening a conflagration that would have consumed us had not one fortunate cough expelled the obstruction and removed the contingent congestion or infiltration. No one has a right to treat lightly the simplest cough when appealed to for relief or advice. Further back than this, if we, as physicians, are going to change the statistics in pulmonary consumption, we must

* Read with a demonstration of the pneumatic cabinet, before the American Climatological Association, May 27, 1885.

† These two patients continue in good health at the present time, September 25th.

inculcate the well-known laws that are conducive to pulmonary health, and demand of the heads of our families a promise that they will compel their developing children to breathe properly.

We come, then, to the earliest opportunity when the benefits of this process may obtain. In childhood, when inflammatory action is so liable to be set up and where its consequences are so frequently overlooked on account of the elastic vitality of youth, we have a field for action in preventing the collapse of lobe and lobule and in removing all tendencies to the retardation of proper circulation, which not only produce immediate mischief, but may be, I believe, the cause of the easy development of the gravest symptoms in maturer life—as, for instance, the sudden hæmorrhage, without the appearance of a symptom that occasioned anxiety in the patient.

In the formative period of childhood and youth the proper expansion of the lungs will do much to prevent the pernicious consequences of improper frame development. The questions of treating actually instituted disease of the lung are too vast to comprehend in a single paper.

Thus far no patient able to apply for treatment has been refused, though in many instances the patients and friends have been told that temporary relief and improvement, if any, were all that could be expected. Indeed, I feel that in some cases of phthisis alleviation has been a greater achievement than recovery in others.

In any new form of treatment, and especially one as radical as this, the early applicants are those who spend most of their lives in seeking for that which they will never find, and would not appreciate if they did—viz., restoration to health. It has sometimes been difficult to exercise sound judgment and impart proper advice on account of their earnest solicitations. Such patients, if allowed, easily magnetize themselves at first, and will construe the feelings that are engendered by hope and novelty into actual improvement.

In all acute conditions such inspirations may be allowable, but the chronic cases demand the exercise of caution, though at the risk of reproach for coldness and apathy.

Through the careful labors of Dr. Austin Flint, we have been taught that there is a tendency to self-limitation in the phthisical progress.

I recognize in some cases a cessation of the severity of symptoms, and occasionally meet patients who profess to have outlived by many years the prognostication of the leaders in our profession.

So far as I know, no explanation has been offered for such conditions. I have questioned if further investigation in the life-history of the *Bacillus tuberculosis* may not bear a kindred relation to the germs of some of the eruptive fevers, where a thorough propagation renders the soil unfertile for subsequent thrift.

In a case under this treatment when, if I may so speak, the crisis has not been reached, every form of encouragement is permissible; but we meet some patients who have surprised everybody by recuperation, whose early gratitude has been succeeded, first, by two or three years of chronic process, then by growing unthankfulness, and finally by despair. They are quick to seek new devices, adopt strange methods, or grasp without discernment for anything or *everything* that promises well. When such a person applies to me he will have the benefit of my experience, which says that relief and improvement are all that can be expected.

To find a solution for this we have but to look at our post-mortem records, where fatty livers and hearts, or obliteration of the kidney cortex, with its frequent cysts and adherent capsule, plainly point to concurrent or dependent degenerative action. Where pyogenic cavities have guarded the system from frequent pyæmias, or where, from any cause, secondary assimilative or organic changes have not taken place, even though the patient may have suffered for years, I doubt not that permanent improvement or recovery may be expected.

It is to the treatment of these chronic cases that my remarks in the closing paragraphs of my first paper were mainly addressed. Good judgment suggests that rest and quiet are more applicable to some cases than ill-advised attempts at recovery, especially those that demand over-exertion in the patient. Still, such cases have been and must be met, and, with the nicety of graduation of pressure together with the influence of remedial or perhaps nutritive agents, and the certainty with which they can be introduced into the general circulation through the lungs, an improvement can be made upon what has thus far been accomplished by this process.

There is a great scope for discrimination not only in regard to the selection and administration of remedies in this manner, but also as to the force calculated to produce the best results. I have seen how unfortunate results may be ascribed to this process with which it may have nothing to do.

The irregularity of the symptoms that develop in the progress of phthisis is such that it is often difficult, if not impossible, to determine whether untoward developments are a morbid incident or the result of therapeutic error.

The subject for earliest study was that which seems at first to trouble every investigator with whom I have conversed—viz.: The effect on the pulmonary circulation with reference to production or arrest of hæmorrhage.

All seem to have an exaggerated idea of the force best calculated to produce good, and, with a fear born only of unfamiliarity, shudder at the possibilities of calamity.

It is possible that the coincidence of instant death upon the first inspiration might arise; or, through carelessness or incapacity, too much power might be exerted, which would act as a direct cause. Human fallibility is such that it may be impossible to determine the existence of fatty-degenerated bronchial walls, attenuated alveolar septa, or unprotected or aneurysmal arteries or veins.

When the totality of the symptoms points to any or all of these conditions, it is incumbent on the operator to use every possible precaution. But, when such precaution is observed, I claim for the procedure the protection accorded any measure adopted for the administration of potent agents.

Exceptional disaster could not forbid intelligent use. It would be as just to return to primeval modes of travel through fear of railroad mismanagement. It is no argument

against the therapeutic value of $\frac{1}{30}$-grain doses of arsenious acid that two or three grains may kill.

Originators in surgical procedure have outlived the obloquy of initial failure.

Chloroform is fatal as well as beneficent. But to those who are forward in their estimation of the dangers of this process I am indebted for valuable argument in its favor. It must be granted that the force is constant, for it is natural. An agent for harm may be made an agent for good when applied to suitable conditions, and its very malignity, when unrestrained, is an incentive to harness it for human welfare.

The healing art would be tame and loathsome if emasculated of every capacity for peril.

In the discussion following the very able paper read before the New York Academy of Medicine by Dr. E. D. Hudson, Jr., "On the Physical Examination of Weak Chests and Differential Diagnosis of the Several Forms of Early Phthisis," Dr. Loomis is reported as saying that "he had been able more than once to recognize the presence of acute phthisis a number of weeks before the hæmorrhage occurred which ushered it in, and by means of the peculiar harsh quality of the respiratory sounds." My confidence in the preventive power of this process, together with the influence of an appropriate astringent, in this manner applied, is such that, should my lungs be judged by him to be in this condition, I should at once resort to this treatment to forestall such calamity.

In my first paper I spoke of the way in which the capillary circulation of the lungs was reduced by this means—namely, by decreasing the resistance of the blood in its passage through the lungs by the fuller inspiratory and expiratory effort. If it was my intention to obtain the direct hæmostatic effect, I should do what is always done when we can—in other conditions of hæmorrhage—apply pressure. The distribution of the circulating vessels of the air-cells and ultimate bronchi is such that, if a continued inflation can be maintained in them, exsanguination of their walls must take place. It is possible to accomplish this by a slow, full inspiratory act under any pressure thought desirable, maintaining this as long as can be with comfort. The expiration must not be made against the external air, but into the cabinet, and, as soon as possible, a full inspiration must again be made.

Such explanation might seem inadequate, but I think will be strengthened when I say that I have never seen hæmorrhage accompanying or immediately following treatment.

In each of six cases a single seizure has occurred at intervals of from twenty-four hours to several days after the last treatment. This did not interfere with the progress of treatment.

In another case, characterized for three or four years before treatment by at least annual hæmorrhages, the patient sustained with complete immunity thirty-one treatments covering the month in which he had come to expect the recurrence of his trouble, had gained two pounds and a half, and was otherwise improved, when he was overtaken by a hæmorrhage which rendered further treatment predudable.

We need not speak in detail of the acute conditions in which theory and practice have demonstrated the great utility of this process. As clinical evidence is gained we can more accurately anticipate the probable result of treatment in given cases. The conditions under which remedial and, perhaps, nutritive agents can be administered are such that an improvement upon previous attempts at this method can be expected.

In the pre-tubercular stage, when imperfect nutrition and assimilation are the first indications of impending disease, much may be hoped for from this form of medication. From experiments recently made, I think it a close approximation to say that from ten to fifteen per cent. of the atomized solution can be condensed upon the respiratory area. In the treatment of emphysematous conditions great benefit has been produced in three cases. This is paradoxical, for at first sight it would seem that to expand residual air would of necessity stretch its enveloping membrane and, of course, aggravate the condition.

The forces that produce emphysema are largely expiratory. In my first paper it was shown to be impossible, by any judicious resort to the force at our command, to produce over-distension. The improvement that has followed the treatment of emphysematous conditions is undoubtedly due to the subsequent increased circulation of the blood in the diseased part, and the consequent improvement in the tonicity of the alveolar walls due to improved nutrition. It may be also due to the removal of excess of catarrhal secretions in the ultimate bronchi or any anterior point. Mr. Ketchum has completed a device by which alternate rarefaction and compression of air can be made synchronously with the respiratory act, or by which either compression or rarefaction can be maintained at the will of the operator. This will enable us to obtain all the results of the compressed air-bath with which we are familiar, and to which our attention has recently been called by the lectures of Dr. C. Theodore Williams, of England, and by the methods well known throughout the Continent.

I am indebted to Dr. Teigel and Dr. De Watteville for the following report of cases occurring in their practice:

W. P. M.; occupation, barber; presented himself for examination April 18, 1885; age, twenty-seven years; colored. Best weight, 132; present weight, 120. Temperature, 101–102°. Expansion, two inches.

Condition.—Married; no children.

Family History.—On father's side, mulattoes; on mother's side, octoroons. Family history, negative.

Personal History.—A little over eighteen months ago he caught cold and could not get rid of it. He got weaker and weaker. Consulted Dr. Speir in Brooklyn; was told that his lungs were very weak, and was sent to the country. There he received great benefit, and returned, he thought, a well man. He soon fell back, however, and got very much worse. Heavy cough day and night. Complete loss of appetite; never had any pain, however. Last December coughed up quantities of heavy foetid yellow matter. He does not expectorate much, but has a dry cough, which gives him no rest. He is losing flesh, has fever every night up to 102°, and is extremely short of breath.

Inspection.—A poorly developed thorax with insufficient expansion. Body emaciated. On both sides the thorax is flat

tened below the clavicles, amounting on the right side to a positive excavation.

Palpation.—Thorax resists pressure and is not normally elastic, especially on upper half. Vocal fremitus much increased, especially on right side.

Percussion.—Dullness and high-pitched note on right side in clavicular and supra-mammary region. Less marked on left. On right side the sound is tympanitic, and changes character and pitch when mouth is opened or shut. With open mouth it gives a typical cracked-pot sound. This tympanitic percussion note is limited to a space the size of a hen's egg. Percussion sound improves as we approach the middle third. On left side it is better than on right.

Auscultation.—On right side, in clavicular region, cavernous breathing, but not accompanied by gurgling. Vocal resonance much increased in upper third. Breathing tubular. Expiration saccadent and prolonged. Râles of every description—loud, sonorous, and sibilant—are heard in very low breathing; fine crepitant râles are observed. They diminish as we descend the thorax, and are infrequent on lower half. On left side very much the same condition exists, though not in the same degree. Dry râles are heard in front and back, but diminish gradually till they nearly cease at the base.

Course of Treatment.—Three times weekly. Began on April 18th. Commenced with $\frac{3}{10}$ inch and a spray of a solution of 1 per cent. ammon. chlorid., 5 per cent. glycerin.

April 25th.—Increased to $\frac{6}{10}$ inch. He breathes nicely, but his respirations are limited. He reports that he sleeps well at night, and that his appetite improves. He has expectorated a great deal.

May 1st.—Respiratory sounds are stronger, but râles still present in great number. The objective signs are very little changed. Subjectively, patient is in high spirits. He eats voraciously, has a normal temperature even at night, coughs during day, and expectorates heavily. He feels "splendid."

6th.—Changed to red-bark decoction (made by Mr. Beudiner, Tenth Street and Third Avenue).

12th.—Caught cold during damp days, and developed catarrh on left side. Coughs much, and does not look so well.

27th.—Marked progress. Patient has gained strength, so that he was able to assist and officiate himself in house-moving, going up and down stairs frequently. Feels none the worse for it. The left lung has recovered. On right side the râles have much diminished. On left side the improvement is marked, with exception of the region of the clavicle; the râles have nearly disappeared; here and there fine crepitant râles are heard still. The expansion is limited still, but has increased about half an inch.

The breathing in clavicular region has changed in character, the note being higher and the character more tubular than cavernous. Percussion, however, still shows the former symptoms, although the space where the cracked-pot sound is heard seems to be more limited. Subjectively, the patient's account of himself leaves nothing to desire. He coughs still, but only when he gets rid of mucus. Sleep is good, appetite good. Temperature normal. Strength improved, but by no means great. Talks of returning to work soon. He takes treatment with great regularity three times weekly, and intends continuing for some time.

M. O., aged thirty-six years, married; one child, which died of hydrocephalus and spina bifida. Patient presented himself for examination on March 28, 1885.

Family History.—On paternal side, negative; on maternal side, frequent throat troubles. One brother died four months ago of tubercular laryngitis and pulmonary phthisis.

Personal History.—Patient has for many years suffered from catarrhs, cough, and light attacks of pleuritic pains. Since New Year's the cough has much increased, often producing broken sleep, loss of appetite, and a general tired feeling; short breath on the least exertion. A dull soreness, accompanied sometimes with sharp, stitchy pains on left side, on the back, under the lower half of scapula; also on right side in the mammary region, between the fourth and sixth ribs, accompanied by wheezing at intervals. He feels feverish at night, and has to take quinine frequently. His occupation (broker) exposes him to draughts and constant changes of temperature. He is losing flesh.

Inspection.—A tall man, not very well nourished, with an extremely long and narrow thorax. Complexion pasty and pale; lower eyelids baggy; voice slightly hoarse. Hands long, clammy, and finger-nails thin, round, and bent forward extremely. Respiration jerky and quick, especially on least exertion. Respiratory movements extremely limited and chiefly abdominal. Full expansion at mammary line not quite two inches.

Palpation.—Respiratory fremitus exaggerated on right side in front, also on left side under scapula. Apex-beat of heart normal.

Percussion.—Dullness and high-pitched note, but not extreme, on the upper two thirds of right lung in front. Left side, normal resonance, except in the scapular region.

Auscultation.—Right side front, saccadent breathing and prolonged expiration; character vesicular. Fine crepitant râles are heard as far as the sixth rib, and very slightly in the clavicular region. In the region of nipple, fine sibilant râles at end of inspiration and during expiration. Respiratory sounds, on the whole, are feeble. *On left side front* the sounds are more normal. Behind, under scapula, loud sonorous and sibilant râles; also fine crepitant râles, especially during expiration.

Course of Treatment.—March 28th, three times weekly, $HgCl_2$ $\frac{1}{5000}$ to $\frac{1}{1000}$ with $\frac{5}{10}$ inch. Breathes with difficulty, and very jerky.

April 3d.—Complains of more pain under scapula.

8th.—Increased to $\frac{6}{10}$ inch.

11th.—Varied with inhalation of iodine.

20th.—Increased treatment to six times weekly. Tried decoction of red bark containing four and a half per cent. cinchona red (tannin).

30th.—Patient is much improved; breathes easily and fully against $\frac{8}{10}$ inch; râles nearly gone; pains gone.

May 3d.—Got his stomach out of order and got cold (neglected precautions). Sibilant râles appearing again, but with considerable expectoration.

6th.—Râles entirely gone. Pain has completely left.

10th.—Reduced to three times weekly; continue steadily with red-bark decoction.

27th.—Patient has not turned up for treatment for over a week. On last examination the objective signs were gone, as far as auscultation showed it. He is looking much better; sleeps well at night; his appetite good, at least fair; coughs a little in the morning, but not during the day. He is still a little short-breathed, but nothing like before. He should have continued for a few weeks longer, but his business, he said, called him away.

DISCUSSION.

The PRESIDENT had seen the patient to whom the author referred as having had a hæmorrhage within twenty-four hours after a treatment. The patient had had thirty-six treatments and the hæmorrhage occurred after the thirty-first. He had been under Dr. Loomis's care for four years, had, he believed spent one year in the Adirondacks, and had supposed that he had entirely recovered. At any rate, he went back to his work as a lawyer, promising to spend four months in the Adirondacks

every year. It was not necessary to mention all the physical signs which had been present; there had been well-advanced phthisis on the left side near the apex. He did not go to the Adirondacks, but to the Berkshire Hills, last summer. Dr. Loomis had not heard of him for more than a year and a half, when he was called to visit him two or three months ago while having a very profuse hæmorrhage, which had gone on for a number of days. He said that he had had the treatment according to Dr. Williams's method a great many times, but that the last time he thought there was a little carelessness in the manipulation. At least he attributed the hæmorrhage which occurred to that. The patient did not think the treatment was dangerous if it was properly administered. The hæmorrhage continued for three or four weeks. That was the only case Dr. Loomis knew of in which hæmorrhage had occurred in connection with this treatment.

Dr. Williams had one or two other patients who were doing well. One, a lady, had done very well under this special treatment. She had a cavity in the lung, and had been the world over for her health. She had remained at home the past winter, and was much better than in the autumn.

Dr. Armor, of Brooklyn, had been interested in the treatment and views of Dr. Williams, and had kept under observation some patients so treated. He thought the matter could be stated in a few propositions, some of which might have to be considered hereafter: First, the benefit of the expansion of the lungs by the apparatus without reference to the local medication. Second, the question as to whether antiseptics and other agents could be introduced more deeply into the lung substance by this means than by any other device which had been proposed. Third, the practical result, which was to be tested by clinical observation. He was aware that an instrument of this kind should be in the hands of careful observers, who were capable of diagnosticating their cases and of appreciating the results. It might be a dangerous instrument in the hands of others. He thought it should be most carefully guarded by most careful men. One case had recently come under his observation in which he had been very much interested. He carefully examined the young man before he was submitted to treatment. When he came to Dr. Williams's office he was so weak and emaciated that he had to ride in a carriage. It looked to him like a very unpromising case. He had a few weeks before an attack of pneumonia, probably on the right side. Dr. Armor found the patient, as stated, very much emaciated, feeble, rapid pulse, feeble expansion of the lung on the right side; below the scapula were marked dullness, entire absence of respiratory murmur, and above râles. It looked like a case of unresolved pneumonia. On submitting the patient to a treatment, the lips looked redder and a good deal of expansion of the lungs took place. He did not see the young man again for about a month. Dr. Williams told him that after a few days' treatment there began to be moist râles in the lower portion of the right lung and quite free expectoration. Dr. Armor found at his last examination still slight dullness below the scapula over the region referred to, but much less than formerly; there was respiratory murmur all over that portion of the lung, but a little feebler than on the other side; there were no moist râles. The symptoms had entirely abated; there was absence of fever, the general appearance was good, the appetite good; he had gained about a pound a week, and had walked a distance of two miles to his office. There was certainly a very remarkable improvement in the condition of the lung, whether it was due to constitutional treatment or to the instrument. He had had thirty-one treatments. In a letter to him, Dr. Bowditch, of Boston, had said it was his impression that this treatment would mark a new era in the management of pulmonary affections.

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

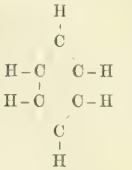
By GEORGE R. FOWLER, M. D.,
SURGEON TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

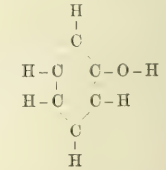
Hydronaphthol, the subject of the present article, has only recently been discovered, and this is believed to be its first introduction into surgical practice. It was in the belief that it would be found of value in the treatment of wounds that I began the investigation of its antiseptic properties in the early part of the present month, when my attention was called to the compound by Mr. W. J. Rigney, of New York, to whom I am indebted for the facts regarding its composition herewith presented.

Hydronaphthol belongs to the phenol series, and bears the same relation to naphthyl, the hypothetical compound radical of naphthalin, that carbolic acid does to the compound radical phenyl. Thus, carbolic acid was formerly regarded as the hydrated oxide of phenyl. Hydronaphthol, considered in the same way, would be a hydrated oxide of naphthyl. The following formula will show the analogy:

Carbolic acid, $C_{12}H_5O$, HO;
Phenyl, $C_{12}H_5$
Hydronaphthol, $C_{20}H_7O$, HO;
Naphthyl, $C_{20}H_7$.

At the present time, however, these hypothetical compounds, phenyl and naphthyl, are considered as being obsolete, and not capable of existing. In fact, carbolic acid is regarded as an oxide of benzol, or as a benzol in which one of the hydrogens is substituted by one hydroxyl (O H). According to the graphic formula of Prof. Kekulé, this substitution occurs as follows:


Benzol.


Carbolic Acid.

In the aromatic hydrocarbons are found many isomerical substances. This peculiar identity in chemical composition, associated with varying physical properties, can only be accounted for by a difference existing in the arrangement of the atoms in the molecule. The graphic formula as above illustrated is well adapted for explaining the relations and properties of these aromatic compounds, of which benzol is the prototype. Thus, in all the monosubstitutions of benzol there is but one compound possible; no matter in what position the substitution takes place, the product must be the same. As seen in the preceding formula (carbolic acid), the hydroxyl (O H) substitution takes place in the first position, but the product would be the same if it were to take place in any of the other five positions. While this is true of the monosubstitutions of benzol, the disubstitutions are capable of forming three different compounds, identical in chemical composition but very different in their physical properties.

A knowledge of the relation, constitution, and properties of these substances is indispensable to an intelligent appreciation of their usefulness and application; and, as all the so-called phenols possess, in a greater or less degree, antiseptic properties upon which their value in surgical science as well as preventive medicine depends, I may be pardoned for thus alluding to some recently developed facts in their chemistry, in this connection.

Naphthols are the hydroxyl substitutions of naphthalin, and are two in number, commonly known as Alpha- and Beta-naphthol. These are made by heating naphthalin with sulphuric acid. Alpha-naphthol is formed when 60° to 90° C. is reached, and Beta-naphthol at from 180° to 190° C. The Alpha- or Beta-naphthalin-monosulphonic acid thus formed is treated with sodium hydrate, and is decomposed into sodium naphtholate, sodium hydrate, and sodium sulphite. Naphthol is obtained from the sodium naphtholate by decomposing it with hydrochloric or sulphuric acid; it is then purified by distillation.

Hydronaphthol is a derivative of the hydroxyl substitution of naphthalin, which latter of itself possesses antiseptic properties of sufficient value to have already excited notice and a desire to learn more of its compounds. The term "hydronaphthol," although perhaps not, strictly speaking, correct, yet conveys sufficiently well its character and relations to naphthalin, and at the same time is a convenient term for every-day use. It has been but recently discovered that it possesses antiseptic properties, and the claim is made that it is from ten to fifteen times more efficient than carbolic acid. It is the most promising antiseptic of the phenol series, and, besides, possesses so many other advantages over substances now used for this purpose that it bids fair to supersede many of these. In surgical practice it will take the place, probably, of carbolic acid. Of the many new members of the phenol series which have been discovered since Calvert called attention to carbolic acid about thirty years ago, and which have been utilized in the industrial arts, some are better antiseptics than the latter. With but one or two exceptions, however, none have obtained any prominence as germicidal agents. Carbolic acid, though a fairly reliable antiseptic in strong solutions, when so used, involves some risk to life, from its corrosive action upon animal tissues and well-known poisonous properties. In weak solutions it is exceedingly unreliable, and its disagreeable odor often hides that of putrefaction, instead of preventing the occurrence of the latter. On the other hand, hydronaphthol is non-irritant, non-poisonous, and non-corrosive; and, although only soluble in water to the extent of one part in one thousand, in this proportion is antiseptic. It has no odor to disguise that of putrefaction, nor is it decomposed or rendered inert by the products of putrefactive decomposition—such as sulphuretted hydrogen, ammonia, etc. It is far more stable than carbolic acid, not being volatile at ordinary temperature. Its vapor, when volatilized for purposes of fumigation, has no obnoxious effect upon the organs of respiration. It will not injure, either in substance, solution, or vapor, colors or textile fabrics. Its sparing solubility in water is rather an advantage than otherwise, as mistakes in making solutions can not occur. A saturated solution is about of the strength of one to one thousand, and in this proportion it will perfectly preserve for an indefinite time animal tissues and fluids, and yet upon living tissues this solution produces no perceptible effect other than the formation of a very slight albuminate film—this latter to be considered rather an advantage than otherwise, inasmuch as it constitutes an additional security against infectious germs floating in the air. If for no other reason than that it is non-corrosive, and hence will not injure the polished surface and keen edge of cutting instruments, it is to be preferred to mercuric bichloride, and to the latter it is second only in antiseptic qualities. It has a slight aromatic taste and odor, and crystallizes in scale-like clinorhomboid laminæ of a silvery white or grayish hue. Although but sparingly soluble in water, it dissolves freely in alcohol, ether, chloroform, glycerin, benzole, and the fixed oils. It is not volatile at ordinary temperature, but begins to sublime at about 90° C. With the alkalies and the alkaline earths it forms compounds which are unstable, are readily decomposed by carbonic acid, and of doubtful antiseptic value. It is easily powdered, and in this condition, triturated with carbonate of magnesia, silicates, such as fuller's earth, China clay, etc., in the proportion of two parts of the hydronaphthol to one hundred of either of the above named, can be dusted along the line of incision and over the mouths of drainage-tubes, in the latter application having an advantage over iodoform, now so commonly used for that purpose, in that it does not dry up the serum escaping from the wound cavity, and thus block up the exit extremity of the tube. Absorbent gauze, cotton, jute, wood-flour, sawdust, peat, moss, and paper-wool may be impregnated with it by immersing them in its alcoholic or benzole solution and then drying; the hydronaphthol crystals cling to these without the aid of stearin, paraffin, or resin, as in the case of carbolic acid. As it is not decomposed by the presence of organic matter, it possesses this advantage over corrosive sublimate in the preparation of surgical dressings. Its ten-per-cent. alcoholic solution perfectly sterilizes silk, and sufficiently hardens and preserves, as well as sterilizes, catgut.

(*To be continued.*)

ISOLATION OF THE TEMPERATURE SENSE IN THE ORO-PHARYNGEAL CAVITIES AND NASAL PASSAGES BY MEANS OF COCAINE.*

By JOHN N. MACKENZIE, M. D.,

BALTIMORE.

My attention was first called to the isolation of the temperature sense by means of cocaine through an observation of Dr. William Warfield, of this city, who noticed during an operation on the eye (under the anæsthetic influence of this drug), performed by Dr. Russell Murdoch, that, while the sensibility of the conjunctiva and cornea was abolished, the contact of the instruments was felt as a distinctly cold

* Read by title before the American Laryngological Association, June 25, 1885. See also letter in Philadelphia "Medical News," May 30, 1885, on "Isolation of Temperature Sense."

sensation. Subsequently Mr. H. H. Donaldson, of the Johns Hopkins University, acting upon this hint, examined the eyes of two patients with reference to this singular fact, and discovered that, although the eye was rendered completely insensitive, the sensations of heat and cold were readily distinguished.

Struck with the original observation of Dr. Warfield, I experimented with regard to the isolation of the temperature sense in the nasal and oro-pharyngeal cavities. Six persons (hospital patients) were taken for the experiments. Having thoroughly anæsthetized the mucous surfaces of the soft palate, uvula, and nasal passages with a four-per-cent. solution of cocaine, a probe, which had been previously immersed in a mixture of ice and salt, was made to impinge upon the parts rendered insensible to contact and pain. A distinct sensation of cold was complained of in each instance. The opposite extremity of the same probe was then heated over the burner of a lamp used for laryngoscopic purposes, and in its heated condition carried over the anæsthetized area. While absolutely no pain was felt by any of those experimented upon, there was a marked unanimity of the answers, given voluntarily, in regard to the sensation of heat. In three of the cases an eschar followed the application of the heated probe, and in one an acute pharyngitis developed; yet at the time of application no pain was felt, though the temperature sense remained intact. These observations are of interest, in view of the fact that, while recent physiological research has rendered it probable that the sensations of heat and cold are distinct from those of mere contact and pain, it has heretofore been impossible to demonstrate the fact by the complete isolation of the temperature sense. It is accordingly obvious that its separation from the other senses may lead the way to more interesting physiological discovery.

A CASE OF
SUBMUCOUS LARYNGEAL HÆMORRHAGE COMPLICATED WITH CYST.*

By FRANK L. IVES, M. D.

Having been unable, after careful search, to find among the few recorded cases of cyst of the vocal bands anything resembling the following, it has seemed to me worth while to present it to your notice:

A robust man, about forty years of age, whom I had previously treated for a slight catarrhal affection of the larynx, called upon me on April 25th and gave the following history: The night before he had exerted his voice to an unusual degree at a public meeting. He felt no inconvenience after returning to his home, but, on waking the next morning, at first had great difficulty in making himself heard. Afterward his voice grew a trifle clearer. He had no pain or soreness in his throat, nor had he any difficulty in breathing. The only sensation was one of irritation, which caused him to "hack" almost continually. When he came to me he could only speak in a hoarse whisper. Examining his larynx, I found it to be normal in shape and color, except the left vocal cord, which was swollen uniformly throughout its entire length to about twice its natural size, and was a bright red in color, the coloring being perfectly even. My patient being forced to leave that evening, I directed him to use a soothing inhalation, and use his voice as little as possible. On May 2d he called upon me and stated that his voice had improved somewhat, but the irritation still remained. Examination showed the left cord to have returned to its normal size, and to be only slightly congested, but upon the edge and near the middle there was a smooth, glistening tumor, of about the size of a pea and light brown in color. It was not pedunculated, and its origin seemed to be merged in the substance of the cord. On touching it with a probe it was easily indented, but quickly returned to its original shape. Being convinced, from the appearance of the growth, that it was a cyst with sero-sanguineous contents, I proposed to my patient to make an incision into the growth, but also told him that the growth would disappear without any operation—how soon, I could not say. He preferred to wait. Four days after he called upon me and stated that the previous evening, while at dinner, he had a violent paroxysm of coughing, caused by some food going the "wrong way." When he recovered, he found to his delight that his voice was perfectly clear. Examination showed the growth to have disappeared.

* Read before the American Laryngological Association, June 25 1885.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A System of Obstetric Medicine and Surgery, Theoretical and Clinical, for the Student and Practitioner. By Robert Barnes, M. D., Obstetric Physician to St. George's Hospital, Consulting Physician to the Chelsea Hospital for Women, etc., and Fancourt Barnes, M. D., Physician to the Royal Maternity, Charity, and to the British Lying-in Hospital, etc. Illustrated with Two Hundred and Thirty-one Wood-cuts. Philadelphia: Lea Brothers & Co., 1885. Pp. xxiii–884.

A Practical Treatise on the Diseases of Children. By Alfred Vogel, M. D., Professor of Clinical Medicine in the University of Dorpat, Russia. Translated by H. Raphael, M. D., formerly House Surgeon to Bellevue Hospital, Physician to the Eastern Dispensary for the Diseases of Children, etc. Third American, from the Eighth German, Edition. Illustrated by Six Lithographic Plates. New York: D. Appleton & Company, 1885. Pp. xii–640. [Price, cloth, $4.50; sheep, $5.50.]

Plumbing Problems; or, Questions, Answers, and Descriptions relating to House Drainage and Plumbing, from the "Sanitary Engineer." With One Hundred and Forty-six Illustrations. New York: "The Sanitary Engineer," 1885. Pp. xiv–244.

Practical Therapeutics: a Compendium of Selected Formulæ and Practical Hints on Treatment, Systematically Arranged, Interleaved, and copiously Indexed. By Edward J. Bermingham, A. M., M. D., Fellow and ex-Vice-President of the American Academy of Medicine, etc. New York: J. R. Bermingham, 1885. Pp. 6–420.

Transactions in the Texas State Medical Association, Seventeenth Annual Session, held at Houston, Texas, April 21, 22, and 23, 1885. Austin, Texas: Printed for the Texas State Medical Association. Pp. 1–430.

Consanguineous Marriages: their Effect upon Offspring. By Charles F. Withington, M. D., of Roxbury. Read at the Annual Meeting of the Massachusetts Medical Society, June 9, 1885.

United States Consular Reports. Supplementary Reports on Cholera in Europe in 1884. Washington: Government Printing-Office, 1885. Pp. 1–12.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 3, 1885.

THE SURGEON-GENERALSHIP OF THE MARINE-HOSPITAL SERVICE.

We lately took occasion to deprecate the efforts that, it was alleged, were being made to induce the Administration to dismiss Dr. Hamilton from the office of Surgeon-General of the Marine-Hospital Service, for it was evident that there were no other grounds for those efforts than the yearnings of a horde of office-seekers—so evident that we expressed our disbelief in the probability of any such action being taken by the President or the Secretary of the Treasury. Dr. Hamilton has not yet been superseded, and we still hold to the conviction that the Administration would not finally have dismissed him, no matter what pressure might have been brought to bear on it. Since the article we have referred to was written, however, Dr. Hamilton has tendered his resignation of the office, preferring, no doubt, to take the initiative, as the matter had excited public attention. This course on his part may be taken to be indicative of a sensitiveness that is the natural accompaniment of those other qualities that have made him so efficient and satisfactory an officer; but it does not in the slightest degree relieve the Administration of its plain obligation not to allow of so flagrant a violation of the spirit of civil-service reform as the supersession of this officer, even by the acceptance of his resignation. Dr. Hamilton is young, active, and enthusiastic in his work—a work that to a great extent he himself has organized—and it is not to be supposed that he is anxious to shift the burden of his responsibilities to untried shoulders, and relapse into the quiet of a subordinate position. His resignation is undoubtedly due to the machinations we have spoken of, and our belief is that the President will readily foresee the interpretation that the friends of civil-service reform would put upon his acceptance of a resignation called forth by the circumstances of this case. We are glad to be able to add that there are indications that the resignation will not be accepted.

We have lately received a letter from a medical officer of the Marine-Hospital Service, in which he thanks us for the editorial article which we published on the subject in our issue of September 19th, and goes on to say that he, as a Democrat, can not but regret that Dr. Hamilton should feel compelled to resign, during a democratic Administration, solely for political reasons, when, by his continuance of the policy of the late Surgeon-General Woodworth, the service was taken out of politics, and Democrats were enabled to enter it on their literary and professional merits solely. He expresses his conviction that there is not an officer in the corps so competent to administer its affairs as Dr. Hamilton, and that a political appointment would, by a single stroke, destroy the bright prospects of the corps as a harmonious body of workers. Finally, he hopes that we may find time and opportunity to urge Dr. Hamilton to withdraw his resignation. We presume that Dr. Hamilton could hardly be induced to take this course, except by the request of the President or the Secretary of the Treasury, and, indeed, apart from his natural disinclination to do so, it seems to us better that the responsibility should rest, as it now does, solely upon the Administration. The President has given abundant evidence of his desire to further the efficiency of the public services, and we doubt not that, now that Dr. Hamilton's resignation will soon bring this matter pointedly to his notice, he will himself furnish the readiest solution of the difficulty by declining to countenance the sacrifice of the best interests of the Marine-Hospital Service to those of the spoils system.

MINOR PARAGRAPHS.

THE ANTI-VACCINATION FEELING IN MONTREAL.

A disposition to make the best use of the gifts sent by the gods can not be said to have been strikingly exemplified of late by a considerable portion of the people of Montreal. Indeed, they seem rather to have taken pleasure in ranging themselves with those conservatives of whom it was said in "The New Gospel of Peace" that when they had fallen into hot water they would suffer no man to pluck them out, lest they should be scalded. It has been almost inconceivable to the great majority of the people of this continent that so enlightened a city as the Canadian metropolis should for years have been the scene of the only considerable opposition to vaccination that has shown itself in America since the practice was established. There is, to be sure, a wide-spread feeling that it would be unwise to make vaccination generally compulsory, as is done in many European countries, but it would be difficult to find a community in the United States that would offer any serious opposition to temporary compulsion during the prevalence of a small-pox epidemic. Such an opposition has been manifested in Montreal for many years past, and in consequence the city has suffered severely from small-pox at short intervals.

During the past week actual rioting has taken place, and both the sanitary and the police authorities seem to have been sadly unprepared for it. Physicians and members of the Board of Health have suffered violence, and even a poor apothecary, whose sole offense was that of including vaccine virus among the commodities that he kept for sale, has had a like experience. The anti-vaccination bigotry is said to be mostly confined to the French Roman Catholics. If this is the case, it would seem to be nursed more as a pretext for a war of races and of creeds than from any traditional or inherited prejudices, for we have never supposed that the Church of Rome was opposed to vaccination, and certainly the French as a nation have been unsurpassed in its maintenance. It is curious to observe that the French-Canadian anti-vaccinationists seem bent upon upholding two somewhat remarkable allegations—first, that during the present epidemic the French have not been stricken with the disease in greater proportion than the English, and second, that small-pox is rather a good thing to have. Meantime, the trade interests of Montreal are suffering severely.

THE AMERICAN GYNECOLOGICAL SOCIETY

In this issue we conclude our report of the tenth annual meeting of the society, which was held in Washington last week. The proceedings are certainly to be ranked with those of the

most successful meetings that the society has ever held, and we shall be much surprised if the sale of the tenth volume of the "Transactions" does not show a continuation of the increase of the demand for the series that has been apparent during the past two or three years. Much of the success of any given meeting of such a society depends upon those of the members who reside in the city where it is held, and upon the extent to which they succeed in enlisting the co-operation of the local profession. Taking this view of the matter, we can not too highly praise the Washington members, who, together with a great number of the leading physicians of that city, exerted themselves most effectively to make the meeting and the occasion satisfactory and enjoyable. We understand that but four members of the Washington Obstetrical and Gynæcological Society were absent from the dinner which that organization gave to the fellows of the American Gynæcological Society, and that those four were either sick or absent from Washington. In view of the membership to which this young society has already attained, the fact is not a little remarkable, and it affords a striking proof of the zeal with which the obstetricians and gynæcologists of Washington entered into the spirit of the occasion. We trust that, as Dr. Busey suggested in his address of welcome, the American Gynæcological Society will not allow another decade to pass before it again chooses Washington as its place of meeting.

A MEDICAL MISSION.

Usually our Government is averse to spending money for scientific purposes, and it must be confessed that the underlying theory of our Constitution rather calls for that sort of policy. It seems sometimes, however, that there is too little disposition to yield the theoretical point before the pressure of an urgent need of scientific information of a nature to lead directly to results of the greatest practical importance to the whole people. It is pleasant to be able to record exceptions to this traditional inertia, especially of the sort mentioned in our news columns—that, namely, of the appointment of Dr. Shakespeare, of Philadelphia, as a commissioner to visit the scenes of cholera prevalence in Europe, for the purpose of studying the disease and the methods resorted to for controlling its ravages. No more important subject could engage the attention of the Government at the present time, and it would be difficult to find a man better qualified than Dr. Shakespeare to carry on the inquiry.

THE BROOKLYN PATHOLOGICAL SOCIETY.

In another column we publish the programme for the meetings of this society, from October 8, 1885, to June 10, 1886. It will be seen that the list of authors is made up of the names of gentlemen who are widely and favorably known for their previous contributions, and that the subjects upon which they are to read papers relate to a very wide range of the subdivisions of medical science. These formal papers constitute, of course, only one element of the work with which the society will be occupied during the season, but in themselves they will form an [illegible] that any such society might well be proud of. The fact that the whole list could be made out before the society season had begun betokens the society's continued activity, but our readers, who have had its proceedings laid before them for [illegible] need no such proof of its efficiency.

NEWS ITEMS, ETC.

The Montreal Small-pox Epidemic shows rather an increase than any diminution. There were fifty-six deaths in the city and its suburbs on Sunday, seventy-nine on Monday, and eighty-four before four o'clock on Tuesday. It is gratifying to learn that some at least of the Roman Catholic clergy have advised the members of their congregations to submit to vaccination, and that the Sisters of Providence are doing still greater service by reporting cases of the disease to the Board of Health. The sanitary officials of the city are reported to have asked the New York Health Department to send one or more of their *attachés* to Montreal, to assist in the organization of a plan of managing the epidemic, but it is stated that our Commissioners have concluded that it would be unwise to grant the request. The latest estimate gives the number of cases now in progress as between three thousand and thirty-five hundred.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 29, 1885:

DISEASES.	Week ending Sept. 22.		Week ending Sept. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	59	13	39	16
Scarlet fever	15	1	15	2
Cerebro-spinal meningitis	4	5	2	2
Measles	4	2	4	0
Diphtheria	46	30	39	19
Small-pox	2	2	3	3

A Vaccination Riot broke out in Montreal on Monday, the occasion of which was the passage of an ordinance by the Provincial Board of Health making vaccination compulsory. The house of a health officer, Dr. Laberge, was stoned, and the Board of Health's central office was then attacked, and several women among the applicants for vaccination are said to have been struck with the missiles. After threatening a newspaper-office and making sundry other demonstrations, the mob visited the houses of Dr. Lachappelle, of the Board of Health; Dr. Laporte, a public vaccinator; M. Grenier, a public official; and the shop of an apothecary who sold vaccine virus. At each of these places violence was displayed, and Dr. Laporte's house was set on fire. A renewal of the rioting on the following day seems only to have been prevented by a prompt and overwhelming display of military force.

The Cholera in Europe.—Dr. Edward O. Shakespeare, of Philadelphia, has been appointed United States Commissioner to investigate the cholera in Europe, with special reference to the recent outbreak in Spain. He sails next week with *carte blanche* from the Government, and will be absent about three months.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, September 23d: *Montreal, Canada.*—For the week ending September 23d: 235 deaths from small-pox. No report of the number of cases. From September 21st to 23d, inclusive, there were 31 deaths from small-pox in four municipalities adjoining Montreal. *Three Rivers, Canada.*—For the week ending September 19th: 5 cases of small-pox; the disease is increasing. *Toronto, Canada.*—September 23d: Free from small-pox. *Cardenas*, September 12th, *Matanzas, Cuba*, September 23d, and *Nassau, N. P.*, September 19th: Free from epidemic diseases. *Guaymas, Mexico.*—Consul reports, September 23, yellow fever in *Sonora*. From September 1st to 23d there were 138 cases and 36 deaths. The disease has also reappeared in *Hermosillo*, there having been, from September 7th to 23d, 12 deaths. At *Ortiz* station several deaths from

yellow fever have occurred among the soldiers. *Vera Cruz, Mexico.*—Consul reports, September 8th, yellow fever still prevalent, the mortality being about 50 per cent. *La Guayra, Venezuela.*—September 5th: Free from epidemic diseases. *Cartagena, Colombia.*—Consul reports, August 28th, that 28 cases of yellow fever have occurred at intervals during the past three or four months. Masters of vessels for ports in the United States generally decline to take bills of health. *Callao, Peru.*—For the week ending August 22d: 5 cases of small-pox. *Paris, France.*—For the week ending September 12th: 12 deaths from small-pox. *Bordeaux, France.*—For the week ending September 12th: 7 deaths from small-pox. *Marseilles, France.*—September 7th: Cholera reported at *Cette. Cadiz, Spain.*—September 5th; Cholera officially declared September 3d. The average weekly mortality is about 40 per cent. During the week ending September 3d the mortality was 147. *Gibraltar, Spain.*—Five cases and 5 deaths from cholera during the twenty-four hours ending on September 5th. No new cases were reported. *Santander, Spain.*—September 10th: Cholera increasing. *Genoa, Italy.*—September 10th: 2 cases of small-pox. *Rome, Italy.*—By telegram September 2d: 4 deaths from cholera, nine miles from *Genoa*, and 5 deaths from the same disease fifty miles north of *Naples. Leghorn, Italy.*—By telegram, September 25th: 3 cases and 1 death from cholera at *Pontremoli*, Province of Carrara. *Palermo, Italy.*—September 24th: 1,279 cases and 780 deaths from cholera to date. *Venice, Italy.*—By telegram September 22d: 5 cases of cholera on the 21st in towns on the banks of the Po. *Trieste, Austria.*—September 8th: 26 cases of small-pox; the disease increasing. *Zurich, Switzerland.*—September 5th: 4 deaths from small-pox. *St. Petersburg, Russia.*—August 29th: 8 deaths from small-pox. *Warsaw, Russia.*—September 5th: 3 deaths from small-pox. *Calcutta, India.*—August 15th: 16 deaths from cholera, and 3 from small-pox. *Columbo, Ceylon.*—August 3d: Cholera reported in Nativetown. *Shanghai, China.*—August 21st: Cholera continues among the Chinese in the settlement and in the city; 1 death among the shipping population. From August 17th to 27th, inclusive, there were in Spain 55,785 cases and 17,856 deaths from cholera. The total number of cases and deaths from March 4th to August 27th is 214,958 cases and 81,496 deaths.

Japanese Regulations against the Spread of Cholera from Nagasaki.—Imperial Decree No. 31.—It is hereby decreed that vessels arriving from localities infected with cholera shall be inspected according to the following regulations:

Regulations for the Inspection of Vessels arriving from Localities infected with Cholera.

1. All vessels arriving from localities infected with cholera shall be subject to medical inspection, and no vessel so arriving shall proceed to her destination or communicate with the shore or other vessels, or land her crew, passengers, or cargo, until a written permission so to do, signed by one of the inspecting officers, shall have been so granted as hereinafter provided.

2. When there are no cholera patients, or bodies of persons who may have died of the said disease, on board such vessels, the inspecting officers shall forthwith grant permission to such vessels to proceed to their destination and communicate with the shore or other vessels, and to land their crew, passengers, and cargo.

3. Vessels so arriving and having on board cholera patients, or the bodies of persons who may have died of the said disease, shall be required to anchor at a place designated by the inspecting officers at a safe distance from the land and other vessels.

The patients shall be sent to the Quarantine hospital or to their residences or other places which the inspecting officers may deem suitable. The dead bodies (if any) of persons who may have died of the said disease shall (at the option of persons interested, if any) be either burned at a place prepared by the local authorities for that purpose, or buried, after undergoing thorough disinfection, at such place as the local authorities may designate.

After final disposition of such patients and dead bodies (if any) shall have been made, the inspecting officers shall thoroughly disinfect the crew and passengers, and shall thereupon grant permission for them to land. The inspecting officer shall thoroughly disinfect said vessels and such portion of their cargoes as may be considered to be of an infectious character, and thereupon grant permission for them to proceed to their destination or communicate with the shore or other vessels and to land cargo.

4. Any person or persons who shall contravene or infringe the provisions of the foregoing regulations, or shall in any manner interfere with the execution of said provisions, shall be punished according to the criminal code.

5. The localities where these regulations shall be put in force, and the length of time for which they shall be continued in force, will be determined from time to time by the Minister of the Interior.

Dated 23d of the 6th month, 15th year Meiji.

By command of H. I. M. the Emperor.

(Signed) { Sanjo Sanetomi, *Prime Minister.*
{ Yamada Akiyoshi, *Minister of the Interior.*

Personal Items.—Among the passengers who sailed for Europe by the steamship Etruria, on Saturday last, was Dr. George M. Sternberg, of the army. Among those who arrived by the Servia, on Sunday, were Dr. W. S. Ely, of Rochester, and Dr. T. H. Burchard, of New York. Dr. William S. Halsted, of New York, sailed for Europe in the Werra on Wednesday.

The Surgeon-Generalship of the Marine-Hospital Service.—As we go to press, we learn that the President has decided not to accept Dr. Hamilton's resignation.

The German Faculties.—The "British Medical Journal" states that Dr. Penzoldt has been appointed to succeed Prof. Leube at Erlangen, and that Dr. Ludwig Stieda, of Dorpat, is to succeed Prof. Meckel in the chair of anatomy at Königsberg.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 20 to September 26, 1885:*

Promotions.

McParlin, T. A., Lieutenant-Colonel and Assistant Medical Purveyor. To be Surgeon, with rank of colonel, to date from September 16, 1885.

Irwin, B. J. D., Major and Surgeon. To be Assistant Medical Purveyor, with rank of lieutenant-colonel, to date from September 16, 1885.

Pope, B. F., Captain and Assistant Surgeon. To be Surgeon, with rank of major, to date from September 16, 1885.

Appointment.

Morris, Edward R. To be Assistant Surgeon, with rank of first lieutenant, to date from September 17, 1885.

Ainsworth, F. C., Captain and Assistant Surgeon. From Department of Texas to New York city, for duty as recorder of the Army Medical Examining Board. S. O. 214, A. G. O., September 18, 1885.

Adair, G. W., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 104, Department of Dakota, September 18, 1885.

Shannon, William C., Captain and Assistant Surgeon. Granted leave of absence for four months, to take effect about October 1st. S. O. 215, A. G. O., September 19, 1885.

Bushnell, George E., First Lieutenant and Assistant Surgeon. Ordered from Department of Dakota to Department of the East. S. O. 219, A. G. O., September 24, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the two weeks ending September 26, 1885.*

Murray, J. M., Passed Assistant Surgeon. Resignation accepted, to take effect January 1, 1886.

Ross, J. W., Surgeon. Assigned to special duty at New York.

Dungan, J. S., Medical Director. Waiting orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the five weeks ended September 26, 1885.*

Vansant, John, Surgeon. To proceed to New Orleans, La. September 16, 1885.

Hutton, W. H. H., Surgeon. When relieved, to proceed to Mobile, Ala. September 16, 1885.

Long, W. H., Surgeon. Granted leave of absence for ten days, September 1, 1885. When relieved, to proceed to Detroit, Mich. September 19, 1885.

Fessenden, C. S. D., Surgeon. To proceed to Norfolk, Va. September 16, 1885.

Sawtelle, H. W., Surgeon. When relieved, to proceed to San Francisco, Cal. September 18, 1885.

Godfrey, John, Surgeon. When relieved, to proceed to Louisville, Ky. September 16, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. When relieved, to proceed to St. Louis, Mo.

Austin, H. W., Surgeon. To proceed to Burlington, Vt., on special duty. September 23, 1885.

Society Meetings for the Coming Week:

Monday, *October 5th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Medical Society of Monmouth County, N. J. (Freehold); Chicago Medical Society.

Tuesday, *October 6th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (annual), Columbia (annual—Hudson), Orange (semi-annual—Goshen), and Schoharie (semi-annual), N. Y.; Medical Association of Northern New York (annual—Malone); Medical Societies of Hudson (Jersey City) and Union (quarterly) Counties, N. J.; Androscoggin County, Me., Medical Association (Lewiston); Chittenden County, Vt., Medical Society.

Wednesday, *October 7th:* Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot County, Me., Medical Society (Bangor); Philadelphia County Medical Society.

Thursday, *October 8th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Laryngological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *October 9th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y. (anniversary).

Saturday, *October 10th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

Proceedings of Societies.

MEDICAL SOCIETY OF VIRGINIA.

Sixteenth Annual Meeting, held at Alleghany Springs, Tuesday, Wednesday, and Thursday, September 15, 16, and 17, 1885.

Dr. Bedford Brown in the Chair.

Tuesday's Proceedings.

Medical Societies: their Relations to the Public, was the title of the annual address to the public and to the profession, delivered by Dr. H. M. Clarkson, of Haymarket, Va.

Medicinal Properties of Alleghany Waters.—Dr. Isaac White, resident physician at Alleghany Springs, Va., presented a paper on this subject, and said that the geological formations in this section consisted mostly of magnesian limestone and argillaceous slates. Ores of iron, silver, lead, and zinc were near by. The water of the Springs had a temperature of 56° F., and the specific gravity was 1·00283; it had a saline taste and a faintly acid reaction. In giving the analysis, he incidentally remarked that the effects of baryta and strontia were somewhat similar to those of arsenic. He had not become such an enthusiast in regard to the Alleghany water as to claim for it specific properties for every disease, but the range of its efficacy was distinct and extensive. He recommended the water especially in dyspeptic cases, using the term "dyspeptic" in its generic sense. He believed the magnesian salts in this water were their great power. Frequently, when first taken, the water produced a strange feeling in the head—a giddiness which was often closely followed by decided headache. Erythema, and even eczema and sometimes boils, developed after using the water. A glassful, gradually increased to two glassfuls, might be taken before meals, but the dose must vary according to the wish for a tonic, diuretic, or cathartic effect.

The Report of the Virginia State Board of Medical Examiners was read by Dr. W. C. Dabney, of Charlottesville, President of the Board, who said that thirty-two candidates had passed satisfactory examinations since January 1, 1885, and had been licensed to practice in Virginia. Six had been rejected. All of the candidates were college graduates.

Wednesday's Proceedings.

The Annual Address was delivered by the president, Dr. S. K. Jackson, of Norfolk. He considered his elevation to the highest office in the gift of the society as an evidence of appreciation of his work in prophylaxis as applied to zymotic diseases. The hindrances to the rapid progress of the science of medicine, the most important factors in its recent development, and the most potent agencies to be invoked to secure its continued growth were also considered.

Scarlet Fever was the subject announced for general discussion, which was opened by Dr. Thomas J. Moore, of Richmond, who said that he adopted the customary divisions, such as scarlatina simplex, scarlatina anginosa, and scarlatina maligna. He gave graphic descriptions of each form, and traced the history of the disease from its earliest mention down to the present day. He discussed the origin of the fever, and laid much stress upon the germ theory. The success in cultivating and inoculating the special microbes of charbon, chicken cholera, murrain, and other diseases in the lower animals, with modification of symptoms and abatement in the severity of the

respective diseases, was described, and the hope expressed that corresponding advances in human parasitology might follow close in its wake. He stated that up to the present time the only germ that had filled all the necessary requirements, as found in man, through inoculation and otherwise, was the *spiro bacterium* of relapsing fever found by Obermeier and called after him. The parallelism between small-pox and charbon was alluded to, traveling, however, in opposite directions—the one from man to the lower animals, the other from the domestic animals to man; the special bacillus of the latter had been discovered; through cultivation and inoculation it fulfilled all the law required of it; like vaccination in small-pox, it produced, through inoculation of a remote culture from the virus of one of the lower animals, immunity in the human family; the peculiar microbe producing the former had not yet been determined; he hoped that it would come to light at no distant day. Further, he stated that there were two microbes described as giving origin to scarlatina—the *monas scarlatinosum* of Klebs, the *plox scindens* of Eklund, of Stockholm. Each was ingeniously and plausibly put forward as the true bacillus. Klebs did not indulge in the enthusiasm peculiar to his confidence, while Eklund endeavored to demonstrate the absolutism of his proposition.

Dr. Moore did not think that belladonna possessed prophylactic powers, and declared it to be an indifferent drug when used to mitigate symptoms during the process of the disease. For the reduction of temperature he preferred the ice-cap to the head, rubber bag over the front of the neck and covering the great vessels, conjoined with sponging; failing in this, he used wet sheet, then cold pack, and, as a last resort, the cold bath as described by Ziemssen. He never feared the depressing effects of cold water, as patients could always be relieved from impending congestion by free resort to alcoholic stimulation. His favorite internal antipyretic up to this time was quinine—administered by rectum or hypodermically where the stomach was irritable; he hoped much from resorcin, and urged his brethren to try it and give to the world their clinical experience. The drug was safe, certain in action, a germ-destroyer. As an unguent, especially where itching and burning were prominent symptoms, he knew nothing equal to a combination of glycerin, borax, and carbolic acid. He recommended sprays as the most efficacious manner of applying internal medication to the throat, and called especial attention to the value of hydrate of chloral, two to four grains to the ounce, as invaluable for antiseptic and anodyne powers. The doctor recommended the use of small doses of mercury for a few days as an adjuvant to diuresis, in the dropsy attending acute desquamative nephritis, where diuretics were not accomplishing the desired end. Failing with these, a resort to hydragogue cathartics was indispensable. Nutritious food from the commencement of an attack, and free stimulation in all cases where the vital powers were depressed, he regarded as indispensable.

Election of Officers.—At the afternoon session the following-named gentlemen were elected officers for the ensuing year: Dr. JOHN S. APPERSON, of Town House, President; Dr. T. B. GREER, of Rocky Mount, and Dr. H. M. D. MARTIN, of Fredericksburg, Vice-Presidents; Dr. LANDON B. EDWARDS, of Richmond, Recording Secretary; Dr. R. T. STYLL, of Richmond, Treasurer; Dr. HUGH T. NELSON, of Charlottesville, to deliver the "Address to the Public and to the Profession" in 1886; Dr. THOMAS J. MOORE, of Richmond, Examiner-at-large on the State Board of Medical Examiners; Dr. HUGH M. TAYLOE, of Richmond, Examiner from the Third District; Dr. MEADE C. KEMPER, of Norfolk, Examiner from the Second District; Dr. L. ASHTON, of Falmouth, to open the discussion on "Puerperal Septicæmia" in 1886. The next session will be held in Fredericksburg, in November, 1886.

The Discussion on Scarlet Fever was continued by Dr. BEDFORD BROWN, of Alexandria, who said that he had seen malignant cases with cold extremities and tongue with a body temperature of 107° F. He used:

℞ Acid. salicylat.	ʒ ij;
Tinct. aconit. radicis	gtt. xij;
Infus. digitalis	℥ jss.;
Spts. ammon. aromat.	ʒ iij;
Syr. aurant. cort.	℥ ss.;
Aquæ	℥ j.

M. S. Teaspoonful for a child five years old every three hours.

This combination reduced fever more decidedly than any other antipyretics he had used; it acted also as a diaphoretic and diuretic. A tepid bath or a wet pack increased its action. Alcoholic stimulants benefited malignant cases, tending to collapse and coma, as also cases, on the other hand, having high fever, rapid pulse, and extreme restlessness. Such agents also generally arrested adenitis. In dangerous cases, frequent baths were too exhaustive. When extensive suppuration and pyæmia threatened, tincture of iron, Fowler's solution, and quinia sulphate acted well. To arrest acute nephritis and renal dropsy, he enveloped the body with a flaxseed-meal poultice covered with oil-silk. When the kidneys were engorged, the urine bloody, with dropsy of the chest and abdomen, a full dose of calomel, followed by compound powder of jalap, would often do good. Such cases bore purgation. But if the renal dropsy was attended with cool skin, great pallor, feeble pulse and great prostration, then frequent purgation was not well borne. In such cases he used lumbar poultices, digitalis, acetate of potash, with occasional saline cathartics. A morbid element in scarlatina often developed rheumatism; hence frequent cardiac complications. When these occurred he resorted to the active agents named in the foregoing prescription. Alkalies and salines should be used in renal complications. Dr. Brown had been disappointed with the diaphoretic action of pilocarpin. Potassium iodide was often useful in nephritic sequelæ of scarlet fever.

Dr. R. I. HICKS, of Casanova, Va., had never seen anything indicating relationship between scarlet fever and diphtheria, nor had he seen scarlatinal throat complications threaten life. Mopping the throat or gargling hot water would relieve the faucial troubles. He thought the best treatment of scarlet fever consisted in cold sponging the body, and the use of quinine and small doses of carbolate of iodine internally.

Dr. ALEXANDER HARRIS, of Jeffersonton, Va., emphasized (1) the benefit of isolation, both to prevent and to cure scarlet fever; (2) sick-rooms with open fire-places; (3) the bed should be out from a corner of the room, and draughts of fresh air should keep the room ventilated; (4) the patient's and the bed clothing should be daily changed; (5) the popular disinfectants were not useful in permissible doses. Fire or water above 212° was the best germicide. Hence burn or boil all clothing that had been about the patient. (6) Always disinfect a house in which a zymotic disease had been treated, if even a year or two previous. Pour boiling water over the floors, in the cracks, on the walls, etc. Steam would be better.

Dr. C. F. LEWIS, of Clifton Forge, Va., believed in the stimulating plan of treatment, and thought digitalis helped to relieve the swelling of the throat. Sometimes he used chlorate of potash and muriated tincture of iron. He was a strong advocate of such sanitary measures as Dr. Hicks and Dr. Harris had just mentioned. He fed liberally.

Dr. JOHN F. WINN, of Richmond, agreed with the speakers as to their sanitary recommendations. He thought, in towns

especially, placards should be placed on doors of infected houses as warnings to comers-in. Public funerals in all cases of death by zymotic disease should be prohibited by law. In the sick-room, old cloths, etc., should be used, which might be destroyed by fire. The popular "disinfectant solution" of copperas was not a disinfectant, but was antiseptic. Four ounces of chloride of lime dissolved in a gallon of water was a good preparation to pour over the evacuations of typhoid patients. Corrosive sublimate in solution was also used. Let all articles that were to be used again be kept immersed in one or the other of these solutions for several hours. To disinfect a room, burn in it from two to four pounds of common sulphur, with closed doors. If the body after death was to be moved, it should be kept wrapped in cloths wet with Labarraque's solution—℥ iv to the gallon.

Dr. L. Lankford, of Bowers, Va., agreed with the speakers as to the importance of fresh air in the treatment of scarlet fever, and thought that malignancy would be rare if this were more insisted upon than it was. As an illustration, he mentioned the cases of two of his children. The younger was kept down-stairs in a warm room, with the doors closed, and malignancy developed; the other child was kept up-stairs, where there was no fire and where a window was kept open, and no malignant sign or symptom developed. The weather was cold.

Dr. J. Herbert Claiborne, of Petersburg, Va., spoke of a case in his practice in which the dermic inflammation was so intense that on the third day the skin came off in large patches all over the body. Some children played day after day in the room with the patient, and yet none of them contracted the disease. Shortly afterward some other children had the fever so mildly that they could not be retained in the house; but in a short while the disease developed in some of their playmates. An old lady living in the house with these mild cases had scarlet fever so severely that she came near dying. To disinfect a sick-room, not only the organic germs must be destroyed, but the spores also. A solution of corrosive sublimate (1 to 1,000) was required to kill the spores, or water at 280°. But the best disinfectant for a sick-room after all was pure fresh air. The doors and windows should be left open. Of course always disinfect articles of clothing, etc. He thought Squibb's solution of chlorinated soda—℥ ij to the gallon of water—was the most perfect insecticide in the market, and it was cheap enough to be within the reach of all.

Dr. William L. Robinson, of Danville, Va., believed that a great deal of good resulted from proper medicinal treatment. He reduced the fever by using a full bath at 95°, which he allowed to cool down to 85° while the patient was in it. Before taking him out of the bath he gave a weak toddy, and rubbed the body over with camphorated oil before he was put to bed. He depended very much upon the free use of lithia water as a drink. If the nose got stopped up so as to compel mouth-breathing, the child waked up often from cat-naps with screams. For this condition he used the steam atomizer two grains of chloral hydrate in an ounce of water. This kept the nose moist. Large doses of calomel and jalap should be used if kidney complications supervene. In one case of œdema of the lungs the hypodermic use of pilocarpin saved the patient.

Dr. Winn stated that a recent correspondent in the "Journal of the American Medical Association" placed his diphtheritic patients on house-tops or on the porches, and said that all got well. The more fresh air, the better were the results of treatment.

Dr. W. W. Parker, of Richmond, Va., had often been disheartened at the results of treatment of scarlet fever. Many cases it is true, got well without any special treatment; but, until of late years, other cases did not get well under any plan. Now, however, he had better results, and he thought the best remedy for malignant cases was alcohol in free doses. He kept his patients hot. He obtained the suggestion from the good effects of alcohol in typhoid fever. Applications of turpentine were as good for the sore throat as carbolic acid. Keep the child in the house, according to the weather. In the summer the patient might go out in ten days; but in winter wait three or four weeks.

Dr. M. A. Wilson, of New River Depot, Va., had used Bartholow's tincture-of-belladonna prescription, to antagonize that condition of the throat which caused exudation, with great satisfaction.

Dr. Hugh T. Nelson, of Charlottesville, Va., thought patients often succumbed to accumulations of heat around the nerve-centers; hence the necessity for diaphoretics and heart stimulants. Afterward tonics should be used.

Dr. S. K. Jackson, Dr. R. S. Lewis, of Culpepper, Dr. W. L. Broaddus, of Newtown, Dr. John Grammer, of Halifax Court-House, and Dr. W. D. Cooper, of Morrisville—all spoke in the highest terms of Watson's chlorine treatment as described in his work on "Practice of Physic."

The Report on Chemistry, Materia Medica, and Therapeutics was made by Dr. M. G. Ellzey, of Washington, D. C., who first considered the position of chemistry in medical schools. The report advocated the demand for proficiency in elementary chemistry in medical students before matriculating, and then teaching them practical chemistry, as urinalysis, toxicology, etc. In materia medica and therapeutics cocaine and antipyrin were alluded to. No germicide could be safely applied to an absorbing surface. In climatology, Dr. Ellzey thought the Appalachian portion of Virginia the best of sanitariums for summer and fall. For the year round the climate of southern North Carolina and northern South Carolina was the best. The average amount of carbonic acid in a European atmosphere was about 4 to 10,000, whereas at Washington, D. C., it was 3 to 10,000 parts. The pyrogallic-acid tests of the percentage of oxygen in the air at Washington showed a close coincidence with European air—about 20·70 per cent. for out-door air. He thought a rich harvest awaited climatological-therapeutical studies in the near future.

The Report on Advances in Obstetrics and Diseases of Women and Children was presented by the chairman of the committee, Dr. Smelt W. Dickinson, of Marion, Va. He called attention to the changes in practice during the year regarding antiseptic midwifery. Intra-uterine post-partum injections with even weak solutions of corrosive mercury were, he thought, dangerous. The parts should be kept clean. The important thing was to render aseptic everything that entered the vagina—the hands, sponges, instruments, etc. The readiest way to effect post-partum drainage was to place the patient upon the chamber-pot, if her strength allowed, when she wanted to urinate, etc. He thought the contagium of puerperal fever was of a material nature, capable of being washed away or destroyed by antiseptic injections. If the discharges became offensive and the body temperature rose above 100° F. without plain cause, resort should be immediately had to antiseptic washes. In answer to the question, How long before a doctor in attendance upon a puerperal-fever patient might safely attend another delivery? Dr. Dickinson said the weight of opinion was that he might safely do so at once *provided* he thoroughly antisepticized himself and clothing. Extra-uterine pregnancy might be treated by killing the fœtus by electricity and then performing laparotomy. Combined version in placenta prævia was now the approved plan, and was thus executed: The vagina was tamponed so as to obtain sufficient dilatability. The patient was then anæsthetized, the hand was passed into the vagina and two

fingers inserted through the presenting placenta and the fœtus drawn to one side, while the other hand, on the abdomen, pressed the child so as to carry its buttocks down until a foot could be reached. The foot was drawn through the cervix so that the breech might act as a tampon on the lower segment of the uterus. Then spontaneous delivery was awaited, or for sufficient dilatability of the cervix to permit delivery. Credé and Weber preferred absorbent cotton as a daily dressing for the cord, which, they claimed, prevented umbilical inflammation. Ethyl-bromide promised well as an obstetric anæsthetic. Cocaine was *sub judice*. Obstetric forceps were invaluable. Abortion should be produced when danger threatened. The temperature of the *lying-in room* should be well regulated. Swinging the body was advocated as a substitute for artificial respiration.

Of diseases of women, neurasthenia was the most common, and all that Dr. Weir Mitchell had said about it—both as to cause and treatment—was indorsed. Operative interference with lacerations of the cervix uteri was now opposed, as the lacerations healed well if left to themselves. Alexander's operation for backward uterine displacements was described. Dr. Goodell preferred rapid dilatation of the cervix uteri for dysmenorrhœa of an organic nature, and also for nervous dysmenorrhœa.

In diseases of children, he remarked upon the advantage of large doses of carbonate of ammonia for scarlatina. Dr. Huffard, of Smyth County, Va., depended on the carbonate later in the disease, when languid capillary circulation set in. Bismuth subnitrate was recommended to be powdered over the sore tongue which usually occurred about the fifth day—just as in cancrum oris. Trypsin in spray form every fifteen minutes or more, if the patient's strength would permit the operations, was a solvent of diphtheritic membrane. *Chlorate of potash* should be avoided in febrile diseases where the blood was alkaline, as in diphtheria, nephritic affections with scanty urine, in uræmia, etc. Incomplete closure of the ductus venosus was thought to be the cause of icterus neonatorum. Dr. Marion Sims's view that trismus nascentium was due to "an inward displacement of the occipital bone" was supported by Dr. Hartigan, of Washington, D. C.

(*To be concluded.*)

AMERICAN GYNÆCOLOGICAL SOCIETY.

Tenth Annual Meeting, held at Washington, Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885.

(*Concluded from page 357.*)

The President, Dr. WILLIAM T. HOWARD, of Baltimore, in the Chair.

Wednesday's Proceedings.

The President's Annual Address.—The PRESIDENT read his annual address. It was entitled "Two Rare Cases in Abdominal Surgery."

CASE I.—S. H., a negress, aged twenty-four years, married, presented herself at the dispensary of the University of Maryland April 20, 1882. She was seen by the clinical assistant and the following notes were made: Menstruation appeared at the age of fourteen, and had been regular and normal. She was the mother of five children, the youngest of which was two months old. She had never had a miscarriage. Some days after delivery she noticed an enlargement in the lower portion of the abdomen, which gradually extended in the middle line until it reached the umbilicus, and was attended with bearing-down pains and frequent micturition. On examination, fluctuation was found well marked all over the abdomen, with decided resonance about the umbilicus. There was dullness on percussion and there was bulging in both flanks. Six weeks later she returned to the dispensary, and at this time the resonance at the umbilicus had disappeared and the umbilicus projected. The author saw her for the first time two weeks after this observation was made. She was then quite sick, the temperature being 102° F., the pulse 132, and the respiration 32. Examination showed the presence of fluid in the pleural sac. There were also some crackling râles. The abdomen was as large as at the seventh month of pregnancy and was remarkably protuberant in the center. There was complete dullness over the entire abdomen, not changed by change of position. There was no evidence of a solid tumor, but it had every appearance of a simple unilocular cyst. Vaginal examination showed the uterus well in front of the tumor, and the sound gave a measurement of two inches and three quarters. The question which arose was as to the nature of this tumor. Was it ovarian? The extreme infrequency of ovarian tumors in the negro race was against this view. The rapid growth of the tumor was also opposed to it. The next affection considered was fibro-cystic tumor of the uterus. This was exceedingly rare. The speaker had seen but one such case in the negro. In that case the cyst was filled with pus. The patient was operated upon with a fatal result. Such tumors were rare before the age of thirty-five. They usually developed slowly. There was no menstrual disturbance in this case. For these reasons, fibro-cystic tumor was excluded. Was it a parovarian cyst? These usually developed even more slowly than ovarian cysts. They were usually flaccid, contained a thin liquid, were comparatively rare, and did not affect the general health. This was therefore excluded. It was certainly not a case of simple ascites, but was it a case of encysted dropsy of the peritonæum, so called, resulting from simple peritonitis? This was an extremely rare affection, and in the early stages there were symptoms of constitutional disturbance; the abdomen was not prominent and often it was flaccid. Encysted dropsy was excluded. Finally, on June 20th, he aspirated the cyst under antiseptic precautions. The fluid which escaped was of a light straw-color and coagulated as speedily as blood. After aspiration, large masses were readily felt through the abdominal wall. The character of the fluid corresponded with that which was said to characterize fibro-cystic tumors of the uterus. The speaker had, however, seen other cases which showed that the character of the fluid was not pathognomonic. In one case of abdominal tumor, fluid was removed which did not coagulate even after being kept for many days. The abdomen was subsequently opened and a fibro-cystic tumor found. In a case of supposed ascites in a man, aspiration was performed and the fluid removed coagulated quite rapidly.

After the cyst was aspirated the patient did well for three days, when acute peritonitis supervened and she died on the seventh day. At the autopsy a mass as large as a child's head was found in the abdomen. This consisted of omentum, the transverse colon, and small intestine bound together by inflammatory exudation. The inflamed peritonæum was invaded everywhere with miliary tubercles. There was no ovarian or uterine disease. There was some tubercular ulceration of the small intestine; the other abdominal organs were not affected. The pleura was also invaded with scattered miliary tubercles. In both lungs there were some tubercles.

This, then, was a case of encysted tubercular peritonitis simulating ovarian or parovarian cyst. The failure to recognize the true condition was ascribed to want of attention to the previous history of the case and the non-recognition of the fact that there had been free fluid in the peritoneal cavity at the first visit.

The speaker then referred to the few similar cases which

had been reported. In these cases the disease had appeared as a rule under the age of twenty-five years. It had progressed rapidly, the length of time varying from six weeks to eight months.

Case II.—F. R., aged twenty-four, was admitted to the hospital in July, 1883. She professed to belong to the colored race, but looked much like a white woman. She had been married a year, but had never been pregnant. There was no evidence of uterine disease. The abdomen was much enlarged, measuring forty-seven inches just below the umbilicus. Vaginal examination showed the uterus pushed forward by a sac containing fluid. There was apparently an immense unilocular sac. This had been first noticed seven or eight years before. The increase in size had been gradual and unaccompanied with pain. As to diagnosis, ascites was dismissed both on account of the physical signs and the absence of any cause to account for such a condition. The length of time which the affection had lasted was against its ovarian origin. There were, however, exceptional cases in which an ovarian tumor might be present for a number of years, even as many as twenty-four, without requiring operation. The age of the patient, the length of time which the cyst had been present, the marked fluctuation, and the flaccid nature of the tumor, were in favor of a parovarian cyst. There was one point against this diagnosis, and that was that, although the cyst was flaccid, it could not be compressed below the umbilicus. Fibro-cystic tumor was readily excluded. The history of the case was against the existence of encysted peritonitis. The balance of evidence seemed to be in favor of an ovarian or parovarian cyst.

On July 13th the operation was performed. It was done largely with the view of exploration. The peritonæum was found much thickened and closely adherent to the sac. With difficulty the adhesions were separated for a short distance, and the cyst presented the appearance of an ovarian cyst. A trocar was introduced and forty pounds of a greenish, viscid fluid were removed. An endeavor was made to enucleate the cyst, but the adhesions were so extensive that this could not be accomplished. The cyst was then incised to the extent of the abdominal opening, and, on looking into it, it appeared to occupy the whole abdominal cavity, stretching tightly over the spinal column. A small portion of the wall of the cyst was removed, a drainage-tube introduced, and the opening closed with stitches. Peritonitis ensued and the patient died. A post-mortem was made, but, owing to the speaker's unavoidable absence, was not sufficiently full to throw any more light upon the case than had been obtained at the operation. The nature of the cyst therefore remained unsettled.

Dr. T. A. Emmet, of New York, said that the older he got, and the more experience he had, the more uncertain he was about diagnosis. When a woman had an abdominal tumor he favored opening the abdomen to make the diagnosis, because she had something which must come out. As to rapidity of development, it could not be depended upon. He had seen parovarian cysts develop in six weeks; he had also seen cases which had lasted twenty three years. About two years ago he saw a case in which he could not make a diagnosis. The abdomen was opened and just such a cavity as had been described was found. It seemed as though a cyst had at some time ruptured and its contents had become encysted. The cavity was left open and frequently washed out. In six weeks its size had greatly diminished. Unfortunately, the patient died at this time from [illegible] of the small intestine.

Dr. William Goodell, of Philadelphia, said that he had removed tumors the nature of which he did not know to this day. In one case he worked for forty five minutes before finding out what the tumor was. It turned out to be two ovarian tumors which had coalesced, including the uterus between them. He felt more and more the necessity of performing the exploratory operation, for without this it was impossible to make a correct diagnosis in many cases. To illustrate the difficulties of diagnosis, he reported a case seen some time ago. A lady presented herself with a solid tumor of the abdomen. There were also metrorrhagia and menorrhagia. He diagnosticated fibroid tumor of the uterus, but the growth was so mobile as to suggest the possibility of a fibroid tumor of the ovary, and it was so noted at the time. An operation was not recommended. The lady went North, and her sufferings became so great that she consulted a distinguished gynæcologist, desiring an operation. The operation was performed, and a large fibroid of the ovary removed.

Dr. T. A. Reamy, of Cincinnati, wished to put on record another case in which a fatal result followed aspiration in tubercular peritonitis. The patient was a man, but the enlargement presented all the characteristics of an ovarian cyst. Death took place the second day after the removal of the fluid.

The President thought that in the majority of cases a correct diagnosis could be made. The fact that he was able in these cases to eliminate so many of the ordinary conditions which gave rise to tumors showed that we had the means of making the diagnosis generally. The object of the paper was to give an accurate account of these cases in order that it might assist others in cases of obscure abdominal tumors.

The Care of the Perinæum during Labor.—Dr. Reamy read a paper with this title. He referred to the various opinions which had been expressed on this subject. There was a general agreement as to the importance of preserving the perinæum. In certain cases, however, from anatomical and pathological conditions, laceration was almost inevitable. The author then spoke of the various methods which had been proposed, dividing them into two general classes—those which aimed to support the perinæum, and those which were used with the object of retarding the progress of the head. There was one class of authors, numerically small, who believed that the perinæum should be let alone.

The method about to be described he had adopted several years ago, and it had given him much satisfaction. He was persuaded that he had saved many perinea by its use. It was recommended for primiparæ and others where the structures were greatly imperiled. During the early part of the second stage the patient was allowed to assume any position she preferred, but, when the head began to distend the perinæum, she was placed across the bed with the limbs in the lithotomy position with the exception that the knees were kept close together. This was important. The limbs were held in that position by two assistants. A piece of muslin or a towel, ten inches wide and forty or fifty inches long, was carried around the buttocks of the patient and over the hemisphere produced by the bulging perinæum, with the upper edge on a level with the fourchette, and the ends were given to the assistants, who were instructed to make traction during the pains in the manner that the accoucheur might direct. The bandage must be applied smoothly. The force might be exerted in any required direction. Care must be taken, however, that the pressure was equally distributed and that the assistants did not simply pull on the middle or posterior part of the bandage while the anterior portion was left lax. In order to show that this procedure was based on good anatomical grounds, the speaker next referred to the anatomy of the perinæum, illustrating his remarks with diagrams. According to the old descriptions of the anatomy of this region, it was considered that the muscular fibers decussated in the part between the vagina and the rectum. Recent observations showed that this was not the case, but that the

fibers simply met, and a laceration of the perinæum divided no muscular fibers transversely, with the exception of those of the transversi perinæi. The fibers were simply separated. When the sphincter ani was divided, its fibers were of course divided transversely. The perinæum was prevented from laceration by the protection afforded by the tissue below and the integument. The bandage used in the way described afforded a supplementary perinæum as it were. By keeping the limbs in the position indicated we enabled nature to supply tissue for the relaxation of the perinæum. When the perinæum bulged the sulci at the sides disappeared, and the perinæum with the advancing head formed almost a hemisphere. The towel was in contact with every part of this hemisphere. The advance of the head might be retarded by making traction on the towel. Where it was accessible a narrow bed might be used with advantage, the assistants taking their positions near the head of the patient. The use of this bandage avoided any tendency to exciting expulsive efforts from reflex irritation of the perinæum as was sometimes seen where the fingers were used. It was comfortable to the patient and did not cause more exposure than other methods. The bandage might be kept on until the shoulders were born, thus avoiding rupture from this cause. In order that this method should be successful, it was important that every detail should be carried out with painstaking care. Should a rupture occur, the immediate operation should be resorted to.

Dr. M. D. Mann, of Buffalo, said that the method seemed a good one in a certain proportion of cases, but he had seen some cases where it would have been of no avail. The worst ruptures occurred in cases where, at the acme of the final expulsive pain, the woman had torn herself from the accoucheur. In such cases the use of chloroform would of course obviate the difficulty. Another objection to the method was that it required more assistance than could always be secured.

Dr. J. R. Chadwick, of Boston, thought the term "supporting the perinæum" a misnomer. What was meant was retardation of the child's head until the tissues could be sufficiently stretched to permit its passage. He always insured the slow exit of the head and did not permit it to escape during a pain. The method which he employed was to have the patient on her side, and then pass one arm over the thigh. Then, by interlocking the fingers, any desired amount of pressure could be made.

Dr. Ellwood Wilson, of Philadelphia, had tried every method suggested for the support of the perinæum, with the exception of the one just described by Dr. Reamy. His usual plan was simply to instruct the woman to keep her mouth open during a pain and pant.

Dr. Reamy, in reply to the statement of Dr. Chadwick, that supporting the perinæum was a misnomer, said that the word support meant protection or succor, and had been used in this sense. The number of assistants required had been objected to, but the importance of preventing rupture of the perinæum in the first labor was so great that, even if two or three skilled assistants were required, they should be employed. With this method the patient could not get away. An objection to the method referred to by Dr. Chadwick was that the pressure was not made over the perinæum, but over the head, and extension might be produced, causing the head to come into a bad relation to the axis of the outlet. In cases in which the head had been permitted to remain pressing on the perinæum for some time, the tissues were in a state of beginning necrosis and exceedingly friable. Even in such a case the use of the towel or bandage lessened the perils of the perinæum, and it would often be saved where otherwise it would have been torn. It could not be supported with the hand under such circumstances. If it was desired, the forceps might be applied with the bandage in position.

A Case of Cæsarean Section.—Dr. Edward W. Jenks, of Detroit, described the following case, which he had seen in consultation. The patient, aged twenty-seven, had given birth to one child five years previously without special difficulty. Two years later she received a fracture of the ilium from a building falling on her. She was taken in labor at three o'clock in the morning. The physician in attendance, finding some difficulty, tried to apply the forceps. He got one blade on without difficulty, but could not, after several trials, introduce the second blade. He sent for assistance, and the attempt to apply the forceps was again made without success. The cause of difficulty was a projecting shelf of bone at the seat of fracture. Another physician was called in and the forceps was again tried. It was then decided to perform craniotomy, which was done, but still the head could not be made to descend. Dr. Jenks was then sent for. He tried to apply the forceps to make sure that it could not be applied, and, failing, tried the cephalotribe with no better success. It was then decided to perform abdominal section. This was performed at two o'clock that night, twenty-four hours after labor began. The woman appeared to be in good condition. The placenta was found attached directly under the incision and there was alarming hæmorrhage, which, however, was quickly checked by the rapid extraction of the fœtus. The edges of the uterine incision were brought together by silk sutures and the abdominal wound was closed. The patient did well until three days after the operation, when she suddenly died. It was subsequently learned that the nurse had, in disobedience to orders, temporarily left the room, and that in her absence the patient got out of bed. She complained of feeling something give way, experienced severe pain, and died in a few hours.

Dr. A. J. C. Skene, of Brooklyn, remarked that in such cases the chances of the patient were lessened by undue efforts at delivery with the forceps. He thought that this would have been a good case for the performance of laparo-elytrotomy. It was impossible to sacrifice the child by that operation if it was performed in good time. He could hardly imagine any case where craniotomy should be performed, except possibly where the head wassoengaged in a small inferior strait that it could be extracted in no other way. Even then he was not certain that the Cæsarean section would not be the best operation.

Dr. Jenks said the operation of laparo-elytrotomy was discussed, but it did not seem to be an easy operation under the circumstances. If it had not been for the unfortunate accident in this case, the woman would probably have recovered.

The Use of Tarnier's Forceps.—Dr. Ellwood Wilson read a paper on this subject at the meeting in 1881. He had offered a number of objections to the use of this forceps. His objections had been based on theoretical grounds. The object of the present communication was to report nine cases in which he had used the forceps with decided advantage to the patient. He had therefore modified his views as before expressed. A detailed account of the nine cases in which the forceps had been used was then given. The instrument used had been Dr. Howard's modification of Tarnier's forceps.

Dr. Mann had used the Tarnier forceps for the past two years in a number of cases with, on the main, satisfactory results. In one case of deformed pelvis in which the Tarnier forceps was applied, the child was injured by it. The outer edge of one orbit had been crushed in, destroying the eye. The child was living at the time of birth, but subsequently died.

The President said that, so far as he knew, he was the first to use the Tarnier forceps successfully in America. In cases of occipito-posterior positions, the application of other forceps interfered with the rotation of the head, but with the Tarnier forceps the head was free to rotate.

Thursday's Proceedings.

A Modification of Emmet's Cervix Operation in certain Cases, with a Case.—Dr. R. Stansbury Sutton, of Pittsburgh, read a paper in which he stated that, while the operation was original so far as he was concerned, he did not profess to be the only one who had performed it. Cicatricial tissue was found to a greater or less extent in every case of lacerated cervix which had lasted for any length of time. This was especially apt to be the case where nitrate of silver had been used in the treatment. The hardened tissue might be present in both lips, or it might be limited to one lip. The patient whose case was reported was operated on June 5, 1885. She was the mother of several children. There was a double maceration of the cervix. The tissue of the anterior lip was hardened and hypertrophied, and the lip was convex from side to side and also from before backward, so that by the ordinary method of operation correct coaptation could not be effected. The tissue of the anterior lip was as hard as cartilage. Ordinary denudation of the posterior lip was sufficient, and this was made, leaving the strip of mucous membrane somewhat wider than usual. The cicatricial mass involving the anterior lip was removed from border to border, completely denuding this portion of the cervix. The parts were then brought together in the usual way, and the result was excellent. The cervical canal readily admitted a sound, and the woman menstruated without difficulty. The speaker thought that there were cases in which nothing short of the complete removal of the cicatricial tissue would be sufficient.

Dr. Goodell had resorted to this device on more than one occasion, and also to another plan on a few occasions. That was to outline the strip of mucous membrane to be left, and to dissect it from the tissues below, leaving it united at its base. The indurated tissue had then been removed and the flaps brought together. The result had been good.

Dr. Skene remarked that this was not cicatricial tissue; it was a true sclerosis—a hyperplastic, indurated tissue. This was, however, simply a question as to name. Much could be done to get rid of this tissue by preparatory treatment. But this often required too much time, and then such an operation as that proposed by Dr. Sutton came in. His plan had been to do a preliminary operation, consisting in removing a transverse wedge-shaped piece from one or both lips of the cervix, as the case might require, and then bringing the surfaces together with silk stitches. After the first day the patient could go about, and the sutures were removed in the course of a week or ten days. After the size of the cervix was reduced the ordinary operation was performed. He had done both operations at one sitting, but preferred to do them separately. One objection to the method of Dr. Sutton was that it left cicatricial tissue.

Dr. George J. Engelmann, of St. Louis, said that in old and severe cases it was impossible to retain the strip of mucous membrane. He therefore removed it. He had done this on both lips, and on some occasions had complete union, but the passage of a probe served to keep a canal open. For the last few years he had paid no attention whatsoever to this central strip. To prevent union he inserted a single piece of the carbolized-silk thread which was used in closing the opening. A probe passed a few times after the removal of the sutures would dilate the canal. The result of this operation had been good. The union, the involution, and the restoration of the health of the patient had been perfect. This operation had been done only in severe cases, and, so far as he knew, none of these patients had conceived.

Dr. Mann had tried the method described by Dr. Sutton. In only one case had it been necessary to denude both surfaces. To insure a patulous canal, he introduced a piece of small drainage-tube. The patient did well.

Dr. W. H. Baker, of Boston, thought the retention of the mucous membrane of importance. The method of Dr. Sutton, by leaving cicatricial tissue on one side of the canal, would tend to make the canal tortuous. As a rule, if the patient was properly prepared, it would not be necessary to remove this hypertrophied tissue. If this was not done, Emmet's operation could still be performed in the way described by Dr. Skene. He preferred to do both operations at the same time. It was then not necessary to introduce a suture to bring the transverse incision together. Great care should be exercised in the introduction of substances between the two flaps.

The President remarked that a few weeks before the death of Dr. Sims he had seen Dr. Harry Sims perform this operation in the presence of his father. He inserted a glass tube which fitted so loosely that it had to be retained with a plug of cotton.

Dr. Skene thought that if the denudation was practiced on both sides stenosis would certainly follow.

Inflammation of the Parotid Glands following Operations on the Female Genital Organs.—Dr. Goodell read a paper with this title. He referred first to the close relation existing between the salivary organs and the genital organs of the adult, as shown in mumps and other conditions. Parotid bubo seemed particularly apt to follow ovariotomy where septicæmia had taken place. He had seen parotid bubo once in 153 ovariotomies. This was in a greatly emaciated woman, from whom a tumor weighing eighty pounds had been removed. The patient had been twice tapped; once six weeks before the operation. The second tapping was followed by septic poison, and the operation was performed as a last resort. The patient did well until the ninth day, when the left parotid gland began to swell. It suppurated and was opened. The patient finally died on the twenty-second day after the operation.

There was a transference of irritation to the parotid glands in which there was no evidence of septic poisoning. Of this the author had seen three instances: twice after ovariotomy and once after oöphorectomy. In these cases the parotid complication did not influence the progress of the case. Not one of these ended fatally. He regarded the affection of the glands as sympathetic and not symptomatic. Within a short time he had operated on a lacerated cervix. The operation was followed by free hæmorrhage, and in the second week the parotid glands began to swell. This was succeeded by hysterical trismus, which lasted for some time. The patient recovered.

Dr. Sutton, out of twelve ovariotomies, had lost one patient, and she died with the complication referred to in the paper. The case did well until convalescence was reached, when one parotid gland began to swell. This was followed by swelling of the other gland. The temperature varied one or two degrees from the normal. There was slight diarrhœa, but no tympany, and no soreness. A number of rose-colored spots were found about the second week over the abdomen and arm. In the third week she became much worse. The glands diminished in size, but the temperature ran up and she died. He considered the case as septicæmic. Others considered it a well-marked instance of typhoid fever.

Dr. J. Tayler Johnson, of Washington, had seen this complication in one case of ovariotomy, the patient dying on the sixth day.

Dr. Mann referred to three cases which he had seen. The first was a case of ovariotomy. There were distinct symptoms of septicæmia, and the patient died before the glands suppurated. The second case was one in which he had removed all the uterus above the internal os, and also the ovaries. At the

end of the first week one gland became swollen. There was little fever. The patient made a good recovery. The third case was that of a boy who had received a penetrating wound of the abdomen. Enlargement of the glands followed, but he made a good recovery.

Dr. EMMET added two cases. Once the condition followed an operation for lacerated cervix, the patient recovering. Once it followed an operation on a small vesico-vaginal fistula, the patient dying.

Dr. BAKER had seen the complication follow Tait's operation, but the patient recovered.

Dr. REAMY had had two cases, one after Tait's operation. The patient died the seventh day after operation. The second was a case of supra-vaginal hysterectomy in which the uterus and both ovaries were removed. The left gland became much enlarged, but did not suppurate. The patient recovered.

Peristalsis of the Genital Tract, and a New Theory to explain Relaxation of the Vaginal Outlet during Labor.—Dr. JAMES R. CHADWICK, of Boston, read a paper with this title. Some time ago the speaker was called to see a primipara in labor. He found the os slightly dilated and the vaginal outlet quite rigid. Returning two hours later, he found the outlet much relaxed, although the head had not escaped from the uterus. On another occasion a woman with a bleeding fibroid tumor consulted him. The examination revealed quite a small outlet. Ergot was given to check the bleeding. After that the outlet was found much relaxed; this had occurred coincidently with the occurrence of uterine contractions and the forcing down of the tumor. Further investigation of this subject had led him to the conclusion that there was a peristaltic action of the lower portion of the genital canal as well as of the Fallopian tubes, and that it was to this that the relaxation of the outlet was largely due.

Facial Paralysis in the Infant from the Use of the Obstetric Forceps.—Dr. THEOPHILUS PARVIN, of Philadelphia, read a paper on this subject. The following case was described: A well-proportioned woman, aged thirty years, had been in labor thirty-two hours, the first stage lasting twenty-four hours. The only difficulty appeared to be want of strength in the uterine contractions. The forceps was therefore applied, and the child extracted. The following day it was observed that one side of the face was paralyzed. This was especially noticeable when the child cried. There was no evidence of bruising from the forceps. The paralysis disappeared in ten days without treatment. The literature of this affection was then summarized.

Dr. ELLWOOD WILSON had met with this accident a number of times. Recovery, as a rule, had occurred spontaneously.

Dr. GOODELL had seen such cases, and in every instance the paralysis had been on the right side. He attributed this to the predominance of the left occipito-anterior and the right occipito-posterior positions. Under such circumstances, one blade of the forceps would make pressure on the nerve.

Dr. SKENE considered the differential diagnosis between facial paralysis from injury and facial paralysis from apoplexy to be of importance. Usually the diagnosis was readily made, but difficulty occurred when there was facial paralysis from injury, associated with paralysis of the arm caused by violence in delivery. He had recently seen such a case in consultation. In this case it was of great importance to complete the labor quickly, and the shoulder had been injured in delivery, so that there were facial paralysis and paralysis of the arm on the same side. At first there was no trace of contusion, but in a short time ecchymosis appeared and a favorable prognosis was given, which was verified.

Dr. W. L. RICHARDSON, of Boston, said that in most of the cases he had seen the paralysis had been on the right side. It sometimes occurred where the forceps was applied to the after-coming head.

The following papers were read by title: "The Genu-Pectoral Posture in the Prolonged Nausea and Vomiting of Pregnancy, with Cases," by Dr. H. F. Campbell, Augusta, Ga.; "A Study of an Unusual Type of Puerperal Fever," by Dr. Fordyce Barker, of New York.

A resolution expressing the sympathy of the society with Dr. Albert H. Smith, of Philadelphia, in his sickness, was offered and adopted.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of September 10, 1885.

The Vice-President, Dr. J. HENRY C. SIMES, in the Chair.

Secondary Epithelioma.—Dr. GEORGE DOCK exhibited to the society a patient suffering from this disease and related the following history:

The case occurred in the practice of Dr. W. W. Keen, at St. Mary's Hospital, to whom Dr. Dock acknowledged his indebtedness for the opportunity of recording it.

Mary C., aged seventy years, married, born in Ireland, applied for treatment November 29, 1884. Her personal and family histories seemed to be unusually good. No traces of constitutional disease could be found. She used alcoholic liquors in moderation, and had smoked a clay pipe for the greater part of her life. Filling the right submaxillary region and extending up over the inferior maxilla was a tumor, the distinct outlines of which included a space about three inches in diameter. The lower part was very prominent, standing out as a flattened node one inch and a half in diameter and about three fourths of an inch high, the whole height of the tumor being one inch and a half. The growth was hard and immovable on the lower jaw; the surface was smooth and red, changing to a dull purple on the nodular elevation. On the summit of this growth was an opening leading upward and inward three quarters of an inch. The skin around the opening was everted and the surface of the crater-like cavity was covered with large and small granulations which exuded a thin, gray, offensive pus. The neighboring lymph-glands were not enlarged. The general condition was good.

The patient stated that the growth first appeared, six months before admission to the hospital, as a "kernel" below the jaw. She applied various poultices and salves to it. The tumor grew rapidly for the following four months, when it opened, discharging a large amount of pus; after that there was no apparent increase in size. The patient could assign no cause for the tumor except a scald, received about one year before on the lower lip near the angle of the mouth on the right side. This was followed by an ulcer, which was removed at the Episcopal Hospital in February, 1884, about two months before the appearance of the enlarged gland. Dr. J. M. Bradford, late resident physician at the Episcopal Hospital, stated that the ulcer was noted as epithelioma.

On December 3, 1884, Dr. Keen removed the tumor, together with a margin of healthy skin and the submaxillary salivary gland. The external plate of the inferior maxillary appearing roughened, it was cut away. The cavity of the mouth was not opened. By the use of hare lip pins and sutures, the edges of the large wound, four inches and a half in diameter, were approximated almost perfectly. The dressings at first were carbolized, afterward iodoform was used. In the fourth week after the operation a small, red, indurated, sometimes painful spot appeared in the skin just posterior to the wound. A few days later the patient was discharged.

Microscopic sections, made through various parts of the

growth, showed the structure of squamous epithelioma everywhere. The salivary gland was invaded. No trace of the lymph-gland could be found, and the supposition was that it had ulcerated away completely.

The patient was lost sight of until the beginning of May, 1885. She stated that after leaving the hospital the small swelling alluded to increased rapidly in size, and in a few weeks was larger than the one removed. She used no irritating measures, but the tumor broke down and ulcerated away, leaving a large granulating surface. Examination revealed an ulcer on the side of the neck extending from one inch to the right of the median line to beyond the angle of the jaw, irregularly circular in outline and containing islands of epithelium. There was a small opening into the cavity of the mouth midway between the angle and the symphysis of the jaw and just inside of the inferior border of that bone. The symphysis was drawn to the right about half an inch. There was a hard, tender swelling on the gum above the inner edge of the opening, covered with small, dark-red nodules. In June the inferior maxilla was still more atrophied and had separated at the point of swelling and opening before mentioned. The adjacent ends of bone and gum were covered with a small fungous growth.

The process of atrophy and new growth is still continuing. The left alveolar process approaches the median line of the oral cavity, and the point of the chin is on a line dropped from the outer angle of the right eye. The ulcer on the neck is healing, but the new growth in the mouth is rapidly enlarging, so that the tongue can not be extruded. There are no enlarged lymph-glands, but within a few days the patient has complained of pain in a gland in the subclavian region. The general condition is very poor; the patient lives on liquid food and takes morphia to produce sleep.

An Enlarged Prostate.—Dr. Guy Hinsdale exhibited a specimen which had recently been presented to the Mütter Museum of the College of Physicians by Dr. J. L. Stewart, of Erie, Pa., and was removed from a man aged seventy-five years, who, sixteen years previously, had first come under Dr. Stewart's observation.

At that time he was a strong, well-developed man, who had never been sick before in his life, but was then suffering from retention of urine, which had existed for seventy-two hours. It was found to be impossible to introduce a catheter, owing to an enlarged prostate estimated to be larger than a hen's egg. Circumstances rendered it necessary to force an instrument through the gland, and five pounds and a half of urine were drawn off. A train of most unpleasant symptoms followed, and for weeks there was profuse suppuration with complete incontinence and great prostration. After about thirty days, improvement began and continued to complete recovery. Three months afterward the patient seemed perfectly well.

Attacks of cystitis and retention became frequent, and for sixteen years only once did an interval of over three months pass without an attack, the usual time being about twenty days. During this time Dr. Stewart introduced the catheter 1,194 times. Pain was intense during the later years, when four or five ounces of urine had collected in the bladder. Meantime the prostate continued to increase in size, and in November, 1884, was believed to be of the size of a large orange. On the night of the 27th of May, 1885, the patient had his last attack. Dr. Stewart not being at hand, two other physicians did not succeed in introducing an instrument. Just before 9 A. M. of the following day the man was attacked with the most excruciating pain, followed by a severe chill. At this time it is believed by the medical attendants that rupture of the bladder occurred, and the early date of this accident was accounted for by being the result of the contracted condition of the bladder. From this time there was no acute pain, but there was a severe aching followed by prostration. At 9.30 A. M. the bladder was aspirated, one ounce of urine coming away. Dr. Stewart catheterized him on the third day, drawing about a tablespoonful of urine. The patient died on the morning of the fourth day. His mind was clear and his voice strong to the last.

The post-mortem examination was not made by Dr. Stewart personally. It was stated that there was a rupture of the anterior part of the bladder near the fundus, and that the cavity of the abdomen was filled with urine. The specimens were not removed in such a way as to make this evident.

The specimen, as presented, consisted of the prostate gland laid open by a cut in the vertical line and having attached to it the bladder, the walls of which had been cut in several directions. These walls were thick and had apparently undergone fatty degeneration, as had also the kidneys which accompanied the specimen, the pelves of which were thickly overlaid with fat. The long diameter of the prostate, after being in alcohol for three months, was three inches; the shorter diameter two inches and three quarters; the third lobe was one inch long, and through it the catheter passed and still remained in position. The bladder-walls, when replaced, indicated a very small internal capacity.

Dr. J. M. Barton stated that but one case of rupture of the bladder from over-distension had come under his observation. It occurred in a German, who had an impermeable stricture of eight years' duration; no urine whatever passed; the contents of the bladder were removed several times by aspiration, while attempts were being made with filiform and other bougies to pass the stricture. As these failed, perineal section was suggested to the patient and his friends, but refused, and the doctor was told that they would send for him when they needed him. Three days later Dr. Barton was sent for; he proceeded to the house accompanied by Dr. S. W. Gross. The man was in a dying condition; the bladder tumor, which before was very prominent, had disappeared. Aspiration over the pubes, and a trocar inserted by way of the rectum, both failed to reach any urine.

On post-mortem examination, a small rent was found in the upper part of the bladder, but the specimen could not be secured.

In old cases of prostatic obstruction Dr. Barton had several times found, on post-mortem examination, that the patient had thrust the instrument through the "third" lobe; in one case several such openings had been made and had kindly healed.

Cancer of the Stomach.—The Committee on Morbid Growths reported regarding Dr. Mitchell's specimen, exhibited at the last meeting in June, as follows:

(a) Stomach.—Microscopic sections across the wall of the stomach showed an active proliferation of the epithelium of the mucous membrane, pushing its way into the wall, infiltrating it, and forming alveolar spaces. The wall was further infiltrated with young cells, which, for the most part, replaced the normal structure of the part. The process had probably been a chronic catarrh with great hypertrophy, passing gradually into a carcinomatous type.

(b) Omental Nodules. Sections of these showed an indistinct alveolar structure filled with epithelial cells, and a small-celled infiltration of the adipose tissue. The appearances were those of a carcinoma, secondary, probably, to the growth in the stomach.

Hæmatocele of the Testicle.—The committee reported regarding Dr. Nancrede's specimen as follows:

Sections exhibited layers of more or less well-developed connective tissue, through which were scattered numerous young connective tissue cells. No evidence of sarcoma tissue was

present. The growth should be classed as a chronic connective-tissue hypertrophy, and, as the sac contained blood, the specimen was of chronic hæmatocele.

Miscellany.

The International Medical Congress.—In addition to those heretofore mentioned in our columns, the following-named appointees are said to have declined to hold office under the new organization: President Gilman, of the Johns Hopkins University; Dr. E. Fletcher Ingals, of Chicago; and Dr. E. G. Loring, of New York.

The "Medical News" publishes the following resolutions lately passed by the Chester County, Pa., Medical Society:

"*Whereas*, The members of this society feel a lively interest in the prosperity of the American Medical Association and in the highest success of the Ninth International Medical Congress, and believe that when a mistake has been made it is better to correct it than to ignore it through a false pride of consistency; therefore

"*Resolved*, That it is the judgment of this society that, while the American Medical Association has a perfect right to enforce its code of ethics upon all associations subordinate to it, it has no such right as regards the International Medical Congress, a body with which it has no fixed connection and which does not undertake to regulate matters of professional ethics. That the attempt to organize the Congress solely from its own membership and that of subordinate associations was most unwise and inhospitable, and calculated to lessen the influence and usefulness of the American Medical Association.

"*Resolved*, That we hereby instruct our delegates to the next annual meeting of the American Medical Association to use all honorable endeavors to secure that the false step taken at New Orleans shall be retracted, and that those who led the association into the present folly shall not be intrusted with the arrangements for the International Medical Congress."

The "Louisville Medical News" says:

"On another page we quote from the Congress committee's authorized report the more important items of its doings at the recent called meeting in New York city. A careful inspection of the report shows that beyond a liberal alteration of the rule of membership, the separation of gynæcology from obstetrics, and the restoration of the section of dental and oral surgery to the place assigned it by the original committee, with fit elaboration of the rule relating to finances, no essential changes are made in the scheme of organization. The chief work of the committee seems to have been the re-arrangement of the lists of officers, committees, and councilmen, and the filling of the many gaps in the ranks made by the withdrawal of those who declined to serve under the new leaders.

"No concession was made to the wishes of the distinguished seceders and their many supporters among the profession at large, unless the retention of the name of Dr. Bowditch upon the list of vice-presidents be so construed. The only concession upon the other side was offered by Dr. S. C. Gordon, of Maine. This gentleman repented of his sin against the new committee, and, after confession, was graciously received and forgiven, but not conducted to a higher seat in the synagogue.

"It will also be noticed that the opinions of certain distinguished foreigners with reference to the committee's office and work were ignored *in toto*, not being accorded even the courtesy of a polite remonstrance. The committee has doubtless done just the work its manipulators set to its hands; but, whether its policy be voted wise or foolish, the *dénouement* will show that the breach between the opposing parties is widened beyond repair, and that the contending voices are discordant beyond the hope of harmony.

"The distinguished guests who, soon after the June heats were tempered, stepped out and have since been standing in the rain, have not been asked to come in by the new proprietors; nor would they in the existing state of the house have accepted the invitation had it been extended. Their places have been or soon will be filled by others, worthy, indeed, but less renowned; and when the new list of officers and councilmen for the Ninth International Medical Congress shall be laid before the medical world, it will be destitute of many attractive features which characterized the original committee's issue in the early spring. Whether or not this strangely altered face will have charms of sufficient attractiveness to draw our foreign brethren across the sea remains to be seen; but, if the signs of the times be not grossly misleading, the Congress of 1887 will not meet on American soil."

"The Journal of the American Medical Association" says: "Perhaps the action of no organized body of men was ever before so extensively and persistently misrepresented as that of the American Medical Association at its meeting in New Orleans regarding the preliminary organization of the International Medical Congress of 1887. Instead of wasting time and space in enumerating and refuting these misrepresentations in detail, we will oppose to them all the following simple statement of historical facts:

"1. At the preceding annual meeting in Washington, May, 1884, on the recommendation of the president, Prof. Austin Flint, of New York, indorsed by the report of a special committee, of which Dr. J. S. Billings, of Washington, I. Minis Hays, of Philadelphia, and Lewis A. Sayre, of New York, were members, the association was induced to adopt resolutions presented by said special committee, authorizing the president of the association to appoint a committee of seven, of which he should be a member, which committee should attend the International Medical Congress to be held a few months later in Copenhagen, and in behalf of the *profession of the United States* extend an invitation for the next triennial meeting to be held in this country. If the invitation was accepted, the same series of resolutions conferred upon the same committee authority to add to its number and exercise all the powers of a committee of arrangements for effecting the preliminary organization of the proposed Congress, with an appropriation from the treasury of the association to defray necessary preliminary expenses. The committee thus authorized was appointed by the president and consisted of Dr. J. S. Billings, Dr. Austin Flint (*ex-officio*), Dr. I. Minis Hays, Dr. J. M. Browne, Dr. L. A. Sayre, Dr. Christopher Johnson, Dr. S. J. Engelmann, to which was added Dr. H. F. Campbell as president-elect of the association. The fact that this Committee of Invitation had been appointed by the American Medical Association, which by such appointment had made itself responsible for the acts of such committee in carrying out the instructions contained in the resolutions, was published in all the leading medical journals, and could not have been otherwise than well known in Europe. In due time the invitation was extended by the committee and formally accepted in open session of the Congress in Copenhagen. The committee returned home, invited sixteen other prominent members of the profession to unite with them, constituting a General Committee of twenty-five. This General Committee held one meeting in Washington, organized by the election of a president, vice-president, secretary-general, and treasurer. Rules were also adopted for the organization of the Congress, one of which made the officers of the committee also the general officers of the preliminary organization of the Congress. At the same meeting some of the officers of sections were appointed, and further details of the work were committed to an Executive Committee of five, subject to the approval of the General Committee. The Executive Committee, by conferences of its own and by correspondence with other members, so far completed the work of organization as to publish the results both in this country and Europe only a few weeks before the annual meeting of the association in New Orleans, the last week in April, 1885.

"2. At the meeting of the association in New Orleans, Dr. J. S. Billings, as the secretary-general of the proposed Congress, made a brief report of the doings of the committee and presented a printed copy of the rules and official organization adopted. The report was received and made the special order for consideration the following day. At the hour appointed, several members freely criticised the work of the committee, pointing out the fact that it had appropriated all the chief offices of the Congress to its own members, that it had entered an unduly large proportion of the officers of sections in favor of those [illegible] method of making their representative of the profession of the United States, in whose name the invitation had been given, and had given undue prominence to a particular portion of the profession in

New York, which was well known to have arrayed itself in opposition to the State and national organizations of the profession generally. The result of the discussion was the adoption of two resolutions by the association, both of which have been repeatedly published in the columns of this journal, the effect of which was clearly to make the Committee on Organization more national in character, or, in other words, more directly representative of the profession of the United States, by adding to the original committee of eight, one from the profession of each State and Territory, in the place of the additions previously made by the original committee, and to give the committee thus enlarged authority to review the work previously done by the Committee on Organization, and make such changes as the enlarged committee might think advisable. This was the sum total of the action of the American Medical Association concerning the organization of the Congress. The resolutions adopted contain not one word about codes of ethics, they displace no one of the original committee, they prescribe no rule either for the membership, government, or officering of the Congress, but simply enlarge the original committee in such a way as to make it more representative of the whole profession, and continue in the enlarged committee the same powers, substantially, as were conferred upon the original committee at the meeting in Washington.

"3. The committee as enlarged by the action of the association in New Orleans held its first meeting in Chicago, June 24 and 25, 1885, and organized simply as a committee of arrangements, its officers having no corresponding positions in the proposed Congress, as had been the case with the first organization of the committee. After as full an examination of the work previously done as the time would permit, the committee re-adopted nearly all the rules previously devised except those relating to the American membership and the Executive Committee of the Congress. The first of these it was proposed to amend in such a way as to unnecessarily restrict the membership, and all provision for the latter was overlooked. In consequence of these defects, the proper work of the committee was continued, and a second general meeting held in New York, September 3 and 4, 1885, during which the revision of the rules was completed, the vacancies in the general offices of the preliminary organization of the Congress filled, and an executive committee provided for, consisting of the president of the Congress, the secretary-general, the treasurer, the chairman of the finance committee, and the presidents of the several sections. The Committee of Arrangements thus deliberately completed the work assigned to it by the association, and delegated to the Executive Committee of the Congress full power to fill all future vacancies, complete all unfinished details of organization, increase to a limited extent the number of its own members, and manage all the affairs of the Congress in accordance with the rules adopted, without other restraint or interference from any source. The rules in detail, together with the general officers of the Congress, the presidents of sections, and the Executive Committee, were published in this journal for September 12, 1885.

"We have given the foregoing plain narrative of facts regarding the action of the American Medical Association and its Committee of Arrangements for providing a preliminary organization for the International Medical Congress of 1887, which would fairly represent the medical profession of the United States, and under rules as liberal, in relation to membership and in all other respects, as those adopted by previous Congresses, to show, first, how utterly groundless have been the charges and denunciations so persistently hurled at the association and its committee; and, second, that, notwithstanding all the persistent opposition of a few prominent members of the profession having control of three or four leading medical journals, the association, through its enlarged and representative committee, has fulfilled the obligations it assumed in inviting the Congress to hold its next meeting in the City of Washington in 1887, by effecting a preliminary organization on a national and liberal basis, with ample power to manage all the business and scientific interests of the Congress as independently as the interests of any previous Congress have been managed in Europe. The responsibility now rests with the new Executive Committee and the true friends of the Congress everywhere. If the committee will take up its work promptly and push it harmoniously, it will receive ample support both at home and abroad, and the Congress will be a success, but in the most unfavorable event it can be."

The "Medical Times and Gazette" says:

"A few days after the earliest news of the danger threatening the next International Medical Congress had been published in Europe ("Medical Times," July 11 and 18, 1885), the two most prominent officers of the London Congress, Sir James Paget and Sir William MacCormac, each wrote to an American friend to express their view of the situation—a view which coincided in all particulars with that previously given vent to in our columns. These letters were not merely an expression of individual opinion, but were the result of consultation with several of the most influential members of the London Congress. Sir James Paget, in giving his recollection of what took place at Copenhagen when the American invitation was accepted, writes: 'Certainly it was not supposed that the Congress would be regulated with any degree of exclusiveness by the members of one medical association, however numerous, and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.' 'I am sorry, also,' he adds, 'to feel sure that, if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who attend it will be very few.' Sir William MacCormac, in his account of what happened at Copenhagen, says: 'I am sure it was present to the mind of every one there that the invitation was one from the profession of America, and not from any section of it, or any particular medical society in it. Otherwise, I feel pretty certain Prof. Virchow's invitation to meet on the next occasion in Berlin would have been accepted.' In our last issue we published what may, we suppose, be called the official reply to Sir W. MacCormac's letter. In it, Dr. Davis, the editor of the 'Journal of the American Medical Association,' censures with some bitterness those Americans who have 'a morbid tendency to hang their laundry on the front street,' and complains that so much attention should have been given to 'this little misunderstanding' by European medical journals. Possibly some of the readers of those journals may sympathize with that complaint, but, as the welfare of the next International Medical Congress is not a matter solely of American interest, it seems to us to have been the bounden duty of individual men in Europe, and of the European medical press generally, to point out to what extent the organizers of the Washington Congress were departing from the established precedent, which, at any rate, has the argument of unbroken success in its favor. Dr. Davis complains that 'the outside world' animadverted on the conduct of the American Medical Association before hearing both sides of the question. It may be replied to that complaint, first, that the action of the association in disregarding the precedent of previous congresses, and monopolizing the conduct of the Washington meeting, was in itself a sufficiently accomplished fact to warrant any amount of European animadversion; secondly, that the subsequent action and arguments of the supporters of the association have served rather to weaken than to strengthen their case; and, thirdly, that it may be fairly assumed that the publication of European criticisms has had a measurable share in determining the new Committee of Organization to reconsider the whole question at issue during the present month, instead of deferring it, as originally intended, until next spring.

"We may remind our readers that two main objections have been raised to the action of the American association—first, that, contrary to precedent, the association put itself forward as the sole and exclusive organizer of the Congress; and, secondly, that, equally contrary to precedent, it determined that only its own members, or delegates from the societies in affiliation with it, should be allowed to take part in the Congress. We are glad to hear that the latter objection has been founded on a misconception, and that the conditions of membership were still under consideration, and were not to be finally settled until the 3d of this month. We hoped to have been able to give our readers information as to the result of the meeting at which this point was to come on for consideration, but up to the time of going to press we have received no report of the proceedings. We trust, however, that the more liberal views which have governed the admission of members at previous congresses will have prevailed, and, if so, it may, we think, be safely claimed that the opportune advice of Sir James Paget, Sir William MacCormac, and the European journals has had some share in the result.

"But the objection still remains that the American association, in taking charge of the Washington Congress, has introduced an innovation in the conduct of International Medical Congresses which is distinctly a matter for international criticism, and, in our deliberate opinion, for international condemnation. One of the most representative medical men in the United States, who had been looked to by the new Committee of Organization as a possible successor to Dr. Billings in the office of Secretary-General of the Congress, Dr. Packard, of Philadelphia, has stated it as his conviction 'that it is contrary to all precedent for the American Medical Association to assume any control of the management of the Congress, which is a body by itself, and the members of which will be in no sense the guests of the association, or subject to it.' 'Were I Secretary-General of the Congress,' he adds, 'I should not consider myself the appointee of the American Medical Association, nor responsible to it in any degree.' We believe that all the officers of past congresses will fully sympathize with Dr. Packard in this candid expression of opinion, even though it implies the condemnation of the action of the original organizing committee which first raised the whole question and gave itself over, bound hand and foot, to the American Medical Association, by admitting its responsibility to it. That the original committee acted with great lack of judgment, first, by a too lavish distribution of offices among themselves, and secondly by reporting to the association, is now, we believe, generally admitted. On this technical point no doubt the advocates of the association have the best of the argument. But they have as yet proved no vestige of a right on the part of the association to break through the rule of previous congresses, and to assume the sole management of the Congress of 1887. Dr. Davis's argument, that 'as there is only one body in England representative of the whole English or British profession, the British Medical Association, so there is only one in the United States which could under any possible circumstances represent the profession in the United States, viz., the American Medical Association,' is ludicrous rather than convincing to the English or British reader, especially when the wise self-effacement of our own association at the time of the London Congress is borne in mind.

"But the further action of the American association proves better than anything how wise has been the precedent of previous congresses, and how ill-advised the attempt to break through it. One of the first acts of the American Medical Association, when it got hold of the Congress, was to insist that only those in accord with the National Code of Ethics should become officers of the Washington meeting, and, as a result of this, many practitioners whose names are household words to us, and who are described by Dr. Noyes in a published letter as 'the brightest lights and best workers in the profession,' have been expelled from all official connection with the Congress. By that action the association at once broke the pledge deliberately given at Copenhagen, relit the old-code dispute, and attempted to score a point against the 'new-coders' by enlisting against them the European visitors to the Congress. The full and final results of this policy have yet to be seen, but its first fruits, in the form of an electioneering manifesto published by the association and sent to us by its representative, Dr. Shoemaker, are not particularly reassuring. This manifesto is headed, *more Americano*, 'PENNSYLVANIA SUSTAINS THE CODE OF ETHICS,' and then follows a long list of practitioners in that State, all of whom profess to heartily indorse the action of the association in raising the code question. We need hardly add that this single official leaflet will do more to deter respectable English practitioners from taking part in the Washington Congress than all 'the statements of certain medical journals and private parties in Philadelphia and New York,' of which Dr. Davis so bitterly complains in his letter to Sir W. MacCormac. In our opinion, the time has now come for the officers of past International Medical Congresses to meet together and decide that, unless the pledge given at Copenhagen is kept, and all attempts to embroil the Congress in ethical disputes are unconditionally given up, the acceptance of the invitation to meet at Washington should be rescinded, and arrangements made to hold the Congress of 1887 in a country where the medical profession possesses greater solidarity."

The "Medical Times and Gazette," of London, publishes the following letter addressed by Dr. N. S. Davis to Sir William MacCormac:

"Having just read in the 'Boston Medical and Surgical Journal,' of August 13th, your letter to Dr. J. Collins Warren regarding the International Medical Congress, I feel that it is incumbent upon me to reply to it personally, not only on the part of the medical profession of the United States, but also on the part of the American Medical Association; and also on account of your manifest misapprehension of the 'serious disagreement' of which you speak in your letter. *Imprimis*, I will say that everything that has as yet been said by the European press generally, and by the letters of individual men in Europe, bears the evidence of misapprehension and misinformation. Our foreign *confrères* have accepted, unreservedly, the statements of certain medical journals and private parties in Philadelphia and New York, who from the very first of this little misunderstanding (which should be a private affair until it is definitely settled in one way or the other) have endeavored to obstruct the Committee of Arrangements for the Ninth International Medical Congress. I have said that it should be a private affair until it is definitely settled. It is unfortunate that some Americans have a morbid tendency to hang their laundry on the front street, where each passer-by may tell at a glance the character and extent of his neighbor's wardrobe. But still, it ill becomes his neighbor to tell it to the world; still less does it become the outside world to animadvert on it before hearing both sides of the question. The profession in Europe seem to have heard of this matter from one side only, and, without being conversant with the facts, have hastily jumped to very illogical conclusions. As there is only one body in England representative of the whole English or British profession—the British Medical Association—so there is only one in the United States which could, under any possible circumstances, represent the profession in the United States—and that is the American Medical Association. From Maine to California, and from the British possessions on the north to Mexico on the south, every State and Territory is represented in that body. Now, you say in your letter that you are 'sure that it was present to the mind of every one there (Copenhagen) that the invitation (to have the Congress meet in Washington in 1887) was one from the profession of America, and not from any section of it, or any particular medical society in it.' To which it may be replied: The invitation was extended by Dr. Billings, and Dr. Billings had been appointed to extend the invitation. Who appointed him? Whence came his authority for assuring the Congress that it would receive a warm welcome in this country in 1887? He was one of a committee *appointed at* a meeting of the American Medical Association, *by* the president of the association, who acted *for* the association, and by the authority of the association. And the necessary funds for enabling this committee to perform their work were voted to it by the association; and they drew upon the treasurer of the association for the money. Further than this, the committee was known and recognized as the Committee of the American Medical Association on the Organization of the Ninth International Medical Congress. They themselves recognized the fact that they were the Committee of the American Medical Association, else why should they have reported to the association at its last meeting, in April, 1885? Can any one imagine a body of sane men reporting to another body to which they owe nothing, and to which they are in no way amenable? Yet, when the creator of that committee—the body to which it owed its very existence—saw fit, on just grounds, to revise a part of their work and to appoint additional members to the committee to aid in such revision, they boldly say that the association has nothing to do with it. The merest tyro in parliamentary law knows that the power which appoints a committee may refuse to accept any of the work and appoint a new committee if it see fit. That right is unquestionable, and unquestioned save by those who know not whereof they speak. The American Medical Association has invited the Congress to meet in Washington in 1887, and the invitation has been accepted. The American Medical Association is fully competent to make all necessary arrangements for that meeting on as liberal a basis as has characterized any of the preceding congresses. We only ask that our brethren in Europe will reserve their comments until the programme is completed and before them."

The editor of the "Times and Gazette" adds the following comment: "We have not space in the present number to deal fully with Dr. Davis's letter or with the other documents stating the case of the American Medical Association which have reached us. We may, how

ever, point out here that the British Medical Association has never claimed to represent the whole English profession, though we believe its claim to do so, if it should ever be so ill-advised as to make it, would be much more valid than the claim put forward on behalf of the American Medical Association. Whatever Dr. Davis may say, the fact remains, as the officers of the London Congress have stated, that on no previous occasion has any medical body attempted to capture and run the International Congress as the American association is now attempting to do."

New York State Medical Association.—The first annual meeting of the Fifth District Branch will be held in Brooklyn, at the Mansion House, Hicks Street, at 11 A. M., on Tuesday, October 13, 1885. The following papers are expected to be read: "Suggestions in regard to the Causation and Treatment of Acute Coryza," by Dr. Austin Flint; "Further Observations on Diphtheria," by Dr. W. H. Thayer; "The Physician and the Pharmacist—their Relative Duties," by Dr. J. P. Garrish; Report of a "Case of a Railroad Accident," by Dr. W. Govan; Remarks on "The Milk Supply of Large Cities and the Improper Mode in which it is conducted," by Dr. H. A. Pooler; "Progress of Electrolysis in Surgery," by Dr. Robert Newman.

The Brooklyn Pathological Society.—The following programme for the season has been issued: October 8, 1885, "The Pathology of the Inflammatory Process," by Daniel Ayres, M. D., LL. D. October 15, 1885, "The Pathology of the Inflammatory Process" (continued), by Daniel Ayres, M. D., LL. D. October 22, 1885, "The Nervous Symptoms of So-called Lithæmia," by Landon Carter Gray, M. D. November 12, 1885, "Some Serious Sources of Error in studying the Course of Disease," by Robert G. Eccles, M. D. December 10, 1885, "On the Relations of Locomotor Ataxia to General Paresis," by E. C. Spitzka, M. D. January 14, 1886, "On Diseases of the Brain resulting from Affections of the Ear and Temporal Bone," by Arthur Mathewson, M. D. January 28, 1886, "The Relation of Modern Dietetics to the Causation of Disease," by E. H. Bartley, M. D. February 11, 1886, "The Rôle of Tubercular Infection in the Development of Surgical Diseases," by Lewis S. Pilcher, M. D. February 25, 1886, "On the Pathology of Surgical Infection," by A. H. P. Leuf, M. D. March 11, 1886, "On the Microscope in Diagnosis," by Frank Ferguson, M. D. March 25, 1886, "The Effects of Diseases of the Nasal Passages on the Lower Respiratory Tract," by Thomas R. French, M. D. April 8, 1886, "The Pathology of the Sympathetic Ganglia," by John C. Shaw, M. D. April 22, 1886, "On the Pathology of Tubercular Osteomyelitis, and its Bearing upon Treatment," by George R. Fowler, M. D. April 29, 1886, "Some Abnormalities of the Pulmonary Circulation," by Benjamin F. Westbrook, M. D. May 13, 1886, "The Pathology of the Lymphatic Glands in Children," by Henry N. Read, M. D. June 10, 1886, "The Pathology of the Puerperal Fevers," by Charles Jewett, M. D.

THERAPEUTICAL NOTES.

A Salicylate-of-Sodium Ointment.—Much of the efficacy of an unctuous preparation of salicylate of sodium depends on the way in which it is made. M. Pierre Vigier recommends the following method ("Gaz. hebdom. de méd. et de chir."):

Crystallized salicylate of sodium	24 drachms;
Distilled water	75 grains;
Lard	10 drachms.

First spread the lard over the inside of a mortar, then dissolve the salicylate in the water, and add the solution little by little to the lard, triturating until the two are perfectly incorporated. The precaution of first smearing the inside of the mortar with the lard does away with the necessity of using oil of almonds, which otherwise is often found necessary.

The Treatment of Pulmonary Gangrene with Inhalations of Carbolic Acid.—M. Constantin Paul (*Ibid.*) reports seven cases in which this method of treatment was used with success. A one to even water solution is used in an inhaler so constructed as to insure the inhalation of all the vapor while preventing the liquid from escaping. The first effect is to arrest the putrefaction of the tissues. After the sphacelated parts have been thrown off, the expectoration diminishes, factor ceases, the appetite revives, and recovery may take place in less than two months.

Euphorbia icterodoxa.—M. Landowsky (*Ibid.*) has studied the caustic and destructive action of the juice of the *Euphorbia icterodoxa*, a plant that grows in the neighborhood of Pernambuco, and is vulgarly called "alveloz." Although its caustic action is energetic, at the same time it produces an analgesia comparable to that caused by cocaine. The author has destroyed an epithelioma with it, but he failed in a case of cancroid. Besides its escharotic action, the juice has a digestive power like that of papain.

The Use of Tanghin in Nervous Diseases.—This ordeal poison of Madagascar, derived from the apocynaceous tree variously named by botanists *Cerbera venenifera*, *C. manghas*, *C. tanghin*, *Tanghinia venenifera*, and *T. veneniflua*, has been made the subject of experiment by M. C. E. Quinquaud (*Ibid.*). Its action on the central nervous system is specially characterized by an exaltation of the bulbo-spinal reflex activity. After a certain number of experiments on animals, M. Quinquaud administered an extract to man, in doses ranging between three quarters of a grain and a grain and a half, in various diseases, notably toxic paralyses, tremor, intestinal atony, and incontinence of urine. Satisfactory effects were obtained, but only on condition that the use of the drug was ceased as soon as the patients experienced headache, nausea, vomiting, and a certain amount of debility.

A Substitute for Adonis Vernalis.—V. Cervello ("Annal. di Chim. Med.-farm."; "Ctrlbl. f. d. ges. Therap.") considers the *Adonis cupaniana* of the Sicilian coast as capable of replacing the *A. vernalis* as a cardiac roborant in countries where the latter can not readily be obtained.

Urethane as a Hypnotic.—Dr. von Jaksch (Wien. med. Bl."; "Dtsch. Med.-Ztg.") describes urethane as the ethyl ether of carbamic acid, $NH_2CO_2C_2H_5$, a white, crystalline body, readily soluble in water, odorless, and tasting like saltpeter. In doses of from four to fifteen grains, it acts as a hypnotic, affecting chiefly the brain, without notably influencing the peripheral sensory apparatus; hence it is not an anodyne. Over all other pure hypnotics, however, it seems to have these advantages: It is very well borne; it causes absolutely no complicating effects; and the sleep it produces resembles natural sleep in every respect. The author thinks it will prove particularly serviceable among children and in cases of delirium tremens and mania.

Lantanine as a Febrifuge.—This alkaloid, extracted by Negrete from the verbenaceous plant *Lantana brasiliensis*, is recommended by Dr. E. Buiza, of Lima ("Cambio farmaceut."; "Arch. de Med. y Cirug. de los Niños"; "Courrier méd."; "Nouveaux remèdes"), as a substitute for quinine. It retards the circulation and lowers the temperature, and is tolerated by the most delicate stomachs. Intermittents that have proved rebellious to quinine have yielded to thirty grains of lantanine. As an antipyretic, it is given in doses of a grain and a half, from ten to twenty of which are administered in twenty-four hours. For intermittent fever, it should be given immediately after a paroxysm, and in ninety-five cases in a hundred the next paroxysm will not appear.

Ergotin in the Treatment of Landry's Paralysis.—Dr. Sorgenfrey, a Russian physician ("Neurol. Ctrlbl."; "Dtsch. Med.-Ztg."), relates the case of a patient, fifty-seven years old, who was attacked, about a week after exposure of his back to a drenching rain, with a sensation of heat, prostration, loss of appetite, and a sense of weight in the lower limbs. Weakness in locomotion culminated in perfect paralysis of all the limbs, dyspnœa, impeded speech, dysphagia, etc. The sensibility was normal. There was no pain. The cutaneous reflexes were present, but the patellar reflex was absent. The urine was normal; the bowels were constipated. No account is given of the electrical reaction of the muscles. Leeches to the anus, dry and wet cups to the lumbar region, cold compresses, and laxatives produced no effect, and death seemed imminent. As a last resort, the following was ordered:

Bonjean's ergotin	19 grains;
Cinnamon water	2 ounces.

A teaspoonful was given every hour, and the whole was used in the course of a night. The next morning the bulbar symptoms had disappeared, and within a week, without further medication, the patient was well.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON.

By AMBROSE L. RANNEY, M. D., New York.

(*Concluded from page 284.*)

ELECTRICITY IN DISEASES OF THE CERVICAL SYMPATHETIC, THE VASO-MOTOR SYSTEM, AND ALLIED NEUROSES.

The cervical sympathetic is undoubtedly, in rare cases, the seat of isolated morbid changes; but, as Erb remarks, these cases "constitute pathological curiosities." The morbid conditions which have been detected embrace inflammation, compression, traumatism, rheumatic conditions, etc. Such conditions may create either irritation of the sympathetic system or paralysis of its functions, or both simultaneously in different parts of the body.

Irritation of the cervical sympathetic produces pallor of the face and neck upon the affected side, with a sense of coldness in the parts. The pupils are dilated, the temporal arteries exhibit increased tension, the power of accommodation and the reaction of the pupil to light are both impaired, the eyeballs protrude slightly, and the secretion of sweat is diminished.

Paralysis of the cervical sympathetic induces the opposite conditions. The skin is red and hot, the patient suffers from a sense of heat in the skin, the pupils are contracted and exhibit normal reactions to light and accommodation of vision; the eyeball does not protrude, there are often headache and vertigo, the secretion of tears and sweat is increased, and the pulsation of the carotids is excessive.

In the electrical treatment of these opposed conditions Erb recommends stabile applications of the anode (with a strong current) until a change in the pupil is observed, if the condition of irritation exists. The same author suggests the use of the cathode with a feeble current, frequent interruptions, and occasional reversal of the poles, if the paralytic state is present. He places the "indifferent" electrode upon the spine. He also suggests applications of the wire-brush, or labile galvanic currents, to the skin of the face and neck.

To the views of this author I would urge the advantage of trying the effects of static insulation and sparks directed to the neck and face.

Angioneuroses of the skin may assume one of two forms, viz., *spasm* or *paralysis*. They are most frequently observed in connection with neurasthenia and in hysterical patients. The abnormal contraction or relaxation of the vessels may cause (1) modifications in the color and the general "feel" and sensibility of the skin; (2) subjective sensations of heat, tingling, formication, etc.; (3) disturbances of perspiration; (4) awkwardness of movement of the part (especially in the hands); and (5) many reflex symptoms referable to the viscera.

Unnatural conditions of the vessels of the skin (spasm or paralysis) are most frequently observed in the upper limb, less frequently in the lower limb, and least often in the face and neck. They may be excited by a variety of causes—such as fatigue, excitement, menstrual disturbances, malaria, exposure to cold, the effects of poisons, and direct irritation of the skin itself.

I have seen the skin (especially of the fingers) made as white as chalk in some cases, and in others rendered cyanotic, by *spasm of the vessels*. The muscles of the papillæ of the skin may participate in the spasm and produce the so-called "goose-flesh" appearance. Pain, tingling, formication, partial anæsthesia, and other disturbances of the sensory apparatus may occur as sequelæ to the vascular spasm.

Paralysis of the cutaneous vessels leads to directly opposite conditions. The skin may be made intermittently or permanently red, and feel unnaturally hot and extremely sensitive. Subjects so afflicted frequently suffer from insomnia, headache, disturbed heart-action, excessive perspiration, vertigo, and other visceral manifestations of irritability.

Respecting the electrical treatment of angiospasm and angioparalysis, the general rule may be given that weak or moderate applications of faradism or galvanism to the affected part act best upon dilated vessels, and stronger currents upon those affected with spasm.

Applications of static electricity are often very beneficial to neurasthenic and hysterical subjects. Personally, I believe this method of treatment surpasses any other in its effects upon this class, although it is well to alternate with galvanism and faradism when a case proves obstinate to treatment.

When any of the methods suggested are employed, it is well to subject both the vaso-motor centers and the nerve-trunks which supply the affected regions (as well as the parts directly) to the influence of electrical currents.

NEURASTHENIA.

By this term we mean the condition of *nervous exhaustion*. It may be manifested in a variety of ways. Its symptoms will depend upon the type which exists—cerebral exhaustion or spinal exhaustion—and also upon special idiosyncrasies peculiar to the patient. No two cases exhibit identical manifestations of nervous depression. Some patients who are suffering from cerebral neurasthenia manifest its effects in the voice, others in mental disturbances. The heart's action may be alone disturbed in some cases, the stomach may give out in others, some may complain alone of muscular troubles, some may notice its effects in the eyes, some are rendered sleepless, a few complain alone of skin disturbances, and so on throughout the different parts of the entire human organism.

You can understand how these apparently discordant facts may be reconciled when you consider the fact that, by means of the brain and spinal marrow and the nerves which unite these centers to the different parts of the body, we are enabled to see, hear, taste, smell, appreciate touch, swallow, breathe, and perform voluntary muscular acts. It is by means of our nerves alone that the heart beats; the

digestive processes go on, without our knowledge or control, through the same agencies; the blood-vessels contract and dilate in accordance with the demands for blood telegraphed to the nerve-center by different organs and tissues; and every process pertaining to life is thus automatically regulated. Now it is easy to see at once how a debility of so complicated an electric mechanism as the nerve-fibers and the nerve-cells of a living animal are, can upset all or any one of the individual functions enumerated. Many of our houses are furnished to-day with electric bells by means of wires distributed in the walls. In some houses we light the gas-jets, and even the rooms themselves, by means of the same subtle fluid. When the battery becomes weak, or when the wires are disarranged or broken, what may be the results? Some of the bells may cease to ring when the button is touched, while others work properly. Perhaps the electric light may fail in some rooms and burn with its accustomed brilliancy in others. The gas-jets may not be properly ignited. So it is with the nervous apparatus of man. From the same cause one patient may have nervous dyspepsia, another sleeplessness, a third sexual debility, a fourth weakness of the eye-muscles, a fifth disturbances of the skin. It is needless to multiply illustrations.

Cerebral neurasthenia (*brain exhaustion*) may be indicated by one or more of the following symptoms: Tenderness of the scalp; pains in the head; fleeting neuralgias; sleeplessness; vertigo; a tenderness and pallor of the gums; abnormal sensitiveness of the teeth; blanching of the hair; flushings of the face; dilatation of the pupils; idiosyncrasies in regard to food and external irritation; mental depression and melancholia; defects in memory; a morbid craving for alcohol; a decrease in intellectual capacity; a buzzing or ringing in the ears; specks before the vision; abnormal and imaginary impressions of taste or smell; morbid fears of various kinds; sick headache; dryness of the skin and the mucous surfaces; weakness of the muscles; numbness in the limbs; thickness of speech; and mental excitability, irascibility, or loss of emotional control.

These symptoms, in many cases, are but the manifestations of weakness. The electric batteries of the brain (those minute organs known as the "brain-cells") are feeble or uncertain in their action. They are incapable of performing the offices for which they were created. They are not diseased (in a medical sense), but they are weak and liable to become so sooner or later. I have known sufferers of this type to be precipitated into a condition of incurability by mental alarm, excited, in some instances, by an opinion of an unfavorable kind made by physicians respecting a prospect of recovery. Again, it is well known that insanity may arise as a consequence of the loss of sleep often experienced by these subjects, and by "brooding over their symptoms," whose significance they fail to properly understand. I recall several cases where a patient was with difficulty convinced that some special type of malady was not about to attack him, because in reading a medical work his attention had been called to the significance of some special symptom which he was sure he had personally experienced. If medical students, who possess vivid imaginations, can become (as they often do) victims to imaginary diseases whose symptoms they have been studying, is it to be wondered at that the weak and highly organized sufferers from neurasthenia are especially prone to become impressed by this form of delusion?

Spinal neurasthenia (*spinal exhaustion*) signifies an exhausted state of the cells which help to form the spinal cord. The cord itself is of about the size of an ordinary lead-pencil, and is sixteen inches in length (much shorter than the backbone). It is composed of millions of nerve-cells and distinct bundles of nerves. Some of these nerves pass through it to reach the brain above, while others become united to the spinal cells and pass no farther. The cells of both the brain and spinal cord are practically electric batteries; and the nerve-fibers are the wires by which they are connected with the different organs of the body, the muscles, skin, joints, and viscera. This wonderfully constructed organ is under the control of the brain, but is capable of exerting, under certain circumstances, a control over all acts which are termed "reflex acts," because they are, to a greater or less extent, independent of the will. It serves also as a means of conduction to the brain of our perceptions of pain, temperature, and touch, and of motor impulses sent out from the brain-cells to the muscles of the limbs and body.

Now, when the cells of the spinal cord become exhausted, the symptoms produced differ markedly from those already mentioned as indicative of brain-exhaustion. Among its chief manifestations may be mentioned the following: A general tenderness of the skin to touch or pressure; tenderness along the spine or over certain limited portions of the spine; irritability of the breasts, ovaries, and the womb in females; fleeting pains of a neuralgic type in various parts of the body; an extremely rapid or slow pulse, which fluctuates widely during periods of excitement or fatigue; attacks of palpitation of the heart; dryness of the skin, or in many cases the reverse, excessive perspiration of the hands and feet; sudden startings on going to sleep; muscular twitchings in one muscle or a group of muscles; chilliness and creeping sensations along the spine; numbness or abnormal sensations of heat in the skin of the body or limbs; itching of the skin; eruptions upon the skin, chiefly of the type of eczema; frequent gaping, yawning, or stretching; frequent seminal emissions; weakness of the bladder and rectum; and disturbances of the digestive functions.

The distinction between cerebral and spinal neurasthenia which has been shown to exist can not be made in each and every case, because various combinations of the symptoms of the two are often encountered in the same individual. A prominent author upon this type of diseases very aptly compares the nervous system of man to certain mountainous regions, since it causes so many echoes and reverberations. He says: "An irritation at one point may be transferred to any other point, following the paths of least resistance and making itself felt in those parts that are least able to resist molecular disturbances. Thus, for example, seminal emissions and spermatorrhœa, when they arise through abuse or through spinal cord disease, almost uniformly react on the brain – robbing the sufferer of courage

and manliness, exciting various phases of morbid fear, of which I shall speak, with aversion of the eyes and countenance."

I have known a decayed tooth to cause persistent earache, and in one case to cause the corresponding eyebrow to become white. In male children a tight foreskin not infrequently creates sufficient irritation of the sexual organs to induce spasms or paralysis of the lower limbs by an indirect effect upon the spinal cord. I have cured some patients, who have come to me for relief from persistent and excruciating attacks of neuralgia, by a correction of some defect in their eyes by means of glasses. The strain and irritation produced upon the brain by the involuntary efforts made by these patients to see objects with distinctness or to read and write had reacted upon the nervous system; and it would have continued so to react till death if the cause of the irritation had not been removed.

It may be well to consider a few of the more prominent manifestations of nervous exhaustion separately. Among these, sleeplessness, a defect in vision known as asthenopia, sexual weakness, headache, an unnatural dryness of the skin and mucous surfaces or profuse sweating of the hands, and morbid fears or melancholia, deserve special mention.

Insomnia.—Sleeplessness may assume different forms. Some of those afflicted have difficulty in getting asleep; some awake after a few hours of slumber and remain so until daylight; a few find themselves overpowered with a desire for sleep during their working hours, when their business will not admit of it, and at night can not obtain sleep except under narcotics. I have had patients who have told me that they spent most of their nights for years in writing to friends, riding in the horse-cars, or walking the streets for amusement because they could not sleep. It is safe to assert that persistent insomnia, extending over a period of weeks or months, indicates disease of some kind. In patients who have passed the age of fifty, or in younger persons who have indulged to excess in alcohol, it is often due to a type of kidney disease, to detect which repeated examinations of the urine are required. This form of trouble is known as the "granular" or "contracted kidney"; and insomnia, frequently combined with headache, is one of its most prominent symptoms. Obstinate sleeplessness is the cause of many a suicide, too often the starting-point of the opium and chloral habit, and surely the destroyer. I would caution you against allowing this symptom to remain uncontrolled for any length of time, and to avoid the use of all forms of narcotics as long as possible. The chains of intemperance are but silken threads when compared to those of the opium or chloral habit.

Asthenopia.—This type of defective vision can not be relieved by ordinary glasses, nor does it respond quickly to the customary suggestions of gymnastics, horseback-riding, etc. It is due to a peculiar weakness of the muscles which control the movements of the eyeballs, and it manifests itself chiefly as a sense of extreme weariness when the eyes are steadily employed for short periods of time. It is an indication of neurasthenia, and is of great diagnostic value. In severe cases it becomes necessary to divide the tendons of the stronger muscles of the eye, in order to relieve the weaker ones of a strain. It is common among near-sighted and far-sighted persons. I have seen patients who could not sew for five minutes at a time from this cause, and others who would be made sick by attending a theatre, picture gallery, or other places of amusement.

Headache.—Many attacks of this character are undoubtedly to be attributed to imprudences in eating, exposure, or fatigue. But I believe that many of those who are periodically afflicted in this way owe their suffering to a lack of tone in the muscular coat of the blood-vessels of the brain, consequent upon some of the causes of neurasthenia mentioned. I have seen a large number of instances where the *eyes were the cause of such headaches*, and where the adaptation of glasses has brought immediate relief. The medical profession are rapidly becoming enlightened upon this fruitful cause of pain. It is well also to examine the urine when persistent or periodical headache occurs, as it may be a symptom of kidney disease. Some neurologists believe that the so-called "sick headaches" are to be regarded as but a modified form of that condition which produces epilepsy. A volume might be written upon this symptom alone.

Dryness or Unnatural Moisture of the Skin.—Some nervous patients suffer from an unnatural dryness of the skin, the throat, and the nose. They are also liable to experience dyspeptic symptoms at the same time, which is probably due to similar changes in the lining of the stomach. This dryness may be accompanied also by an itching of the affected parts or an attack of eczema. A burning sensation is sometimes produced. I was once consulted by a patient who had for years been in the habit of incasing himself in flannel and putting on flannel stockings before he retired, in order to overcome a sense of burning in the skin which followed the contact of cotton or linen with any part of his body. I recall a case where the feet were once frost-bitten, and the patient has never since been able to walk upon a carpeted floor on account of a burning sensation which immediately follows. He takes off his shoes as the last step before retiring.

On the other hand, many patients afflicted with neurasthenia suffer from a profuse sweating of the palms of the hands. This is accompanied in some instances by a flushing and redness of the face, neck, and ears. The nails may become unnaturally soft or brittle.

Morbid Fears.—This peculiar manifestation of nervous exhaustion may assume one of several types. Attempts at classification of these morbid fears have been made by some authors, such as fear of lightning, of places, man and society, solitude, accident, etc., and special names have been applied by them to each of these types. Fears of this kind may be present without any other manifestation of mental impairment. They are usually uncontrollable, in spite of the fact that the patient may exhibit a knowledge that they are groundless and absurd. They seem to take full possession of a being, and to cause mental torture of an extreme kind.

Finally, melancholia is not an infrequent symptom of neurasthenia. It may be accompanied by paroxysms of laughing, weeping, and hysterical phenomena.

Now, in the treatment of neurasthenia, electricity is one

of our most effective agents. After the exciting cause has been discovered and the possibility of its continuance removed, we may safely begin the use of electricity with the brightest prospect of a radical cure. General faradization, central galvanization, and the use of franklinism are particularly of service. Of the latter I can speak in the highest terms. Neurasthenic patients often feel its beneficial effects immediately. It should be applied daily by the insulation method, the electric wind, or the static spark, as the circumstances of the case seem to indicate.

My remarks made in a previous lecture respecting massage and other adjuncts to electrical treatment are particularly applicable to this class of patients. No effort should be spared in your treatment to promote constitutional vigor by exercise, judicious feeding, good hygienic surroundings, and the like.

You, as physicians, will have to decide such matters for yourselves, and advise your patients respecting them with references to the symptoms which are to be combated. Do not trust too implicitly in electricity alone (valuable as it may be as a means of cure). Active employment will be necessary to a cure in some cases; absolute physical and mental rest will aid in others; some will require travel or a change of surroundings; the organs of the body will often demand special attention with a view of properly regulating their functions; and many other similar problems will have to be decided before a cure can be predicted by the aid of electrical agencies.

In bringing this course of lectures to a close, gentlemen, I can not but feel that much has been, of necessity, omitted by me which would be of benefit to you. A more complete course upon electro-physics, for example, would have been given had I not felt that text-books on physics would furnish you with the requisite knowledge when needed, and that the time allotted by me to the consideration of electricity could be better spent in dealing with the practical applications of this agent in the diagnosis and treatment of disease. In these respects even this course is far from complete. It is but a hasty sketch of the more important facts.

It is well for each of you to bear constantly in mind that electricity as a therapeutical agent is yet in its infancy. Facts are being daily brought to light, however, which will aid us in employing it upon the sick to better advantage, and in obtaining more uniform results. As fast as new discoveries are published they will naturally be subjected to tests by those laboring in this field, and, if their value is proved, they will in time become generally recognized and employed by the profession.

Perhaps some of this class of students may be among the number who are destined to promote the growth of this department of therapeutics by their inventive faculty, original research, or clinical observation. I trust that it may prove so.

If I have succeeded in awakening your interest sufficiently to induce any of you to pursue this line of study further with intelligence, and thus to give possible benefit to others, I shall feel amply repaid for the many hours of thought and manual labor that I have personally spent in trying to modify and improve existing electrical appliances.

Original Communications.

THE EARLY STAGES OF HUMAN DEVELOPMENT.

By CHARLES SEDGWICK MINOT, M. D.,
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Part II.—Embryos of the Third Week.

In the previous article ("N. Y. Med. Journal," Aug. 22, 1885, p. 197) it was shown that in the earliest known stages of man the ovum is normally, probably, a vesicle of some 3 to 4 mm. diameter, bearing short, simple chorionic villi, and having at one side in its interior a small heap of rounded cells, which mark out the so-called germinal area. In other placental mammals a corresponding stage occurs, and is followed in them by a stage characterized by the appearance of the so-called primitive streak and groove—temporary structures, which show, however, the axial line of the future embryo. This stage is again followed by a third, in which the medullary folds and groove arise; the former are two longitudinal ridges on the outer surface of the germinal area. These ridges begin in front of the primitive streak, and run back alongside it; in front the two ridges unite; the depressed space included between them is the medullary groove. The fourth stage (His's fourth and fifth) is characterized by the appearance of the first myotomes (protovertebræ) and the commencement of the closure of the medullary groove to form the medullary canal. The closure is effected by the groove growing deeper and narrower until the upper edges of the lateral ridges come in contact and finally coalesce.

We distinguish these four stages:

First. Stage of the germinative area.

Second. Stage of the primitive streak.

Third. Stage of the medullary groove.

Fourth. Stage of the myotomes.

The known specimens of the first stage have been already considered. No human ova of the second stage have yet been described. His suggests that Schwabe's embryo (7) and Bruch's (10) may have been in the third stage. Schwabe's embryo I consider much older, and have referred to it, accordingly, below. In regard to Bruch's ovum I will not venture an opinion, as his description is not a very available one. Of the fourth stage we have four specimens recorded, but, unfortunately, not one of them has been described adequately, according to the present standards. We proceed to their consideration.

3. The youngest known human embryos (fourth stage).

As just stated, the number of these is four. Their probable age is about fourteen days. The least advanced is His's embryo E (1, Heft i, p. 145), of which only His's sketches are available, the attempt to microtome the specimen not having been fortunate. The ovum was presumably normal; it measured 8·5 by 5·5 mm., and was entirely covered by short branching villi. For the convenience of the reader I have constructed from the author's sketches and descriptions the accompanying diagram. His states that

the chorionic vesicle bore at one point a thick stalk, *Al*, which ran to the posterior end of the embryo; the length



Fig. 1.—Diagram of His's Embryo E. Age 14 ½ days: length about 2·3 mm. The embryo is not represented in quite its natural attitude; the proportion of the parts is not accurate; the villi of the chorion and the vessels on the yolk are purely diagrammatic as to their number and shape. *Emb*, embryo; *Al*, supposed stalk of the allantois.

of the embryo from the anterior extremity to the base of the stalk was 2·6 mm. The head end of the embryo was somewhat thickened, and apparently showed the medullary groove still open; that is, the tube of the central nervous system was not yet closed. The small, round yolk-sac had a broad connection with the ventral surface of the embryo. The amnion sprang from the allantois and passed over the head of the embryo. The disposition of the caudal extremity was not made out. There were no limbs, gill-clefts, nor organs of any kind discernible—not even a protuberance between the head and yolk-sac, such as marks the position of the heart in older embryos.

Allen Thomson (2) published an excellent article on young human ova in 1839. He gives a very good critical review of what previous authors had written, and describes himself three embryos, which have become classical, for the figures and descriptions given of them by Thomson have been copied again and again. They are especially known by the reproductions in Kölliker's embryologies and in Quain's Anatomy. Two of these embryos (numbered i and ii by Thomson) belong in the group we are now considering. I can not, however, admit at present that either of them is certainly fully normal, though, perhaps, they are only slightly malformed.

In number i (see Kölliker's "Grundriss," 1884, Fig. 112, and "Entwickelungsgeschichte," 1879, Fig. 225) the yolk-sac was abnormally dilated and the characteristics of the embryo were not ascertained. His (1, Heft ii, 35, 36) has shown that probably the embryo proper was not observed, and that what Thomson called the embryo was really only the amnion, springing from the allantois-stalk and passing over the embryo. Kölliker questions the accuracy of this interpretation, but upon what ground is not evident, for, so far as I can see, it accords perfectly with our present knowledge. The embryo in question was presumably little advanced beyond His's embryo E, Fig. 1, but had an abnormally hypertrophied yolk-sac. As no sufficient description of the embryo exists, and as it is quite certain that the specimen was more or less abnormal, it can not be longer regarded as a fair representative of a young ovum.

Much more valuable is the account of Thomson's second ovum, which he had better opportunities of studying. The original description has been supplemented by His (1, Heft ii, 34, 35), who has examined Thomson's original drawings and called attention to an important error in the engraving in Thomson's plate. Kölliker, however, still reproduces the incorrect figure in the second edition of his "Grundriss," Fig. 114. An erroneous figure is also reproduced in Ecker's "Icones," Taf. xxv, Fig. 3. The chorionic vesicle measured 0·60 by 0·45 of an inch, and was covered with branching villi. The contained embryo was very small; according to Kölliker, only 2·5 mm. The embryo rested upon the round yolk-sac of 2·2 mm. The embryo consisted of two thick longitudinal ridges (Fig. 2, A), which curved round in front so as to become continuous with one another, and *were broken off posteriorly*—an important fact noted by His (*cf. sup.*). These ridges are presumably the medullary

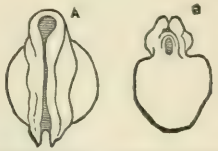


Fig. 2.—Thomson's Second Ovum. A, embryo from above; B, embryo from behind.

folds. At the hind end of the embryo was a tear, making a hole into the hollow yolk-sac. As His suggests, this is probably where the allantois was inserted and broken off. No amnion was observed, and the nature of the connection of the embryo with the chorion was not ascertained. What we learn from this embryo is something more definite than is afforded by His's observations as to the size and disposition of the medullary ridges and the hollowness of the yolk-sac. The evident hypertrophy of the yolk-sac enforces caution as to accepting the embryo as normal; but it is not rare to find in abortions a small typical embryo with an enormously dilated chorion, so that it is not impossible that the embryo in the present case was quite normal.

The fourth embryo of this group, His's SR (1, Heft i, 140–144), measured 2·2 mm. in length, and was probably fourteen days old. The chorion was 9 by 8 mm. in diameter. It shows considerable advance of development beyond the three embryos above considered. The neck of the yolk-sac is already somewhat contracted, or, in other words, the connection between the embryo and the yolk-sac is no longer so broad and long as it was. The head is considerably enlarged; between it and the anterior wall of the yolk-sac is a large thickening corresponding to the heart. From the under side of the caudal extremity runs off the stalk of the allantois, which is still short and thick; the amnion lies quite close to the embryo; the medullary ridges are still separated by an open, though deep, and relatively narrow groove; myotomes (protovertebræ, *cwet.**) are present, but their

* It must be remembered that the term protovertebræ is an entire misnomer, and is inherited from the time when the primitive muscular segments (myotomes) were mistaken for the commencements of the vertebræ. Kölliker has maintained that they participate in the forma-

number was not ascertained. When the embryo is viewed in profile, the middle of the back shows a marked concavity, which has been noticed in other older embryos, and is, probably, an artificial distortion. We shall have to return to this matter. Small openings were visible on the inner surface of the chorion. These I take to be the openings to the still hollow villi, such as have been seen in both younger and older ova. His attempted to obtain sections of his specimen, but, when cut, the sections fell into fragments.

Summary.—The development of the chorion and amnion in man is exceedingly precocious. The youngest embryos known are in the neighborhood of 2·2 mm. in length. (Thomson gives the length of his embryo i as 2·5 mm., but the criticisms made above render it plain that this measure probably refers to the length of the amnion plus the allantois-stalk; the embryo not seen by Thomson was presumably shorter.) The embryo has a broad attachment to the yolk-sac, which in diameter nearly equals the length of the embryo and is already furnished with blood-vessels. The most conspicuous character of the embryo is the presence of two very thick dorsal ridges—medullary folds—running the whole length of the embryo and inclosing the medullary groove—central nervous system to be—between them; the cephalic extremity is somewhat thickened; from the ventral side of the caudal extremity springs the short and thick allantois-stalk, the opposite end of which is inserted into the chorion. The amnion completely incloses the embryo and is attached on the one hand to the allantois-stalk, on the other to the embryo nearly parallel to the junction of the embryo and the yolk-sac.

The next change involves not merely the growth of the embryo, but also the thickening of its cephalic end, the development of the great heart protuberance between the yolk-sack and the head, the concave flexion of the back, and the deepening of the medullary groove, which, however, still remains open.

The chorion forms a relatively large vesicle, its average diameter being about 8 mm., but the four specimens vary from 5·7 to 15 mm. The chorion bears villi over its whole surface; the villi are considerably branched. Probably the villi are formed chiefly if not solely by epithelium, and probably also there is a layer of connective tissue, very likely already vascular, which lines the chorion but does not extend into the villi.

There are many still unsolved problems as to the early development of man. It will be observed that not a single one of the ova hitherto noticed has been adequately investigated, and that no specimens have yet been studied at all showing the first appearance of the embryo, the origin of the amnion, or of the allantois, or of the yolk-sac; and, finally, that of all the earliest stages our knowledge is extremely imperfect. It is therefore much to be hoped that all who obtain available specimens will carefully preserve them and intrust them to a competent investigator. From the above considerations it is also evident that the summary just given can be only tentative.

[illegible] of the vertebrata but even this view is entirely erroneous. The term protovertebræ ought to be immediately banished for ever.

4. ORIGIN OF THE ALLANTOIS.

It will be remembered that in birds the allantois very early becomes a free sac. It has been supposed by some writers that the allantois of man grew out in the same manner. Haeckel even went so far as to prophesy that when a human embryo of the right stage should be obtained it would be found to have a free allantois. Very shortly after W. Krause (3) published a description of an embryo with free allantois which he stated was human. Both Haeckel and Krause were, however, mistaken, the former through hasty and unfounded speculation, the latter from an error as to the identity of his embryo. Krause's embryo was, I think it may be said certainly, not human, probably not even mammalian, but avian. Krause still maintains that it is human; it agrees in all essential particulars with a chick, and disagrees utterly in shape with all known normal human embryos. The discussion as to this specimen was long and animated, but has now little interest except historically. In the literature cited at the close of this article I have given the reference to Krause's original article, and under the same head (3) references to the discussion.

To explain the origin of the human allantois we have only the following hypothesis of His, no direct observations being available. In an earlier stage the embryo is supposed to form over the germinal area upon the surface of the blastodermic or chorionic vesicle; below it lies the yolk-sac (see the accompanying diagram, Fig. 3, A, *V*); on all sides

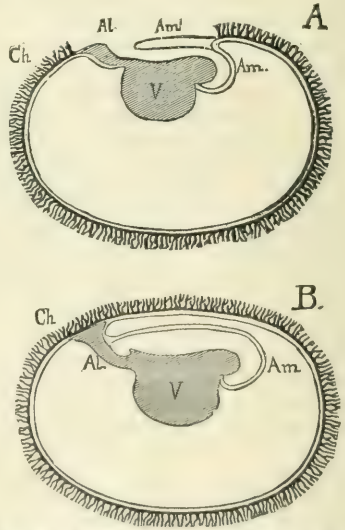


Fig. 3.—Diagrams to show the Formation of the Human Amnion. A, first stage; B, second stage; *Am*, amnion; *Al*, allantois; *Ch*, chorion, the villi of which are drawn smaller and more numerous than they are in nature; *V*, yolk-sac.

the tissue of the embryo passes over into the chorion, *Ch*; posteriorly the connection between the embryo and the chorion is marked by a thickened band (probably of mesodermic cells originally part of the hind end of the primitive streak); this thickened band persists and becomes the allan-

tois-stalk; around the head of the embryo a fold is formed, *Am*, the beginning of the amnion; this fold grows back farther and farther over the embryo as indicated by the dotted line, *Am'*, Fig. 3, A; finally the tip of the fold reaches the allantois-stalk, and, uniting with it, produces the arrangement shown in Fig. 3, B, which is the same as Fig. 1, and is known from actual observation.

This account may be accepted as hypothetically correct. I think it probable that the allantois first arises as a heap or mound of cells, pre-anal and ventral in position, and having a very small, short, nearly cylindrical cavity, which in its turn arises as a diverticulum of the hind gut, and is, therefore, lined with entoderm. This is the manner in which the allantois starts apparently in all amniota in regard to which observations on this point are available; general analogy leads us to expect that in man also the course of development is similar. But since in man there is no caudal amnion, nothing intervenes, so far as we know at present, between the allantoic outgrowth of the embryo and the chorion; hence it seems the primitive connection is maintained, and there is never a free allantois save that it forms at first for a short time a small more or less independent protuberance.

A word as to the homologies of the allantois. Its proximal portion becomes, as is well known, the bladder of the adult. It has been maintained by Balfour ("Comparative Embryology," ii, p. 256), and it is the generally accepted opinion, that the allantois is evolved as a modification of the bladder. This view I believe to be erroneous; the bladder of amphibia is a *dorsal* diverticulum of the intestine, and can not be homologized with the amniote bladder, which is a *ventral* diverticulum. The amphibia (and ganoids) have, too, a long-known embryonic structure, which is a ventral diverticulum of the intestine and extends into a considerable accumulation of mesodermic cells below the blastopore (anus). This diverticulum I hold to be a rudimentary allantois, and, in fact, it precisely agrees, even as to details, with the commencing allantois of amniote vertebrates. This obliges us to consider the allantois as primitive, and the bladder of the *Amniota* as a secondary deriva-

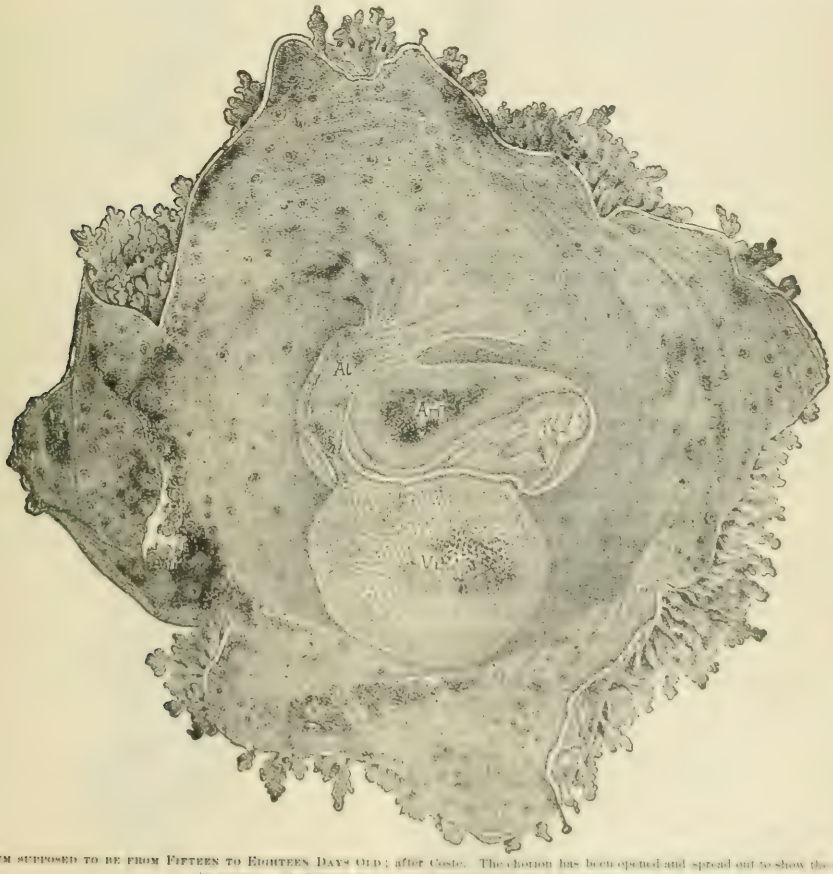


FIG. 4.—OVUM SUPPOSED TO BE FROM FIFTEEN TO EIGHTEEN DAYS OLD; after Coste. The chorion has been opened and spread out to show the embryo and its amnion. *Al*, allantois-stalk; *Am*, amnion surrounding the embryo.

tive of the allantois, precisely the reverse of Balfour's theory. The homology drawn also renders it probable that the allantois arose very early, since we find traces of it in the ganoid fishes. In this case it will no longer be strictly accurate to regard *Allantoidea* and *Amniota* as synonymous terms, as they are now used. On the contrary, it appears that the *allantois is a much older structure than the amnion, and the bladder of the amniota is a modified allantois and not homologous with the bladder of the Ichthyopsida.*

5. EMBRYOS OF THE FIFTH STAGE.

Formation of the Gill-Clefts.—We now reach a series of embryos, several of which have been well studied and beautifully drawn. Two of them belong to the stage now under consideration—namely, the youngest embryo described by Coste in his great work, and His's embryo L. Both descriptions are satisfactory, save that in regard to the dimensions of Coste's embryo no certainty can be had. Coste's private collection is, I believe, now in the College of France, but upon search this particular specimen could not be found, so that His's inquiries to ascertain its actual length were resultless. Kölliker states that it was 4·4 mm. long, but his authority for the statement is not given; the measure was probably taken from Coste's figure marked "*grandeur naturelle.*" Since embryos of this length are far more developed than Coste's, it is probable that Coste's data as to the magnification of his figures are inaccurate. If we assume the embryo to have been really about 2·5 mm. long, it will then agree, except as to the great length of the rump, very closely with what we know otherwise of such young embryos.

I give the accompanying figures, which are careful copies from the original plates published by Coste (4, Espèce humaine, Pl. II), whose illustrations, made by his assistant, Gerbe, have never been surpassed for beauty and life-like accuracy. The embryo in question was inclosed in a villous chorion, Fig. 4, and was provided with a large vitelline sac, *Vi*, having a very broad connection with the embryo and covered with a network of vessels, in which was a fluid not yet red. A thick allantois-stalk, *Al*, can be seen running from the under side of the embryo's tail to the chorion; from the anterior side of the stalk springs the amnion, *Am*, completely inclosing the embryo. It is important to notice that in this, as in still older embryos, the disposition of the amnion is essentially the same as in the earliest stages (*v. sup.*); the line of attachment of the amnion is down the sides of the allantois and around the embryo about on a line with the top of the yolk. As regards the embryo, it is drawn slightly canted on to its left side; its back is concave; the head end is thickest, and shows three gill-arches, hence there were probably two branchial clefts; behind and below the gill-clefts can be seen the heart, already a bent tube, shining through; behind the arches again, but on the dorsal side, the light-looking œsophagus is distinguishable; in the figure a wedge-shaped shadow intervenes between the straight œsophagus and the bent heart; the heart causes a conspicuous bulging of the body between the head and the yolk-sac; the caudal extremity is thick and rounded, and curves upward.

Fig. 5 is a ventral view of the same embryo after most of the yolk-sac has been cut off; its walls, *Spl* (splanchnopleure), are seen to pass over without any break into those of the intestinal cavity. In the central line the chorda

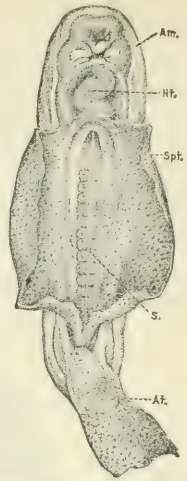


FIG. 5.—EMBRYO SUPPOSED TO BE FROM FIFTEEN TO EIGHTEEN DAYS OLD; after Coste. Ventral view; the vitelline sac has been removed. *Am*, amnion: *Ht*, heart; *Spl*, splanchnopleure, extending beyond the embryo to form the yolk-sac; *S*, chorda dorsalis with a row of myotomes on each side; *Al*, stalk of the allantois.

dorsalis, *s*, can be perceived through the translucent dorsal wall of the intestinal cavity; it is flanked on each side by the row of square muscular segments (myotomes). We see the large allantois, *Al*, behind, and in front the tubular heart, *Ht*, with a decided flexure to the right of the embryo; the anterior end of the heart makes an opposite bend, separating off a limb, which becomes the *bulbus aortæ*.

The chorion consisted of two membranes, one of which passes continuously over the inner surface of the chorion, while the other outer membrane alone forms the hollow villi, Figs. 4 and 6; hence, in looking at the inside of the



FIG. 6.—FRAGMENT OF THE CHORION OF FIG. 4, highly magnified. *Ec*, epithelial layer; *Mes*, connective-tissue layer; *Vi*, chorionic villi, formed wholly of epithelium.

chorion, we see numerous round openings which do not penetrate the inner membrane. Fortunately we learn from

Kölliker ("Entwickelungsgeschichte," 1879, p. 309), who had an opportunity in 1861 to examine this chorion, that the outer membrane was epithelial, with cells of the same character as in the epithelium of older vascularized villi,* and that the inner layer consisted of developing connective tissue and carried fine blood-vessels. It thus appears that Coste was the first to observe the rôle of the epithelium in the growth of the villi, which was discussed in the previous article.

(To be concluded.)

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

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(Continued from page 375.)

In order to satisfy myself as to the solubility of this compound, observations having in view the determining of this point with some degree of accuracy gave the following: In hot water it will dissolve in the proportion of one part in a hundred, and a residue of an oily or tarry substance occurs, which latter, upon boiling the solution, melts and floats about on the surface. If the water be only warmed to a temperature of 70° C., the residue is found at the bottom of the flask. Upon filtering the solution and allowing the filtrate to cool to 17° C., the excess of hydronaphthol crystallizes, leaving a solution of the strength of 1 to 800. By reducing the temperature still lower, or by vigorous shaking, a further quantity is thrown down, leaving a solution of the strength of 1 to 1,100, which latter remains permanent.

It dissolves in cold water to the extent of one part of the hydronaphthol to two thousand parts of water. To effect this, however, it is necessary that it should remain in contact with the water, or be occasionally agitated. The clear filtrate from this solution has the characteristic taste of hydronaphthol and possesses antiseptic properties.

To test for the presence of the hydronaphthol in solution, add a few drops of the solution of the subacetate of lead, when a white precipitate will be thrown down. Or the addition of chloride of sodium to the solution will cause its separation in a fine white precipitate, giving the liquid a milky appearance.

The tarry material which floats about in a melted condition upon the surface of the hot solution is probably alpha-naphthol, an impurity which will, no doubt, be gotten rid of in the course of a further experience in the manufacture of the compound. It does not interfere with the antiseptic qualities of the solution, nor does it do other harm, as far as is at present ascertained.

In order to ascertain to what extent hydronaphthol could be relied upon to prevent the occurrence of putrefactive changes in animal tissues and fluids, the following preliminary observations were made:

First, three solutions were prepared for use, the first containing 1 gramme of hydronaphthal in 1,000 grammes of warm water, the second containing 1 gramme in 1,500 grammes of water, and in the third 1 gramme in 2,000 grammes of water. In all of these solutions fresh animal tissue (beef) was placed, and, to afford a control test, a piece of the same beef was placed in a similar flask containing pure water, and all of the tests were exposed to a temperature of about 21° C. in an ordinary room, and as nearly as possible to the same general conditions, with the following results: At the end of twenty-four hours the flask containing the beef and water only showed signs of decomposition, and in the course of another twenty-four hours had broken down completely. The other three flasks, after one hundred and twenty hours' exposure, were found to have undergone no change, and were in a perfect state of preservation.

As beef solution is the medium generally employed for the purpose of testing the power of antiseptic substances, the following experiments were made: The beef solution was first filtered while hot, and then solutions of hydronaphthol made in this vehicle. In the first 1 gramme of hydronaphthol was dissolved in 1,000 grammes of the warm beef solution, in the second 1 gramme was dissolved in 1,500 grammes, and in the third 1 gramme was dissolved in 2,000 grammes. A control test was likewise prepared in the same manner, but without the addition of the antiseptic. These were all placed under the same conditions, as to temperature, etc., as in the preceding experiments, with the following results: At the end of twenty-four hours the control test began to exhibit some turbidity, and before forty-eight hours had elapsed indubitable signs of advanced decomposition were present. All three of the solutions containing the hydronaphthol, however, at the end of one hundred and twenty hours, were found in their normal condition.

The addition of 1 part of the antiseptic to 1,000 parts of fresh urine has maintained the latter in a perfect state of preservation for four months, and probably will continue to do so indefinitely. Solutions of glue and gelatin, so prone to decomposition, have been preserved by the addition of the antiseptic in the proportion of one twentieth of one per cent. throughout the warm summer months, and in the same proportions the formation of mold or mildew was prevented in such moist organic compounds as mucilage, starch and glue pastes, dyewood and other extracts.

The results of these observations encouraged me to seek still further light upon the subject of the antiseptic properties of hydronaphthol, and to ascertain to what extent its preservative powers could be carried, and to likewise determine if these depended upon a germicidal action on the one hand, or upon a simple inhibition of the growth of bacteria on the other. With this end in view, I sought the assistance of Dr. G. M. Sternberg, the well-known authority upon disinfectants and antiseptics. That gentleman was about to sail for Europe to be gone for a period of six months or longer, but proffered me the services of his first assistant, Dr. Abbott, at the laboratory of the Johns Hopkins University, in Baltimore. These I gladly accepted at once, and during the past three weeks experiments having the

* "Hierbei zeigte sich, dass die Zotten und die sie tragende Haut ganz und gar aus epithelartigen Zellen, von derselben Beschaffenheit, wie die des Epithels der späteren gefässhaltigen Chorionzotten bestehen."—Kolliker, *l. c.*

object of determining the following points have been carried on: First, its germicide value on broken-down beef-stock containing pathogenic spore-bearing organisms, micrococci, and putrefactive bacteria; second, its value in destroying pure cultures of anthrax and pure cultures of pathogenic micrococci; and, third, its value as an antiseptic (the prevention of development without killing the organisms).

In the first place, the insolubility of the hydronaphthol was found to be an insuperable bar to any germicidal action in its normal solution (0·1 per cent.). A mixture was therefore made of 1 gramme to 100 c. c. of water (1·0 per cent.), this being about ten times above saturation. This mixture was tried on putrefied beef-tea containing putrefactive and pathogenic organisms and spores, on anthrax pure, on subtilis pure, and on pure cultures of pathogenic micrococci. To these it was added in equal proportions—that is to say, ten cubic centimetres of the substance to be disinfected and the same quantity of the one-per-cent. mixture of hydronaphthol were added together. This gave five tenths of one per cent. (0·5 per cent.) of the hydronaphthol present, being five times above saturation. A drop of the fluid containing the organism was, after two hours' exposure, introduced into the flasks containing sterilized solution of beef peptones, the culture medium generally used in disinfectant experiments, and, after the standard length of time of exposure in the incubator (two hours), in all the tubes the respective organisms were found to be present. This showed that when the substance was present in a mixture five times above saturation it was not germicidal to these organisms and spores. These experiments seemed to at once settle the question as to its germicidal powers.

In order to test its power as an antiseptic, the following experiments were made: Eleven flasks were prepared, each containing 100 c. c. of solution of beef peptone, to which hydronaphthol was added in the following proportions: 1 to 100, 1 to 500, 1 to 800, 1 to 1,000, 1 to 2,000, 1 to 4,000, 1 to 6,000, 1 to 8,000, 1 to 10,000, 1 to 16,000, and a flask in which none of the antiseptic was placed. These were inoculated with two drops of decomposed beef-tea, and placed in the incubator. The flask put up for comparison, and which contained none of the hydronaphthol, broke down completely in twenty-four hours. The other flasks, from the strongest up to the 1-to-6,000 solution, and including the latter, after one hundred and twenty hours' exposure in the incubator, resisted the development of decomposition, the first failure taking place in the 1-to-8,000 flask.

The following is a summary of these experiments:

1. As a germicide it failed to disinfect decomposed beef-tea containing pathogenic organisms and spores when present in 0·5 per cent. 2. It failed to prove germicidal to pure anthrax, pure subtilis, and pure micrococci, in the same strength. 3. As an antiseptic it proved to be active in arresting the development of the bacteria in the proportion of 1 to 6,000, and failed only when the 1 to 8,000 solution was reached.

That the value of an antiseptic agent does not necessarily depend upon its germicidal powers is a well established fact;* it is further well known that some agents of well known germicidal power are inapplicable as antiseptics. To the class of agents which prevent or arrest putrefactive changes, without necessarily destroying the organism upon which these changes depend, but rather whose potency is attributable to their influence in holding in check their development, Lister has given the name of "inhibitory" agents, or antiseptics having an "inhibitory action."†

The importance of this distinction can not be overrated, for it has been the custom in the past to use the words "germicidal," "disinfectant," and "antiseptic" in a loose manner, and, in some instances, as synonymous terms. The impropriety of this is at once obvious, and it is now growing to be the custom to speak of such substances as are both germicidal and antiseptic as simply germicides or disinfectants; while those which are antiseptic without possessing the power of killing organisms endowed with a peculiarly tenacious hold upon life, such as those of anthrax and pathogenic micrococci, are called simply antiseptics. For the present, this distinction will perhaps be the best attainable, with our present want of knowledge of the life-history of these lower organisms. For instance, Sternberg‡ asserts, and there can be no reason for questioning the opinion of this authority, that "the vital resistance of bacterial organisms to chemical reagents differs, within certain limits, for different species." Hence, unless some standard of vitality, so to speak, were established, different observers would use the distinctive terms "disinfectant," "germicidal," and "antiseptic" with different meanings, and no end of confusion would result. It is perhaps best, therefore, that the term germicide or disinfectant should be limited to such agents as will destroy reproductive spores, inasmuch as these possess powers of resistance far in excess of bacterial organisms in which active development takes place by the process known as "multiplication by fission."

Taking, therefore, the reproductive spores, such as those of the anthrax bacilli, as the standard for the test of strength of a germicide, very few of the agents supposed to be active germicides are found to be efficient in solutions which would be safe to employ in practical surgical work. The most notable exception to this will be found in corrosive sublimate, and, as elsewhere shown, this agent is not a stable antiseptic. But, when the next most popular antiseptic, carbolic acid, is brought forward for comparison, its impracticability for general use as a germicide will be at once apparent when the statement is made, upon the authority of Koch,# that, for the certain destruction of the spores of the anthrax bacilli, an aqueous solution of carbolic acid of the strength of 1 to 10 is necessary. This, for purposes of application in wound treatment, is manifestly impracticable.

The well recognized rule‖—that "*The effect which a substance introduced into a wound as an antiseptic may have on the exposed surfaces of the wound must be taken into consid-*

* Koch, "Mittheilungen des Kaiserlichen Gesundheitsamtes," Band i, Berlin, 1881.

† "British Medical Journal," October 25, 1884, p. 804.

‡ "American Journal of the Medical Sciences," April, 1883, p. 343.

"Mittheilungen des Kaiserlichen Gesundheitsamtes," etc., p. 236.

‖ Pilcher, "The Treatment of Wounds," New York, 1883.

eration in choosing one for use, as well as its effect upon the germ supposed to be present"—has a direct bearing upon the question at issue.

Of all the substances which are at present known to have an inhibitory action upon bacteria, and hence are in the true sense antiseptic, with the sole exception of corrosive sublimate, hydronaphthol is the most powerful. By reference to the following table, adapted from Sternberg by Pilcher,* showing the comparative value of the agents named in their power to arrest the development of the micrococcus from pus, this claim will find undeniable corroboration. According to Sternberg, the other organisms of this class, bacteria termo, etc., are inhibited by about the same strength of antiseptic as that necessary for pus micrococci, and therefore this table may be cited for purposes of comparison:

TABLE OF MINIMUM STRENGTHS OF ANTISEPTIC AGENTS REQUIRED TO INHIBIT GERM-DEVELOPMENT.

Antiseptic agent.	Efficient in the proportion of one part to
Mercuric bichloride	35,000
Iodine	4,000
Sulphuric acid	1,800
Carbolic acid	500
Salicylic acid and sodium biborate, equal parts	200
Boric acid	200
Ferric sulphate	200
Sodium biborate	100
Alcohol	10

According to the experiments above detailed, hydronaphthol is efficient in the proportion of between 1 to 6,000 and 1 to 8,000, and in the table just quoted would occupy the position next to mercuric bichloride. In other words, as an antiseptic it is about one fifth as powerful as the mercuric bichloride; from one and a half times to double the strength of iodine; four times as strong as sulphuric acid; *at least twelve times as efficient as carbolic acid; thirty times as potent as salicylic acid*, when sodium biborate is added to the latter (for the purpose of increasing its solubility) in the proportion of equal parts of each; *thirty times as powerful as both boric acid and ferric sulphate;* sixty times as strong as sodium biborate, and *six hundred times as strong as alcohol.*

In making solutions for surgical use, it is my custom to add a sufficient quantity to a teacupful of hot water to supersaturate the same; this produces a milky mixture. Sufficient water at the ordinary temperature is then added to this to make it a clear solution. Or powders of seven grains and a half each, or compressed tablets containing the same quantity, may be at once dissolved in a pint of warm water. The latter would constitute a convenient and portable form for use in private practice. In my hospital service, the irrigator jars are kept about two thirds full of the solution, having an excess of the hydronaphthol at the bottom. By adding a quantity of hot water to the solution just before it is required for use, a supersaturated solution is at once obtained. After the solution has been for a few days in contact with the excess at the bottom of the jar, the latter precaution may be found to be unnecessary. The saturated solution may be used for washing the site of operation, the surgeon's hands and those of his assistants after scrubbing with mercuric bichloride solution in case of suspected infection; for saturating towels for the purpose of isolating the field of operation; as a bath for the instruments; for washing the sponges and for irrigating the wound.

In the preparation of silk and catgut it would be safest, especially in the case of the latter, to first immerse the gut, wound upon glass or hard-rubber spools, in Kümmel's solution of mercuric bichloride (one half of one per cent.) for twelve hours, and then preserve it permanently in a one-per-cent. alcoholic solution of hydronaphthol. Silk may be boiled in the first-named watery solution of sublimate and kept, for protection, in the hydronaphthol alcoholic solution as used for the gut. This method of sterilizing catgut and silk I prefer to all others as being the safest. It has been asserted by its originator that it will afford perfect protection against infection, even though the gut be made from an animal dead of anthrax. I am particular in making this statement here in order to qualify a remark concerning the sterilizing of gut by means of hydronaphthol, made in the first portion of this article. I also prefer to trust to the well-known germicidal power of a freshly prepared solution of sublimate in the first preparation of sponges, as well as their subsequent purification after an operation, where they are used more than once. But they can be kept with advantage in the hydronaphthol solution, after sterilizing, until needed for use. So also with horsehair for sutures and drains, and rubber drainage-tubes; after sterilizing in mercuric-bichloride solution, the hydronaphthol solution, from its reliability and absence of tendency to decompose, will be found far preferable for purposes of permanent preservation. I am led to emphasize this statement by the fact that it has happened to me recently to find sponges, placed in a 1-to-1,000 solution of corrosive sublimate—which latter at first was certainly germicidal—after a few weeks developing a most sickening, putrid odor, and to afford other evidences of having undergone putrefactive changes, even showing a well-marked growth of mold upon the surface of the solution in the screw-capped fruit-jar in which they had been placed. This can only be attributed to the want of stability of the bichloride solution and the decomposition of the sublimate in the solution into the submuriate, a very feeble as well as insoluble disinfectant. This can not happen in the hydronaphthol solution, as the latter remains without change for an indefinite time (so far as can at present be ascertained), as well as preserves, against putrefactive changes, organic substances of whatever nature, particularly if these have been previously subjected to the germicidal action or sterilization of such a potent agent as a freshly prepared solution of corrosive sublimate.

When a spray is used, a solution of the strength of one per cent. in alcohol may be used in the reservoir of the atomizer. This, when mingled with the steam from the boiler of the instrument, can be diffused in the atmosphere with advantage where it is considered that a spray adds to the thoroughness of the antiseptic measures.

The softness of the crystals of hydronaphthol and the

* Pilcher, "The Treatment of Wounds," New York, 1883

facility with which they cling to the meshes of gauze, cotton, jute, etc., render the substance peculiarly well adapted for incorporation in these materials for the purpose of rendering them permanently antiseptic for surgical purposes. Messrs. Seabury & Johnson, of New York, have made, at my request, gauze and cotton dressing containing twenty per cent. of the antiseptic, and I can testify to their efficiency and reliability.

Cushion dressings of wood-flour, paper-wool, and sawdust are used in my hospital service almost exclusively; these can be readily saturated with a warm solution of hydronaphthol in water of the strength of 1 to 500, in which also mercuric bichloride is dissolved in the same proportion. The bichloride in this solution will be sufficiently germicidal to destroy any possible source of infection, and the hydronaphthol will furnish the permanent antiseptic. No chloride of sodium need be added to the solution for the purpose of preventing the decomposition of the corrosive sublimate, as the latter will be sufficiently stable to perform its office of sterilizing the dressing, and, when this is accomplished, it is of no further use, and, in fact, will soon be converted into calomel.

After saturating the wood-flour, sawdust, or paper-wool with the above-named solution, the two former should be spread out to dry in a place free from dust. If an alcoholic or benzole solution be used, drying will go on rapidly and but slight risk be encountered of the materials becoming again infected by any possible floating germs in the air. In the case of paper-wool, the drying may be facilitated by running the material through a clothes-wringer. Should the sawdust or wood-flour dry in lumps, as it is apt to do when the watery solution is used for impregnating, these may be readily broken up by rubbing them through a common flour-sieve. When an alcoholic or benzole solution is used for the purpose, no such after-treatment of the wood-flour or sawdust is necessary.*

It is sometimes thought to be good practice to dust along the line of incision some absorbent powder possessing antiseptic properties. For this purpose I have found carbonate of magnesia, having triturated with it the hydronaphthol in the proportion of 2 to 100, a very desirable and efficient substitute for iodoform.

(To be continued.)

TWO CASES OF NEGLECTED EAR DISEASE IN INFANTS, RESULTING IN DEATH.

By SAMUEL SEXTON, M. D.,

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Grave and even fatal ear disease in early life is of much more frequent occurrence, probably, than is generally supposed. Inflammation of the middle ear and mastoid thus arise from cold, catarrh or other cause and rapidly extend

* The addition of a small proportion of glycerin to the solution used for impregnating the wood-flour and sawdust will prevent its becoming dry and hard. [Author's Note.]

† Read by title at the Annual Meeting of the American Otological Society, June 11, 1884.

itself to the dura mater without the warning usually given by the occurrence of a discharge from the external auditory canal. Or the discharge, once established, may suddenly cease because of the closure of the outlet through the drumhead, the secretions escaping *via* the Eustachian tube, which is proportionately very large in infancy. The causes of special danger will be alluded to farther on.

In the two following cases, occurring in very young infants, however, early evidence was not wanting, even to the inexperienced, of serious aural trouble, and death was due to their neglect and ill-directed treatment.

Case I.—*Otitis Media Purulenta; Polypus; Facial Paralysis; Pachymeningitis; Death.*—N. N., of Jewish parentage, aged six months, was brought to my clinic at the New York Eye and Ear Infirmary, in March, 1884, with the following history: When three months old he was exposed to a draught coming through an open window while traveling in a railway carriage. A few days afterward a circum-auricular swelling was observed to take place, which was, by order of the attending physician, poulticed with chamomile flowers, hops, and Indian meal for three weeks continuously. The purulent matter which had been collecting was then liberated with a lancet. After discharging a week the opening was allowed to close, but subsequently it was again opened and dressed with a tent and some antiseptic salve. The ear and wound were syringed three times a day with an aqueous solution of one drachm of carbolic acid to the pint—the solution passing freely through from the wound into the canal. This treatment had been persisted in until the date of coming to the infirmary. The child's mother thinks two considerable-sized sequestra were removed by the syringing about four weeks ago. The discharge, it is alleged, varies from time to time, and is now absent. The child nurses well and sleeps fairly well.

Examination.—The lumen of the external auditory canal is obstructed with pus, the removal of which brings to view a large polypoid growth which fills the canal.

There is partial right facial paralysis.

March 13th.—Discharge from the ear and sinus more free to-day, but the child is restless. The polypus was removed by Sexton's snare. It was found to be of much greater size than had been expected, filling the tympanum and canal almost to the meatus externus. It was about half an inch in length and somewhat nodulated. There was free hæmorrhage after avulsion, which was, however, soon arrested by instillations of hot water.

The treatment consisted in gentle cleansing with warm water as required, afterward dressing the parts with calendula and boric acid. Internally the calcium sulphide in small doses was given several times daily.

15th.—There is diminution in the quantity of the discharge, which is less purulent. General appearance is better, and the restlessness which existed before the operation is less.

I did not again see the patient; his mother, however, came several months after to the infirmary to report his death. She said that the next day after his last visit he became more restless, had a cough, and raised mucus. Vomiting occurred after nursing or taking food or medicine, and continued until death, which took place on April 5th. The child ceased to nurse three days before death, and for two days no discharge from either the meatus or sinus was observed. He had *convulsions* for two weeks, at the beginning of which "his face became straight again" (double facial paralysis), and at the end there was strabismus. These symptoms, taken together with the previous history, point to pachymeningitis. It seems probable that the

rapid recurrence of the polypoid growth, blocking up the outlets and preventing drainage, may have hastened the result. The physician who attended the patient at home certified that he died of "pneumonia, convulsions, and dentition."

The apparent absence of suffering during the early part of the progress of the disease is noteworthy. There was no autopsy.

The polypus removed was examined by Dr. Frank Ferguson, and found to be a myxo-fibroma. The following are the notes of the examination:

The tumor is covered throughout by mucous membrane, excepting at the points of attachment. Covering this mucous membrane, near the points of attachment, are laminated cylindrical cells. In the same region the mucous membrane is arranged in large papillæ, which can be seen with the naked eye. Elsewhere the surface of the tumor is smooth and covered by flat epithelium. Beneath the mucous membrane are large numbers of round cells. The center of the tumor is composed of fibrillated and granular material, numerous small round cells, and mucous corpuscles. The vascular supply is abundant.

Case II.—*Otitis Media Purulenta, complicated with Lymphadenoma of the Neck, resulting in Caries of the Atrium, Attic, Antrum, Tympanic and Auditory Plates; Facial Paralysis, Purulent Meningitis; Death; Autopsy.*—Albert S., a mulatto, aged seven months. The patient was brought to the New York Eye and Ear Infirmary in June, 1885, with the following history:

Three months previous to this date a small swelling appeared in front of the left tragus, coincident with a purulent discharge from the left ear. The swelling extended downward, rapidly enlarging, forming a large, irregular mass, occupying the whole of the left side of the neck. One month ago the otorrhœa ceased almost entirely, and at the same time the child was taken to a city dispensary and placed under local and general medicinal treatment for the glandular tumor. During this period of treatment the tumor fluctuated in size, a discharge appeared in the right ear, and the child became very restless and irritable, sleeping poorly, attacks of vomiting alternating with diarrhœa; and left facial paralysis was noticed for the first time.

Examination, June 1st.—The left meatus was occluded by granulation tissue, which was removed, giving vent to a large quantity of very offensive purulent matter. The canal was dilated, the posterior and inferior walls presenting an ulcerated granular surface, the drum-head was entirely destroyed, and the tympanum presented a large cavity caused by the necrotic destruction of portions of the *annulus tympanicus* and temporal plate, the inner wall of the attic and atrium, the antrum and auditory plate. In a word, the bony walls of the large pathological cavity thus exposed to view were denuded in every direction; the ossicles were absent, with the exception of the stapes, which could be seen lying loosely upon the upper and posterior part of the inner wall. The right meatus was filled with granulation tissue which sprouted from the walls of the canal, the drum-head was destroyed, and denuded bone could be detected with the probe in any portion of the tympanum. On the left side of the neck there were a number of lymphadenomata aggregated together, forming a large, irregular tumor, limited above by the inferior attachment of the auricle, and below by the level of the thyroid gland. No fluctuation could be detected in any portion of the mass. There was complete left facial paralysis.

Treatment.—Small and frequently repeated doses of the tincture of aconite and calcium sulphide were given, the canals being cleansed and powdered boric acid insufflated once daily. During the next eight days the patient's condition improved somewhat.

June 8th.—Restless and irritable, with some febrile movement; temperature 102°; vomiting frequently. Discharge from ears free.

10th.—The patient became drowsy and stupid, and had general convulsions. Coma supervened, and he died June 12th.

Autopsy.—The dura mater is healthy, with the exception of that portion covering the superior surface of the left petrous bone, which is much thickened from the deposit of neoplastic tissue, and at points presents isolated centers of ossification.

There is purulent meningitis of the convexity, the deposit of lymph being more particularly noticeable along the margins of the longitudinal fissure and on the under surface of the anterior and posterior cerebral lobes. The cortical substance is quite soft, and there is considerable accumulation of greenish offensive matter in the subarachnoidean cavity. No connection could be traced between the ear and glandular enlargement on the neck.

The accompanying wood-cut, somewhat enlarged, shows the outer surface of the left temporal bone after the specimen had been prepared. The absence of the osseous portion of the external auditory canal at this age brings the inner wall of the tympanum, which is very large, well into view; 1 is the promontory of the inner wall, and just above it is the foramen rotundum from which the stapes has escaped. The inner wall of the attic was gone, exposing the horizontal semicircular canal. The walls of the antrum and the adjacent cellules were eroded away and the entire auditory plate was honey-combed. The auditory plate, 5, which was scarcely united to the squamous and mastoid portions, was undergoing sequestration, entirely denuded, and a sinus, 6, afforded communication between the antrum and an abscess beneath the periosteum.



The annulus tympanicus composing the anterior wall of the external auditory canal is shown at 2; it is roughened all around, as is the tympanic plate itself. The rudimentary mastoid process is seen at 3; the under surface of the petrous bone at 4. The squamous portion is shown at 7, 7, the parietal bone at 8, 8.

On the inner surface of the specimen, not shown in the cut, is seen an extensive opening along the line of the petro-squamosal suture through which, probably, the inflammatory process extended to the dura.

It is probable that in this case the inflammation extended itself from the tympanum along underneath the auditory plate into the antrum, while a periostitis externa manifested itself on the outer surface.

Remarks.—In reviewing Case I, it seems remarkable that so little nervous irritability existed during the progress of the case, although the ear was deeply attacked. With the exception of the last two or three weeks, the child suffered but little, and, so far as pain was concerned, it may not have seemed important to the ordinary observer.

To the retention of secretions, the formation of which was actively promoted by the three weeks' persistent poulticing, and perhaps also to the vigorous syringing, was doubtless largely due the gravity of this case.

Although the treatment of a case in this advanced stage is somewhat expectant, yet it is generally best to administer frequently small doses of pulsatilla or aconite during the active progress of the disease in order to allay nervous irritability.

Acute aural inflammation in children often gives rise to symptoms well calculated to puzzle the general practitioner; and hence its presence is liable to be unsuspected; thus, in Case I, the alleged cause of death as reported to the Bureau of Vital Statistics did not include the aural trouble.

When the proportionately large area of the middle-ear tract in children is considered, one need not experience any surprise at the frequency of its invasion by disease. The tympanum, antrum, and Eustachian tube thus comprise a very much exposed region which occupies a dangerous proximity to the dura mater—being separated by an extremely thin plate of bone, often imperfectly closed by osseous tissue especially along the line of the petro-squamosal suture. Free vascular communication is afforded through this thin partition between the middle ear and the dura, and, in any inflammatory process in either, the other is extremely liable to be affected.

The important knowledge to be obtained by observing the phenomena manifesting themselves in the ear in children is not available always without an expert examination; and this becomes a much more difficult matter when exterior manifestations are wanting, since deafness and distressing autophonia, etc., can not always be explained by children, and never by very young infants, and pain in such cases may be relegated to another region. Although recovery may take place when the aural symptoms are not recognized, yet deafness may remain.

Too much stress can not be placed on the advisability of avoiding a meddlesome and heroic plan of treatment, often practised that "something may be done."

In these neglected cases it is well to remember that the danger does not lie in an invasion of the mastoid cellules, since the mastoid process exists in a rudimentary state only before the age of puberty, but in an extension of the inflammatory process to the antrum, caries of the bone being consecutive thereto. An independent but coincident attack of periostitis externa may indeed take place. Where the latter occurs alone, recovery is usually much more rapid, since, under proper treatment, reabsorption of pus takes place, or it is evacuated by the knife.

Sometimes large sequestra, consisting of portions of the auditory or tympanic plate, or of portions of bone containing the cochlea or semicircular canals, are removed after sequestration in these cases, especially in broken down or scrofulous subjects. It is surprising to witness the rapidity with which recovery often takes place after the detachment of very large pieces of temporal bone. Officious surgical meddling in these cases can but be most injurious, since it is not wise to attempt to separate sequestrating from healthy bone until Nature has completed her share of the process. We have our hands full, generally, in the effort to maintain proper drainage. I have of late found strands of antiseptic catgut, as prepared by Mr. Am Ende, of Hoboken, introduced into either the sinus which usually exists behind the auricle, or into the external auditory canal, a very effective means of drainage. Beyond this, and dressings consisting of boric acid and calendula locally, I have found it a good plan to let the ear alone and treat the patient.

I am indebted to my assistants, Dr. William A. Bartlett and Dr. Robert Barclay, for the admirable care which these patients received while under observation. To them I am also indebted for the notes of the post-mortem of Case II, which was under Dr. Bartlett's charge.

A CASE OF MELANO-SARCOMA OF THE NOSE CURED BY GALVANO-CAUTERIZATION.*

By R. P. LINCOLN, M. D.,
NEW YORK.

In November, 1884, Mrs. L. presented herself for consultation, and supplied the following history:

In August, 1882, she first noticed an obstruction to free respiration in the right nostril, and about the same time was annoyed by a continual muco-purulent, blood-stained discharge from the same nostril. There was also matter of a similar appearance which was expectorated, and which evidently came from the posterior nares.

Her general health at this time was good, and there was little or no pain.

It was not till the following winter that this nostril became completely occluded, when operative interference was decided upon.

Dr. D. Hayes Agnew, of Philadelphia, removed the growth April 2, 1883. After a microscopic examination, he announced its character as "cancerous." After a period of about two months a repetition of the former symptoms manifested themselves; these continued to increase until November following, when Dr. Agnew repeated his first operation.

A few months of uncertainty succeeded the second operation, but frequently recurring hæmorrhages and renewed difficulty in breathing gave assurance of a recurrence of the tumor until February, 1884, when the growth seemed to increase very rapidly. At this time the patient placed herself under the care of a physician in Rome, in this State, a man of much repute among the people, who used, in the words of the patient, "plasters and pastes" for about two months, when he confessed his inability to remove the trouble. Notwithstanding this treatment, the tumor continued to grow.

* Read before the American Laryngological Association, June 25, 1885.

On examining the patient, I found the right side of the nose, extending well up to the inner canthus of the eye of the corresponding side, enlarged, the fullness amounting to about four times the size of the left side of the nose.

The lower half of its ala was wanting, the remaining border being puckered, somewhat contracted, and of a purple color, which gradually faded until the integument was of normal appearance half way up this side of the nose. There protruded from this nostril, about half an inch, a dark-colored, fleshy mass completely filling it; this was attached to the outer margin of the nostril as well as to its floor. A plum-colored discharge was constantly flowing from the nostril, and the lightest touch of the mass with a probe was followed by dark grumous blood. A further careful exploration showed the tumor to grow from the lower and middle turbinated bones, and from the floor of the nostril for a distance of two inches and a half. The septum was free.

A rhinoscopic examination disclosed the tumor protruding into the post-nasal cavity and occupying about half of it. I proposed a removal of the growth with the galvano-cautery écraseur and a subsequent cauterization of points of attachments as offering the best chance of relief.

November 18, 1884, the patient submitted to operation, Dr. Delavan and Dr. Goodwillie being present and kindly giving their assistance. The patient being etherized, I passed the platinum-wire loop of the galvano-cautery écraseur about the tumor at its attachments and thus separated it.

Immediately afterward the seat of the growth was thoroughly cauterized. The loss of blood was inconsiderable. For a week after the operation a solution of bicarbonate of sodium and carbolic acid was injected into the nostril many times a day; after this an ointment containing two grains of iodoform to an ounce of vaseline was applied to the healing surface three times a day.

Two weeks after the operation the patient was permitted to go to her home in Pennsylvania, with no diseased point discoverable and with perfectly free respiration through the nostril.

May 27, 1885.—The patient returned at intervals of one or two months, the last time on this date, for observation. No further treatment has been necessary, as the parts are perfectly healthy. The integument, formerly discolored, has assumed a normal appearance. The remaining deformity is hardly noticeable, far less than the most hopeful would have expected.

I present herewith a specimen of the tumor mounted for microscopic examination, together with a report of the microscopic appearance, both of which were made by my friend Dr. Frank Ferguson.

His report I quote:

"The cut surface is dark, with small areas of dark gray and flesh-colored tissue. Under the microscope the portion of the tumor which is flesh-colored is composed of round and ovoid cells of medium size. The cells are close to each other and distinctly nucleated. The darker portions of the tumor are hæmorrhages. The areas of dark gray are composed of large flat cells deeply pigmented. The cells are supported by a stroma of fibrillated and granular material. There are numerous large vessels seen throughout the tumor, some of them with thick walls; also a few gland ducts, probably the remains of glands belonging to the tissue in which the growth originated.

"There are numerous hæmorrhages throughout the entire tumor, in some places large, in other places punctate. Prognosis *grave*."

Note.—Information received from the patient October 1st showed that there were no indications of a return of the disease.

Book Notices.

A Treatise on Nervous Diseases; their Symptoms and Treatment. A Text-book for Students and Practitioners. By Samuel G. Webber, M. D., Clinical Instructor in Nervous Diseases, Harvard Medical School, etc. New York: D. Appleton & Co., 1885. Pp. ix–415.

There has long existed a demand for a concise and definite statement of the elements of neuro-pathology and therapeutics. The student about to begin the study of neurological medicine is confronted by a literature of ominous extent, in the mazes of which he is ill-prepared to tread without the aid of personal tutelage. In Germany this condition of affairs has been recognized, as a number of little text-books bear witness; but in this country and England the want has been but inadequately met. We have very complete treatises, it is true, as well as monographs of no mean value; and yet the fact remains that, until the advent of the little book before us, the profession has been without a concise statement of the elements of neuro pathology.

In the face of this obvious deficiency, Dr. Webber's little book comes to us as a welcome addition to our library. To those who are unable to attend the special clinics of a large city, and who are, nevertheless, desirous of acquiring a knowledge of the principles of neuro-diagnosis, it will undoubtedly render good service. As an introduction to a course of special reading it is also well adapted. Thus, in the beginning of the book will be found a brief statement of the practical points of cerebral anatomy and physiology; and this theoretical portion of the volume is immediately followed by a section of considerable extent treating of the analysis of symptoms. We then come to the chapters on special cerebral diseases. These are handled in a terse manner, the author giving what he considers are the essentials of diagnosis and therapeutics.

The chapters on the diseases of the spinal cord are written in the same practical spirit, and, like those on cerebral pathology, are preceded by a concise statement of the essential anatomical and physiological questions involved.

In the latter half of the volume the diseases of the peripheral and sympathetic nerves receive attention.

None of the subjects brought forward are treated of exhaustively; nor can the author be justly taken to task for superficiality, since his very object is conciseness. Enough that he has fulfilled his task in a manner which leaves nothing to be desired.

We have no hesitation in recommending this admirable little book to students and practitioners alike.

BOOKS AND PAMPHLETS RECEIVED.

Medical Communications of the Massachusetts Medical Society. Vol. xiii, No. 5, 1885. Boston: Printed by David Clapp & Son, 35 Bedford Street, 1885. Pp. 321-501. And Proceedings of the Councillors. Pp. 85-113.

Proceedings of the Connecticut Medical Society, 1885. Ninety-fourth Annual Convention, held at Hartford, May 27th and 28th. New Series, Vol. iii, No. 2. Published by the Society. S. B. St. John, M. D., Secretary. Hartford, Conn.: Press of Case, Lockwood, and Brainard Company, 1885. Pp. 3-239.

Vaginal Hysterectomy for Cancer. By A. Reeves Jackson, A. M., M. D., Professor of Gynæcology in the College of Physicians and Surgeons of Chicago, etc. Read in the Section of Obstetrics and Gynæcology at the Thirty-sixth Annual Meeting of the American Medical Association. Reprinted from the "Journal of the American Medical Association."

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 10, 1885.

THE AMERICAN MEDICAL ASSOCIATION'S NEW COMMITTEE'S SUB-COMMITTEE.

It seems that what was said to be sauce for the goose is not considered to be sauce for the gander. In April the Lacedæmonian cry went up that the committee that was originally intrusted with the organization of the Ninth International Medical Congress was merely authorized to carry out the will of the American Medical Association, and that its work was in every respect subject to the revision of the association. This cry carried the day, and the New Orleans meeting proceeded to revise the committee's arrangements with a vengeance—with what results, the country is but too well aware. The association's pet committee, however—those gentlemen who were chosen to supersede the legitimate body—soon found that there was no further occasion for the responsibility alleged by the New Orleans meeting; or, rather, it is a sub-committee that has made that discovery.

Our readers will remember that the reconstructed committee held a meeting in New York on the 3d and 4th of September, at which a sub-committee, styled an executive committee, was constituted, and that the further prosecution of the work of patching up the organization of the Congress was given into the hands of this sub-committee. The "Journal of the American Medical Association" now informs the world that the executive committee held a meeting in New York on the 24th of September, at which, "more than a quorum" being present, it perfected its organization by electing Dr. Henry H. Smith, of Philadelphia, chairman, and Dr. Frederic S. Dennis, of New York, associate secretary-general, after which, "to prevent all further misunderstanding, both at home and abroad," it unanimously adopted the following remarkable resolution: "*Resolved*, That this executive committee enters upon the management of the affairs of the Ninth International Medical Congress with the understanding that, in accordance with rule No. 10, its powers are not restricted except by the rules and regulations adopted September 3, 1885, by the committee of arrangements appointed by the American Medical Association in April, 1885; and that the actions of this executive committee are final, not being subject to revision, amendment, or alteration by either the committee of arrangements or the American Medical Association."

Indeed! Is this "understanding" supported on an opinion by Speaker Randall? And if, in this instance, not only is the so-called "committee of arrangements" not subject to oversight by the organization that appointed it, but even a sub-committee is unamenable neither to it nor to its creator—nor, in fact, to any power on earth—we would like to know how Mr. Randall likes the tricks and the manners of the coterie whom he so kindly accommodated with his opinion in the early part of the summer.

For our part, we are perfectly well satisfied. We have all along maintained that the original committee ceased to be a committee of the American Medical Association the moment its invitation was accepted at Copenhagen, and that at the same moment it became, by adoption, a committee of the Congress, responsible to it, and to it alone. As a legitimate corollary of that position, we have held that the original committee was under no sort of obligation to report to the New Orleans meeting. We are able to say now that such indeed was the conviction of the truly representative men in the old committee, but that they were seduced into a course of conduct that was urged upon them as being in the interest of conciliation, whereas no real conciliation was ever intended by the seducers. The sub-committee is now quite of our way of thinking—*mutatis mutandis;* and we wish it joy.

MINOR PARAGRAPHS.

THE PROPOSED NEW NATIONAL MEDICAL ASSOCIATION.

We would call attention to a letter, signed "Subscriber," which we publish in another column, and beg to assure our readers that the writer of the letter is a gentleman who has paid a good deal of attention to matters connected with medical organizations, and has on more than one occasion given evidence of a willingness to sacrifice his own favorite projects when convinced that the welfare of the profession would be better served by the substitution of other measures. It will be seen that the plan he now brings forward gives abundant scope for the settlement of details in a leisurely way, which is certainly wise and conservative. The point on which most solicitude ought to be felt seems to us to be the manner of constituting men members of the association. That is the rock on which the American Medical Association has struck. At first, its members were the representative men of the profession, but, as fresh delegations were eligible year after year, a less and less representative set was chosen, until finally the organization became utterly unworthy of its early history, and ceased to enjoy the confidence of the profession.

TULIT ALTER HONORES.

In a review of the first volume of Pepper's "System of Medicine," the "Lancet," of London, says:

"Variola, Vaccinia, and Varicella have been intrusted to the pen of Dr. James Nevins Hyde." . . . "The writer's article on Vaccinia strikes us as one of the most candid and lucid that have been written upon this much-discussed topic. He is not so blind as to refuse to grant that vaccination sometimes fails to protect, but he rightfully declaims against the tendency to irrational generalization which sees in this fact the condemnation of the practice. His statement appears to us as particularly fair—viz., that 'vaccination almost invariably protects against small-pox for the time being; generally for a long term of years; sometimes for a lifetime. Often the protection is absolute; as a rule it is very nearly so; in rare instances it is trifling.' Again, in dealing with the complication of vaccination, he takes up a very candid position with regard to the risks of syphilis, of vaccinal syphilis, etc. He declares in favor of bovine over humanized virus after a full discussion of the arguments on either side, saying that 'in barely one particular—that of promptness of action—can humanized virus justly be credited with any superiority, while in every other essential respect it is inferior, so far

as any difference is to be observed.' At the same time he does not admit that there is any proof of the deterioration of the Jennerian vaccine."

Praise and blame deserved but withheld are about even in most men's lives. We trust, therefore, that we shall not be looked upon as actuated wholly by considerations of *meum* and *tuum* if we state that, of the three articles mentioned by the "Lancet," the one on Vaccinia was written, not by our excellent friend Dr. Hyde, but by the editor of this journal.

THE STATE OF NEW YORK AND THE CANADIAN SMALL-POX EPIDEMIC.

Last winter the accidental Governor of the State of New York, who is now a candidate for re-election, distinguished himself by, *inter alia*, pandering to the rage for a penny-wise and pound-foolish economy by refusing to sign a bill appropriating the inconsiderable sum of fifteen thousand dollars for the use of the State Board of Health in case of emergency. At the time, we pointed out the criminal foolishness of the Governor's course. The emergency is now upon us, for there is every reason to apprehend that the Canadian outbreak of small-pox will cross the frontier unless the most energetic precautions are taken. Unless the people of the State are willing to submit to the inconvenience of an extraordinary session of the Legislature, we know not how they can be defended, save at the far greater expense of sucking Government pap—an expense to their honor that will not tally well with their past record. Already the apprehension felt in Buffalo, together with the rumors of outbreaks at Rouse's Point and other localities, can not be viewed otherwise than as disquieting.

A DANGER TO THE ARMY MUSEUM AND LIBRARY.

Some anxiety has been expressed—although not publicly, so far as we know—lest the operation of the general order limiting the time for which officers of the army could be stationed in Washington should involve the removal of Dr. Billings from the further prosecution of the grand work upon which he has spent so many years. That work is still far from being finished, and we can not see how the public interests could fail to suffer by Dr. Billings's transfer to another field of duty. It is not to be wondered at, therefore, that the possibility of such an occurrence should be looked upon with alarm. There can be no doubt, however, that it can be avoided without violation of the spirit of the order, and we are convinced that there can be little less doubt that the Government will take good care that it is avoided. We look, then, to see Dr. Billings continued in the sphere which he has so adorned, and we are sure that such a course is earnestly desired by the profession.

NEWS ITEMS, ETC.

The New York Quarantine Service.—The service in the Lower Bay was discontinued on the 1st of October, a month earlier than usual, owing mainly, it is said, to the comparative freedom of Havana and other tropical ports from yellow fever.

The Health of the State of New York.—The State Board of Health's "Monthly Bulletin" for the month of August shows a reported mortality of 7,284, which is considerably lower than that for July. But this, it is explained, is partly accounted for by the failure to receive reports from Buffalo, Long Island City, and a number of large villages. The percentage of infant mortality was 16·73. Zymotic diseases caused 357·31 deaths in every 1,000, diarrhœal diseases 236, consumption 125·87, and acute respiratory diseases 57·52. The board has issued a most useful circular on the prevention of small-pox, setting forth the laws on the subject, and giving information as to the general management of an outbreak.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 6, 1885:

DISEASES.	Week ending Sept. 29.		Week ending Oct. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	39	16	46	8
Scarlet fever	15	2	19	2
Cerebro-spinal meningitis	2	2	1	1
Measles	4	0	3	1
Diphtheria	39	19	28	8
Small-pox	3	3	6	0

Precautions against Small-pox.—The Board of Health of Fall River, Mass., has accepted an offer from the New Hampshire State Board of Health, which proposes to issue tickets of inspection to all persons from the infected Canadian districts who pass through the State *en route* for Fall River. The tickets will indicate whether the holders have been vaccinated; and, if a passenger from Canada can not produce a ticket, the inference will be that he has thrown it away, and he will accordingly be quarantined, unless he can account for its absence. The medical inspector at Fall River will vaccinate all who need it, and the most rigorous measures will be enforced to prevent the introduction of the disease into the city.

The Contagious Pleuro-pneumonia of Cattle is reported to have been wholly suppressed in Illinois, and the Governor of that State will therefore shortly take steps toward securing a discontinuance of the quarantine measures adopted in other States.

The Management of the Montreal Small-pox Epidemic having been offered to Dr. Edwin M. Snow, of Providence, Rhode Island, that gentleman is reported to have accepted the offer conditionally.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, September 30th: *Montreal, Canada.*—For the week ending September 29th: 297 deaths from small-pox occurred in Montreal during the week. From September 26th to 29th, inclusive, there were 48 deaths from small-pox in the towns adjoining the city. The official reports give the following record of deaths from the disease in Montreal to September 23d: In April, 6; May, 10; June, 13; July, 46; August, 239; September 1st to 22d, inclusive, 524. Total to that date, 838. The disease has spread with great rapidity during September. During the first five days the deaths were 77; for the week ending 12th, 128; six days and a half ending 18th, 184; September 19th to 22d, inclusive, four days, 135. *Three Rivers, Canada.*—For the week ending September 26th: 5 cases and 1 death from small-pox; disease spreading through the villages in the consular district. *Lacolle, Canada.* September 30th: No new cases reported. *Havana, Cuba.*—For the two weeks ending September 24th: 47 cases and 20 deaths from yellow fever. *Caibarien, Cuba.* September 19th. Free from epidemic diseases. *Matanzas, Cuba.* September 23d. Intermittent fever prevalent. *San Juan, Cuba.* September 12th. Free from epidemic diseases. *London, England.* For the week ending September 14th: 9 deaths from small-pox, including 6 of London residents who died outside of the registration district. *Paris, France.* For the week ending September 12th: 7 deaths from small-pox; 54 cases treated in hospital. *Bordeaux, France.*

—For the week ending September 19th: 4 deaths from small-pox. *Barcelona, Spain.*—September 1st to 10th: 623 cases and 302 deaths from cholera; disease assuming a milder form. *Cadiz, Spain.*—September 12th: Total mortality 155, average 40; excess attributed to cholera. *Santander, Spain.*—September 19th: Cholera decreasing. *Gibraltar, Spain.*—By telegram September 30th: Authorities to-day issue clean bills of health. *Valencia, Spain.*—September 5th: Cholera decreasing; no new cases in the village during the week. *Genoa, Italy.*—September 13th: 1 death from small-pox. *Venice, Italy.*—For the week ending August 29th: 6 deaths from small-pox. *Palermo, Italy.*—September 18th: Consul reports cholera increasing, and states that about forty thousand of the inhabitants have fled from the city. *Trieste, Austria.*—For the week ending September 12th: 13 cases and 4 deaths from small-pox. *Antwerp, Belgium.*—For the week ending September 12th: 4 cases of small-pox. *St. Petersburg, Russia.*—For the week ending September 12th: 1 death from small-pox. *Warsaw, Russia.*—For the week ending September 12th: 2 deaths from small-pox. *Calcutta, India.*—For the week ending August 22d: 14 deaths from cholera. *Colombo, Ceylon.*—For the week ending August 22d: 44 cases and 18 deaths from cholera *Guaymas, Mexico.*—September 23d: Consul reports yellow fever increasing and becoming more virulent; 138 cases and 36 deaths from the disease since September 1st; it has also appeared at *Hermosillo. Mazatlan, Mexico.*—September 15th: Consul reports yellow fever present in sporadic cases; statistics of deaths can not be obtained; authorities continue to issue clean bills of health. During August 28th, 29th, and 31st, and September 1st and 2d (the report for August 30th has not yet been received), there were in Spain 17,147 cases of cholera and 5,466 deaths. The total number of cases and deaths from March 4th to September 2d is 232,105 cases and 86,692 deaths.

Personal Items.—The "Medical Times," of Philadelphia, announces that Dr. George M. Sternberg, of the army, has been elected an honorary member of the Royal Academy of Medicine, of Rome; also that the following changes in the residences of Philadelphia physicians have been made: Dr. Roberts Bartholow to 1525 and 1527 Locust Street, Dr. Theophilus Parvin to 1718 Walnut Street, Dr. Charles K. Mills to 1909 Chestnut Street, and Dr. B. F. Baer to 2010 Chestnut Street, and that Dr. J. M. Holland has taken an office at No. 1914 Rittenhouse Square. Professor McCall Anderson sailed from New York by the Servia, Dr. Charles E. Sajous, of Philadelphia, by the Westernland, and Dr. W. L. Ranney, of New York, by the Adriatic, last week. The list of arrivals from abroad during the same week included the names of Dr. Major, of Montreal, Dr. G. H. Lyman, of Boston, and Dr. G. G. Wheelock, of New York. Our readers will be glad to learn that Dr. Fordyce Barker has so far recovered his health as to be able to make a visit to Boston.

An Attempt to "Boycott" a Physician is reported from Elizabeth, New Jersey. According to the newspaper accounts, a Roman Catholic priest denounced the physician from the pulpit as an apostate, and warned his parishioners against employing him, threatening them with a refusal to perform the offices of the Church in their behalf in case they disobeyed the warning.

The Johns Hopkins University School of Medicine.—The Baltimore correspondent of the Philadelphia "Medical Times" states that it is rumored that Professor Matthew Hay, of Edinburgh, has been elected professor of pharmacology.

A Museum of the Vegetable Materia Medica.—We learn that Messrs. Parke, Davis, & Co., of Detroit and New York, are prepared to furnish students with a very complete set of specimens of the crude vegetable drugs, arranged within a moderate compass, with each specimen numbered to correspond with a printed list. The value of such a collection to students of materia medica can not well be over-estimated, and the price asked ($10) is so low as to bring it within the reach of all.

An Honor to a Physician.—The "Union médicale" states that, on the recommendation of the director of the Bourboule Spring, the municipal authorities of the place have decided to name one of the principal streets for the late Dr. Noël Gueneau de Mussy, who took a prominent part in bringing the virtues of the Bourboule waters into notice.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 27 to October 3, 1885:*

McParlin, T. A., Colonel and Surgeon. Directed to transfer his duties and the public funds for which he is accountable, as Assistant Medical Purveyor, to Captain Henry Johnson, Medical Storekeeper, who will, in addition to his present duties, temporarily perform the duties of Assistant Medical Purveyor, New York city. S. O. 223, A. G. O., September 29, 1885.

Caldwell, D. G., Major and Surgeon. Ordered from Fort Laramie, Wyoming, to Fort D. A. Russell, Wyoming. S. O. 97, Department of the Platte, September 28, 1885.

Bartholf, J. H., Captain and Assistant Surgeon. Ordered from Fort Ringgold, Texas, to Fort McIntosh, Texas, for duty as Post Surgeon. S. O. 125, Department of Texas, September 28, 1885.

Brechemin, Louis, Captain and Assistant Surgeon. Ordered from Fort D. A. Russell, Wyoming, to Fort Laramie, Wyoming. S. O. 97, Department of the Platte, September 28, 1885.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort A. Lincoln, Dakota Territory, and ordered for duty at Camp Poplar River, Montana Territory. S. O. 105, Department of Dakota, September 21, 1885.

Knudler, William L., First Lieutenant and Assistant Surgeon. When relieved from duty at Camp Poplar River, Montana Territory, by Assistant Surgeon Macauley, to report to commanding officer, Fort Snelling, Minnesota, for duty. S. O. 105, Department of Dakota, September 21, 1885.

Wales, P. G., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Boisé Barracks, and ordered for duty at Fort Cœur d'Alène, Idaho. S. O. 160, Department of Colorado, September 21, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Stanton, New Mexico, and ordered for duty at Fort Leavenworth, Kansas. S. O. 147, Department of the Missouri, September 25, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 3, 1885.*

Jones, William H., Surgeon. Ordered to Navy-Yard, League Island, Pa., October 15th, as the relief of Medical Inspector M. Bradley.

Bradley, Michael, Medical Inspector. Detached from Navy-Yard, League Island, Pa., October 15th, and placed on waiting orders.

Owens, Thomas, Assistant Surgeon. Ordered to Naval Station, New London, Conn., as the relief of Surgeon William A. Corwin.

Corwin, William A., Surgeon. Detached from Naval Station, New London, Conn., and ordered to the U. S. Steamer Adams, October 31st.

Magruder, A. F., Surgeon. Ordered to the U. S. Steamer Yantic, without delay, as the relief of Surgeon H. L. Law.

Law, H. L., Surgeon. Detached from the U. S. Steamer Yantic, and wait orders.

Simon, W. J., Surgeon. Detached from the Naval Academy, October 1st, and wait orders.

Drennan, M. C., Surgeon. Detached from the Naval Academy, October 1st, and wait orders.

Cabell, Arthur G., Passed Assistant Surgeon. Assigned to the U. S. Steamer Adams, October 31st.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended October 3, 1885.*

Bailhache, P. H., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue-Marine Service. September 28, 1885.

Vansant, John, Surgeon. Order to New Orleans, La., revoked. To proceed to St. Louis, Mo. October 2, 1885.

Purviance, George, Surgeon. To proceed to Louisville, Ky., as inspector. October 1, 1885.

Gassaway, J. M., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue-Marine Service. October 3, 1885.

Godfrey, John, Surgeon. Order of September 16th amended. To proceed without delay to Louisville, Ky. September 28, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. Order of September 16th amended. When relieved, to proceed to Chicago, Ill. October 1, 1885.

Irwin, Fairfax, Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of officers of the Revenue-Marine Service. September 28, 1885. To examine physically and instruct crews of the Life-Saving Service, Third District, in the method of restoring the apparently drowned. October 3, 1885.

Banks, C. E., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of officers of the Revenue-Marine Service. October 3, 1885.

Society Meetings for the Coming Week:

Monday, *October 12th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *October 13th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Rensselaer, Chenango (tri-annual), Greene (semi-annual, Cairo), Jefferson (quarterly, Watertown), Oneida (quarterly, Utica), and Tioga (Owego), N. Y.; Newark, N. J., and Trenton, N. J., Medical Associations (private); Medical Societies of Bergen and Cumberland (semi-annual) Counties, N. J.; Medical Society of Litchfield County, Conn. (annual).

Wednesday, *October 14th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Franklin (quarterly, Greenfield), Hampshire (quarterly, Northampton), Middlesex South (Cambridge), and Plymouth (special), Mass., District Medical Societies; Vermont State Medical Society (annual, Montpelier); Philadelphia County Medical Society (conversational).

Thursday, *October 15th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *October 16th:* Chicago Gynæcological Society (annual).

Saturday, *October 17th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

John Light Atlee, M. D., of Lancaster, Pa., died at his home in that city on Thursday, October 1st, in the eighty-sixth year of his age. He was born in Lancaster, November 2, 1799, and received his medical degree from the Medical Department of the University of Pennsylvania in 1820. He was one of the founders of the Medical Society of the State of Pennsylvania, and was chosen president of the society in 1857. He was also one of the original members of the American Medical Association, of which he was president in 1882. In 1877 he was elected an honorary fellow of the American Gynæcological Society. On the union of Franklin and Marshall colleges, he was appointed to the professorship of anatomy and physiology, which he held until 1869. During the greater part of his long career he held a number of positions of trust not connected with medicine, and was specially interested in the public schools of Lancaster. In connection with his brother, the late Dr. Washington L. Atlee, he was for many years widely known as a successful ovariotomist, and he is said to have been the first surgeon to remove both ovaries successfully at one operation. Many of the physicians of New York have a lively remembrance of the genial personal attributes of Dr. Atlee as revealed to them at a reception given in his honor by the late Dr. Marion Sims a few years ago, and his loss will be keenly felt by the profession of the whole country.

Richard McSherry, M. D., of Baltimore, Md., died at his home in that city on Wednesday, October 7th, at the age of sixty-nine years. He was born in Martinsburg, Va., received his early education at Georgetown College, and was graduated from the Medical Department of the University of Pennsylvania in 1841. He was immediately appointed to the medical corps of the army, and served under General Taylor in the Seminole War, resigning his commission in 1843. In the same year he was appointed an assistant surgeon in the navy, in which he served until 1851, when he resigned and settled in Baltimore. In 1862 he was appointed to the chair of Materia Medica in the Medical Department of the University of Maryland, and in 1865 to that of the Principles and Practice of Medicine in the same institution. He was a member of the Medico-Chirurgical Faculty of Maryland and of the Baltimore Academy of Medicine, of which he was one of the Founders and its first president. He was a writer of considerable repute, and the author of several medical works.

Letters to the Editor.

A NEW NATIONAL MEDICAL ASSOCIATION.

To the Editor of the New York Medical Journal:

Sir: As many are of the opinion that the usefulness of the American Medical Association is at an end, and that in all probability its future meetings will be characterized by acrimonious debates on medical polity to the detriment of its scientific interests, the time appears ripe for the organization of a new national medical association.

I would suggest, therefore, that it be organized in the following manner: Let each State medical society at its meeting in 1886 appoint two persons to represent it on a General Committee of Organization.

Early in 1887 this General Committee should be called together, the call for its meeting to be issued by the representatives earliest appointed acting as temporary chairman and secretary, and whose functions as chairman and secretary shall cease on the organization of the committee.

The duty of the General Committee shall be to prepare a plan for the permanent organization of the profession, the plan evolved by the General Committee to be submitted to the several State societies in 1888. If it should meet the approval of the majority of the State societies, the General Committee should issue a call for the general meeting of the National Association in 1889, which, when organized, terminates the labors and functions of the General Committee.

If the foregoing propositions appear to be open to serious objection, it is to be hoped that the objections will be formulated at an early day in order that they may be modified if generally thought desirable. It is further hoped that the medical press of the country will bring this matter before their constituencies with such commentary as seems to them wise.

Respectfully yours,

SUBSCRIBER.

COCAINE IN THE TREATMENT OF OPIUM ADDICTION.

314 STATE STREET, BROOKLYN,
SATURDAY, *September 26; 1885.*

To the Editor of the New York Medical Journal:

SIR: The able and valuable paper by Dr. Bauduy on "Cocaine in Melancholia," in your journal of to-day, contains a statement or two that we can not pass without comment and dissent.

Speaking of cocaine in the treatment of chronic alcohol- and opium-taking, he says: "It not only replaces alcohol and morphine, but it generates a positive disgust for those agents. They can be withdrawn completely and at once without the slightest suffering or injury, and the cocaine itself may be gradually dispensed with, thus eventuating in perfect recovery."

This assertion as regards morphine is so at variance with my experience—based upon several years' exclusive professional attention to the treatment of opium habitués, and embracing case after case in which cocaine, in one-grain doses, subcutaneously, has again and again been given—that I am compelled to express my belief that Dr. Bauduy is *greatly mistaken*. His claim is entirely too sweeping, being, in effect, *specific* virtue for cocaine in opium addiction, which, I assert, it—or any other drug—does not possess. That coca—or its alkaloid—is of great value in this disorder I willingly admit, regarding it the most effective tonic-stimulant at command, but only as an *adjunct;* for opium addiction presents such *varied* reflex irritation on abrupt or rapid withdrawal of the habitual narcotic that its effective treatment can not be compassed by any *one* drug of which we know.

Such being my belief, it seems to me quite unwarrantable to assert that with cocaine a long-used opiate "can be withdrawn completely and at once without the slightest suffering." I do not believe it, and challenge proof to the contrary. It is too much like the asserted statement of Fleischl, that, with cocaine in the treatment of alcoholism and morphinism, inebriate asylums are a thing of the past—an assertion so astounding that it can be credited only to the vagaries of a visionary enthusiast.

Dr. B. cites *one* instance. A single swallow scarcely makes a summer. Let us have *cases* and details.

On another point our experience differs. He mentions a patient "for many years a hopeless victim." The morphine was at once withdrawn; one grain to one grain and a half of cocaine, hypodermically, given twice daily; craving for morphine immediately ceased, and all the usual sequelæ of withdrawal failed to appear.

No such remarkable result has ever followed my giving of cocaine, for invariably the effect has subsided in from two to three hours, my latest observation on this point having been made to-day. In this connection a paper on this topic by Dr. J. F. Whittaker, of Cincinnati, in the "Medical News" of August 8th, is of interest, his experience according with mine as to the transient effect of cocaine, and his opinion of its value being: "I am convinced that cocaine alone is not a perfect antidote or substitute for morphine."

Regarding the danger of a coca "habit," the opinions of these gentlemen are directly opposite, Dr. B. claiming it "a certainty," Dr. W. asserting "the fear of a cocaine 'habit' is quite ungrounded."

Personally, I think it possible, one such case having been under my care—a patient who used one pound of fluid extract of coca every two days. The gentleman recovered.

Dr. Bauduy's enthusiasm regarding cocaine may be the legitimate outcome of his experience with it in various disorders, but, in placing before the profession the conclusions he has reached, I respectfully submit that the one regarding its use in opium addiction belongs among those "not sufficiently matured by time and experience."

J. B. MATTISON.

PUERPERAL DIPHTHERIA.

168 WEST TWENTY-THIRD STREET, *September 30, 1885.*

To the Editor of the New York Medical Journal:

SIR: In your otherwise excellent report of my paper, read before the American Gynæcological Society, two errors have occurred, which you would oblige me by correcting—the more so as one of them might be of practical importance. "The patient complained of pain in the epigastrium" should read *The patient complained of pain in the hypogastric region.* The suppositories I have used contained a hundred grains of iodoform.

Yours truly,

H. J. GARRIGUES.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 1, 1885.

The President, Dr. A. JACOBI, in the Chair.

The President's Address was published in our last issue.

Obscure Cases of Weak Heart.—Dr. R. VAN SANTVOORD read a paper on this subject, in which he said that weakness of the cardiac muscle, occurring independently of valvular lesion, was recognized as an important pathological factor in a large number of morbid conditions. It was a chief source of danger in acute febrile diseases; it occurred as a result of continued anæmia, and of alcoholism and other toxic conditions. Failing cardiac compensation was often the cause of death in chronic Bright's disease. The right ventricle was frequently affected in lung diseases which interfered with the pulmonary circulation. Degeneration of the cardiac muscle might result from inflammation in the course of general diseases, or as a result of lesions of the coronary vessels. Strain might weaken the heart. At the

autopsy there might be found granular, fatty, fibroid, or waxy degeneration. The heart structure might be found normal, although the history during life pointed to cardiac failure as the cause of death. In many of these conditions the diagnosis could easily be made, but in others the connection between the symptoms and the cardiac failure was obscure and liable to be overlooked.

Dr. Van Santvoord then proceeded to relate four histories of obscure cases of weak heart, and to study the significance of the symptoms which were present. The first case was that of a slightly corpulent man of forty-two years, who was apparently in robust health. He drank but little. Sleepiness was the symptom of which he complained—he fell asleep frequently during the day; and he was forgetful, and complained of headache. There was slight dyspnœa on ascending stairs. The only evidence of organic cardiac derangement was that the sounds, especially the first, were rather weak, and reduplication of the second sound was to be heard at the base of the heart. The symptoms dated back two years, when the patient had a severe attack of pneumonia. The diagnosis of weak heart following pneumonia was made. The treatment consisted in the administration of tincture of digitalis and tincture of nux vomica, the latter for indigestion. After two weeks the heart sounds became louder, but the patient was not apparently improved. Five grains of citrate of caffeine after meals were given in the place of digitalis, and one thirtieth of a grain of strychnine instead of nux vomica. The heart sounds soon became louder, and the disagreeable symptoms disappeared. When he was last seen, twenty-three weeks after the beginning of the treatment, the patient was in a comfortable condition, though slightly short of breath. There was persistence of reduplication of the second sound of the heart, heard at the end of inspiration and the beginning of expiration.

The second case was that of a stock-broker, aged thirty-eight years, who had had a number of slight attacks of gout, and several of whose relatives were gouty. He had been worried about business, and had drank freely. He had been short of breath; had had albumin in the urine; his ankles were puffy, especially after drinking brandy. He drank freely and ate little. One relative was asthmatic. The author had been called to him on account of dyspnœa and wheezing. He found the dyspnœa slight, the lungs normal; the first heart-sound weak, the second metallic and hard; not quite clear. The tongue was coated. He complained of flying pains in the muscles. The urine contained a small amount of albumin, and its specific gravity was 1·024. After six days' restraint from alcohol, administration of proper food, the use of morphine and Hoffman's anodyne at night, great improvement had taken place. The symptoms, however, returned when he began again to go about; the apex-beat was weak, the pulse was 102, and there were occasional pains shooting from the apex to the scapula. Digitalis and remedies for the condition of the bowels were administered, and within two days the pulse fell to 84, and its tension increased. He was restrained from alcohol, and after six months was greatly improved and in comfortable general condition. The first heart sound was still short and valvular, the second metallic and sharp, the arterial tension low, the pulse 82. The urine contained a small amount of albumin and many hyaline casts. In this case the abuse of alcohol and underfeeding had caused malnutrition of all the organs, but the rapid and continued improvement after the use of digitalis, especially in the cardiac action, was proof that the heart was the organ chiefly affected. The normal quantity of the urine, the small amount and inconstancy of the albumin, the absence of evidence of active kidney trouble, the low tension of the pulse, and the rapid improvement went to prove that the albuminuria was probably not associated with grave organic changes in the kidneys. The lesion in this case was conjectural; from the fact of the abuse of alcohol it might be inferred that there was fatty heart, but the rapid response to digitalis pointed to a less grave state of malnutrition. There was persistent irritability of the heart, due apparently to mental worry.

The third case was that of a man, aged fifty-four, who had been addicted to out-door sports. His health had always been good except for constipation. His illness began, some months before he consulted Dr. Van Santvoord, with lassitude, drowsiness, and distressing headache, chiefly at the vertex. He had for a long time been obliged to get up at night to urinate. Dr. Van Santvoord was consulted for an unusually severe attack of pain in the vertex and back of the head. The man was thin, sallow, and anxious; the tongue slightly coated; the appetite good. The apex of the heart was in the nipple line, in the sixth interspace, and at that point there was a faint systolic murmur. The cardiac sounds were weak. A mixture was given to correct the condition of the stomach, with the idea that the head symptoms were reflex, but no benefit followed. Faradization alone produced an effect upon the bowels. Ten minims of tincture of digitalis and twenty of tincture of chloride of iron were ordered, and during twelve days the heart sounds continued to increase markedly in force, the pulse became stronger, and the general condition improved very decidedly. The urine continued to be passed in large quantity; it contained no albumin or sugar; a few pus-globules were always present; its specific gravity ranged from 1·0105 to 1·0195. The patient had been treated for stricture, and had seminal emissions. From the enlarged heart and the great quantity of urine passed it was thought that he was suffering from contracted kidneys, with secondary heart failure, although the specific gravity of the urine was usually normal and it contained no albumin. The man went South, and remained in fair health. A year afterward he was a little short of breath, and had an indefinite disagreeable sensation in the head and occasional shooting pains in the arms and legs. The apex of the heart was in its former situation; the heart sounds, especially the second, were weak, with a reduplication of the first to the left of the sternum and on a level with the fourth rib. The sphygmographic tracing was of large amplitude, the tidal wave more marked, the aortic notch much higher in the tracing, and the dicrotic wave far less developed than in the case of the second patient. The pulse was 75. Digitalis and fluid extract of ergot caused, within ten days, diminution in the amplitude of the pulse, lessening of the dicrotic wave, and lowering of the pulse to 64. The sphygmographic tracing now differed from a normal tracing only in showing a little lower tension. The urine had a specific gravity of 1·015; it contained no albumin, and but few pus and red blood-globules. The fact that the patient had held his own for a year, the specific gravity of the urine being normal for the amount passed, and that the sphygmographic tracing showed low arterial tension, led to the conclusion that the polyuria was due to some other cause than contracted kidney, being possibly a reflex result of the urethral lesion. The cardiac failure, therefore, seemed to be an independent matter. The age of the patient pointed to an early stage of one of the chronic degenerative processes. His addiction to athletic sports suggested the weak dilated heart, without recognizable histological change, noticed by Mauriniger.

The fourth case was mentioned only on account of certain special features. A boy, aged fourteen, had a severe attack of measles. His previous health had been good. After convalescence he suffered from dyspnœa and lancinating pain in the cardiac region on running. He was thin and pale; the cardiac beat was marked over the apex, in the epigastrium, and second left interspace, and both ventricular areas were enlarged. The

heart sounds were loud. There was distinct reduplication of the second sound in the third left interspace, near the sternum. A loud, blowing systolic murmur was heard over the arteries at the base of the neck, transmitted into the brachials and femorals. Improvement took place under the use of iron, strychnine, and rest; the dilatation of the heart diminished, the arterial murmur disappeared, and the venous hum became lessened, but the reduplication of the second sound persisted. The absence of cardiac murmur and the rapid improvement pointed to cardiac dilatation, with perhaps some fatty degeneration.

On reviewing the symptoms in these cases it would be seen that reduplication of one or other of the heart sounds was present in three of them. The cause of this phenomenon had been much discussed, but the simplest explanation was, that the reduplication of the first sound was due to asynchronism in the contraction of the ventricles, while that of the second was due to asynchronism in the closing of the aortic and pulmonary semilunar valves. Bramwell thought this the explanation in the majority of cases. Apart from purely theoretical speculations, which the author reviewed, it was a fact that persistent reduplication of the first sound had been found clinically associated with functional disorders and with grave organic changes of the heart, with or without valvular disease. It was at least within the limits of our present knowledge of the subject to say that its presence in a given case was presumptive evidence of cardiac lesion, the character and gravity of which would have to be determined by the other symptoms. As to reduplication of the second sound, it might be due either to derangement of the nerve apparatus or to lesions of the muscular fibers of the heart which caused the contraction of one ventricle to be a little shorter than that of the other, or to disturbances in the relative amount of resistance to be overcome by the respective ventricles. Aside from theory, as a matter of clinical observation, reduplicated second sound was so frequently associated with obstruction to the greater or lesser circulation, with lesions of the cardiac muscle, or with a combination of both, that its occurrence should lead to a careful study of the case with a view to determining the presence or absence of important cardiac disease. In the case of weak heart following pneumonia, the reduplication of the second sound was heard when last listened to only at the end of inspiration and the beginning of expiration—*i. e.*, it was of the normal type. The patient's condition at the time was comfortable, and an observer who knew nothing of his former history might wrongly have concluded that the sign was without significance. Regarding the weak first sound, in interpreting the meaning of a short, weak valvular first sound, it was obvious, from a study of the sphygmographic tracing in these cases, that the peripheral resistance to the circulation was quite as important a factor as the strength of the ventricular contractions. But in interpreting the meaning of a strong or a weak second sound we should consider not only arterial tension, but also the form of the ventricular contraction. The author felt convinced that closer observation and analysis of the less striking evidences of deranged cardiac action would greatly lessen the number of cases of grave cardiac lesion which remained totally unsuspected before an autopsical examination. Regarding the effect of digitalis and caffeine, it was plausible to suppose that the contrasted effect of the two remedies in the cases related might lie in the slighter influence of caffeine on the vasomotor apparatus. At any rate it would be seen that caffeine was sometimes efficient when digitalis failed. The greater safety and more rapid action of caffeine would make it preferable to digitalis in cases of heart failure occurring in acute diseases or primary degenerative processes of the cardiac muscle. The soluble and stable combinations of the alkaloid with salicylate or benzoate of sodium were preferable to the insoluble and unstable citrate. It should be given in divided doses, first small, and pushed as high as half a drachm daily.

The subject of the paper was discussed by Dr. John C. Peters, Dr. L. Weber, Dr. E. D. Hudson, Dr. A. H. Smith, and others.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of September 25, 1885.

The President, Dr. Edward E. Montgomery, in the Chair.
Mary Willits, M. D., Reporting Secretary.

A Case of Empyema.—Dr. I. G. Heilman reported the case of E. M., aged nine years. His family history indicated some tendency to pulmonary disease, but his health had always been good. Dr. Heilman was called to see him on April 24, 1885, and found him suffering from an attack of measles. The case presented nothing unusual until April 29th, when pneumonia, limited to the lower lobe of the left lung, set in, and the case became more serious. May 1st he was hastily summoned, and found the patient suffering with intense pain in the left side of the chest, and exceedingly nervous. The symptoms suggested pleurisy, which the physical signs showed to be present. An opiate, with counter-irritants, afforded relief; but on the following day there was a decided effusion, which continued to increase in quantity until it filled the entire pleural cavity on the left side. Respiration being entirely suspended on that side, the dyspnœa was very great. The temperature varied between 102° and 103° F. The acute symptoms gradually abated, but there was very little decrease in the quantity of effusion. By May 13th, two weeks after the beginning of the attack, the patient seemed fairly comfortable, the temperature varying between the normal and 99·5° F. On measuring the chest the affected side was found to be one inch larger than the other. The percussion-note was still non-resonant; respiration sounds and movements were absent. Absorption seemed to have begun, when the patient's stomach became so irritable that scarcely any nourishment could be given for a week; the effusion again filled the left pleural cavity, and, in spite of quinine, potassium iodide, Basham's mixture, and hydragogue cathartics, with tincture of iodine and cantharidal collodion externally, the patient gradually grew worse. The temperature, however, during this period never rose above 100° F., nor the pulse above 95, except temporarily after exertion, or following an attack of nervousness. On June 19th Dr. E. R. Stone saw the case in consultation, and it was concluded that paracentesis was the only measure that promised relief. The condition of the patient at that time was not so serious as to cause the presence of pus to be suspected. His appetite was quite good; he spent a portion of each day on the street; he had fever only occasionally, and slept well. There was dyspnœa, but not to so marked a degree as would be expected in a case of that character. On June 23d an aspirating-needle was passed into the pleural cavity and eighteen ounces of pus were drawn off. No unpleasant symptoms attended the operation, and marked relief was afforded; the lung expanded, and twelve hours after a good respiratory murmur was found at the apex. The improvement was but temporary, and a week later the entire cavity had again filled. It was then decided to use the aspirator daily, and to remove as much of the fluid as the patient could bear. To obviate the necessity of a daily puncture with the needle it was decided to introduce a tube and to retain it in position. A puncture was made with an ordinary trocar and cannula, the trocar withdrawn, and a soft-rubber catheter was passed through the cannula, which was then drawn out over the catheter, thus leaving in the pleural cavity a tube to which the aspirator could be attached at any time. The catheter was held in position by a

strip of adhesive-plaster, and closed by a wooden plug. Aspiration was performed on nine successive days—June 30th to July 8th—and seventy ounces of pus were drawn off in all, which, with the first eighteen ounces, made a total of eighty-eight ounces. The aspiration of July 8th was followed by a little blood. From July 9th to July 14th a daily trial was made, but no further discharge took place. On July 11th a little water was injected, but was immediately forced out between the chest-wall and the tube. The lung in the mean time had expanded, and there was an almost normal respiratory murmur over nearly the entire chest, with good percussion resonance. On July 13th water was again injected, with the same result as before. On the 14th, in consultation with Dr. W. F. Buchanan, the tube was removed and the wound was closed with adhesive plaster. The left side at that time measured seven eighths of an inch less than the right side. The condition of the patient had decidedly improved; his appetite was very good and his strength was returning rapidly. He had since gained ten pounds in weight, had attended school, and taken part in out-door sports.

Dr. Heilman said that the points of interest in the case were: 1. The length of time (seven weeks) during which the lung was compressed until the aspirator was first used, in all eight weeks, before a regular systematic effort was made to remove the pus. Yet the lung steadily expanded as the pus was removed. 2. The time (nine days) required for the removal of the entire quantity of pus; there was no discharge after that time, and the tube might have been removed then with safety. 3. No antiseptic solution was injected—indeed, no attempt was made to wash out the pleural cavity. It was true that a small quantity of water, not more than two ounces, was injected twice, but that was done for the purpose of removing any clots that might have been obstructing the tube. He was aware that that was not in accord with modern teachings and practice, but it was difficult to see how antiseptic washings could have hastened the recovery of the patient. The aspirator in the treatment of those cases possessed, it seemed to him, so many advantages that he could scarcely conceive of a case where resort to the old method of open drainage would be justifiable. The simplicity of the operation in the one case and its difficulty and gravity in the other were points worthy of consideration. It was, he said, a trifling matter to puncture the chest-wall with a small trocar and cannula; but in a patient already exhausted it was often a most serious one to make two large openings and remove portions of the ribs.

Cleanliness was another point for consideration. In the case reported not a drop of pus escaped except when the aspirator was used. There was absolutely no unpleasant odor at any time, nor soiling of the patient's clothing—both so annoying when an open drainage-tube was used. A still greater advantage, in his opinion, was the control it gave the physician over the expansion of the lung, as he could cause it to expand rapidly or slowly, at his pleasure. The expansion being a gradual one, those distressing symptoms that so often resulted from a sudden removal of the fluid were avoided.

Dr. Heilman then exhibited the patient. The two sides of the chest resembled each other in contour; the percussion-note was the same on both sides, and a recent measurement showed that the left side was only one quarter of an inch smaller than the right.

Dr. Collins remarked that he noticed a slight friction-sound on the affected side, probably due to a deposit of lymph on the pleural membrane. He thought that if aspiration had been done earlier there would have been less danger of a deposit. He considered it an advantage to aspirate early, and would not hesitate to operate at the end of fourteen days. In regard to the use of antiseptics, he did not consider them necessary, as with the aspirator no air entered the pleural cavity.

Dr. Beates said that in his experience the entrance of air into the pleural cavity had caused no unpleasant symptoms.

Dr. Heilman, in closing the discussion, said that he had used the aspirator as soon as the consent of the parents could be obtained; they were very much averse to an operation. The pleural cavity was entirely filled, and there was some trouble in finding the intercostal spaces on that account. He thought that the escape of blood was due to the aspirator.

Tracheotomy in Croup and Diphtheria.—Dr. Edward E. Montgomery read a paper with this title. [It was reserved by the author for future publication.]

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of April 23, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Aortic Stenosis and Regurgitation; Aneurysm of the Aortic Valves; Mitral Stenosis and Regurgitation.—Dr. Glentworth R. Butler read the following: "The patient from whom the accompanying specimen was taken was seventeen years of age, male, by occupation a tow-boy. He entered St. Mary's Hospital for the relief of an ulcer on the leg of two years' standing. He gave a history of acute rheumatism in 1878, and of constant exposure and insufficient nourishment. The ulcer was of traumatic origin, but healed promptly under proper treatment. After the stay of a month in the hospital he developed a lobular pneumonia from which he was fairly convalescent on April 1, 1885, when symptoms of cardiac distress led to an examination of the heart. According to his statement he had always been able to do a good day's work and had never had any symptom referable to a cardiac lesion. On examination, the apex-beat was found to be carried below and to the left of the nipple, with bulging of the præcordial space, and marked impulse in same region extending over a large area. On auscultation, a to-and-fro murmur was heard at the base over the aortic valves, and an apical systolic murmur, all three well marked. In addition, a faint presystolic murmur was detected over the area of mitral obstructive murmurs. A diagnosis was made of aortic and mitral obstruction and regurgitation with hypertrophy of the left ventricle. The after-progress of the case was rapid, dyspnœa and weakness increasing until death occurred on April 12, 1885. The lesions disclosed at the autopsy were as follows: The heart was greatly enlarged, and the increase in size was particularly in the left ventricle, which was dilated to at least twice its normal contents. The left auricle was greatly dilated and its walls thickened. The endocardium was thickened and opaque. The cusps of the aortic valve were also thickened and opaque. The posterior cusp was considerably stretched, forming an aneurysm. Large masses of vegetations were growing from all the cusps. There was a mass of vegetations on the wall of the ventricle one quarter of an inch below the aortic valves. The vela of the mitral valve were thickened and adherent, making a funnel-shaped contraction of the orifice. The tendinous cords were thickened and shortened. The papillary muscles were lengthened. The right side presented no marked changes, which is singular in view of the extensive lesions on the left side. The lungs were dark-colored at their bases, and showed patches of collapse, but no sign of an unresolved pneumonia."

Umbilical Hæmorrhage. Dr. W. H. Thayer read a paper on this subject. It will be published in full hereafter.

Four Cases of Tait's Operation.—Dr. Joel W. Hyde read a paper with this title. It will be published in full hereafter.]

Dr. L. F. Criado asked at what time with reference to menstruation the author operated.

Dr. Hyde replied that in the last case it was five days after the flow.

Dr. Criado had asked the question for one reason. He had seen many ovaries removed which he thought were not cystic, but contained only Graafian vesicles. He failed to see why these organs should be removed so much. He did not believe they all were cystic.

Dr. Hyde had intended to operate within a week after the cessation of the menses. As regarded cysts, in one case he could not see the ovary, but in its place a cyst of about the size of an orange. It contained at least a little more than a gill of fluid. In another case the ovary contained a cyst as large as a small walnut. Another had one which was about one third as large as the ovary itself. In all the cases there was sufficient disease of the oviducts to justify the operations, regardless of the condition of the ovaries.

Dr. Criado believed that extirpated ovaries were usually not much enlarged, at least so it appeared to him in those he had seen. He had doubts about many operations being justifiable. He had had two cases in which he had refused to operate, but in which it had been done by some one else. One of the ovaries he had been able to see, and it had seemed to him to be normal.

Dr. C. N. Dixon Jones asked if drainage-tubes had been used. He considered one necessary in Case III, and also thought that the microscope could easily settle the difference between a cyst and Graafian vesicle.

Dr. Hyde replied that he had already stated in the paper that no evidence of a recent peritonitis was discoverable, but that there were signs of an old peritonitis. The trouble seemed to be in the kidneys. Drainage-tubes were not used in any case.

The President said he believed that he could claim the honor of having done the first oöphorectomy in Brooklyn, in December, 1879. The patient was a domestic about twenty-eight years old. She had suffered from a gonorrhœa six years before. The uterus had evidently been inflamed, and remained hard, excessively tender, and with a contracted cervical canal and vagina. She suffered from the most terrible dysmenorrhœa, during the existence of which she frequently became comatose. All attempts to relieve her for five years had failed. Her health was broken, she was unable to work, and a constant cough caused considerable anxiety lest she should have phthisis. The menstrual intervals became prolonged to from two to five months. During one or two very severe attacks, accompanied by all the symptoms of dysmenorrhœa, but without the hæmorrhagic flow, there had been a slight discharge of blood from the rectum. The bladder was excessively irritable. She also had a lump of the size of an English walnut in the right mammary gland. The operation was performed with the idea of bringing on the menopause. He was assisted by Dr. George R. Fowler, Dr. F. W. Rockwell, and Professor E. S. Bunker. The operation was done under the carbolic-acid spray, and the wound closed with horse hair sutures. On the second day she sat up in bed and pulled off her stockings, and on the third or fourth day she got out of bed, during the temporary absence of the nurse, and walked across the room to get a drink. By these proceedings she broke two or three of the stitches, but she made an excellent recovery nevertheless. Since the operation she had menstruated three or four times, at intervals of five or six months, and then the function had ceased. She had improved very slowly, but was now able to work, and had been in one place for fifteen months. At last accounts she was contemplating matrimony. It was interesting to note that the vesical trouble disappeared immediately after the operation, and that the mammary tumor also vanished. There were no peritoneal adhesions. The ovaries were of the natural size, but contained numbers of small cysts.

Complete Calcification of the Arch of the Aorta.—Dr. A. H. P. Leuf exhibited a thoracic aorta that was completely calcified from its origin at the aortic orifice of the heart to the opening in the diaphragm. Below the diaphragm it contained large calcareous patches. It had the appearance of an immense pipe, and was as solid as if composed of a shell of plaster of Paris and glue. He asked if any one present had seen a similar case?

The President recalled a similar case that had been presented to the society a few years ago, in which there was also complete calcification. It was presented by Dr. E. H. Bartley. The patient had died of inanition.

MEDICAL SOCIETY OF VIRGINIA.

Sixteenth Annual Meeting, held at Alleghany Springs, Tuesday, Wednesday, and Thursday, September 15, 16, and 17, 1885.

Dr. Bedford Brown in the Chair.

(*Continued from page 383.*)

Thursday's Proceedings.

Treatment of Lacerations of the Os and Cervix Uteri without Surgical Operation.—Dr. B. Brown, of Alexandria, read a paper with this title, and said that the value of Emmet's operation was acknowledged, although it was sometimes risky; but many women were so situated that they could never enjoy its benefits. Ten or twelve years' experience with some twenty cases had convinced Dr. Brown that these patients could be cured, without a surgical operation, by a simple, painless, safe, and easy plan of treatment which could be used by any practitioner. The nature of his cases had varied from trifling fissures to the most severe lacerations, and sterility had invariably coexisted. Many cases were complicated by cellulitis, localized peritonitis, subinvolution, metrorrhagia, displacements, proctitis, etc. In every case the general health was impaired. There were peculiar neuralgic pains in all those nerves coming within the circle of sympathy of the exposed and lacerated nerves of the os uteri. Thus, the great lumbar plexus manifested its sympathies in the form of constant aching pain in the base of the sacrum. Ovaralgia on the side of injury, or on both sides, if the injury was double, was almost invariable. In a few cases the development of sciatica indicated reflex sensation on the part of the sciatic nerves. Neuralgia of the crural nerves and their branches was common. These pains extended to the patella, and even down to the dorsum of the foot. Dr. Brown had healed several cases of laceration by first intention in the acute stage by means of absolute rest, disinfection, and cleanliness. If lacerations failed to unite immediately after labor by first intention, they never united spontaneously by second intention. Local treatment then became necessary. Dr. Brown always examined the womb, etc., for lacerations as soon as labor was completed; and, if found, he began, after the first twenty-four hours, a systematic course of treatment with a view to absolute disinfection and cleanliness. Warm douches of solutions of borax, boric acid, and carbolic acid were gently used two or three times daily, and the patient was kept in the recumbent position for two weeks. If healing did not occur by that time, it did not occur afterward spontaneously. Eight or ten weeks later, in such cases, he proceeded to procure union by the second intention. For this purpose he had used carbolic acid, chromic acid, Battey's solution of carbolic acid and

iodine, solid nitrate of silver, and even nitrate of mercury, but without favorable result. The nitrate of silver increased the inflammation, pain, and tendency to hæmorrhage. He then adopted graduated solutions of crystals of nitrate of silver with the best of results. Solution No. 1 was as follows:

℞ Argenti nitratis, cryst., ʒss.;
Aquæ destillat., f ʒj. M.

This solution was to be applied to the interior of the cervical canal freely, down to the os internum, as the cervical canal was always involved in the rent and was left in a diseased condition. Solution No. 2 was:

℞ Argenti nitratis, cryst., ℈ijss.;
Aquæ destillat., f ʒj. M.

This solution was to be applied with a camel's-hair brush freely over the entire external surface of the os and cervix, including the fissure of the laceration, until a uniform white coating was formed, thick and tenacious, almost resembling a coat of paint. This gave immediate protection to the supersensitive extremities of the exposed nerves and tender granulations, and acted as a sedative application—allaying irritation, redness, inflammation, and engorgement rapidly, stimulating new vital action and healthy growth of granulations which filled up the fissures or cavities of the lacerations, and accomplished the healing of the wound by second intention. This coating, in the mean time, formed an impervious barrier to the further absorption of septic matter from the discharges, and in this way relieved pelvic cellulitis. The healing process and reduction of hypertrophy of the cervix and inflammation progressed rapidly. The process of absorption was stimulated in a wonderful manner, and the process of involution was also promoted in proportion. In simple fissure of the cervix, extending through the mucous membrane and fibrous tissue only partially, solution No. 1 should be applied thoroughly in the groove of the fissure, so as to reach its very bottom, and thus induce healing from the lowest depths of the wound; otherwise the object would be defeated. Solution No. 3 was:

℞ Argenti nitratis, cryst., ʒjss.;
Aquæ destillat., f ʒj. M.

This solution was only to be applied to the external surface of the cervix in the event hypertrophy and induration remained after the lacerations had healed; otherwise, if left in that condition, it formed a basis for the renewal of inflammation and re-opening of the wound. After treatment, the cervix became naturally soft and normal in dimensions. The os was not only not contracted by the application, but returned to a perfectly healthy condition. A great majority of females thus treated had since borne from one to three children, and had been entirely free from all uterine troubles. In three patients—one having borne three children, the second two, and the third one child after treatment for previous lacerations—the os uteri was found perfect as to softness, dimensions, and freedom from disease. Concealed fissures were often found after labor in the mucous membrane of the cervical canal, and caused an infinite amount of local disease, such as endocervicitis, hypertrophy of the adjacent tissues, inflammation of the fibrous tissues of the cervix, leucorrhœa, and often painful menstruation. A favorite locality for these fissures was at the internal os. The mucous membrane and submucous tissue were split through, and then the rent remained a source of trouble for years. The No. 1 solution of nitrate of silver reached these wounds admirably, and would surely heal them from the bottom.

Puerperal Septicæmia especially with regard to Prophylaxis and Ætiology.—Dr. George T. Harrison, of New York, read a paper with this title. Due credit was given to the labors of Semmelweiss for his valuable investigations, which pointed out the right road to the study of puerperal fever. He showed that childbed fever was a disease that came from without. Without a wound somewhere along the genital tract, puerperal septicæmia did not exist. After expulsion of the child and secundines in labor, the entire inner surface of the uterus was laid bare, like a part of the skin deprived of its epidermis by a blister. With this fact it was only necessary to call to mind the possibility of very rapid absorption of septic matters introduced into the vagina or the uterus. In primiparæ always, and in multiparæ generally, there were tears in the cervix, vagina, and vulva, and often lacerations or contusions of the perinæum. If a puerperal wound were protected from external influences it would heal like a wound on the surface of the body. But putrefactive organisms could develop in the living organism wherever dead tissues or fluids (as extravasated blood) were found, while the healthy physiological tissue in general opposed a considerable resistance to their multiplication. On the other hand, other pathogenous (disease-generating) micro-parasites find in the living tissues in the cells, in the blood, in the lymph-sinuses, etc., the favorable condition for development and multiplication. These fungi, endowed with specific powers, were entirely different from the putrefactive organisms, and were destroyed by the latter. In puerperal fever the carriers of infection were either the pathogenous fungi, which generated traumatic diphtheritis, pyæmia, and septicæmia, or they were putrefactive germs. The latter were ubiquitous; the former were imported, and got to the puerperal woman by the hands, instruments, cloths, etc., that might be used about the genitals. They were derived from suppurating surgical wounds, cadaveric poisons, and especially lochial discharges of women suffering with septic infection. A minimum quantity infected in the effective manner. The lochial discharges of puerperal sick during an epidemic were so infectious that they endangered life, by infection, of the non-puerperal woman to the pregnant, to physicians, and gynæcological cases where operations had been performed. In the puerperal woman the conditions for the rapid development of pathogenous fungi were most favorable. Contrary to general opinion, Gusserow had shown that there was no connection between puerperal sepsis and erysipelas, and that the micrococci of erysipelas could not produce pathological changes identical with septic processes. The pathogenous fungi affected the organism immediately, while putrefactive germs did so indirectly by their influence on decomposable matters, always present in puerperal women. An autogenous or autochthonous infection was an impossible thing. The characteristic features of non-pathogenous infection were (1) the late appearance of the fever, (2) the slight participation of the general condition, and (3) the existence of local morbid substrata. The principles of prophylactic treatment consisted in pure air for the lying-in woman, the careful avoidance of introduction of infectious matter into the genital passages, and the thorough disinfection of the genital tract. The physician's and the midwife's hands, instruments, etc., should be disinfected before using about a puerperal woman. Disinfection must be both mechanical and chemical. Use the finger-nail brush often, thoroughly washing the hands with soft soap, and then wash the hands again. Take off the coat and roll up shirt-sleeves. Then dip the hands and forearms in a disinfectant solution. Instruments and cloths should be dipped in about a five-per-cent. solution of carbolic acid for several minutes. During the pregnancy, especially if there be any puerperal-fever epidemic, the woman should frequently wash her external genitals with soap and water, and afterward with boric-acid solution. When labor set in, Dr. Thomas advised her to use a warm vaginal injection of antiseptic character, but Dr. Harrison protested against the injection under ordinary circumstances, as such injections were

unnecessary and fraught with danger. They removed the mucus which rendered the vagina soft and pliable, and most of the disinfectants used, especially carbolic acid and mercuric bichloride, coagulated the mucus and irritated the surface of the vagina. The bacteria naturally found in the vagina were not dangerous. But, if the patient had been subjected to the possibility of septic infection during the birth, then it would be eminently proper to use a copious antiseptic vaginal douche immediately after the birth and during the rest of the puerperal state. In tedious and complicated labors, where frequent examinations had to be made or instruments used, infections were absolutely indicated. Sometimes putrefactive decomposition of the uterine secretions occurred before labor ended. In such cases, complete the labor as speedily as possible, and thoroughly disinfect the genital tract by intra-uterine injections of carbolic acid or mercuric bichloride. Wash the external genitals three or four times daily, and disinfect once a day by carbolic acid or mercuric-chloride solution. Close all lacerations of the perinæum and vagina under strict antiseptic precautions, as by the continuous catgut suture. Iodoform dusted over the raw surface favored union. A powerful contraction and retraction of the uterus greatly helped in securing immunity from invasion of putrefactive bacteria; hence the value of Credé's method in expelling the placenta.

A Report on Advances in Surgery was read by Dr. H. Grey Latham, of Lynchburg, Va., who summarized the discussion last spring before the American Surgical Association on "The Field and Limitation of Operative Surgery of the Human Brain," disapproved of extirpation of the larynx and trachea, spoke favorably of drainage of the lungs for gangrene, etc., and said that laparotomies for many purposes were now established operations—such as for strictures of the intestines, strangulations, excisions of organs non-essential to life, etc. Do not wait too long, he said, in strangulations of the bowels; operate as soon as the diagnosis is established, as soon as vomiting sets in. Cut down so as to reach the cæcum. If this is distended, the obstruction is below; if it is collapsed or not tense, it is above. If the strangulated coil of bowel is gangrenous, resect it, and establish an artificial anus. When laparotomy is rejected, adopt Nélaton's enterotomy in the right iliac fossa. Dr. Latham laid down as propositions (1) that the best guide to the seat of an obstruction was not manual exploration, but visual examination, assisted, if necessary, by extrusion of the bowels, and (2) that no case of operation was properly concluded until an over-distended bowel was relieved of its contents. In operations for hernia, invagination had been laid aside or neglected, and obliteration of the sac or closing the neck was the popular procedure. Digital dilatation of the pylorus had been successfully performed for chronic non-malignant stricture. Through an incision into the stomach introduce a finger, and forcibly distend the stricture. In operative treatment for rectal cancer the following guides were said to be reliable: (1) If the finger can not be passed beyond the disease, unless it is confined to the posterior wall, do not operate. (2) The growth can be removed at a somewhat greater height when the disease is confined to the posterior wall. (3) If, when the finger has passed beyond the disease, the bowel is movable on the adjacent structures, generally speaking, the growth has not extended beyond the rectal walls and the case is suitable for operation; but, if the bowel be is hard, rigid, and firmly bound to the surrounding organs, the case is unfavorable for an operation. (4) Examine carefully the abdominal viscera, and, if secondary deposits be suspected in the liver, no operation should be performed.

Advances in the Practice of Medicine.—The committee, through its chairman, Dr. Lewis Taylor, of Harrisonburg, Va., reported some of the progress made in the healing art during the year. The subject of cholera, in view of its probable visitation to the United States next year, received due consideration. The comma bacillus was still *sub judice* as an ætiological factor, while its constant presence in all cases of genuine Asiatic cholera seemed to be admitted by all competent observers. Dr. Ferran, of Valencia, Spain, still practiced his system of inoculation to prevent cholera. His methods were pronounced by the various commissions engaged to investigate the matter as questionable, and the results as equally uncertain. In view of the fact that one attack of cholera did not prevent a subsequent attack, the principle of vaccination in this disease was likely to result in a failure. The new local anæsthetic, cocaine, had been found of signal service in the treatment of hay fever, used both locally and internally. The mercurial treatment of typhoid fever and diphtheria received due attention in the report, which claimed for the method a reduction of mortality in both diseases. The report claimed the unity of scrofula and tuberculosis, and called attention to peptones and mucin in the urine as interfering with tests for albumin. It alluded to the toxic alkaloids found in the body (ptomaines) as a possible cause of morbid processes, and closed by allusion to the new drug, antipyrin, giving a synopsis of its therapeutic indication and physiological action.

Clinical Notes on Carcinomatous Affections of the Digestive Organs; the Unreliability of Gastric Symptoms as Evidences of Gastric Pathology, was the title of a paper by Dr. R. C. Powell, of Alexandria, Va. He started off with a description of cancer, clinically considered, and reported several cases showing the obscurity of diagnosis. The cases illustrated two points of diagnostic importance: (1) Unreliability of gastric symptoms as evidence of gastric disease, and (2) the great value of cachexia as corroborative evidence of malignant disease. Dr. Powell regarded the cachexia as a more certain sign of cancer than the presence of a tumor. As to treatment, the indications were to sustain strength and to relieve pain. A judicious selection of food was necessary if the stomach be involved. Fatty, saccharine, and starchy foods were digestive chiefly in the intestines, and hence were best when the stomach was diseased. If the pancreas was the diseased organ, give meats, albuminoid substances, milk, etc., which were digested in the stomach; but all food should be pancreatinized before it was used. If the liver was the diseased organ, allow both meat and fish, but not salted nor highly seasoned. Salt-water fish were believed to be best. Fruit and vegetables—raw or cooked as preferred—were allowable. Permit "amusement without excitement, exercise without fatigue, and nutrition without stimulation." To relieve pain and procure sleep, use opium or morphia. Fowler's solution combined with bichloride of mercury; carbolic acid and tincture of iodine—one drop each—and bismuth subnitrate, were the commonly used medicines. When bismuth was combined with atropia, it was useful in the salivation of cancer. Cundurango and Chian turpentine had passed into oblivion, and alveloz would soon also be forgotten.

The Ætiology of Zymotic Diseases was the title of a paper by Dr. M. A. Kust, of Richmond, Va. He first reviewed the evolutionary history of the bacteria from their discovery by Leeuwenhoek, in 1682, to the present time. The germ theory was evolved from the fermentation theory—the morbid process of zymotic diseases being regarded as analogous to fermentation—the contagium playing the rôle of the leaven, exciting fermentation in the blood and humors of the body.

When Liebig appeared with his fascinating physico-chemical fermentation theory, his application of it to explain the morbid process of zymotic diseases was generally accepted, and for a long time his theory kept the yeast-plant—which, since its first

discovery by Leeuwenhoek, had been repeatedly discovered, forgotten, and re-discovered—in the background. When, finally, mainly through the efforts of Pasteur, the yeast-plant was universally recognized, the medical mind, dropping Liebig's theory, came to the conclusion that, if the active principle of fermentation was a living organism, the contagium of zymotic diseases must also be living matter.

Thus the germ theory was ready to spring into life; its way could never have been paved by practical medicine or clinical observations; the pathfinders were botanists, biologists, etc., who, by their researches and experimental studies concerning the ætiology of certain epidemic diseases among plants and insects, disclosed in every instance, as the incontrovertible primary cause of the disease, the action of some low form of life. Dr. Kust then gave a detailed description of the silk-worm plague and its stay by Pasteur. It now stood clear before the minds of the young medical generation that similar organisms must be found as the primary cause of the infectious diseases of mammalia—man included. And they were found at first, perhaps, in too great redundance for the credit of the theory.

Dr. Kust divided the microbes into three classes: Those which were undoubted, those of questionable character, and those whose existence was placed by induction and analogy almost beyond doubt.

The rapid progress made within the last decennium justified the hope that all remaining obscurities as to the relation between microbes and disease would soon be elucidated.

After this, however, there still remained three perplexing questions:

First, Whence came these numerous species of microbes?

The view hitherto entertained that miasms or germs were held in suspense by the air we inhale or by the water we drink was held by Dr. Kust to be fallacious. Any substance present in the air of a locality must have its source in the soil beneath or emanate from an object on the soil, whence it was continually renewed; and what the water contained in solution or suspension was also derived from the surrounding soil, or had found its way into it from without. The soil from the surface down to a considerable depth was the habitat of the bacteria, whence they arose in the form of the finest dust.

Not from the streets of our over-filled cities (provided they were broad enough to give free access to sunshine) arose this dust; it arose from the *soil* into our crowded, unventilated houses as the smoke from the hearth was drawn up into the chimney. No amount of sanitary measures hitherto devised would save a densely populated city from dying out in two or three generations (unless filled up by immigration) so long as the modern architect was allowed full sway.

Dr. Kust discussed the various views advanced concerning the transmutability of bacteria, the change from the specific into the non-specific form, and *vice versa*, and held that our present state of knowledge admitted neither affirmation nor denial.

The second question was, How does the morbid process of bacterial disease ever come to a happy end?

Since the development of the germ theory we had arrived at the perception that we had to reckon with two factors: the cellular resisting power on the one hand, the degree of virulence and the numbers of the invading microbes on the other. The numbers were of the greatest importance. If a few microbes were sufficient to generate disease, what would happen to the doctors who were daily and hourly exposed to their onslaught?

Infection or immunity, abortive or fully-developed form of the disease, recovery or fatal end, were the resultants of the correlation between cellular resisting power and the intensity and numerosity of the invading microbes.

But how should we physiologically conceive this cellular-resisting power? On this point we were still in the dark. A gleam of light was, however, dawning in the distance.

The white corpuscles, leucocytes, or migratory cells which circulated in the blood and were to be met with in every multicellular organism, constituting the blood of the white-blooded animals, and being present in the tissues of the lower animals which had no vascular system—these leucocytes, identical with the amœba found in all stagnant waters, had formed the object of the particular studies made by Dr. Metschnikoff, of Odessa. He could only make his experiments on animals (Bipinaria, Asteridæ, etc.) which were of such exquisite transparency that all occurrences within the living animal could be accurately observed from without. Just as one saw the amœba eating under the microscope, Metschnikoff could observe through the transparent teguments of those animals the leucocytes eat up all foreign bodies. It seemed that, by the division of labor in the multicellular organism, these leucocytes (which Metschnikoff had named phagocytes—eating-cells) had assumed the task of eating up all heterogeneous and waste matter, and eliminating what they could not digest.

The question now arose whether the phagocytes, if they ate up all foreign bodies, would not likewise eat up intrusive microbes?

The experiments hitherto made by Metschnikoff seemed to answer in the affirmative, and, should these experiments and observations prove conclusive, recovery or fatal end of the disease would depend on the proportion between the number of the phagocytes and the number of the microbes. The impenetrable mystery of the cellular-resisting power would have resolved itself into a prosaic, tangible eating power. The third question was, How was immunity effected through vaccination?

There were numbers of untenable, explanatory theories in the field. Instead of descanting upon them, as was his intention, Dr. Kust referred to the exhaustive criticism of these theories by Dr. Sternberg, U. S. Army, which appeared in the London "Lancet," June, 1885. In his explanation of immunity Dr. Sternberg rightly assigned the first rank to vital power, but the causative relation of vaccination to immunity still remained unexplained.

While Metschnikoff's eating-cells brought a solution, minds prone to speculation might, even at this early hour, be led to advance the following theory: That the first meal of microbes eaten by the phagocytes might prove so acceptable that in future they would always be ready to consume any reasonable number of the same kind of microbes that might present themselves; and this theory would rest on foundations possibly more solid than those of any other theory concerning vaccination as yet in the field.

(To be concluded.)

Miscellany.

The International Medical Congress.—The "Canada Medical and Surgical Journal" says:

"The new committee met in New York early last month and proceeded to do the best they could with the class of professional material at their disposal. The nominations of new presidents of the sections seem, in the majority of instances, most extraordinary. We are near enough to the States, and familiar enough with American literature, to know pretty well the names of the leaders in the different departments of medicine and surgery, but of the seventeen names of chairmen of sections there are twelve absolutely unknown to us as representatives

in their different departments. We ask of many, in blank astonishment, Who are they? What have they done? Where do they live? Truly the committee is sunk low when it must place such men at the head of important sections in an international gathering. The contrast between some of the past and present nominees would be simply ludicrous, were it not painful. The association is determined to have the Congress, and the remnant of distinguished men such as Flint, N. S. Davis, and Dalton, who have cast their fortunes with it, may do much to save it from being an absolute failure, but the leaders of the profession, and the workers who have made American medicine and surgery known here and in Europe, are not in it. The play will go on, but with Autolycus disguised as Hamlet."

When the foregoing was written, our contemporary was of course not aware that Dr. Dalton had declined to hold the position to which he had been nominated.

The "Canadian Practitioner" says:

"The new committee met in New York, September 3d, and made some concessions to public opinion, though not so many as we hoped to see. They amended the rule of membership so as to give representation to societies in special departments, and allow the so-called new-code men to become members of the Congress without the privileges of holding any offices. There was apparently no direct effort made to bring back the eminent men who have withdrawn from the organization. Until this is done it is hardly possible for the proceedings of the committee to command the respect and confidence of the medical world, which is looking on with fear and trembling.

"Among the most important acts of the last meeting was the election of Dr. N. S. Davis, of Chicago, to the office of Secretary-General. This will meet with general approval. The committee will get a fair support in New York, particularly from the Bellevue men. The name of Austin Flint, Sr., will be worth much among the shattered fragments that remain. Many able men in different parts of the Union will assist. We may derive what comfort we can from these considerations; but, after all, the broad, sad fact remains that the cream is principally gone, and we are left to feast on skimmed milk."

The Proposed New National Medical Association.—Commenting on the proposal to form a new national medical association in the United States, the "Canadian Practitioner" says: "It has been proposed to organize in the United States a medical association, corresponding to the Zurich Academy of Medicine, limited in numbers, and so honorable a body that membership in it would carry the highest reward that American physicians would have to hope for.

"The proposal, which is heartily indorsed by the 'New York Medical Journal,' has been made on account of the unpopularity of the American Medical Association. Its position has not been strong for years, but its recent action at New Orleans has capped the climax, and the consequence is that a strong feeling prevails that this association 'must go' if it be not thoroughly reorganized."

A New Physical Sign of Tricuspid Regurgitation.—Dr. W. Pasteur, of the Middlesex Hospital, London ("Lancet"), says: "In several cases in which there was reason to suspect functional incompetence of the tricuspid valve which have recently come under my observation, a physical sign has been present to which I believe attention has not been drawn, and of which I have been unable to find any mention either in the standard text-books or in the best known monographs on the subject of cardiac disease. This sign consists in a distension—with or without pulsation—of the superficial veins of the neck, occurring when firm pressure is exerted over the liver in the direction of the spinal column, and independent of the movements of respiration. A little consideration of the anatomical relations of the parts concerned will suggest the means with which an impediment may be created to the flow of blood, in either direction, through the vena cava inferior by such a manœuvre especially when the liver is obviously enlarged. It seems to me that the state thus produced is virtually that which obtains as a chronic condition in long-standing and severe cases of tricuspid incompetence as far as regards the tension in the systemic venous system in the immediate vicinity of the heart. Assuming the existence of tricuspid regurgitation and of a source of compression of the vena cava inferior, it is obvious that with each systole an excessive reflux of blood must take place into the vena cava superior and its tributary veins. It may be noted that the question of pulsation, as compared with distension or undulation, is merely one of degree of morbid venous tension. Although the number of cases in which I have observed this phenomenon is certainly limited, I have never failed to elicit it when there was indubitable evidence of tricuspid incompetence; on the other hand, I have hitherto invariably failed to obtain it in other forms of cardiac valvular disease, and in various cases of hepatic enlargement from causes other than passive congestion. I can not but think that this sign may furnish an important aid to diagnosis in cases where the usual signs of tricuspid regurgitation are ill-developed or in abeyance, and that it may prove a valuable factor in the difficult general problem of prognosis in cases of cardiac disease."

THERAPEUTICAL NOTES.

Baths of Permanganate of Potassium are recommended by Hüllmann, of Halle ("Arch. f. Kinderheilk."; "Dtsch. Med.-Ztg."), in the treatment of scrofulous affections of the skin, eczema, and intertrigo, and especially during the period of desquamation following measles, scarlet fever, and chicken-pox. For a general bath, 15 grains of the permanganate may be dissolved in a bucketful of water.

Pilocarpine in the Treatment of Stramonium Poisoning.—The "Medical Times and Gazette" states that a Hungarian physician, having been called to a child, four years old, in a comatose condition from having eaten, as her playfellows said, two handfuls of the ripe berries of the thorn apple (*Datura stramonium*), and in whose vomit the berries could be plainly detected, gave pilocarpine hypodermically, thinking that, as that had proved successful in atropine poisoning, it ought to be useful in datura poisoning also. He began with the fourteenth of a grain, and, as no effect was produced, he increased the dose to a seventh. As improvement was now evident, this was repeated. Altogether, in five hours he gave six sevenths of a grain, and by that time the child was convalescent. No physiological effects of pilocarpine were produced until the last dose was given, which was followed by profuse secretion of saliva and perspiration.

The Hypodermic Use of Osmic Acid.—Schapiro ("St. Petersb. med. Wchnschr."; "Med. Times and Gaz.") recommends the following solution:

Osmic acid	1 part;
Glycerin	40 parts;
Distilled water	60 "

He has injected this under the skin of the face without any untoward result.

Liquor Sodæ Chloratæ in the Treatment of Typhoid Fever.—Dr. Pearson, of Cape Colony ("Lancet"), believes that the duration of every case of typhoid fever may be shortened if it is taken in time. He gives notes of three cases in which he produced good effects with Labarraque's solution. To a lad fourteen years old he gave seven minims and a half every three hours, and to a girl of the same age tablespoonful doses of a mixture of a drachm and a half of the solution and six ounces of water.

The Administration of Nitro-glycerin in Angina Pectoris.—Dr. W. Murrell writes to the same journal, questioning the wisdom of the admission of only one preparation of nitro-glycerin into the new British Pharmacopœia—that of chocolate tablets containing one one hundredth of a grain each. Patients vary remarkably, he says, in their susceptibility to this peculiar remedy. One man takes the six hundredth of a grain, and suffers for hours afterward from intense headache, which incapacitates him for any kind of work; while another patient will take fifteen or twenty minims of the one-per-cent. solution ten or twelve times a day, not only without inconvenience, but with the greatest possible benefit. "The small-dose man would find his time pretty fully occupied if he had to divide each little tablet, weighing only two grains and a half, into six equal parts; while his large-dose colleague might experience some inconvenience in swallowing fifteen or twenty chocolate drops at a dose, especially if he were suddenly arrested by an anginal attack while crossing a busy thoroughfare." The alcoholic solution is free from the objection implied, is cheaper, and admits readily of the addition of adjuvants.

Lectures and Addresses.

RELIGION AND MEDICINE.

AN ADDRESS DELIVERED AT THE OPENING EXERCISES OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK, SEPTEMBER 29, 1885.

BY PROFESSOR WILLIAM MECKLENBURG POLK.

I WOULD give much to have the custom abolished which in our school demands each year an address from some member of the faculty. If we were allowed to discourse on a purely medical topic, one with which we should be familiar, the wish would be less pressing; but this we are forbidden by the unwritten law of this institution. Turn we must, then, to some other field for a subject.

Medicine is commonly thought to be a very exclusive pursuit, and yet, when we look about, it is a pleasure to realize how we mingle with those of other pursuits—how many are the points of contact between medicine and other objects of intellectual ambition. In the direction of either religion, law, or polite literature, we find fruitful fields of interesting inquiry; and each is so broad as to furnish material for a series of addresses. We will choose religion, and endeavor hastily to point out some of the matters of interest connected with its association with medicine.

From the very nature of its mission, medicine of necessity was the offspring of religion. One of the grandest, the most beneficent, unions between the two we find depicted in the records of the ancient civilization of Egypt. From the enlightenment which marked the priesthood of that country, they being in fact the center of the intellectual growth of ancient Egypt, it was to be expected that great results would accrue to medicine beneath their rule; and such was the case, for we find in their records evidences of a medical and surgical proficiency but little, if any, behind that of our middle ages. Three thousand years before the Christian era those men had formulated their precepts in a book which was to them a medical statute-book of such influence that, if its teachings were followed implicitly, the physician was held blameless, no matter what the result to the patient. Such was the dignity of medicine under these patrons, it wielded an important influence in the state, and much of the light which in our day has been thrown upon the life of that wonderful people comes from the medical writing of that period. There is good reason to believe that the temple of Serapis at Memphis was the center of ancient Egyptian medicine. There resided the fathers of the profession, the chief teachers, and there no doubt flocked all those who were afflicted with complex disorders, and no doubt it was there that the text MSS. and monographs were prepared. If such was the case, it was an admirable arrangement by which to sift the prolific and loose writing which perhaps afflicted the practitioner of that day. What a blessing some such institution would be to us! Could we have a central school to which the compositions of our contemporaries could be referred in order that all which was a stale repetition of accepted ideas might be suppressed, and all which was a real addition to facts might be recorded, what a saving of precious time would be gained to us—time now wasted in the perusal of old ideas in new dress which the ambitious but shallow enthusiast of our day insists upon laying before us!

In some instructive and pleasing books the Egyptologist Ebers, the scientific novelist, has spurred his imagination to present us with charming pictures of this union of religion and medicine, developing in one of his works the character Nebeuchari, an oculist, whose fame spreading widely over the East, was sought as the one to cure the blindness of the mother of the Persian King Cambyses, a feat which he accomplished by the operation of couching.

And yet it was through the work of this very king that a final separation of medicine from religion was brought about, for, as the conqueror of Egypt, he dealt its priesthood such a blow that, stripped of all prerogatives, they never regained their ascendancy in the state. Medicine after that was pursued as a separate profession. But truly it was a noble beginning for our calling to be thus fostered by religion as an ally in the most brilliant civilization of the early ancients—for it was a civilization that was full of wise and righteous conceptions; one that marked the birth of many other arts and sciences, which since have done so much for the happiness of our own era; one, too, that stands second to no other in the noble and enduring edifices with which it sought to manifest its devotion to its gods, vast temples adorned with massive pillars, approached through avenues of sphinxes and fronted by the obelisks (those graceful shafts of solid stone) which, bearing aloft their sacred inscriptions, were ornaments that imperial Rome and even our own fair centers of Christian civilization were but too eager to appropriate.

Turning to Buddhist India, that rival of ancient Egypt, we find medicine in a position far from favorable. In the hands of a special sect who were governed by oppressive laws, it was driven into an inferior position. But this was to be expected among a people whose religion was a grand system for the cultivation of selfishness. With them the end of life was "nonentity," the early attainment of which was devoutly to be desired. For, if it were not granted, the soul wandered from animal to animal, expiating in restless transmigrations the imperfections of the earthly life.

The attainment of nonentity or, as it was called, "Nirwana," being then the object of life, the devout should seek to destroy within himself all cleaving to existence, weaning himself from every earthly object, and, by a life of isolation —one given to self-denial, self-mortification—learn to sink into perfect quietude—apathy. This was the preparation for the end, a goal all the more rapidly reached as the preparation was the more perfect. In the face of such a religion, in the midst of the civilization that must spring from such a faith, a class could have but little place whose cardinal principle is that God has given man the earth and the fullness thereof for his enjoyment; whose aim is to free life from physical woe, to make it attractive by giving God's image the health with which to cultivate in vigorous, joyous strength the duties and obligations of this world; to pro-

long his days, that he may enjoy the fruits of his labors and correct the errors of his youth.

Coincident with the decline of Egyptian civilization began the rise of the Greek, and in nearly all essential particulars the one was based upon the other. This was distinctly the case with all that pertained to medicine. For, as in Egypt it began and was fostered as a part of the religious system, so in Greece the temples of Æsculapius were its places of abode; and as in Egypt the two were finally separated, so was it here. But the manner of the separation was different.

In Egypt it followed the crushing blow dealt the priesthood by the Persians; in Greece it resulted from the dawning of civilization upon the most active of the ancient minds —a mind which, drawing most of its best inspiration from Egypt, was quick to recognize that a time had come when the union of religion and medicine was no longer beneficial to either. The final blow to the dependence of medicine upon the religious orders was given by Hippocrates when he sought, though obscurely, to lay the foundation for its study as an inductive science, when he endeavored to apply to it the principle which about the same time Aristotle outlined as the inductive system of philosophy.

As Greek culture and thought overcame all intelligence to which they were opposed, so Greek medicine extended itself wherever Greek civilization obtained a footing. Thus it came about that, invigorated by that versatile people, medicine returned to the land of its birth, as a department in the Alexandrian Museum, and was in time to rescue from decadence the remnants of the art which yet resisted the decline which had fallen upon all purely Egyptian culture.

Unfortunately, it soon drifted from the anchorage which Hippocrates endeavored to secure for it, and followed the drift of the popular mind into the mazes of the speculative philosophies which, during the whole of the later Grecian and middle Roman periods, were the substitutes for religion with the cultured. This, as will be seen, was pregnant with dire results to medicine.

Such was the influence of one upon the other that we find many of the early philosophers making a special study of medicine or medical subjects as an aid to the development of their various systems.

Aristotle, the father of scientific research, the friend of Alexander, not only pursued it as an adjunct to his peculiar work, but found in one of its subdivisions a substantial means of support, for, after squandering an ample fortune, he gained his livelihood as proprietor of an apothecary shop at Athens.

It would be a pleasant task to follow medicine to the museum at Alexandria, that brilliant creation of Alexander's brother, and see what was attained under its direction, for surely much must have been accomplished under a system which even at the dawn of Christianity had invented the steam-engine. But our path leads in a different direction.

Looking next at medicine under the Roman Empire, we find it following the direction imparted by the Greeks, for, while their political system fell before the arms of Rome, their civilization remained triumphant and in turn overran the whole of Rome's vast empire. It will suffice to say that under the empire medicine in time received full recognition both in its study and in its practice. Its teachers, being provided for by the state, were associated with the teachers of rhetoric and other departments of polite learning, and of those who pursued it as a practice many held lucrative positions in the municipalities, and others attained high civil rank.

We now reach the most interesting part of our question —the relation of medicine to the Christian Church.

No one recognized the divine mission of our calling more clearly than the fathers of the early Church, and they were wise enough to avail themselves of it as one of the means of extending the faith. The religious medical enthusiasts who, under the name of Perabolani, penetrated most parts of the Roman Empire, in many places united the functions of priest and physician, by which device they gained freer access to the common people than would have been possible in the guise of mere propagandists of a new faith. While ministering to the body racked with pain, they could the more readily bring the troubled spirit to dwell upon the satisfying principles of the Christian faith, for the attitude of the sick pagan of that day was much the same as that of his ailing successor of to-day, the inclinations of both being illustrated in the familiar lines,

"The devil was sick, the devil a saint would be;
The devil was well, the devil a saint was he."

Apart from the aid thus derived from medicine as a means through which to reach the lower orders of society, there was much in common between the principles of a religion resting upon the divinely human precepts of the "Sermon on the Mount" and those of a profession whose purpose was the alleviation of human suffering.

Could those whose mission it was to guard, develop, and extend these principles have harmonized their interests, it would have been a happy day for medicine; but the exigencies of the occasion, the logic of events, drove them into antagonism.

We have seen the intimate relation existing between medical thought and culture and the pagan philosophies, an association dating from the time of Aristotle and finding its chief expression in the university at Alexandria, that center of pagan thought in the Roman Empire, and the most powerful opponent of the Christian faith.

This association had obtained for medicine not only full recognition in the schools, but great prestige before the people; it was but natural, then, that it should be arrayed on the side of paganism in the conflict which was waged between the pagan and the Christian. We can not wonder, then, that with the triumph of Christianity the intelligence and culture of medicine were swept aside, that its institutions of learning were suppressed, and that the regularly inducted members of the profession were almost supplanted by the Perabolani. It is true, however, that ample provision was made for replacing the pagan hospitals by others more in accord with the Church. Yet, noble as were these charities, they labored under an essential defect in having substituted for the educated, trained physicians, who had been the directors of such institutions under the old order, un-

skillful, though well-meaning and even enthusiastic ecclesiastics.

The consequences of this unfortunate and, for medicine, disastrous antagonism were seen in the gradually increasing credulity and imposture which in succeeding ages marked the practice of our profession. For at length it came to pass that there was an almost universal reliance on miraculous interventions, shrine and relic cures, as a means of healing the sick and maimed.

This method of pursuing medicine as a practical art reacted on its pursuit as a scientific study, checked its development, and tended to its debasement. But the faithful of that age have their representatives among us even now, save that now they are to be found only among the ignorant.

And, after all, the mistake committed by the fathers was that which all ages have witnessed—the blindness of man to the blessings God has already given him in the wonders of this creation if he will only have the wisdom and patience to put forth his mind and develop them.

While such was the fate of our science under the direction of the early ecclesiastics of the Christian Church, by one of those seeming inconsistencies which Providence sometimes displays in its workings, the Mohammedan faith was being illuminated through the influence of medical philosophy.

When first the children of the prophet overran the eastern and southern portions of the Roman Empire they scorned all learning not contained in the limited pages of the Koran. But through the influence of the Nestorians in Asia, and the Hebrews in Spain and Africa, these fanatics soon became enthusiastic admirers of learning. The manner in which this was brought about is a great tribute to the virility and universality of the principles of our profession.

The Mohammedan, the Hebrew, and the Nestorian found the pivot of their faith to be the same. All believed in the unity of God. But one of the party, however, accepted Mohammed as his prophet. Draper, in speaking of this, says: "No doubt estrangement on this point might have arisen, but a remarkable circumstance opened the way for a complete understanding between them. Both the Hebrews and the Nestorians had been among the most tenacious and successful devotees to the study of medicine, and the Hebrews especially had long produced distinguished physicians. These studies formed a neutral ground on which the three parties could unite in harmony, and so thoroughly did the Arabians affiliate with these their teachers that their physicians became their great philosophers, their medical colleges their centers of learning."

Medical philosophy, thus finding shelter with the Mohammedan and doing so much for their elevation and refinement, widening thus its influence, was naturally viewed by the Roman branch of the Church as even more offensive than when allied to the ancient philosophies; and when it became evident that Hebrew physicians, as exponents of Mohammedan civilization, were aiding in the development of barbaric western Europe, it is not a matter of wonder that that Church should have endeavored to degrade physicians as a class, teaching the people to regard them as atheistical disturbers of the divine order of things. And yet, while this was the general attitude of churchly influence toward medicine, some of the monastic orders were permitted to pursue its investigation; but these, as a rule, so cloaked it with the theories of the alchemist as to accomplish no more than the keeping alive an ill-directed spirit of fantastic inquiry.

By the thirteenth and fourteenth centuries Arabian medicine had made such inroads that the awakening spirit of Christian civilization began to avail itself of its enlightenment, and then we find numerous instances of a liberal patronage being extended to our profession by the great men of the Church.

And yet the ancient attitude toward medical culture—toward its pursuit as a department of science—had been too firmly imbedded to be easily uprooted; and even to this day, in spite of the upheavals of the Reformation, a remnant of that prejudice is witnessed in certain European countries in the social status accorded to the members of the profession.

But it is not disloyal in us to believe that, while the early Church felt constrained to antagonize medicine as a department of science, it was forced into the antagonism that it might all the more securely lay broad the foundations of that grand system of morals for the lack of which Egyptian, Greek, Roman, and Mohammedan civilizations, being weighed in the balance of human destiny, were found wanting; without which this glorious civilization of the nineteenth century could never have been attained. And in this era we can say that, in that she has given us this wonderful age, with all of its possibilities and achievements, she has fully compensated for every repression.

With that early Church the problems were indeed momentous, and the power with which she rose to the fulfillment of her mission was such as to draw from one of her keenest critics the following eloquent tribute:

"From her central seat at Rome her all-seeing eye, like that of Providence itself, could equally take in a hemisphere at a glance or examine the private life of an individual. Her boundless influence enveloped kings in their palaces, and relieved the beggar at the monastery gate. In all Europe there was not a man too obscure, too insignificant, or too desolate for her. Surrounded by her solemnities, every one received his name at her altar; her bells chimed at his marriage; her knell tolled at his funeral. She extorted from him the secrets of his life at her confessional, and punished his faults by her penances.

"In his hour of sickness her servants sought him out, teaching him by her exquisite litanies and prayers to place his reliance on God, strengthening him for the trials of life by the example of the holy and the just.

"Her prayers had an efficacy to give repose to the souls of his dead. When even to his friends his lifeless body had become an offense, in the name of God she received it into her consecrated ground, and under her shadow he rested until the great reckoning day.

"From little better than a slave she raised his wife to be his equal, and, forbidding to have more than one, met her

recompense for those noble deeds in a firm friend at every fireside.

"Discountenancing all impure love, she put round that fireside the children of one mother, and made that mother little less than sacred in their eyes.

"In ages of lawlessness and rapine among people but a step above savages, she vindicated the inviolability of her precincts against the hand of power, and made her temples a refuge and sanctuary for the despairing and oppressed. Truly she *was* the shadow of a great Rock in many a weary land!"*

Original Communications.

GONORRHŒA IN THE FEMALE.†

By ANDREW F. CURRIER, M. D.,
NEW YORK.

A paper with this title was published by me in the "New York Medical Journal" for January 10 and 24, 1885, in which the hope was expressed that the attention of the profession in this country might be directed to this disease, which was believed to be much more frequent in its occurrence and important in its bearings than was usually supposed, even by well-informed members of the profession.

Various reasons have been given why this disease should be practically ignored by the body of the profession, and notably by the gynæcologists, within whose field its consideration would naturally occur. The principal ones alleged are the difficulties in its diagnosis and the poor results which attend its treatment. This is a humiliating confession when Sänger's statement is considered, that more than one ninth of all gynæcological cases are now believed to be of gonorrhœal origin. It seems additionally strange, also, when one considers the great prevalence of gonorrhœa in the male, and the attention which is devoted to its nature and treatment.

I trust I may be pardoned if I draw somewhat upon the paper to which I have referred; perhaps also some points in *this* paper, which may seem incomplete, will be found to be treated with greater thoroughness in the former one. The only claim which is made for this paper is that it is mainly a *résumé*, as faithful as possible, of the work which has been done in the investigation of this disease. The conclusions of the former paper, which subsequent experience and reflection have not induced me to modify, were:

1. Gonorrhœa in the female deserves more thorough investigation than it has yet received, especially in the light of recently established facts.

2. The diagnosis of the disease, with improved methods of investigation, chief among which are Sims's speculum and the microscope, is not so difficult as has hitherto been considered, even in the absence of direct information of act and exposure to gonorrhœal infection.

3. There is a difference between the characteristic discharge of true gonorrhœa, both as to its nature and its effects, and other mucoid discharges from the female genital tract. As a corollary to the foregoing statements, while investigators differ as to the significance of the micrococcus of gonorrhœa, its constant presence in the discharges is not denied.

4. Gonorrhœa in the female is identical with gonorrhœa in the male; the fact of individual peculiarities and susceptibilities is not questioned.

5. A series of careful investigations in well-defined cases, in a hospital or other place in which the changes and developments can be accurately noted, is desirable. No line of treatment can be recommended as unfailing and entirely satisfactory until the results of such investigations are known.

No important contribution to this subject has been made in American literature, in so far as I can ascertain, with the exception of Dr. Noeggerath's notable paper, which was read before the American Gynæcological Society in 1876, having been previously published at Bonn, in the German language, in 1872. It is but just to say that Dr. Noeggerath's views inaugurated an epoch in the history of this disease. They were received with great incredulity by the profession here and abroad. Their suggestiveness has borne fruit, however, in the experiments and observations of a number of careful workers, and some of those who were most outspoken in their disagreement with those views now give a more or less positive assent to them. Martineau and a few other French writers have recently described certain rare forms of the disease, but the most important recent contributions have been made within the past year in Germany by Bumm, Sänger, and Oppenheimer.

I.—In regard to the ætiology of the disease, while the evidence is not absolutely complete, even those who are skeptical will admit that the probabilities are altogether in favor of a parasitic origin. Such an origin was maintained by Neisser in 1879, after an elaborate series of investigations. Neisser was not the first, however, to assert such an origin, since Donné, in 1844, discovered a spore in urethral discharges which he named *Trichomonas vaginalis*.

Salisbury, in 1868, discovered *Crypta gonorrhoica;* Jousseaume, in 1872, discovered *Algue génitale*, and Hallier in the same year (1872) *Konotecium gonorrhoicum*. All these were forerunners of Neisser's gonococcus, but the latter was presented to the public at a time when the germ theory had captivated the minds of all men, and was therefore received with much more favor and sympathy than its predecessors. Bumm asserts ("Arch. f. Gyn.," xxiii, 3), as the result of extensive experiment, not only that the contagious property of this disease is located in the gonococcus, but that this microbe is distinguished from all others which are contained in the discharges from the genital tract by its faculty of penetrating living tissues and its manner of multiplication. Widmark has also shown ("Svenska lakaresällsk. Förh.," S. 159, 199, and "Jahrb. f. Kinderh.," xxiii, 1 and 2, p. 209) that in gonorrhœal conjunctivitis in adults the gonococci show the same tendency to penetrate below the epithelium of the cornea and into the lymphoid tissue which Bumm has observed in the tissues of the genital

* John W. Draper.

† Read before the Medical Society of the County of New York, September 28, 1885.

tract. In the cornea of the new-born infant, on the other hand, the lymphoid tissue is absent, and the gonococci are found upon the epithelium. The form and size of the gonococcus are stated by Bumm to be differential characters which are of minor importance, and these statements must be borne clearly in mind in examining the opinions of those who do not agree with Neisser and his followers as to the infective character of the gonococcus. The identity of this disease with the ophthalmo-blennorrhœa of new-born infants has been shown by Sattler, Haab, and other competent ophthalmologists, the distinction between it and ordinary purulent catarrh of the eyes in new-born infants consisting in the absence of gonococci in the latter and their constant presence in the former, from inoculation with gonorrhœal virus. (See Haab, "Rev. gén. d'ophthal.," June 30, 1885, p. 265.)

Of gynæcological investigators in this field, Kroner stated that, of ninety-two cases of ophthalmo-blennorrhœa neonatorum which he had seen, the gonococcus was found in sixty-three. (See "Am. Jour. of Obst.," February, 1885, p. 197.) He also examined the vaginal secretions of twenty-one mothers in the eyes of whose infants gonococci had been found, and of eighteen mothers in the eyes of whose infants no gonococci had been found. In the former group gonococci were found in all cases, and usually without the presence of any other bacteria. In the latter the characteristic hives of gonococci were absent, though diplococci were found. Nothing satisfactory could be obtained from the mothers in these cases respecting gonorrhœal infection, and the presence or absence of gonococci was taken as sufficient evidence for the basis of a diagnosis. Oppenheimer examined the secretions from the upper portion of the vagina which were taken from one hundred and eight pregnant women at the Heidelberg Obstetric Clinic, between January and September, 1883, and found gonococci in thirty of them (Untersuchungen über den Gonococcus, "Arch. f. Gyn.," xxv, 1, p. 51).

He also made some investigations upon the subject of *ophthalmo-blennorrhœa neonatorum*, and found that it usually occurred within five days from birth, or about the usual incubation period of gonorrhœa, and that it was most frequent in those cases in which parturition had been tedious, notably in so-called *dry* births.

In cases in which blennorrhœa or corneal ulceration was present at birth, the supposition was advanced that the bacteria might have penetrated the fœtal envelopes and infected the *fœtus in utero*. As evidence of another character, Zweifel had the hardihood to inoculate the eyes of healthy infants with lochial secretions in which no gonococci could be found; no blennorrhœa resulted ("Arch. f. Gyn.," xxiii, 1883). Kroner also inoculated the conjunctivæ of five blind persons with secretions from the vagina of a pregnant woman in which no gonococci were found, no bad results following. In the case of another blind person the eyes were inoculated with muco-purulent matter from the vagina of a mother whose infant was suffering from simple purulent conjunctivitis, likewise with a negative result ("Am. Jour. of Obst.," February, 1885, p. 197). Important testimony as to the infective character of the gonococcus also resulted from some recent experiments of Welander ("Gaz. méd. de Paris," June 7, 1884, p. 267).

This investigator found gonococci in the purulent urethral secretions of seventy-nine women. In twenty-five of them he traced the source of the contagion, and discovered gonococci in the urethral discharges of each of the twenty-five men. Vaginal secretions which contained no gonococci gave negative results when used for inoculation purposes. This experiment was tried in three cases. In one the secretion was taken from the vagina of a woman who was menstruating at the time of the experiment. From the urethra of the same woman matter containing gonococci was also removed and applied to the healthy urethra of a man. At the end of two days this man began to suffer with an urethral discharge, in which cocci were discoverable upon the epithelial cells. On the following day there was a characteristic gonorrhœal discharge which contained an abundance of gonococci. Similar results followed inoculation with matter from the infective urethral discharges of the two other women.

Koch demands the satisfaction of three conditions in proving that a given infectious disease is caused by a given micro-organism:

1. That one and the same form of spore be always found in a given disease.

2. That the same be easily recognized, morphologically or by its chemical relations, as well as by its behavior to coloring materials.

3. That the disease may be artificially produced in a healthy individual by inoculation with pure cultivations of spores.

These requirements, says Oppenheimer ("Arch. f. Gyn.," xxv, 1, p. 51), are all fulfilled by Neisser's gonococcus in its relations to gonorrhœa. Pure cultivations have been obtained to the fourteenth generation, and, although the disease could not be induced (Oppenheimer, *loc. cit.*) in dogs, cats, puppies, and mice, it has been in the human subject by Bokai, Bockhardt, and Welander.*

Further testimony as to the infectious nature of the gonococcus is at hand, if it were required, from a number of observers who have treated the question experimentally. (See Leistikow, "Charité Annalen," 1882; Königstein, "Arch. f. Kinderh.," 1882; Arning, "Vierteljahresschrift für Dermatologie," 1883; O. Haab, "Festschrift für Horner," 1880.) Among those who are still skeptical or incredulous with regard to the pathogenic powers of the gonococcus, mention may again be made (as in my former paper) of Sternberg. He maintains that the gonococcus is not morphologically distinct from all other bacteria ("Med. News," Philadelphia, xlv, 1884, p. 426), an identical one being found in normal human saliva, in pustules resulting from contact with the cadaver, and in the pus from acute abscesses; but he very properly adds that it is not essential for the gonococcus to have distinguishing morphological characteristics to establish its position as the cause of the infective virulence of gonorrhœal pus. This is simply in accord with what has already been quoted from Bumm's statements, and

* Stub reports that the gonococcus will produce a condition which closely resembles gonorrhœa, in all its details, in dogs and rabbits. ("N. Y. Med. Jour.," May 23, 1885.)

is also in line with Koch's cholera investigations, at least three bacilli having been discovered which present morphological peculiarities resembling those of the comma bacillus. In following these investigations, Sternberg and two other gentlemen applied to their own urethræ, August 23, 1884, cultivations of gonococci of the ninth generation, taking all necessary precautions that the microbes should not be disturbed. The results were negative, and these, with other similar unsuccessful experiments, tended to establish Sternberg's skepticism as to the infective properties of the gonococcus. He declares, however, with perfect frankness, that, notwithstanding his own failures, the experiments of Bockhardt and Welander, which I have quoted (See "Nord. med. Ark.," Stockholm, 1884, xvi, No. 2), together with evidence relating to other infectious diseases, warrant belief in the possibility that virulence does depend upon the presence of this micrococcus, which is a widely-distributed and usually harmless organism, but which may acquire specific pathogenic power, as a result of special conditions relating to its environment, which pathogenic power may be lost, he thinks, when these conditions are removed. This line of reasoning on the part of an expert and conscientious investigator seems, to my mind, a virtual admission of the special infective power of the gonococcus, especially when we bear in mind that there is no more inconstant quantity than the physical condition and susceptibilities of a given tissue of the body. Therefore the negative results of inoculation with the gonococcus, in any number of cases, need not outweigh positive testimony in a single case, if all the conditions are reliable. The immunity from contagious diseases in general which seems to be peculiar to some individuals is certainly no argument against the general theory of susceptibility to such diseases.

De Amicis professes ("France méd.," Paris, 1884, ii, p. 1095) to have produced blennorrhagia with injections of ammonia, and to have found micrococci and diplococci on the sixth day which he could not differentiate from those which were obtained in cases of urethritis with a clear history of contagion. He affirms that diplococci are to be differentiated from micrococci which are found apart from the genital passages only by their size, distribution, and mode of grouping. Bumm and Widmark have been quoted as insisting upon a more important distinction than this, namely, the property of penetrating living tissues. Neither De Amicis nor Sternberg has made any comment upon this characteristic. De Amicis agrees with Sternberg that the gonococcus may possibly have pathogenic properties under certain conditions, in which the mucous secretions act as cultivation-fluids. At such times the microbes develop with great activity, and may then possess an exceptional though not an original infective power. In legal medicine it was thought that the presence of gonococci could not be taken as a necessary evidence of venereal disease of inflammatory origin. Welander, whose important experiments have been quoted, concludes that there is a practical importance in the presence of these organisms, especially as a means of deciding upon the existence of infectiousness in prostitutes and others, which would certainly give them a value in a medico-legal sense.

Thus we have the arguments *pro* and *con* with regard to the infectious character of the gonococcus, and it appears that no one who has experimentally investigated the subject and whose work is accessible to the public ventures to give more than a modified dissent to the statements which were made by Neisser. That the microbe, at least in so far as morphological peculiarities are concerned, is not limited to the genital organs, or even to the eyes, is probable. Neither must it be overlooked that von Tischendorf professes to have found gonococci in the vaginal discharges of little girls suffering from scarlet fever, in which an origin by sexual contact was excluded, and in which, also, inoculation produced similar conditions in other children ("Am. Jour. of Obst.," Feb., 1885, p. 199), but, in this case also, there is no indication that the distinctive characteristic which was mentioned by Bumm was present. Little remains to be said regarding the ætiology of the disease. A history of recent impure sexual contact, in the presence of certain well-known clinical features, with or without an examination for gonococci with the microscope, will usually be accepted as sufficient evidence of gonorrhœa. The search for these microbes is always difficult, and often unavailing when only a few are present. That we are to depend mainly upon the clinical features for a diagnosis is agreed by Sänger, Fränkel, Kroner, and Noeggerath. This is especially true in many of the cases of latent gonorrhœa concerning which the skepticism of earlier days is passing away. The conversion of Fritsch, who was once one of the most pronounced opponents of Noeggerath's views, is an evidence of this.

(*To be concluded.*)

THE EARLY STAGES OF HUMAN DEVELOPMENT.

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(*Concluded from page 401.*)

The second specimen to be considered now is His's embryo L (1, Heft i, 135–139), which measured 2·4 mm. in length, and was obtained from a chorionic vesicle of 8 to 9 mm. diameter. The specimen had been considerably injured, and no exact knowledge could be obtained in regard to the heart or the disposition of the allantois or the amnion. Precisely these three points are elucidated by Coste, while His has worked out the internal anatomy of his specimen; in short, the two descriptions complement one another in a remarkable manner.

Nearly all that His ascertained is represented in the accompanying illustrations, Fig. 7. A gives a side view showing the thickening of the head end and the upward curving of the tail, and the two gill-slits in the cervical region; the mouth, *M*, is very large; between it and the first gill slit intervenes the thick ridge, *Mx*, of the first gill-arch (branchial or visceral arch, *auct.*), which becomes the mandible; between the two slits is the second or hyoidean arch, in connection with which the hyoid bone afterward arises. A large body cavity is present, C, *Coe;* the walls of the body (somatopleures) pass over along an extended line into the amnion; the connection between the embryo and

the yolk-sack is already very much restricted compared with Coste's embryo, Fig. 4; at the side of the head a line and shadow mark the position of the optic vesicle. B is a ventral view; it shows the large, wide mouth, *M*, which, according to His, was apparently in communication with the intestinal canal, which is nothing but a straight tube with a great pharyngeal dilatation and a wide, open union with the yolk-sac; the median light band shown at the back of the mouth is the central nervous system shining through the covering tissue. C is intended to show the digestive tract, and is partly a horizontal section. Especially to be noticed is the enormous size of the pharynx (the region of the branchial arches), the straight, short intestine, and on each side of the latter the distinct body-cavity, *Coe;* there are indications of four visceral arches, *Mx*, *2*, *3*, and *4;* in front of the pharynx is shown the ventral surface of the fore-brain or first cerebral vesicle, with its lateral diverticula, the optic vesicles. D is a dorsal view of the brain and medullary canal, which is still open at *a*. The brain and spinal cord are already differentiated by the dilatation of the former. The brain subdivides very early in all vertebrate embryos into three dilatations or primary vesicles; but in this embryo the two anterior dilatations are not yet clearly separated from one another, hence there is only one widening of the brain in front; the front end is seen to bend downward and give off the conspicuous optic vesicles, *Op*, which therefore arise before there is any trace of the cerebral hemispheres—an important fact; the posterior and larger dilatation is the primitive medulla oblongata; no trace of the cerebellum has appeared. The whole nervous system is a tube the walls of which are of nearly uniform thickness, except that the dorsal wall of the third vesicle (the cavity of which becomes the fourth ventricle of the adult) is very thin. This thin wall is persistent in the adult and never develops into nervous substance. On each side of the medulla lies a round cyst, the auditory sack, *Au*, the beginning of the adult membranous labyrinth. Three other points not shown in the figures remain to be noticed. 1. In the tissue at the back of each body-cavity, *Coe*, was found a single longitudinal epithelial canal, the Wolffian duct, the first part of the uro-genital apparatus to be developed. 2. Close below the nervous system lay a median rod of cells with a small central cavity; this rod is the *notochord* or *chorda dorsalis*, the primitive embryonic axis around which the vertebræ are formed later. 3. All the tissues are still embryonic—that is, the cells are not yet differentiated into tissues. Unfortunately, the number and disposition of the myotomes were not ascertained.

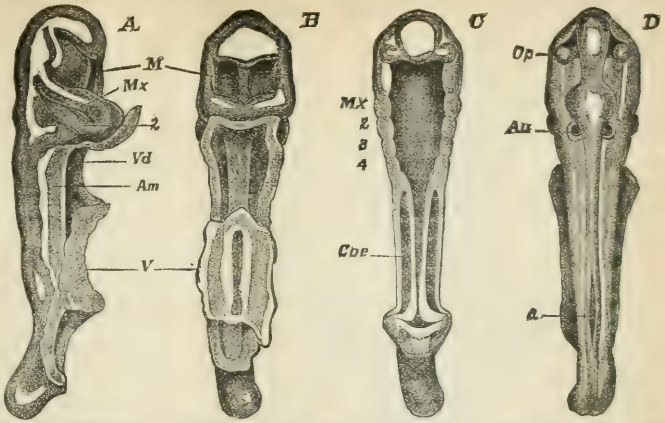


FIG. 7.—HIS'S EMBRYO L; 2·4 mm. long. A, side view; B, ventral view; C, ventral view with the walls of the body and intestine seen in frontal section; D, dorsal view, showing the central nervous system. *M*, mouth; *Mx*, inferior maxilla or mandible; 2, hyoid arch; Vd, vorderdarm; *V*, splanchnopleure of the yolk-sack; 2, 3, and 4, gill-arches; *Cœ*, cœlom or primitive body-cavity; *Op*, optic vesicle; *Au*, auditory vesicle (otocyst); *a*, point where the medullary groove has not yet closed.

It will be as well to mention here, rather than later, four descriptions of young embryos, which either belong in this stage or are a little older. Of these descriptions Remy's alone brings much of any positive information, but the size and age of his embryo can only be guessed at.

The first of the embryos is Schröder van der Kolk's (5, p. 106 ff., with figures on Pl. ii). Kolk's figures are not very clear. He states that his specimen had two gill-clefts and measured 1·8 mm. in length; one can not but ask, Was it not really larger? Kolk's figure suggests that the specimen was doubled up; if this was the case, the embryo, when straightened out, would agree fairly well with His's embryo L, above described. Professor His, for reasons not clear to me, considers Kolk's specimen as somewhat older, but to this opinion I am unwilling to accede.

The second embryo is that of Hennig, whose description (6) leaves very much, and whose figures leave everything, to be desired. From this paper we can gather very little, except confirmation of Coste's statements in regard to (1) the disposition of the amnion and its connection with the stalk of the allantois; (2) the absence of a yolk-stalk.

Schwabe's (7) embryo, to which reference has already been made and which he assumes to be thirteen to fifteen days old, was probably sixteen to twenty days old, as shown both by his own data and by the description of the ovum. Very likely it was a little younger than Coste's embryo (*v. sup.*). There were a well-developed yolk-sac and an amnion closely investing the embryo, which was connected with the chorion by a short allantoic stem. The chorionic villi were considerably branched and entirely filled with mesoderm; their tips had little thickenings of the epithelium by which they were attached to the decidua; this was the only connection between the fœtal and maternal tissues. This last fact is an interesting confirmation of the observations of Ahlfeld and Langhans.

Remy's embryo (8) was also a young one, but its exact age is not stated, nor are the measures of its length given, except in the title, where it is called "long d'un centimètre." From the stage of development, and from the statement in the text that the chorionic cavity measured 20 × 10 mm.,

it seems impossible that the embryo was so large; we should rather expect an embryo of 3 mm. Remy's figure is too inexact for one to make out the form of the embryo. If he gives the length correctly, the specimen must have been about a month old. As to its structure, Remy gives the following details: The medullary canal was still united with the ectoderm at its lower end, and extensively so over the fourth ventricle, which was entirely closed. The heart already had muscular striæ. The epidermis had two layers of cells, the outer somewhat flattened, the inner cuboidal. The cutis was not differentiated. The epithelium of the chorion he describes as maternal—a common error. He also distinguished the inner membrane of the chorion, the allantoic. He has also seen, apparently, what is known as Langhaus's cellular layer, but has taken it for a deep portion of the epithelium, which he accordingly calls many-layered. The cellular layer is a special stratum which arises between the connective tissue and the epithelium of the chorion; its origin is not definitely known. I am unwilling to hazard an opinion as to where Remy's embryo really belongs.

Summary.—During the fifth stage the head of the embryo acquires great prominence by the growth of the heart and the development of the branchial area. The chorion, of course, has enlarged, but we can not at present give its diameter exactly; normally it may be about 10 mm. The chorionic villi are constricted at the base and more or less branched; apparently they may either be hollow or may already contain a core of connective tissue. The allantois is still short and thick; the amnion is very much as in the previous stage, but of course somewhat expanded; the yolk-sac appears more like an appendage to the embryo. The embryo has enlarged, especially in front; its normal length we may assume to be about 2·6 mm., but this is very open to correction; the back is nearly straight; the thick caudal extremity curves upward; the heart and aortic arches develop rapidly, and accordingly is the region between the head and the anterior margin of the yolk-sac extended. The heart itself is still tubular, but makes a great bend to the right; the posterior end of the tube receives the veins, the anterior end forms a little enlargement, the commencing *bulbus aortæ*, and then gives rise to the aortic arches. Between the arches appear the gill-clefts at the side, and since there are five arches there are four gill-clefts. The pharynx, or region into which the gill-clefts open, is enormously dilated. The rest of the digestive tract is a simple tube communicating with the hollow yolk-sac. The Wolffian duct is present, but no other part of the uro-genital system. The notochord is tubular. The medullary canal closes throughout its whole length during this stage; it separates into brain and spinal cord; the brain consists of two dilatations, of which the anterior corresponds to both fore- and mid-brain, and gives off the long-stalked optic vesicles; the posterior dilatation is the hind-brain. The auditory organs exist as a pair of round otocysts.

6. Embryos of the Sixth Stage. Formation of the Head Bend and of the Wolffian Bodies.

From this stage onward the embryo becomes more and more bent, the back becoming so convex that at one period the head and tail of the embryo almost touch. It thus becomes quite impracticable to measure the longitudinal axis, so we have to adapt ourselves to the circumstance and give as a measure for comparison the greatest length in a straight line of an embryo in its natural attitude. Formerly investigators usually attempted to give the actual length; consequently many of the older published measurements appear excessive in comparison with those now given; evidently this discrepancy is often only apparent.

The length of an embryo should always be given as obtained by measuring the greatest longitudinal diameter of the body, including the head; *the limbs ought* NOT *to be included*, because in the earlier stages, being at right angles to the body, they can not be included, and therefore ought to be excluded in the later stages in order to keep the measurements strictly comparable.

In the sixth stage (His's eighth) we find five aortic arches, the head bent down, the back convex, and the heart very asymmetrical. Our accurate knowledge of this stage in man we owe to His (Embryos M and BB). Besides these two, Professor His has also referred the following embryos described by other authors to this stage:

1. Allen Thomson's ovum, iii (2).
2. C. E. von Baer's, described in his "Entwickelungsgeschichte," Bd. ii, Taf. vi, Figs. 15, 16; also in von Siebold's "Journal für Geburtshülfe," 1834, xiv, 409.
3. Schroeder van der Kolk's (5).
4. Alexander Ecker's (9).
5. Professor Hecker's (*vide infra*).
6. Beigel's (*vide infra*).
7. Bruch's (10).

Of these, Thomson's embryo, the figure of which, reduced in scale, may be found in His (1, Heft ii, Fig. 18, marked AT 3 in the group of figures on p. 32), is the only one deserving much attention. Thomson's embryo resembles His's *M* (see below) quite closely, not only in general form, but also in the possession of two distinct gill-clefts and the great prominence of the heart. Its length is given by Thomson at $\frac{1}{8}$ inch—about 3 mm. Von Baer's embryo, on the contrary, was only 2 mm. long; it was surrounded by an amnion of about 4·5 mm. in diameter, which is abnormally large; von Baer observed four open gill-slits; the hind end of the body was partially atrophied, which accounts for the short length. Van der Kolk's embryo, as I have already stated, I refer not to this but to the previous stage—perhaps mistakenly, but I think not. In Ecker's ovum the chorion measured 12 by 9 mm., and the embryo only 2 mm.; the author's description is very meager and his figures are not distinct. Ecker expressly compares it with an ovum of Wagner's, figured in Wagner's "Icones Physiologicæ," and again in Ecker's "Icones Physiologicæ," Taf. xxv, Fig. 5; but the comparison apparently refers only to the chorion, for Wagner's embryo was evidently older, being 4·5 mm. long and having external traces of limbs. Hecker's ovum (1) I know only through Professor His's reference, which leaves the impression that Hecker's description is so unsatisfactory as to render it a matter of surmise exactly what stage of development the specimen had reached. In regard to Beigel's ovum (in the previous article I ex-

pressed my opinion that it is a much older and abnormal embryo) I do not differ with Professor His as to the slight value attaching to Beigel's description. Bruch's embryo (10, Bd. vi, Taf. x [40]) appears to me, from his description and plate, to have been very abnormal.

Of these seven embryos, Van der Kolk's and Beigel's do not belong to this stage; von Baer's and Bruch's were abnormal; Hecker's is questionable; Ecker's is somewhat uncertain; and Thomson's is the only satisfactory one. Of Thomson's only the general appearance is described, but that confirms what we learn from His's two embryos, M (1, Heft i, 116–134) and BB (1, Heft ii, p. 90, and "Arch. f. Anat. u. Physiol.," anat. Abth., 1881, pp. 310, 311). The latter embryo has also been catalogued by His with No. lxv.

M appears to be somewhat the younger, but no data as to its age are preserved; the embryo was 2·6 mm. long, its chorion 7·5 × 8 mm. in diameter. The embryo BB was 3·2 mm. long; its chorion 11 × 14 mm. in diameter; its age, from the data given by His, I think was probably twenty to twenty-one days. The following description refers to M only, as the full account of BB is not yet published:

The head is bent down, the back is very convex, and the caudal extremity is rolled up and turned toward the right, while the head is twisted slightly toward the left; the long axis of the body therefore describes a large segment of a spiral revolution; the spiral form is more marked in embryos a little older; it is, of course, produced by the more rapid growth of one side; in view of the differences between right and left in the adult, it is very interesting to find differences between symmetrical parts showing so very early in the heart of the embryo and the twisting of the body. The caudal end of the body has grown very much; the allantois-stalk has presumably lengthened; the neck of the yolk-sac is much constricted; four gill-arches can be distinguished externally; the otocyst, Fig. 9, *Ot*, has become somewhat pear-shaped. The neural canal is completely closed, the mid-brain and fore-brain have become perfectly distinct, and the latter has begun to form the hemispheres in front. The mouth is large, and at its upper corner the protuberance of the maxillary process is marked; the mandibular process is very prominent.

Fig. 8, a geometrical reconstruction from the sections, shows the anatomy of the entodermic canal. The pharynx, bounded on each side by five branchial arches, is still very large and tapers down posteriorly; the intestine is turned to the left and opens into the broad canal, *V*, of the yolk-sac; just in front of the yolk-sac there is a small ventral diverticulum, *Li*, probably the commencement of the liver; behind the yolk-sac the cylindrical intestine runs over into the tail, where it expands into the cloaca and gives off a cylindrical canal, which has very thick connective-tissue walls, and is the allantois-stalk, *All*. This is the youngest allantois of which the structure is known; therefore we add at once that the walls carry two large allantoic arteries, Fig. 9. The body-cavity, Fig. 8, *Coe*, has at its back on each side a longitudinal ridge, the commencement of the Wolffian body; the ridge already contains traces of the canals of the Wolffian body.

Of special interest is the arrangement of the circulatory apparatus, Fig. 9, since this is the youngest human embryo of which the vascular system has been elucidated. To

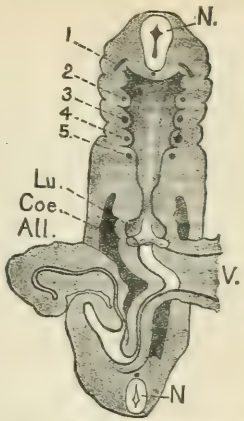


Fig. 8.—His's Embryo M: anatomy of the entodermic canal. *N. N.* central nervous system: 1, 2, 3, 4, and 5, gill-arches: *Lu*, liver: *Co*, body-cavity: *All*, allantois; *V*, stalk of yolk-sac.

avoid confusion, it must be stated that the whole of the aortic portion of the heart up to the origin of the aortic

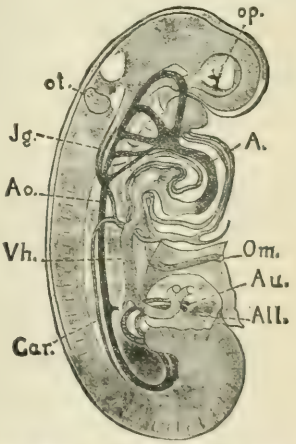


Fig. 9.—W. His's Embryo M. *Op*, optic vesicle: A, aorta: *Om*, omphalo-mesaraic vein: *Au*, arteriæ umbilicales: *All*, allantois: *Cars*, cardinal veins: *Vh*, right umbilical vein: *Ao*, dorsal aorta: *Jg*, jugular vein: *ot*, otocyst.

arches is double-walled, there being a very considerable space between the endothelial tube and the main mesodermic wall. In the figure the arteries are shaded dark. The heart is an S-shaped tube; the venous end is convex toward the head, the arterial end convex toward the tail; when viewed from in front, the venous portion is seen on the left, the arterial portion on the right of the embryo. The heart is continued forward by the large aorta, *A*, which gives off five branches on each side of the neck; these branches unite again on the dorsal side and run backward to unite with the fellow-stem and so form the single median dorsal

aorta, *Ao*, which runs way back and terminates in two large branches, *Au*, which, curving round, pass out through the allantois-stalk. The five branches in the neck are known as the aortic arches, and the column of tissue around each branch constitutes a so-called branchial or visceral arch; between the five arches are four spaces, in each of which a gill-cleft is ultimately formed. The veins are: 1. The jugular, *Jg*, and cardinal, *Car*, which unite and form a single transverse stem, the ductus Cuvieri; the cardinal veins receive chiefly the blood from the Wolffian bodies, and atrophy later with the bodies. 2. The large umbilical veins which pass up, *Vh*, from the allantois and also open into the ducti Cuvieri, but nearer the heart than the jugulars and cardinals. 3. The omphalo-mesaraic veins, *Om*, which come up from the yolk-sac.

His describes for both embryos the disposition of the pericardial cavity and the septum dividing it from the body-cavity with great minuteness, in order to elucidate the development of the diaphragm. But this problem is so obscure and complex that it is best not to touch upon it here.

Summary.—During the sixth stage the most striking changes are the curling up of the embryo, the closeness of the amnion to the embryo, the contraction of the neck of the yolk-sac, the growth of the caudal extremity, the assumption of the pear-shape by the otocyst; internally, by far the most important advance is the appearance of the Wolffian bodies.

The embryo is from 2·6 to 3·2 mm. long and about three weeks (twenty-one days) old; the chorion is from (say) 8 to 13 mm. in diameter. Besides the points noted above, we may mention for this stage the separation of mid- and fore-brain, the commencement of the hemispheres, the progress of the vascular system, especially in the heart, which has distinct auricles and ventricles, also the bending of the intestinal canal into an unsymmetrical position.

APPENDIX.

1. *Contents of the Chorionic Vesicle.*—In early stages, as we have seen, there is a large chorionic cavity, which in later stages is obliterated by the expansion of the amnion. The space between the chorion on the one hand and the amnion and the yolk-sac on the other is filled with a fluid which is coagulated by the action of hardening agents, making a network of threads. This observation, which has been often verified, is all that we know concerning the nature of the chorionic fluid; it is probably of a serous character, and may very likely be found to contain free connective-tissue cells (wandering cells or leucocytes).

2. *Structure of the Yolk-Sac.*—The histology of the yolk-sac has never been properly studied. In regard to its structure in earlier stages I can find no observations. Kölliker ("Grundriss," 162) states that in the fourth or fifth month it is from 7 to 11 mm. in diameter and hollow, with an external envelope of connective tissue and an internal pavement epithelium of fatty cells. The inner surface has small vascular villi, rudimentary remains of structures said to be well developed in some of the lower vertebrates.

In regard to the contents of the yolk-sac, von Baer states (12, ii, 272) that in very young ova (six to seven weeks) the contents are sometimes as thick and yellow as the yolk of a bird's egg; in ova of this period the thinner the contents the more rounded and fully distended is the yolk-sac. A little later the contents are always fluid, but at the end of pregnancy, according to B. S. Schultze (11), when the sac has shrunk to 4 to 7 mm. in diameter, it contains variable quantities of fatty substances and carbonates. It thus appears that during the first month at least the yolk-sac does contain more or less true yolk—an idea which is confirmed by Rauber's observations on the rabbit's ovum. It seems, indeed, probable that the rudimentary yolk-sac of man still performs for a short period the function of a food reservoir for the embryo.

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12. Von Baer, C. E. Entwickelungsgechichte der Thiere.

FOUR CASES OF TAIT'S OPERATION.*

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Tait's operation for the removal of the diseased uterine appendages has, during the last decade, passed through all the stages of criticism by the profession, from that of astonishment at its boldness and denunciation of the use of so radical a treatment, to that of an almost universal acknowledgment of its value.

There are still, however, a few medical men who shake their heads and repeat the old threadbare arguments against this operation which have been answered a hundred times over, and, at last, with statistics so overwhelmingly convincing, both as to the safety of the operation and its satisfactory results, that few now deny it its proper place in surgical history and science.

Battey first operated in this country (1872) for the removal of diseased ovaries. His operations failed more frequently of good results than those of the present day, as he found that menstruation often continued uninterrupted. To hold this function in abeyance was, moreover, the great desideratum.

Tait afterward announced his belief that the Fallopian tubes were an important factor in menstruation, and that they should also be removed in order to bring about the menopause more rapidly; furthermore, this was necessary, as the tubes were as likely as the ovaries to be the seat of the disease sought to be remedied by the operation.

From this came the name of "Tait's operation"; and he certainly has the honor of having performed it a greater number of times, and with less resulting mortality, than any other living surgeon.

I have reported these cases for two reasons: 1. Because the ætiology is, I believe, unique in at least two of them—one being of malarial, and another of scarlatinal origin. 2. In an operation of so recent adoption and of such gravity, the most accurate statistics of all cases should be preserved for future use.

I have, furthermore, purposely delayed this report for several months that I might be able to give, not only the history of the operations, but also the subsequent condition of the patients.

Case I.—Mrs. M. M., American, aged twenty-nine, married nine years. Menstruated first at about fourteen years of age. Menses normal, except that they were profuse. At seventeen she began to suffer much from dysmenorrhœa, and her flow was menorrhagic; still later it became metrorrhagic, it often being difficult to define the beginning or ending of a period.

At eighteen she had an attack of peritonitis, which was so severe as to compel quietude in her room for months.

Subsequently her general health improved somewhat, and she married. Her periods of intense suffering soon reappeared, however; her menstruation was more irregular, and the pain unfitted her for her ordinary household duties. Hystero-epileptic attacks became frequent, followed by melancholia, at which times she exhibited a suicidal intent, and was three times prevented from taking her life by the watchfulness of friends.

I first saw Mrs. M. in June, 1883, and had her under care for three or four months. Treatment availed nothing except to mitigate her sufferings temporarily and disclose fully the nature of her disease, which was diagnosticated as chronic ovaritis of both sides, with salpingitis of the left side.

Tait's operation was finally advised, and readily acceded to by both patient and friends, as the only hope of future relief.

Operation, November 11, 1883.—An incision of two inches and a half was made in the median line, just above the pubes, and the abdominal cavity opened. The peritonitic adhesions were found to be so dense in every direction—all the viscera being matted together—that it required the most patient dissection with fingers, knife-handle, and scissors, before the fundus uteri could be reached; this was found bound down with the Fallopian tubes so firmly that it was necessary to increase the abdominal opening sufficiently to pass in the whole hand, to reach and tear the ovary from its bed of strong adhesions. This accomplished, the tube was transfixed as closely as possible to the uterus with a double silk carbolized ligature, one half tied on each side, and the left ovary and tube removed. The right ovary and tube were then sought and removed by the same tedious process, and presented much the same appearance, except that the cysts in the left ovary were larger than in the right. The stumps were thoroughly seared with the galvano-cautery. The left Fallopian tube was only a little over an inch in length, much distended, and gave every evidence of the correctness of the diagnosis of salpingitis. The right tube was about two inches and a half long, with some dropsical distension near inner third. The wound and cavity were now carefully cleansed with a two-per-cent. carbolized solution, great care being taken to guard against any points of oozing, after which the abdominal wound was brought together with nine deep silver sutures and silk superficial sutures. The dressings used were Am Ende's—naphthalinated dressings of cotton, cotton gauze, and jute, completed with a flannel binder. Sickness at the stomach was relieved by small quantities of hot water sipped, and pain allayed by opium, large quantities of which were used owing to her previous opium habit. This habit she had entirely conquered by the third week, and has not resorted to it since. The sutures were all removed by the tenth day. Her temperature never rose above 100·75° F., and her convalescence was prompt.

She has recovered all her former cheerfulness of manner, and, while not a robust person, is able to perform the duties of her household with a fair modicum of comfort.

She still continues to menstruate, now eighteen months after the operation; but her periods, which, after the operation, were at first five days, have gradually grown to be

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about one day in duration, and a greater lapse of time between them.

Case II.—L. J., American, aged twenty-seven, unmarried. Menstruated first at sixteen, always irregularly and profusely. Of late years she has suffered intensely with dysmenorrhœa, headache, loss of appetite, and especially with pain in the region of the sacral plexus. This pain has been of that character that she has been unable to lie on her back for several years, and what little sleep she obtained was in the genu-pectoral position with pillows stuffed up hard against her abdomen. She was treated for two years for spinal trouble by a specialist in New York, but I have never seen any evidences of such a difficulty. There is a very pronounced asymmetry of her body, but I learn from her mother that it has existed from her infancy. The mammary gland, the thigh, and leg of the left side were very much smaller than the corresponding parts on the right side; in fact, the whole muscular structure of the left side presented an appearance of atrophy.

There were great tenderness and pain over both iliac regions for the greater portion of the time, a general weariness and inability to do much or enjoy anything. She also had much mental depression and a desire to resort to extreme measures for relief. Examination revealed an enlarged and very tender right ovary, with a prolapsed left ovary; both tubal tracts very sensitive. Tait's operation advised and performed November 19, 1883, at Long Island College Hospital. There were no adhesions except a few which bound down the left ovary in its prolapsed situation behind the uterus, and which were readily separated; this ovary was considerably less than normal in size. Whether its small size was a part of the general asymmetry, previously mentioned as existing in this case, is difficult to decide, but I believe it to have been so. The right ovary was enlarged and distinctly cystic, one small cyst being ruptured while attempting to remove it. Both tubes were ligated as closely as possible to the uterus with carbolized catgut, seared with the cautery, and dropped back into the abdominal cavity. The same kind of sutures and dressing were used as in the previous case. She was placed back in bed in forty minutes, and, aside from some cystitis which developed the second week after the operation, convalesced rapidly.

She left the hospital November 30th, traveling by rail quite a distance to her country home.

Case III.—Mrs. G., aged thirty-five years; married; sterile; was always healthy and robust till seventeen years of age, when she had an attack of intermittent fever of great severity, the effects of which lasted two or three years. Following this she began to suffer with dysmenorrhœa, which every year increased in intensity, and which later on was complicated with evident attacks of localized peritonitis, both pelvic and abdominal. There was some constriction of the vagina, and small bands of adhesion ran between the cervix and upper vaginal walls on either side. Coitus was intolerable; and the most careful digital examination produced nausea and fainting, compelling her to keep her bed for that day. As far as it was possible to learn from an examination, there was great tenderness of the left ovary; the right ovary was undetected, but an undefined and fluctuating mass filled up that region of the pelvis, which was supposed to be a cystic ovary. There was much less mobility of the uterus than usual. Tait's operation advised and performed at Long Island College Hospital, January 22, 1884. This operation was similar to the first in the vast adhesions everywhere encountered, and which rendered the whole work, from the first incision to the final touch, a blind and difficult dissection. The left ovary was first sought and found imbedded in strong adhesions near the side of the uterus. The Fallopian tube was not over an inch in length, much thickened, and convoluted. This was removed as closely as possible to the uterus and the stump cauterized. In searching for the right ovary the greatest care was used to separate the adhesions which densely involved all the tissues of that locality. In this effort, however, a cyst, as large as an orange perhaps, was ruptured. All efforts to find the right ovary failed, and we adopted the belief that it had degenerated into the cyst which had been so unfortunately ruptured. No effort was made to dissect out the walls of the cyst, which were strongly adherent to the bowels. The tube was removed in the same manner as before mentioned. The greatest caution was used in the toilet of the abdominal cavity, and the wound was closed with eight deep sutures of silver and Am Ende's dressings were applied. Although the operation was lengthy and the patient exhibited some shock, she rallied well the same afternoon, and, with a five-grain opium suppository, passed a comfortable but somewhat restless night. On the following morning she spoke cheerfully to me, remarking her freedom from pain. Pulse was 108, temperature 101°, respiration 24. At noon, same day, she presented evidence of becoming rapidly exhausted. Pulse 130, temperature 103°, respiration 30. Death occurred thirty-one hours after operation.

No urine was voided by this patient after the operation.

The attempt to relieve the bladder with the catheter was twice made, but resulted only in securing about an ounce of turbid, bloody urine. The urine in this case had been repeatedly subjected to rigid analysis, but nothing was revealed which necessarily militated against an operation unless, possibly, the scanty amounts of solids found.

An autopsy was made fourteen hours after death. The abdominal wound was apparently beginning to unite by the first intention throughout its entire length, and all the deeper structures presented a favorable appearance.

The kidneys were enlarged, and presented marked evidences of fatty degeneration.

The right ovary was not found, and it was believed, after a careful examination of the ruptured cyst, that it was the product of degeneration of the ovary.

Death was undoubtedly due in this case to the condition of the kidneys.*

Case IV.—*Pyosalpinx.*—E. H., twenty-three years of age, single, very delicate, and of nervous temperament. Had suffered almost from her first menstrual period, which began at an unusually early age.

Two or three years prior to this she had a severe attack of scarlet fever, followed by scarlatinal nephritis and dropsy. At this time some of the pelvic pains seemed to have originated,

* The operation in Case III was delayed from week to week on account of renal insufficiency.

Random specimens of urine showed nothing abnormal; but an examination of the total "out-put" for twenty-four hours invariably presented evidence of defective elimination of waste products.

Thus, for December 14, 1883:

Total quantity, 950 cubic centimetres; specific gravity, 1·019; solids, 38 grammes; urea, 19·5 grammes.

Acid; no albumin; no sugar; little coloring matter; oxalate of lime and a little pus in the sediment.

Numerous subsequent examinations merely served to verify the first analysis. The condition of the patient grew more and more unsupportable, and it was finally decided to grant her petition for the *dernier ressort.*

which, later on, as menstruation developed, became the more acute and fixed pains of her present disease.

I may say here, parenthetically, that, if scarlet fever can invade one portion of the genito-urinary apparatus, I think it fair to assume that other portions may also be affected, and I see no reason why the ovaries and Fallopian tubes should be exempt.

In this case menstruation was irregular—generally at intervals of about three weeks—and rarely lasted less than ten days. Her suffering at these times evoked the pity of all her friends, and they sought relief for her from numerous members of the profession. All the characteristic symptoms of localized pain, reflex irritation, nervousness, and weakness, which are indicative of ovarian and tubal disease, were abundantly manifest.

Two unusual concomitants of her disease attracted my attention:

First. As her periods approached, the lymphatic glands of the lower portion of her body and thighs became tender, and, in a day or two, this was followed by a general tumefaction of all the adjacent tissues. The labia were two or three times their normal size, and both limbs were swollen and painful to move. The inguinal region was specially sensitive. This seems to have been a *rhythmic neurosis*, dependent entirely upon the regular periods of pelvic engorgement and excitement to reproduce it.

Second. After the second or third day of menstruation the discharge would vary at times from the normal appearance and become muco-purulent and exceedingly offensive—so much so as to suggest the fœtid odor of malignant disease.

These two conditions would be maintained to the close of each period, then subside, giving no further inconvenience till the succeeding period.

Examination in this case revealed the cervix pressing against the neck of the bladder and rather firmly fixed by previous inflammatory processes, moderate retroflexion with prolapsus of left ovary, and great fullness and tenderness over tubal tracts and ovaries.

Operation, March 3, 1885.—This was accomplished rapidly. Some evidences of chronic pelvic peritonitis, deep-seated, but not sufficient to delay materially the operation. Both ovaries slightly enlarged, intensely engorged, and full of small cysts. These were removed, together with the tubes, as close to the uterus as it was possible to clamp and ligate.

Recovery from the effect of the operation was exceedingly prompt. The wound healed by the first intention, the temperature or pulse never rising above 100°.

Three months have elapsed now, and she has had no return of menstruation, beyond a slight molimen which appeared for two or three days after the operation. She, however, suffered from an attack of the rhythmic neurosis, previously mentioned, when her first month came around, but it was confined to one leg only, rather than both, as heretofore. This neurosis will probably soon cease entirely, as it is hoped and believed the majority of her previous discomforts will do.

Résumé.—There were four patients—two married and two unmarried.

Three lived, one died.

Two had extensive peritonitic adhesions; two had none.

Two have never menstruated since they were operated upon. One has continued to menstruate till the present time (about eighteen months), although the function has about ceased.

The one in whom the menstrual function has continued was one in whom the adhesions were very extensive; and perhaps this fact alone may have a bearing on the question of her prolonged menstruation. The two in whom the function ceased so promptly had no adhesions.

The prominent features of these cases are:

Case I.—Hystero-epilepsy. The prolonged menstruation after the operation.

Case II.—The asymmetry of the body.

Case III.—Salpingitis resulting from very severe malarial attack. Death from unsuspected renal disease.

Case IV.—Scarlatinal pyosalpinx.

The case of the last patient was particularly instructive from the peculiarities of the rhythmic neurosis and the fœtid discharge mentioned. I regret that I did not subject this discharge to Professor Ferguson's microscopical test for columnar ciliated epithelium, as it would have probably decided the question whether it was a drainage from a pyosalpinx, or the offensive discharge and detritus of a dysmenorrhœal membrane.

There appears to have been no special or positive evidence of gonorrhœal infection in a single one of these cases. I fully believe in the correctness of Dr. Noeggerath's statement, that there are great numbers of women who suffer from inflammations of the uterus and its annexa as a result of latent gonorrhœa, and I have now under my care ladies whose history makes it almost positively certain that their cases belong to this class; but the cases reported in this paper show that a considerable proportion at least *may* be autogenetic.

Mr. Lawson Tait has remarked that cases of diseased ovaries and oviducts can be relieved by nothing short of removal of the diseased organs; moreover, that these cases exist in great numbers, forming a large proportion of those in which the patients wander about from one practitioner to another seeking relief.

Mr. Tait has also supplemented this affirmation with a recent history of a large number of cases in which he has successfully removed the uterine appendages.

In the treatment, internal medication is practically valueless; nevertheless, we temporize with these cases for a while, using every fair endeavor to relieve pain and restore the function to a normal state. In early cases, where the patients are surrounded by every comfort and care, some are relieved, but the mass of them never find relief short of an operation.

In the study of Tait's operation and the causes which have demanded so heroic treatment the whole profession must be interested. They are no longer obliged to turn away women who beg for something—*anything*—to relieve their sufferings, by telling them "there is nothing more that can be done for you."

I believe there is scarcely an operation known to surgery which invites better ultimate results; the only trouble is, they expect these good results too soon.

This operation results in a climacteric to the patient. I think as much time should be allowed for a full recovery of the general health after an operation of this nature as would be required in the case of an ordinary natural climacteric. There are few women who do not feel nervous and pain discomforts for many months at the menopause, and these dis-

comforts are in exact ratio to the amount of possible disease existing in the uterus and its appendages at that time.

Since to bring about a menopause at an earlier age, by an operation for a disease, is an unnatural change, we may readily realize that at least as much time should be allowed for general recovery in the latter case as in the former.

I have been forcibly impressed with the enthusiasm with which the few upon whom I have performed this operation have accepted this serious alternative; in fact, after a short consideration of the subject, they have been unwilling to be put off with any other suggestions; they immediately see something tangible in this and are willing to risk their lives for the great stakes.

Fortunately, we are able to encourage them with almost a certainty of success.

All of these patients who are living have already demonstrated the success of the operation upon them. I happen to have seen during the past month two of them who live out of town; while neither is robust, both are free from the terrible distress in which they languished for so many years.

UMBILICAL HÆMORRHAGE.*

By WILLIAM HENRY THAYER, M. D.,
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Mrs. N., a young married woman, was delivered of her first child March 17, 1885. Both parents are healthy; the labor was normal, and the child apparently in normal condition. Its evacuations were sufficient, and the discharge from the bowels presented the usual appearance of meconium for four or five days. At the termination of the sixth day, March 23d, A. M., the nurse called my attention to its alvine evacuation, which was of a light slate-color, and its urine was slightly yellow. Its skin was slightly jaundiced. The child had taken the breast well, and had not vomited. The cord had not separated.

That afternoon there was a sudden and profuse hæmorrhage from the base of the cord, then beginning to separate. In my absence, Dr. G. R. Westbrook was summoned, and, failing to arrest the hæmorrhage with styptics, pinched up a fold of the skin and ligated it. At 10 P. M. I gave one grain of calomel. At 4 A. M., 24th, the hæmorrhage began again, and, as I was ill, Dr. Westbrook saw the patient for me and repeated the ligature. I saw the child at 9 A. M. There was no hæmorrhage, but she was very pallid, and had had no dejection. I then prescribed ℥ jss. of castor-oil, and repeated doses of brandy and water. At 1 P. M. I was called, to find her again bleeding. The ligatures had not held: the cord was almost entirely separated, exposing a raw surface as large as a thumb-nail, livid, sodden, and with no appearance of coagulating. She had had several slight dejections, of nearly the same color as the day before, and she was extremely pallid and feeble. I transfixed the skin with surgeons' needles, two in the direction of the median line and one transversely, and around these I bound ligatures of silk, entirely controlling the hæmorrhage. But within an hour the patient began to sink, and died, without convulsion, at 7.30 P. M.

I assisted Dr. Westbrook in an autopsy at nine o'clock the next morning.

The intestines were much distended with gas: the stomach contained a little milk; the liver presented externally a normal appearance: the gall-bladder contained no bile, but only a small amount of mucus. The hepatic duct was pervious part of the way from the liver to the junction of the cystic duct; but its lower half and the entire length of the common duct were apparently an imperforate cord, as large as a coarse thread, and evidently impervious, as attempts to inflate it with a blow-pipe introduced into the gall-bladder were unsuccessful. The kidneys, heart, and lungs were normal in appearance.

The literature of this subject is confined to the last forty years, with the exception of two or three reports of single cases of fatal umbilical hæmorrhage, the earliest of which is by Mr. G. Watts, an English surgeon, in 1752. Dr. Cheyne published a case in Edinburgh, in 1801, of fatal umbilical hæmorrhage, with jaundice; and suggested that "the bleeding proceeded from the unhealthy change produced in the blood by the reception of the bile into the mass of fluids."

Since 1850 four papers have been published on the subject, based on cases collected from many sources. They are: One by Dr. Henry I. Bowditch ("Amer. Journal of the Medical Sciences," 1850), including twelve cases; Dr. Francis Minot ("Amer. Journal of the Medical Sciences," 1852), forty-six cases; Dr. Stephen Smith ("N. Y. Journal of Med.," etc., 1855), seventy-nine cases; and Dr. J. Foster Jenkins ("Trans. Am. Med. Asso.," 1858), one hundred and seventy-eight cases. I think Dr. Jenkins's report includes all the cases reported by the others. Dr. Jenkins says that in the Foundling Hospital at Paris, in 9,000 births there was only one case of umbilical hæmorrhage; in the Dublin Lying-in Hospital, in 6,654 births there were no cases; in the Emigrant's Refuge at Ward's Island, in 2,000 births there were two cases; in the practice of Dr. Charles Hooker, of New Haven, in 2,879 births there was one case; in the practice of Dr. Elisha P. Fearing, of Nantucket, in 4,000 births there was only one case. That is, in 24,533 births only five cases of umbilical hæmorrhage.

In Dr. Jenkins's table of one hundred and seventy-eight, most of the reports are incomplete. In thirty no history is given, except the facts of hæmorrhage and death. There were only twenty-two autopsies. Most of the reporters had no suspicion of the cause of the hæmorrhage; even in some of the autopsies the bile-ducts were not examined; the hæmorrhage was often attributed to patency of the umbilical vessels, and their condition is sometimes carefully noted. It is also frequently charged to a hæmorrhagic diathesis. Thus, Dr. Minot says: "Idiopathic hæmorrhage from the umbilicus is only one of the various manifestations of the hæmorrhagic diathesis, which in other cases is exhibited in bleeding from the gums, stomach, intestines, etc., and in the appearance of purpuric spots beneath the skin; in proof of this, we see the concurrence of these phenomena with umbilical hæmorrhage."

Now, in regard to these expressed opinions, it is to be said that closure of the umbilical vessels is chiefly the cicatrization of their orifices, which depends upon normal coagulation of blood; so that we must not stop at open orifices for the cause of the hæmorrhage, but inquire into the abnormal condition of the blood which interferes with its coagulation. It is probable that jaundice was present in all the cases. True, of the one hundred and forty-eight of Dr.

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Jenkins's cases in which any history is given, jaundice is mentioned in only seventy-seven; but Dr. Jenkins says that, "from the imperfect manner in which some of the histories are furnished, it is probable that a much larger proportion would be found in more fully recorded observations. Ninety-three per cent. of all who were reported to have jaundice died." Jenkins says: "It is a well-established fact that in almost all cases of jaundice the blood becomes much impoverished, the globules and the fibrin falling below the natural standard, and, consequent upon this impoverished state of the blood, a general disposition to hæmorrhage very commonly exists." Von Schueppel, in his article on the biliary passages ("Ziemssen," ix, 610), says: "The signs of a hæmorrhagic diathesis will rarely be missed in the long-continued icterus which is due to occlusion of the gall-duct. In many individuals, especially in very small children, the tendency to hæmorrhages makes itself felt soon after the beginning of jaundice."

In the twenty-two autopsies, the bile-ducts were examined in only eleven cases; in seven they were absent or impervious; in four they were open, but the liver was in an abnormal condition; in the cases where the ducts were pervious icterus had existed, with whitish dejections and bilious urine—indicating want of secreting power in the liver, although there was no impediment to its passage into the duodenum.

"Hæmorrhagic diathesis" is a misleading term, when the hæmorrhage is due to an accumulation of bile in the blood, whether from absence of the ducts or their complete obstruction with inspissated mucus, or to some abnormal condition of the liver which causes a suspension of its functions. Dr. Jenkins says: "Of families known as 'bleeders,' where the slightest injuries often induce serious hæmorrhage, scarce any record exists of infantile umbilical bleeding." Instead of a hæmorrhagic diathesis in the cases which are the subject of this paper, there is sufficient evidence already adduced that the cause is in the liver or its ducts.

Among the cases reported by Dr. Jenkins are those of thirty-nine children of seventeen mothers, each of whom bore more than one child who had umbilical hæmorrhage. No one of these mothers had exhibited any hæmorrhagic tendency; many of them had borne other children who had no hæmorrhage. In nineteen of the cases jaundice is reported present. In only two cases is it expressly stated that there was no jaundice, but in these cases, which were in twins, death occurred in seventy-two hours after birth from hæmorrhage through the unbroken surface of the cord;* in four cases of the six which were examined post mortem the ducts were found impervious; two of these were in children of the same mother. All the evidence we get from these cases shows a tendency to biliary obstruction, which may exist in certain families, rather than a hæmorrhagic diathesis.

An occasional cause of fatal umbilical hæmorrhage is acute fatty degeneration near the close of fœtal life, including the heart, lungs, liver, and kidneys, the blood-vessels breaking down everywhere, with resulting hæmorrhages. Such a case was reported by Dr. Mary Putnam Jacobi, in which hæmorrhage began four hours after birth, and death occurred in less than twenty-four hours. Dr. Jacobi quotes Hecker and Buhl as describing this disease in 1861 ("Am. Jour. of Obstetrics," July, 1878).

In addition to a certain proportion of cases which are hopeless, from absence or obliteration of the common duct or the hepatic duct, or from the general fatty degeneration just referred to, there are many in which the ducts are plugged with inspissated mucus, or closed by thickening of the mucous membrane, the result of catarrhal inflammation, to which relief may come spontaneously or by medical treatment. Of one hundred and seventy-eight patients, thirty recovered, and many of the fatal cases were of such a character that recovery would have been possible—that is, the obstruction was of a temporary nature.*

It is safe to conclude that in cases of umbilical hæmorrhage in new-born children, attended with jaundice, the cause of the hæmorrhage is usually the accumulation of bile in the blood, produced by obstruction of the hepatic or the common duct, or by an abnormal condition of the liver.

As to the general history of these cases, hæmorrhage began at the root of the cord, either when the separation commenced or within a few days after; the average time was the eighth day, but in seven cases it did not begin till the third week; in one case eight weeks from birth. Dr. Murchison, in his work on "Diseases of the Liver," relates the case of a child who died at the age of four months and a half, having had jaundice from its first week, with progressive emaciation, after a while diarrhœa, the discharges being perfectly white, frequent epistaxis, vomiting of blood, and ecchymoses under the skin, ever increasing in number. The bile-duct was found to be completely obliterated, its place being occupied by a small quantity of areolar tissue.

The average duration of the hæmorrhage in the fatal cases was three days and a half. In a large proportion of the cases there was jaundice several days before the hæmorrhage began; in many of them purpura, either before or after the hæmorrhage, and passages of blood from the stomach or bowels. Constipation was frequent; the stools were white or clay-colored; the urine was deeply stained with bile.

As to treatment, the first indication is to transfix the integuments at the base of the cord with needles, and carry a figure-of-eight ligature underneath them. Styptics and compression are of no avail. But Dr. Jenkins, who advocates the ligature, cautions us not to stop with that, but to use such internal remedies as may relieve the liver, where no anatomical malformation exists. Chief of these are nitro-hydrochloric acid and tincture of the chloride of iron, with cathartics, especially calomel.

* Probably from general fatty degeneration, as in Dr. Jacobi's case.

* Illustrative of a fatal closure of the bile-ducts with inspissated mucus, I recall the case of an infant who died a few days after birth with symptoms of intestinal obstruction, at whose autopsy I found complete closure of the ileo-cæcal valve, the entire small intestine being distended with gas, and the whole large intestine completely empty and contracted. It was at first supposed that the intestine was impervious by malformation, but washing removed an accumulation of mucus and disclosed the valve in a normal state.

THE DUCTUS CHOLEDOCHUS COMMUNIS OBSTRUCTED BY A CALCULUS; JAUNDICE; DEATH; NECROPSY; REMARKS.*

By H. D. BLISS, M. D.,
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The case occurred in St. John's Hospital. The clinical history is kindly furnished me by Dr. R. L. Casburn, the house physician, from his notes:

History.—November 1, 1885, Frank W., a German, aged sixty-five years; history good; no sickness except as noted below. Has been for two or three years an assistant in the male ward. He was admitted to the hospital for the treatment of a large varicose ulcer of the leg of many years' standing. It encircles the leg to within an inch, is of irregular shape, and varies from one to four inches in breadth. The ulcer proved very intractable, and remains now probably in about the same condition as when he entered the hospital. This is his only complaint, and causes him remarkably little trouble. The patient is a well-preserved man for his age; is about five feet and a half in height, weighs 180 pounds, and has a tendency to become obese.

About this time, November 1st, he was taken with a sudden attack of marked jaundice. The accompanying symptoms were not such that an accurate diagnosis of its cause could be made. After the jaundice became very marked there were nausea, anorexia, slowness of the pulse, constipation, clay-colored stools, and high-colored urine. There was no enlargement of the liver, and no tumor that could be detected. He complained of no pain anywhere, unless it was a slight headache. There was not even tenderness over the hepatic region. Dr. William Wallace, attending physician on duty, thinking it might be due to torpid liver or catarrhal condition of the common bile-duct, applied blisters over the site of the duct and gave calomel freely; at first it seemed to avail nothing; after about two weeks the jaundice suddenly commenced to give way and soon entirely disappeared, and the patient was as well as ever. He remained quite well until December 10th, when another attack of jaundice suddenly came on, like the previous attack, accompanied by all the symptoms which necessarily accompany jaundice from any cause, but by no symptoms from which a special cause could be diagnosed. The same treatment was instituted as before, but, as he got no better, it was changed to acid. nitro-hydrochlo. dil., ♏xv, t. i. d., and cloths saturated with a lotion of the same were applied to the region of the liver. This was continued for about a week with no improvement. Treatment was then changed to ℞ Sodii phosphatis, ʒ j, t. i. d., dissolved in a glass of water; this was persisted in for two weeks without any apparent result. The troublesome symptoms had all increased; the jaundice was about as marked as it could be; the appetite entirely gone; nausea was constant; bowels constipated, except when violent cathartics were employed; stools clay-colored all the time; urine very high colored; pulse slow, firm and under. Patient becoming emaciated, and certainly failing slowly.

On January 16, 1885, between five and six weeks from the time of the present attack, a consultation was held by Dr. William Wallace, Dr. Arnold W. Catlin, and Dr. Frederick H. Colton, attending physicians to the hospital. It was decided that small, often repeated doses of the mild chloride be given and pushed to slight salivation. Accordingly, gr. ¼ was given every hour. But the jaundice did not yield in the least, even with the touching of the gums.

From this time on the symptoms only were treated, the patient being made as comfortable as possible; but he kept gradually failing, and died on February 13, 1885—a little over two months from the beginning of the second attack.

Necropsy.—The body was much emaciated. On opening the thoracic cavity, the heart was found normal, the lungs crepitant throughout and normal, except a few old pleuritic adhesions. The abdominal cavity, on inspection, showed that the liver was not enlarged, and was natural in color. The intestines were light in color, almost a grayish white. On examination, the gall-bladder was found to be distended, but not enlarged, and of a dull, muddy color. On opening the bladder, it was found to contain a brownish, muddy-colored fluid of greater consistence than bile. Further examination revealed a stone encysted in the common duct. It could not be pushed forward or backward, and acted as a ball-valve; the walls of the cyst were a pyogenic membrane, and the stone was bathed in pus. The stone was a regular ovoid, a little over three quarters of an inch in the longer diameter, and a little less than three quarters of an inch in the shorter diameter, roughened on the outside, with elevations like small grains of sand, with the angles worn off. The stone was as hard as an ordinary marble, and, after being thoroughly dried, sunk readily in water.

The stomach was contracted; the intestines contained a quantity of thick, putty-colored material; spleen normal; pancreas elongated and narrow. The kidneys contained many cysts between the parenchyma and capsule of the size of a five-cent piece to a twenty-five-cent piece, containing a clear fluid. In the pelvis of the right kidney was a calculus, and in the left two calculi, irregular in shape, smooth, and slate-colored, measuring about half an inch on the longest facette. The organs not mentioned were normal.

Remarks.—The question now presents itself, What additional means could have been employed to assist in making a diagnosis, and, had a diagnosis been made, how would it have affected the treatment? Bartholow (Pepper's "System of Medicine," vol. ii, p. 108) says he has "punctured the gall-bladder with a fine exploring trocar, removed the contents, and explored the interior without damaging the organ." Had this been done, it is doubtful if the stone would have been discovered. On account of the hardness of the stone, it would have been impossible to dissolve it had it been discovered. The question is, All other means failing, would abdominal section have been justifiable? Henry Morris ("International Encyclopædia of Surgery," vol. v, p. 886) says: "Laparotomy, followed up by suture or removal of the gall-bladder, ought, in certain cases, to be adopted." Again, page 1071: "In cases of distension with pus and calculi, and in those instances of accumulation of bile or mucus, in which other remedies have failed, operative measures will be required."

It may also be worthy of note that there had been no pain; and that during life there had been no signs referable to the kidneys, and examination of the urine gave no evidence of the renal calculi.

57 Madison Street.

* Read before the Brooklyn Pathological Society, March 12, 1885.

An Anti-Vaccinator.—It is said that one Dr. Ross, who has caused much trouble in Montreal, was found, on being made to bare his arm, to have not only marks of former successful vaccinations, but evidences of one of recent date.

APHONIA SIMULATED IN THE YOUNG.

By LOUIS KOLIPINSKI, M. D.,
CHILDREN'S HOSPITAL, WASHINGTON, D. C.

The following cases are reported to illustrate the feigning of disease by the young. They further show the impossibility of impressing upon alarmed and anxious relatives the truth of such deception, and may finally remind the practitioner, called in haste, that, instead of a disease, he may merely have an impostor to treat.

A female mulatto of eighteen was presented by her lover, with the statement that she had been suddenly seized with loss of speech on the preceding night, and that she had not since uttered syllable or sound. A careful examination of her general health, past and present, did not disclose any cause for the aphonia. Her hearing was normal, and she readily responded to questions in writing and by signs. Neither she nor her companion gave the least support to the suspicion of hysteria as the cause. Her facial expression was calm and composed, and there was no outward evidence of uneasiness or fear.

In the absence of every conceivable factor of a genuine aphonia, I concluded that it was a case of malingering with the purpose of exciting the alarm and sympathy of some one. Acting on this presumption, her escort was excluded from the room and the attempt made to loosen her tongue by persuasion. All efforts failed; there remained but the last resort of intimidation. She was assured that repeated applications of a laryngoscopic throat mirror sufficiently heated would restore her voice. She bore a few introductions with considerable courage, but soon perceiving, by the persistency of the applications, that I was confident of success, she at last began speaking in monosyllables, and, in conclusion, narrated the cause of her trouble as the result of a quarrel with her lover. All efforts to make her confess that her silence had been only voluntary were useless. Her companion, who had exhibited the utmost solicitude for her, was overjoyed at the speedy cure.

I was called to see a negro boy of eight years who had become suddenly mute a few hours before. The other members of the house were much alarmed, and the mother was so agitated that it was with difficulty that a history could be obtained. The boy had recently had Rötheln, which was followed by a bronchitis, but was thought to have recovered. Nothing had occurred, my informant said, that could have possibly induced the child to become mute either from anger or disappointment, and yet a search for other causes was fruitless. The patient lay on a couch placid and at ease. Recollecting the experience in the former case, I became convinced that this was a similar one. The room was therefore cleared, and I attempted to elicit a word by a variety of arguments and questions. The result was a signal failure. The boy maintained a stolid look and answered only with motions of the head. A forcible introduction into the mouth of a spoon-handle and the threat of a hot iron were of more avail. In his alarm he began to cry for his mother. She, however, could not be made to believe that the boy had been feigning, and her surprise and pleasure at his recovery were only equal to her first distress.

Both cases were from a low class of society. The dissimilar ages, the negative characters of their histories, and the bearing of the patients were sufficient to exclude any disease or morbid state in the causation. It was apparent that the object of the sudden and complete loss of speech was intended to excite the alarm of their connections, and thereby gain some point by awakening solicitude. It was impossible in the boy's instance to confirm this by individual statement of mother or child.

But, whatever the motive, the malingering was successful, for it was soon evident to me that the superstitious minds of the interested ones were proof against every assurance that the aphonia was not real, and that they had been deceived.

To conclude, the mutism which both selected as the startling affliction is the most natural one imaginable. The patients were not sufficiently cultivated to counterfeit some disease requiring knowledge and judgment for skillful imitation, as, for example, blindness or deafness. Children of a bashful disposition, as everybody knows, are mute in the presence of strangers, and our subjects simply repeated what they perhaps had often practiced before, but from different motives. It was the half-voluntary, half-instinctive act of an uneducated mind.

Book Notices.

Topographical Anatomy of the Brain. By J. C. Dalton, M. D., Professor Emeritus of Physiology in the College of Physicians and Surgeons, New York, and President of the College. Philadelphia: Lea Brothers & Co., 1885. Three Volumes, 4to, pp. vii–56; iv–59 to 104, inclusive; iv–115 to 175, inclusive. Heliotype Plates.

This work is unquestionably one of the most creditable contributions ever made to the study of the anatomy of the brain. We know not which most to admire—the beautiful execution of the heliotype reproductions from photographic negatives made under the author's supervision from fresh preparations of his own, or the skill that arranged the preparations in such manner as to make them tell their story so effectively. From either point of view, the work is altogether beyond criticism. We can only express our satisfaction that, after years of labor as a teacher, the pioneer of experimental physiology in America should have found time to finish such a great undertaking—one that will go far toward wiping away from our medical literature the reproach that it ignores research and lends itself only to that which makes a direct practical appeal to the multitude. Not the least satisfactory part of the work is that in which the author describes his methods of making parallel sections of the brain—a portion that is very effectively illustrated with woodcuts. The publishers are deserving of the greatest praise for the appearance of the volumes.

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Midwifery. By William Thomson Lusk, A. M., M. D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Hospital Medical College, etc. New Edition, Revised and Enlarged. With Numerous Illustrations. New York: D. Appleton & Co., 1885. Pp. xviii–763. [Price, cloth, $5; sheep, $6.

The Essentials of Histology, Descriptive and Practical, for the Use of Students. By E. A. Schäfer, F. R. S., Jodrell Professor of Physiology in University College, etc. Philadelphia: Lea Brothers & Co., 1885. Pp. viii–245.

Laparotomy for Ovarian Cyst. By A. W. Leighton, M. D., New Haven, Conn. [From the Proceedings of the Connecticut Medical Society, 1885. Pp. 4.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 17, 1885.

NO MORE CODE CONTROVERSY.

In this issue of the Journal we print a letter which deals with a subject that we have long considered a good one to be let alone, so far as public discussion of it is concerned. On that account we have for many months past uniformly declined to publish letters on that subject, no matter what ground was taken in them, and we now make this solitary exception, first, because Dr. Black's letter seems to embody only the convictions of a pure-minded man who has no axe to grind, and whose purpose does not appear to include any attempt to crack the code whip, and, secondly, because we believe our correspondent to be so conscientious as readily to admit to himself that he may possibly have given Dr. Jacobi's remarks a wider application than their author really intended. We do not doubt that Dr. Black's ideas as to the propriety of consultations with so-called homœopathists—using the word consultation in its legitimate meaning—are quite in accord with those held by, as he says, "ninety per cent.," not only of the physicians of his own region, but of those of the whole country, including an overwhelming majority even of the new-code men. We believe, moreover, that Dr. Jacobi would be among the last to advocate such "consultations." But no man's position on that abstract question can quite cover the field that has been the ground of the contention in this State, and we consider it an utterly hopeless task to attempt to make that field clear to our brethren in other parts of the country. For that reason we deprecate any further controversy in the matter. The New York code has now been in operation for three or four years. Let its working be kept under observation for five, ten, fifteen, or twenty years more; and then let the question be decided whether its effect has been good or evil. Meantime, let there be no further contention from theoretical points of view, and let there be no more attempts to ostracize men because of their opinions on the question, be they what they may. For our part, so far as public controversy is concerned, we shall regard the code as a dead issue.

A GERMAN CRITICISM OF AMERICAN MIDWIFERY.

It is generally felt to be an occasion for regret when one has to quote an author at second hand. Especially is this held to be the case when the subject treated of relates to science. Most of all to be avoided is criticism founded on a second-hand quotation, particularly when the version drawn upon does not purport to give the original in full, but only in abstract. We regret that on such a flimsy foundation a contributor to one of our most valued German contemporaries has recently seen fit to indulge in criticism of a New York practitioner.

In our issue of April 26, 1884, we published a report of the proceedings of a meeting of the New York County Medical Association, including a summary of a paper, by Dr. Charles A. Leale, entitled "Scarlatina of the Fœtus in Utero and of the Mother at the Ninth Month of Pregnancy." In this paper Dr. Leale gave the history of a case, in the course of which he said: "The fœtus, from its violent motions, appeared to be in convulsions. The mother became delirious. It was considered necessary to deliver quickly in order to save either the mother or the child. The cervix was accordingly dilated, and within four hours the forceps was applied and the child extracted, without injuring mother or child."

The "Revue de médecine" for July, 1885, summarizes our account of the history of the case, and says: "*Le fœtus s'agitant beaucoup et paraissant en convulsions, on fit la dilatation du col et on put extraire l'enfant sans dommages ni pour lui ni pour la mère.*" This is correct, so far as it goes, but it omits the sentences which showed that rapid delivery was considered essential to the mother's safety, and that that opinion was well founded on the clinical facts. As regards the *accouchement forcé*, our French contemporary implies—which evidently was all that Dr. Leale meant to say—that the processes of dilatation and extraction did not injure either the mother or the child.

The "Deutsche Medizinal-Zeitung" gives the following translation of the French journal's words: "*Da der Fötus sich sehr stark bewegte und Konvulsionen zu haben schien, machte man die Dilatation des Kollum und konnte das Kind extrahiren, ohne Schaden für Mutter und Kind.*" To judge from this account—and we admit that it is a perfect translation of the French version—*accouchement forcé* was performed solely in the interest of the child, the statements as to the mother's desperate condition not having found a place in the French summary of Dr. Leale's remarks. Thus far, then, the German journal is simply proceeding upon insufficient information, and it might perhaps be held that, in the absence of the full statement of the facts, it would have been justified, but for the manifest impropriety of founding any criticism upon a mere summary, in questioning the propriety of the resort to forcible delivery. But we are unable to see that anything can warrant its assumption that the mother's death was in any way incompatible with Dr. Leale's statement that the operative procedures resorted to were accomplished "without injuring mother or child." But it is on that assumption that it seems to have founded the following remark: "(*Und da soll die amerikanisch indizirte forcirte Entbindung ohne Schaden für die Mutter gewesen sein?!!*)"

Damaging as the phrase "*amerikanisch indizirte*," the note of interrogation, and the two exclamation marks may appear to the German mind, we would like to ask our Berlin contemporary if it regards the death of a patient who has been operated on as necessarily indicating that the operation was the cause of the fatal result.

MINOR PARAGRAPHS.

THE TENNESSEE "STATE BOARD OF HEALTH BULLETIN."

We have received the first number of this periodical, for the month ending July 31, 1885. It seems to owe its origin to the fact that the publication of the monthly meteorological report of the State (which was formerly published with the crop reports, by the Bureau of Agriculture, Statistics, and Mines, and more recently in an agricultural newspaper) has lately been turned over to the board. The board therefore concluded to couple its weather reports with matters more properly appertaining to its own sphere of action, and the result is this pamphlet of twelve pages of reading matter. We regret to see that the appropriation made by the State for sanitary purposes was so small as to compel the board to admit advertisements into this, a public document. Sanitary information ought certainly to be diffused as generally and as systematically as possible; hence the State would find its account in not being niggardly in the matter of this excellent publication.

THE NEW VOLUME OF THE INDEX-CATALOGUE.

The appearance of the sixth volume of this great work is a fresh reminder of the wonderful zeal with which it has been prosecuted, and it is almost superfluous to say that it reveals the same painstaking accuracy that marked the preceding volumes. The work is now brought down to the word Insfeldt. The additional list of medical periodicals drawn upon fills eleven of the large pages, and shows the completeness with which contemporary periodical literature is indexed. The work is simply stupendous, and we can only repeat the expression of our sense of the obligation under which the whole profession ought to feel itself to Dr. Billings and his associates in the undertaking. We may now reasonably look forward to the completion of the catalogue in the course of a few years more, and it is earnestly to be hoped that the Government will do everything in its power to hasten its publication.

THE DISINFECTION OF IMPORTED RAGS.

No doubt there has been some needless quarreling over the matter of the disinfection of foreign rags entered at the port of New York, but it must be conceded, we think, that the importers have been unreasonably tantalized by the course that the Commissioners and the Health Officer of the Port have seen fit to pursue. This we say without any reference to the charges that these officials have played into the hands of a particular company holding the patent of a disinfecting process. We are not surprised to learn, therefore, that the importers have at last shown a disposition to take the matter to the courts for adjudication. We sincerely trust that the outcome of the contention will be to block the game of those who seem to be seeking to still further handicap a port that nothing but the most bountiful provisions of Nature could have saved thus far from the rapacity of the politicians.

THE DANGER OF SMALL-POX FROM CANADA.

We can scarcely overlook the magnitude and the pressing urgency of the danger of the Canadian outbreak of small-pox gaining access to our own territory. Much will depend upon the vigilance and the intelligence displayed at a few important points, particularly Buffalo. We are glad to learn, therefore, that the sanitary officials of that city seem fully alive to the exigency, and that their efforts are meeting with hearty co-operation at the hands of the Canadian authorities. We remember that Buffalo was one of the best-managed places in the great epidemic of 1872–1873, and we have no doubt that its citizens may be depended upon to call into play, if necessary, the individuals and the machinery that served so well at that time.

A NEW MEDICAL JOURNAL IN BUFFALO.

We have received the first number of a new monthly journal, entitled "The Medical Press of Western New York," published in Buffalo. It is edited by Dr. Roswell Park, of Buffalo, assisted by Dr. M. D. Mann, of Buffalo, Dr. Ely Van de Warker, of Syracuse, and Dr. W. J. Herriman, of Rochester. These gentlemen make a very strong staff, and we look to see the new journal take a very high position. Of the first number, dated November, 1885, we can say that it augurs exceedingly well.

A FLORIDA MEDICAL JOURNAL.

It is announced that the first number of a monthly journal of sixty pages, to be styled the "Florida Medical and Surgical Journal," will be published at Jacksonville on the 1st of November. It is to be edited by Dr. T. O. Summers, Dr. C. H. Mallett, and Dr. Neal Mitchell, who promise that no efforts will be spared to make it "a faithful exponent of the highest interests of the profession throughout the State." A feature of the journal, and one that can be made very valuable, is to be the supplying of information concerning the influence of the Peninsular climate.

NEWS ITEMS, ETC.

The American Academy of Medicine will hold its next meeting in New York on Wednesday and Thursday, the 28th and 29th inst.

The New York State Medical Association will hold its second annual meeting in New York on Tuesday, Wednesday, Thursday, and Friday, November 17th, 18th, 19th, and 20th. The last day's session will be held at the Carnegie Laboratory, and the others at the Murray Hill Hotel.

The Medico-Chirurgical College of Philadelphia.—We learn that Dr. Frank Woodbury, the editor of the "Medical Times," of Philadelphia, has been appointed professor of materia medica and therapeutics.

The Journal of the American Medical Association.—Dr. William Lee, who, from the beginning, has been assistant editor of the association "Journal," has, we understand, been dismissed by the editor. Dr. Lee was appointed by the original committee a member of the council of the Section in Physiology of the Ninth International Medical Congress, but resigned after the Chicago meeting of the New Orleans committee.

The British Gynæcological Society.—Dr. Fordyce Barker, Dr. T. Gaillard Thomas, and Dr. Thomas Addis Emmet, of New York, and Dr. William Goodell, of Philadelphia, have been elected honorary fellows.

Cremation was the subject of an interesting paper, by Dr. William M. McLaury, read before the Society of Medical Jurisprudence and State Medicine on Thursday evening of last week.

The Preventive Inoculation of Hydrophobia.—A recent issue of "Science" contains an extract from a letter lately written by M. Pasteur, in which he expresses his confidence in his method of preventing hydrophobia, even when applied so late as a fortnight after the bite. As yet, he has made only one trial of it on the human subject—in the case of a boy who had

been bitten horribly on the 4th of last July, and whose death by hydrophobia seemed unavoidable, but who, up to the time the letter was written, September 7th, had continued in excellent health.

The Marine-Hospital Bureau's Health Reports, up to Tuesday, the 13th, show that yellow fever is epidemic in Caracas, and has appeared at Acapulco; that the cholera in Spain is abating, and has wholly disappeared in Valencia; and that small-pox is raging in Buenos Ayres.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 4 to October 10, 1885:*

Weisel, Daniel, Captain and Assistant Surgeon. To be relieved from duty at camp at Rock Springs, Wyoming, and return to his proper station, Fort Fred. Steele, Wyoming. S. O. 99, Department of the Platte, October 1, 1885.

Adair, George W., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 232, A. G. O., October 9, 1885.

Biart, Victor, Captain and Assistant Surgeon. Sick leave of absence further extended six months on surgeon's certificate of disability. S. O. 227, A. G. O., October 3, 1885.

Bushnell, G. E., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 215, Department of the East, October 6, 1885.

Stephenson, William, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Niobrara, Nebraska, and ordered for duty at camp at Rock Springs, Wyoming. S. O. 99, Department of the Platte, October 1, 1885.

Chapin, A. R., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 230, A. G. O., October 7, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 10, 1885.*

Bright, George A., Surgeon. Ordered to U. S. S. Brooklyn.

Fitts, Henry B., Assistant Surgeon. Ordered to Naval Hospital, New York.

Hall, John H., Passed Assistant Surgeon. Detached from Naval Hospital, Mare Island, California, and ordered to the Hartford.

Swan, Robert, Passed Assistant Surgeon. Detached from Naval Hospital, New York, and ordered to the Brooklyn.

Society Meetings for the Coming Week:

Monday, *October 19th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *October 20th:* New York Academy of Medicine (section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Medical Society of Hunterdon County (Flemington), N. J.; Ogdensburg, N. Y., Medical Association.

Wednesday, *October 21st:* Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *October 22d:* New York Academy of Medicine (section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private); Brooklyn Pathological Society; Pathological Society of Philadelphia.

Friday, *October 23d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *October 24th:* New York Medical and Surgical Society.

Letters to the Editor.

THE NEW YORK CODE OF ETHICS.

Newark, Ohio.

To the Editor of the New York Medical Journal:

Sir: Dr. Jacobi's remarks, in his able address in your issue of October 3d, on the International Congress, will not fail to find a sympathetic echo in the heart of every true physician; but, in common with others, I can not help an exclamation of surprise at what he says on the war of the codes, or of the "unexpected success on the part of the profession of the State of New York in harmonizing a large majority of the medical men of the United States." What his grounds are for this assertion, I have only his own inadequate explanation, which is, at least in part, grounded on a misapprehension, and one, too, that is fundamental, so far as the issue is concerned between the New York and the national codes of ethics. He says that homœopathists now maintain that "their practice is not based on an exclusive dogma." If the adherents to that ism in New York have progressed that far, they are to be congratulated, and it is to be hoped that this advance will soon be followed by another—to discard the trade-mark of their sect. Now, Dr. Jacobi seems to take it as a matter of course that the liberalization of homœopathy in his State warrants the conclusion that it has extended to all the States. In other words, as goes New York so goes the whole country—a somewhat exaggerated form of cockneyism. During a long and not very limited acquaintance with homœopaths in this region, I have only found one of the kind he mentions, and he is a half-breed.

Put this question to homœopathic practitioners—not to be answered by some spread-eagle orator in a public assembly, but by the working men with whom we are brought into daily relations—Are you willing in consultations to use large or small doses of medicines, to order purgatives or emetics, or to employ the lancet, if the large majority of the most eminent physicians the world over testify strongly in their favor in appropriate cases? The homœopath instantly replies, No, if by a majority of eminent medical men you mean allopaths. Now, I venture to assert that this would be the reply of ninety per cent. of the homœopaths with whom we in this region are brought into contact. The New York code says: You may meet such men in consultation. What for? To try to reconcile irreconcilable differences; to argue and get into unseemly quarrels in the sick-room; or with oily suavity yield up your convictions of what will most likely save life, for the sake of a fee? The homœopath, in such an instance, would be by far the more honorable of the two. I say emphatically that in this region the regular physician who meets a homœopath in consultation must do one or the other of these things, and the New York code of honor says he may. Away with such a consent to a course of conduct that must lower the *morale* of the profession, and, when I say this, I am confident that I have at least ninety per cent. of the profession at my back.

J. R. Black.

PRIZE ESSAYS ON DISINFECTANTS.

199 Dean Street, Brooklyn, N. Y., *October 5, 1885.*

To the Editor of the New York Medical Journal:

Sir: I desire to call the attention of the profession to a flagrant exhibition of what must either be favoritism, ignorance, or a culpable disregard of all justice. I allude to the decision of the prize committee appointed by the publisher of the "Druggists' Circular" for the proper awarding of three graded prizes to the best three essays on disinfectants. All competing essays have been printed in a neat volume of 168 pages. The first prize was awarded to essay No. 6, written by a non-medical man, and a former editor, I believe, of the paper offering the prizes. His essay is a heterogeneous rehash of old and new opinions and recommendations on disinfectants and antiseptics. He seems to have succeeded in impressing the committee by his long array of references, many of which are useless and unscientific. The second and third prizes were awarded to two physicians, and both their essays were worthy, in fact the only such in the collection. The rest of the work is composed mainly of trash. Essay No. 21 covers but one page. I am astounded at the committee's decision, as Dr. Baker, of Lansing, Mich. was one of the examiners. No. 6 is thoroughly unscientific, and fails to agree with the terms upon which the award was promised to be made. That such a decision is not without gross risks is apparent when we consider that the druggists, to whom the people go for disinfectants, rely upon the judgment of the awarding committee as to which is the best essay, and by this they will be guided. Since the public are in this way at the mercy of the druggists, I have written you in the hope that others may be directed to this matter, and that such able authorities as Dr. Sternberg, Dr. Salmon, Dr. Duggan, and others will set upon it the seal of their condemnation. The two essays that received the lower prizes have the merit of being up to the times and giving sound sanitary advice. Could the pharmacists be taught to prepare their disinfectants of the materials these two advise, much good certainly would be done, and many lives saved. The first-prize essay is so poor, compared to the other two, that it can not be compared with them. It is a shallow, hurried, carelessly written compilation. I do not see that the writer deserves any blame—he is a layman, and can not know as much about the subject as an intelligent physician. I do think, though, that the committee deserves everlasting discredit for the work it has done, and I regret that its work is stamped with the seal of Dr. Baker's approval. Trusting that this will be "passed along," I have the honor to be,

Very respectfully yours,

A. H. P. Leuf.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of September 28, 1885.

The President, Dr. Daniel Lewis, in the Chair.

Nominations were made as follows: For President, Daniel Lewis; for Vice-President, Laurence Johnson; for Secretary, Wesley M. Carpenter; for Assistant Secretary, Charles H. Avery and Robert Campbell; for Treasurer, O. B. Douglas; for Censors (five to be elected), H. T. Peirce, W. E. Bullard, W. O. Moore, H. B. Conrad, W. Wells, H. G. Piffard, and J. W. Howe.

Gonorrhœa in Women.—Dr. A. F. Currier read a paper with this title. [See p. 424.]

Dr. H. T. Hanks regarded the question of the ætiology of gonorrhœa as still undecided, but the pathological results of the disease and the indications for treatment were not doubtful. He believed with Dr. Currier that a very large percentage of all diseases peculiar to women were due to gonorrhœa. In dispensary practice one would see patients who had had acute gonorrhœa return some years afterward suffering from troubles which had their origin in such acute inflammation. He did not believe that any physician, without the aid of the microscope, could make a sufficiently accurate diagnosis of gonorrhœa. But, as to the pathological results of acute gonorrhœal inflammation, he thought we should feel more confidence in our ability to treat them successfully. He would beg leave to differ with Dr. Currier with regard to the relative frequency of gonorrhœal endometritis and urethritis. He regarded the latter affection as far the more frequent. If the circum-uterine tissues, the Fallopian tubes, and ovaries became affected, we could do much by judicious treatment—as by applications of iodine, glycerin, chlorate of potassium, etc. In the treatment of the disease in its acute stage, he agreed with the author of the paper in the use of vaginal injections of chlorate of potassium, or carbolic acid, corrosive sublimate, etc. The treatment should be systematic, the injections being made every four hours.

Dr. H. J. Garrigues had not looked for gonococci, but had been enabled to make the diagnosis between simple elytritis and gonorrhœa by the more virulent symptoms of the latter. He often found Bartholin's glands affected, and found it necessary to open them and make applications. The most effectual vaginal injection for the acute disease was a solution of bichloride of mercury, one to two thousand; but other agents had also proved efficacious in his hands. As to the involvement of the urethra, he agreed with Dr. Currier that it was not often present. For the disease in the uterus he applied Churchill's tincture of iodine. As to the efficiency of medicated pads, he thought the glycerin was probably the efficient agent rather than the medicine which it contained.

Dr. H. J. Boldt thought urethritis was more common than the remarks of the gentlemen would lead us to suppose. The majority of cases of acute gonorrhœa would not end in less than three months.

Dr. Lyttle said it had been stated that we must depend upon the clinical phenomena in making a diagnosis; he failed to see, therefore, the value of the gonococcus. The treatment was the same as that which had been adopted before the discovery of that microbe.

Dr. Messenger had never seen a patient upon whom he could rely for making proper vaginal injections; the physician should carry out the treatment himself, and make the injections thorough. The syringe which he used was described as being specially valuable in enabling one to fully balloon the vagina with the bichloride solution.

Dr. Currier closed the discussion, and said he was not sure that glycerin did not play an important part in the treatment when it was employed as a vehicle for other medicines. The value of the gonococcus in diagnosis would be specially seen in cases brought into the courts.

The Treatment of Leprosy.—Dr. G. H. Fox read a paper on this subject, in which he deprecated the tendency to depress the patient morally by giving him to understand that his disease was incurable, and by making him an outcast from society or confining him with those affected in like manner. The patient's *morale* was of far greater importance than change of climate, attention to food, etc., conditions which were considered necessary to his welfare. He gave the history of a missionary to the

Sandwich Islands who contracted leprosy. The symptoms had become well marked, but he was given to understand that his case was not hopeless and that he should not be put under restraint, and chaulmoogra-oil was given. He steadily improved, and at present there remained only some symptoms in the hands. Leprosy was only moderately contagious, and the author knew of no instance of its gaining a foothold in a refined community; he therefore regarded confinement as unnecessary.

Dr. Fuller had seen several hundred lepers at Havana, and said the disease was regarded as contagious, but only slightly, and they were not very strictly confined.

Dr. Moore had been in the West Indies, and could testify to the buoyancy of feeling among the lepers there. He did not think that want of sympathy or mental depression had anything to do in preventing a cure. It was well known that there often occurred intervals when the disease was not progressive. There were instances in which it had been known to be inherited, although it might pass over a generation or more.

Dr. J. C. Peters had seen persons suffering from leprosy in Havana, and they were generally indifferent to their condition.

Dr. D. B. Delavan had visited the institution for lepers in Norway, where there were now only about seventeen hundred, the number having been reduced from over three thousand. They usually came from among the lowest classes. They were not under very great restrictions. He expressed surprise at the position taken by the author of the paper, but he would be glad if his views regarding the curability of the disease might be fulfilled.

Dr. Piffard said that where many patients suffering from leprosy were found the treatment was practically *nil*. The few patients whom he had treated had improved under the use of nux vomica and chaulmoogra-oil. The system became intolerant to one drug if taken for some time, and the two should, therefore, be alternated.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of September 23, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Recurrent Epithelioma of the Penis.—Dr. W. Perry Watson showed a portion of a penis and the patient from whom it had been removed, a laboring man, forty-nine years of age, of good family history, and without any history of specific disease. His health had always been good. Phimosis had existed, which caused marked "ballooning" of the foreskin during urination. In 1865, while he was sitting at table, a fork was thrown at him, and one tine pierced the dorsum of the glans penis. There was considerable bleeding, but a physician was not called. Soon afterward he was admitted into Bellevue Hospital, where, according to his statement, Dr. Hamilton amputated a portion of the foreskin which was said to be indurated. No portion of the head of the penis was removed. The speaker thought it probable that the induration referred to by the patient was a blood-clot. He had no further trouble for about six months, when a wart-like growth developed near the frænum. This grew, and, being constantly irritated, was removed six months later. Six months afterward an ulcerative process set in at the base of the wart-like growth, which increased in dimensions, and for a year before the speaker saw the patient, which was two years ago, gave rise to considerable hæmorrhage. Dr. Watson advised amputation, and the circular operation was done, the urethra being slit up and stitched to the skin. The man had been well since, no tendency to a return of the disease being manifest. The inguinal glands had at no time been enlarged. The epitrochlear glands were slightly enlarged.

The President had seen four cases of epithelioma of the penis during the past eighteen months, in three of which he had performed amputation, and in all there had been phimosis. He had conversed with several surgeons on the subject, and had not heard of a single case of carcinoma of the penis in which there had not been phimosis. This was certainly one other indication for circumcision.

A Vermiform Appendix of Unusual Length and Attachment.—Dr. Louis Waldstein presented a vermiform appendix 16 ctm. long, which he found in a cadaver at the German Hospital. It reached upward to the hepatic flexure of the colon, to which it was attached. Probably there had been slight local peritonitis and displacement of the colon downward, during which the adhesion was formed. The colon afterward resumed its normal position, carrying the appendix with it.

Biliary and Renal Calculi.—Dr. Waldstein also presented a urinary calculus, composed of urates, which was interesting in connection with the history. Mr. S. sent for him in April last, suffering from pain in the abdomen, the greatest tenderness on pressure being over and just to the right of the epigastrium. The pain radiated over the entire abdomen. There was slight icterus of the conjunctivæ and integument. The diagnosis of biliary calculus was made. The patient improved under the use of Carlsbad water. Large numbers of concretions were found in the fæces. Subsequently the speaker was called to visit the patient for an attack of pain which commenced in the right lumbar region, extended downward along the course of the ureter and right thigh, and was diffused over the abdomen. The patient said that when micturating he had a peculiar sensation at the glans penis and a tingling of the fingers of both hands, also some dizziness, and occasionally saw *mouches volantes*. The diagnosis of urinary calculus was made, and subsequently was confirmed by the passage of the calculus presented. An interesting fact in the case was that during eleven or twelve years the patient had had digestive derangement, and finally, as was apt to occur, biliary calculi developed, and also renal calculi.

The President referred to a largely distended vermiform appendix which he had seen while in Bellevue Hospital, but he had never seen one so long as that presented by Dr. Waldstein.

MEDICAL SOCIETY OF VIRGINIA.

Sixteenth Annual Meeting, held at Alleghany Springs, Tuesday, Wednesday, and Thursday, September 15, 16, and 17, 1885.

Dr. Bedford Brown in the Chair.

(*Concluded from page 419.*)

Dyspepsia with Neurasthenia and Somnolence.—Dr. M. L. James, of Richmond, read a paper on this subject. He referred to the fact that, although this morbid association was a serious inconvenience, and sometimes a grave disability, it had not in this particular association received very much of attention in the books. While it very often resulted from the excesses of dissipation in the various forms, it was yet more frequent in the best types of manhood and womanhood, those whose only intemperance was excessive thought and exhausting labors of love, and for that reason especially commended itself to the consideration of men of science and physicians from kindred sympathies. He referred to the fact that indigestion was one of the most frequent causes of neurasthenia, from its combined influences in impairing nutrition and producing a certain species of shock on the nervous system, and that in its treatment it should be remembered that these morbid conditions reacted upon each other. While dyspepsia produced neurasthenia, neurasthenia, on the other hand, was liable greatly to intensify dyspepsia.

He indicated that the judicious treatment of this condition demanded what might be described as training, in which the correction of each of these conditions might be made to contribute to the relief of the morbid condition in the other; that digestion was better performed by securing the utmost integrity of the innervating forces, and the asthenia of the nervous forces was greatly diminished by removing the disorders of digestion. For that reason he emphasized the importance of securing to the patient an ample amount of undisturbed sleep, to commence the labors of each successive day, and then that the food should be selected with a view to its ease of digestion and its capacity to afford nutrition to the nervous tissues. A period of rest in the recumbent position, accompanied by sleep from a half-hour to two hours previous to dinner (after which the greatest amount of difficulty was usually experienced), was attended by the best results.

In the matter of medication, while he spoke of the good effect of a judicious use of stimulants, especially such as stimulated the cerebral lobes and averted sleep, such as was found in coffee or its alkaloid, caffeine, that for permanent restoration those agents which were more decidedly tonic, such as quinine, strychnine, and phosphorus, or its compounds, or such agents in combination with minute quantities of caffeine, were best calculated to afford remedial benefit. He mentioned the following as one of the formulæ which he had been accustomed to use with the most efficient results:

℞ Quininæ phosphat.,	gr. xvj;
Strychninæ phosphat.,	gr. ½;
Acidi phosphorici (50 per cent.),	♏xx;
Caffein. citrat.,	gr. xvj;
Aquæ puræ,	f ʒ vij;
Glycerini puri,	
Spts. vini rectif.,	ãã f ʒ ss.;
Tr. cardamomi co.,	f ʒ j.

Misc. secundum artem.

One or two teaspoonfuls immediately before or after breakfast or dinner, to be repeated, when necessary, every hour or two till the nervous depression was relieved, or every half-hour till one or two doses were taken if this depression was heavy.

He stated that where digestion was impaired to that degree that food in the ordinary form was not tolerated and digested, he advocated the use of concentrated animal preparations in a fluid form, and of foods predigested by the use of pepsin and pancreatin; and where this amount of difficulty was so extreme that they could not be administered by the stomach they ought to be administered through the rectum.

Report on Advances in Hygiene and Public Health.—Dr. Edwards announced the sudden death of the Reporter, Dr. William H. Coggeshall, of Richmond, on September 7th—just after he had finished his paper. By unanimous vote, Dr. Edwards read the paper, the title of which was:

The Recent Plymouth, Pa., Epidemic and the Lessons it teaches.—A full account of the epidemic was given and deductions were made, based upon an analysis of its history.

Inhumation and Cremation was the title of a paper by Dr. J. E. Chancellor, who spoke of the principal methods of disposing of the dead. The major portion of the paper was devoted to the subject of inhumation and its evils, many authorities being cited, and the testimony of scientists and medical men of the East who had made it a subject of close investigation.

Report on Ophthalmology and Otology.—Dr. Phillip Taylor, of Richmond, read a paper in which mention was made of the practical benefits to be derived from the use of jequirity in trachoma with or without pannus. He insisted upon the fact that chronic purulent conjunctivitis should not be present when jequirity was used. The late theory relative to the transmission of sympathetic ophthalmia—viz., by means of the inter-vaginal lymph-spaces of the optic nerve—was given, and conclusions concerning septic poison being conveyed by the ciliary nerves from the diseased or injured eye to the unimpaired organ—the once popular theory—were rendered. Cocaine received notice as one of the most important strides that had been made in ophthalmology for many years. Its uses and effects were dilated upon. Numerous operations were referred to that had been brought before the profession during the past year, notably one for pterygium by Dr. Prince, of Illinois, another for evisceration of the eyeball as a substitute for enucleation, also one for the transplantation of the cornea. He referred to the danger of performing the operation for internal strabismus in the young and making the correction absolute, and pointed out the fact that, as maturity came on, insufficiency was quite apt to follow, causing external squint.

In otology, some recent preparations for purulent ear troubles were discussed, especially peroxide of hydrogen. New-style Eustachian catheters and the method of using bougies for dilating the Eustachian tube were approved. The connection between diseases of the teeth and those of the ear was referred to, and statistics were rendered showing that sympathy existed between these parts.

Practical Remarks and Suggestions in regard to Diseases of the Ear, Throat, and Nose, with Reports of a Few Cases.—Dr. Joseph A. White, of Richmond, presented a paper on this subject. In speaking of the disastrous consequences of neglected middle-ear catarrh, he remarked that neglected suppurative inflammation had resulted fatally. Pain should be overcome by local leeching, warm applications, the use of twenty-per-cent. solution of cocaine hydrochlorate with atropine in the ear, and anodynes internally. Cocaine did anæsthetize the drum-membrane. Pilocarpine hydrochlorate and calcium sulphide should be administered during the exudative stage, but caution should be exercised in using pilocarpine during the aural troubles following any of the exanthemata lest the heart be paralyzed. If pain persisted and the drum-head bulged, the posterior-inferior quadrant should be opened, and, by aid of the air-bag, the tympanum evacuated. Then the ear should be gently and frequently syringed with carbolated or borated solutions of sodium bicarbonate, and the Eustachian tube kept free by the daily use of Politzer's air-bag. If pain continued, the cocaine solutions should be continued, but the atropine left off, as the latter was dangerous when the drum-head was opened. Powdered boric acid might also be dusted over the drum once or twice a day. Mastoid and diseases of the brain often occurred from neglected middle-ear complaints; permanent deafness was common. Especially during the course of scarlet fever, the earliest signs of ear trouble should receive close attention. Leeching and the use of calcium sulphide would often avert threatening mastoid complications. If there was redness or pain on pressure over the mastoid process, freely incise to the bone, and even trephine the bone if pain continued.

Dr. White next referred to the influence of menstruation at puberty and at the menopause upon ear diseases. Impaired hearing due to adhesive middle-ear catarrh was very common about the climacteric period. He cited the case of otorrhœa which began at puberty and yielded readily to treatment, but recurred at each menstrual period until finally the menstrual irregularity was relieved, when the otorrhœa also ceased.

As to syringing the ear, he cautioned, he said, not to use too much force in removing impacted wax, foreign bodies, etc. Dizziness, syncope, violent pain, followed by suppurative inflammation and deafness, had resulted from too forcible syringing. To remove impacted wax, first partially dissolve it by

frequent applications of warm solutions of sodium bicarbonate in glycerin and water, and then very gentle syringing would remove the mass. When required to loosen a lump of wax or such a thing with forceps or probe, we should not attempt to do it without good illumination from a head-mirror.

Follicular amygdalitis and catarrhal diphtheria were often confounded. In diphtheria, in addition to the fever, occasional nausea, pain in the throat which generally began on the third day, and patchy exudation on the swollen tonsil, as we had in follicular amygdalitis, the exudation extended over the mucous membrane of adjacent structures. Guaiacum acted almost as a specific in follicular amygdalitis, which supported the belief that rheumatics were most liable to it. If recurrent attacks became common, or if the tonsil became so hypertrophied as to affect nasal respiration or impair articulation, he advised the removal of the enlarged tonsil. The only risk was hæmorrhage, and that usually was but slight. The rule should be to remove anything that interfered with nose-breathing or rendered mouth-breathing necessary. Interference with nasal breathing caused deafness, tinnitus aurium, etc., and the reflex phenomena, such as reflex cough, sick headache, asthma, and hay fever. The paper concluded with reports of two typical cases of hay fever cured by the use of the galvano-cautery applied to the sensitive points of the nasal mucous membrane.

Two Cases of Tracheotomy — One for Lupus of the Larynx, and One for Diphtheria—were reported by Dr. Charles M. Shields, of Richmond. He had found mention in the text-books of about a dozen cases only. The case now reported was that of a retired doctor, about fifty-five years old. He had had hoarseness and pain while swallowing for more than a year. Now he could speak only in a hoarse whisper, and he had dyspnœa. The laryngoscope revealed general redness and congestion, with so much swelling of the right vocal cord and ventricular band as to make them indistinguishable. This growth was covered with small, pale, fleshy tubercles, having superficial ulcerations between them. The patient never had syphilis, nor were there any signs of phthisis, nor was cancer hereditary in the family. These usual causes of laryngeal growths were therefore excluded. The diagnosis of lupus was strengthened by the appearance of two or three small, suspicious ulcerated growths upon his face and arm which would not heal until excised, and which were probably skin manifestations. At first he took iodide of potassium, and afterward arsenic, and, locally, iodoform and bismuth; but the lupus progressed until seven months after the patient presented himself, when the ulceration and swelling occluded the larynx. Both sides of the larynx were immensely swollen and covered with the pale elevations and ulcerations, and no glottic aperture could be seen. Tracheotomy was performed without chloroform, but it was a tedious operation because of his short, thick neck and the pushing down of the trachea by the enlarged larynx, leaving very little space for the incision; an unusually long cannula had to be used. Great relief followed the operation, and he soon learned to remove, clean, and replace the entire tube without difficulty. He was doing well during the next summer.

Dr. Shields also reported a successful tracheotomy for laryngeal diphtheria in a child three years old. After the fifth day the membrane in the larynx increased so rapidly as to threaten death by suffocation. Iron, quinine, and large quantities had been used. Vapor of lime filled the room. Tracheotomy was not consented to by the parents until the sternum was drawn in, and the patient was cyanosed and thought to be dying. The tracheotomy tube was introduced as soon as the incision was made, but all appearance of breathing stopped. Artificial respiration was kept up and the tube withdrawn again, when, with forceps, a membrane, cast upon the trachea, two inches long, was removed. The cannula was again put back, and, artificial respiration being continued, the child finally began to breathe. She did well for two days, when difficult breathing set in, and she coughed up through the trachea another cast. Diphtheritic membrane covered the edges of the wound. No air passed through the larynx for nearly a week, and the tube had to be kept in for three weeks before she could breathe comfortably through the natural channel. She made a good recovery.

Infanticide was the title of a paper forwarded by Dr. Charles R. Cullen, of Henrico County, who was unable to attend. The writer did not follow the usual routine found in the text-books on medico-legal jurisprudence, but merely sought to direct attention to the weakness of Virginia laws on the subject. Dr. William H. Taylor, Coroner of Richmond City for about thirteen years, furnished statistics of 139 persons tried for infanticide during his term of office—43 whites and 96 negroes. Of the total number, not a conviction followed. The laws of England and Scotland had succeeded better. Of 68 trials for infanticide in London, 53 convictions followed. In New York and Pennsylvania the laws were much more certain of securing convictions than in Virginia. The very harshness of the Virginia laws caused them to fail of good results. Dr. Cullen reported two cases of trials for infanticides which had come under his attention, showing the weakness of the Virginia laws, and he called on the society to aid in reframing the State laws relating to infanticide.

A Plea for Tracheotomy in Croup.—A volunteer paper with this title was read by Dr. L. Ashton, of Falmouth. He said that the good that was to result from the timely performance of tracheotomy was so great that it should be placed among the minor surgical operations. This classification would materially help to popularize it and take from it that dread that parents so often felt regarding it. The operation in itself was comparatively free from danger, but was a delicate one, requiring coolness and caution, and, when performed hurriedly, was too often made difficult and dangerous. The operation not being dangerous in itself, nothing connected with its mere performance should influence the time when it was to be resorted to. As soon, he said, as it was decided that a positive mechanical obstruction to the entrance of air into the lungs existed, the operation should be done, before such secondary complications as broncho-pneumonia, œdema of the lungs, prostration of nervous energy, etc., occurred. In the majority of cases of croup death resulted from want of oyxgen in the blood. It should be performed in all cases where the croup was progressive and unaffected by medical treatment. In a number of cases the extension of croup was arrested by tracheotomy. The admission of air into the lungs through an artificial opening in the windpipe secured entire rest for the diseased larynx, and this led to a suspension of diseased action there. The diphtheritic process, clinically speaking, stopped at the level of the vocal cords much oftener than was commonly supposed. When the disease involved the trachea, it was by propagation from the larynx, and not by a simultaneous attack on the larynx, trachea, and bronchi; and this extension downward was generally prevented by early tracheotomy. Since the operation alleviated suffering, mitigated the symptoms, obviated secondary complications, and did not add one element of danger to the original disease, there ought to be no delay in its performance. Many children had even been brought to life again by it, with the aid of artificial respiration.

Psychological Aspects of Suicide.—During the night session Dr. J. S. Conrad, Superintendent of Malley Hill Sanitarium, near Baltimore, Md., by invitation read a paper on this subject, and made the following conclusions:

1. Suicide increased with the advance of civilization, and was but little known in the savage state of men.

2. The act was an intelligent act (?), done with a full consciousness of the act, as shown by the method of execution, whether by the sane or insane.

3. That suicide was done always for the purpose of escaping an evil, and for the benefit of the *felo-de-se*, whether by sane or insane.

4. That it was a voluntary act (?), whether by sane or insane.

5. That it was an emotional act, whether by sane or insane, however deliberately planned and executed, since deliberation entered into the mind of both mental states.

6. That delusions were not essential to the distinction as to the sanity or insanity of the suicide, since authorities affirmed that delusions were not essential to the proof of insanity.

7. That suicide was rare in the first class—insanity (by Maudsley), viz., intellectual or ideational insanity—but did occur in the vast majority of the second class, or affective or emotional forms of insanity.

8. Query: Was suicide an intellectual act notwithstanding the intelligence exercised in its execution? Or was it an emotional act *per se*, since we had seen that the emotional part of mind dominated the ideational centers and perverted the intellect into becoming its humble servant?

9. Did moral depravity satisfactorily account for it, when we had seen that moral depravity was a factor with both the sane and the insane?

10. That, in doubtful cases of the sanity or insanity of the *felo-de-se*, very great caution was necessary in making up a just judgment as to the one or the other.

Irritable Rectum.—Dr. ARCHER ATKINSON, of Baltimore, present by invitation, read a brief paper on this subject, in which he called attention to the various causes for this condition. He also reported a case in which he ligated the artery of a large bleeding hæmorrhoidal tumor.

Gunshot Wound of the Hand.—Dr. WILLIAM G. EGGLESTON, of Chicago, reported a case of this injury. C. H. G., a physician, aged thirty-three years, received an extensive lacerated wound of the left hand, in February, 1885, while attempting to remove the cap from a loaded shell. The cartridge exploded, and the entire charge of shot, so far as was known, passed through the hand. The resulting wound extended, on the palmar side, from a point immediately anterior to the normal situation of the deep palmar arch, between the metacarpal bones of the middle and third fingers, tearing the hand completely open, thence to the webbed junction of these fingers, tearing the flesh from the first phalanx of the third finger, save a small portion on the dorsal aspect, and breaking the first phalanx of this finger and the metacarpal bones of the third and little fingers about the middle third.

The wound was thoroughly cleansed with hot water, the clots were removed, flaxen sutures put in place, compresses applied over the palmar and dorsal wounds, and the whole metacarpal portion of the hand was bandaged rather tightly with short bandages, so that they could be easily removed in case of hæmorrhage. The middle finger was used as a splint to the broken third finger. Turpentine was then injected into the wound, and the bandages were thoroughly soaked with it. Subsequently a drainage-tube was put in, and a weak bichloride solution used. On September 10th, seven months after the receipt of the injury, the patient reported that the third finger was practically useless, but that he could do all he wished with the hand; the grip was good, "the stiff finger seldom getting in the way."

Miscellany.

The Report of the Meeting of the Committee on the International Medical Congress.—The "Medical News," of Philadelphia, publishes the following letter from Dr. R. A. Kinloch, of Charleston, S. C.:

"*To the Editor of the Medical News:*

"SIR: The following letter was addressed by me to the secretary of the Committee on the International Medical Congress:

'CHARLESTON, *September 16, 1885.*

'To Dr. JOHN V. SHOEMAKER,

'*Secretary of the Committee of Arrangements for the International Medical Congress.*

'DEAR SIR: In the "Journal of the American Medical Association" for September 12th there is a publication, under your signature as secretary, of what is styled a "Report of the Committee appointed to arrange for the meeting of the International Medical Congress in America in 1887." As a member of the Committee of Arrangements, present during the session of the committee held in New York city on the 3d and 4th of September, I am not aware that you were instructed or authorized to make any other report than such a one as naturally pertained to your duties as secretary. The correct and full report of the minutes of the meetings of the committee it is most surely your duty to prepare, and the publication of such minutes, unless specially interdicted by vote of the committee, seems to me to have been in order. Your "report," as published, is not the minutes of the meeting, nor does it fully or fairly represent these, as far, at least, as relates to the meeting in New York. As a member of the committee I think it due to the committee, and to the profession of our country, that the full action of the committee, which carries with it the animus or real intention which determined its work, should see the light of day. You will therefore pardon me if I appear intrusive when I ask you to inform me if it is your intention to publish a detailed report of the minutes of the late meeting of the committee, held in New York, on the 3d and 4th of September.

'Very respectfully, R. A. KINLOCH,

'*Member of the Committee from South Carolina.*'

"This letter was forwarded as far back as the 16th of September, but has failed to elicit a reply. I am, therefore, forced to conclude that I shall not have the courtesy of a reply, and that there will appear no official report of the minutes of the meetings of the Committee on the International Congress, notwithstanding the interest manifested in this matter by the profession. As a member of the committee, however humble, I am not ashamed of any views I have expressed, or of any action I have taken. Nor do I desire to bear the sins, either of omission or commission, or to claim the fruits of the good work that may be the outcome of this body.

"I accepted a position on the enlarged committee created by the action of the American Medical Association at its late meeting in New Orleans, not because I approved of the action of the association in its mode of dealing with the work of the original Committee of Eight, but because I recognized the obligation to serve the association, and indulged the hope of sustaining a spirit of harmony, which I feared might be interrupted by the diversity of opinions coming of a too ponderous committee of arrangements.

"That the committee could best discuss the respective merits of men suggested for filling important offices in the Congress by sitting with closed doors, was an argument of some force. But it will scarcely be urged by scientific men that the shortcomings of the body, the conduct and ruling of its officers, the time of its sessions, the policy of its actions, the views and the memoirs of its selected members, should be guarded in the same way, and known only to committee [illegible]. Why, then, I ask, this suppression of too much of the proceedings of the meetings? And by what authority does the secretary of the body undertake to report in the way that he has done? As I was absent from the meeting for a brief period prior to its adjournment, it is possible that the committee may have instructed the secretary as to his

course of action. If so, I can only at this late date raise my voice in condemnation of such a policy.

"All the acts of the committee were of course the result of a majority vote, and, so far as it has worked for the supposed advantage of the Congress, I prefer to say nothing. I trust that its action will prove satisfactory. But, while majorities rule, minorities have certain rights, and among these is the right to be put upon record. As an independent member of the committee, I do not intend that my rights shall in all particulars be ignored. The verdict of a noble profession is something that I hold of inestimable value; the approval or disapproval of a court so constituted I am willing to accept, provided such is based upon my individual merits or demands. There was with me during all my connection with the committee the proud desire to promote harmonious action, and thus save the American Medical Association and the profession of our common country from dissensions which threatened their well-being, if not the vital interests of both, and which already have, in part, subjected us to the censure, if not the ridicule, of our foreign brethren.

"My first effort was at the informal meeting of the new members of the committee at New Orleans, when I introduced the following resolution, after there had been presented several propositions, all of which, as seemed to me, were calculated to give some offense to the original Committee of Eight.

"'*Resolved*, That the temporary officers of this meeting be instructed to correspond with the original committee, expressing our desire to meet them at such time and place as may be agreed upon by the majority of the entire committee.'

"The original committee had worked laboriously and deserved something of the association. If they had committed errors, they could not escape criticism; but with members of a common brotherhood, looking to scientific progress, criticism need not give offense. No proper-feeling brother desired to add to the mortification or irritation which naturally attached to the members of the original committee, when there were appointed additional members to their body, for the purpose of reviewing their work. The object of my resolution then was to try at the outset to establish friendly relations with the original body. The new members were merely *material added to this*. The original committee was the fully organized body. It had not been abrogated, nor was its organization changed by the recent action of the association. A cautious word from the temporary officers elected by the new members, if these officers were capable of appreciating the spirit of my resolution, was really the first and surest way of harmonizing the new with the old members of the committee.

"Dr. Flint and Dr. Billings were the officers of the Committee of Eight. They were also, now, the officers of the enlarged committee, until that committee should meet and decide to supplant them. It rested, then, with these gentlemen to call the committee together; *the duty pertained to none others.*

"Some confusion arose in regard to the function of the committee as enlarged, and as to the attitude of the original committee to the association. The members of the original committee naturally desired time for conference and careful conclusion. This should have been accorded them. But, unfortunately, the temporary officers of the meeting at New Orleans incorrectly estimated their position and failed to perceive that harmony was necessary for professional unity, and unity essential to the scientific interests of the Congress. The function of these temporary officers had ceased after they had carried out the instructions given them by my resolution. And yet they magnified their recent position, *forgot* the spirit of their instructions, ignored the existence of the president and secretary general of the committee, transferred the headquarters of the committee from Washington to Philadelphia, called for the vote of all the members of the committee, as to time and place of meeting, and resolved to meet at Chicago on the 24th of June. Strange to say, it does not seem to have occurred at that time to any of the members of the committee, beside myself, that these temporary officers of the New Orleans meeting had committed a fatal and a gratuitous act. This was painfully evident to me, however, for I saw at once that the letter and spirit of my resolution had been trampled under foot, and I lost hope in the success of the Congress.

"The call for the Chicago meeting, made in the name, or under the authority, of my resolution, seemed to be accepted by the committee as right and proper. I alone protested and refused to vote. My protest was sent to the 'Association Journal,' but reached the editor too late, as he informed me, for the issue which immediately preceded the time of meeting of the committee. As a final effort, I wrote an earnest letter to Dr. Cole and Dr. Shoemaker, and insisted that my views should be presented to the meeting in the event of my failing to be present. The meeting was held at the time specified, *but my letter or views were not mentioned.*

"The result of the Chicago meeting is known to the profession. I was unavoidably absent, and subsequently shared only in the general regret that the character of the work done necessitated its reconsideration. The meeting at New York was called partly for this purpose. I was present, and at the earliest moment I claimed the privilege of having recorded upon the minutes the letter which I had written to the 'Association Journal,' and which explained fully my views as to the unjustifiable action of the temporary officers in calling the Chicago meeting. I also made the public statement as to the failure of these officers to bring my letter before the committee at Chicago. Through the failure of the secretary to publish the minutes of the New York meeting my views were again suppressed, and hence the unpleasant necessity of having now to justify my action. It is due to the officers of the meeting to say that they disclaimed any intention of purposely suppressing my letter at Chicago, but, at the same time, they offered no very satisfactory reason for their singular omission.

"The next matter which duty to myself compels me to notice has reference to the alteration of the rule, as adopted at Chicago, determining the American membership of the Congress. This rule had been fixed, as was claimed, *in obedience to the voice of the American Medical Association*, so as to restrict the membership on ethical grounds. The determination of a few adroit members of the committee was now to undo what had been done, and in their own peculiar way. By management more suitable for a political than a professional or scientific body, and which I will not now comment upon, the rule, as prepared for presentation to the committee, which it was claimed opened the Congress to all members of the regular profession, was finally brought before the body. I asked the gentleman who had introduced the subject whether, under the proposed rule, all members of the Congress would be alike eligible for office, and whether he would favor the election of any member of the profession simply upon his merits, or whether there was not a mental reservation upon the part of those suggesting the change by which, upon ethical grounds, certain members would be members merely, and debarred from holding office.

"The answer came that in accordance with the 'resolution' of the American Medical Association certain parties must be refused high position. I asked for the reading of the 'resolution' referred to. I wanted to know whether the association had ever drawn any such fine distinction, opening the membership to all, but restricting the distribution of honors. It turned out that there was no such resolution ever adopted by the association. I then maintained that if the association and its implied sentiment were to guide the committee upon this occasion, it was more consistent to hold on to the Chicago rule than to accept the amendment as now proposed. I offered to support the amendment with all my heart if this was honestly offered, and if the mover would amend it further by stating that all members were equally eligible for office, or if he would agree to show that, practically, all were eligible by voting for men on their merit and regardless of ethical standing. If this was declined, I insisted I could not vote for the amendment, for I would not pretend to offer bread and give a stone. My proposition was not accepted, but the new rule was adopted without my vote, and *all in the name of the association.*

"One other point deeply interested me, and determined my rejection of office. It was well known that the rule, as adopted at Chicago, which restricted the membership of the Congress upon ethical grounds, had occasioned the resignation or withdrawal of many of the best and strongest men in the profession, regardless of their views on the code question. A conciliatory spirit on the part of the committee, as now newly constituted, was of supreme importance, for we could ill afford to do without so many of the good minds of the country. Under the resolution of the association, the committee had power to fill all vacan-

cies occurring in its own body, and to appoint officers to the Congress. This was regarded as implying the right to accept resignations from positions which had been previously filled by the original Committee of Eight, or by the present enlarged committee at its meeting in Chicago. The work of filling vacancies was being pressed on, *when the committee had no knowledge of resignations except the mere verbal report of the secretary.* The idea seemed not to have occurred to any one that all letters of resignation should be read before the committee, or that courtesy and justice to the parties sending such letters demanded such reading. It looked as if the officers of the committee, and not the committee itself, were, to use a trite expression, 'running the machine.' I desired, naturally enough I thought, to know the reasons for the resignations which had been sent in to the secretary, and therefore asked for the reading of the letters. We were surprised to learn from the secretary that the letters had been left in Philadelphia, and, besides, that they were so numerous that there would scarcely be time for their reading. I nevertheless urged that the telegraph should be used to insure the letters' reaching us in due time. The secretary finally arranged to send a special messenger for the papers, and they arrived in time for the second days' session. I now again called for the reading of the letters. They were, under resolutions offered in plea of press of business, twice put upon the table to await convenience. But at last I succeeded in having a few letters read. I heard enough to conclude that if the obstructions to membership and to the honors of the Congress were really removed, and a proper spirit of conciliation evidenced by the committee, most useful men could yet be saved to the Congress. Meantime the work of filling the so-called vacancies in the most important offices had continued without any questions as to the acceptance of resignations. The spirit of vindictiveness (I regret to have to use the term) under the presumed offense given by the parties who had proposed to withdraw seemed to me to be irrepressible, so I could not consent to occupy the position of vice-president in the Surgical Section which had been assigned me, both by the original committee and the present one. As an unavoidable engagement precluded my presence at the meeting of the committee toward the close of the session, when the list of vice-presidents of the sections was up for consideration, I left with a member of the committee my written reasons for declining office. These were read, but of course suppressed with other portions of the minutes.

"In conclusion, let me state that I think it not unlikely that some of my professional brethren will charge me with egotism, and condemn the course I have pursued in thus publicly announcing personal grievances. This I shall regret, but I apprehend there will be many who will agree with me that personal grievances may be blended or indissolubly connected with the interests of the whole profession. Had I not regarded those which I have here recorded as of that category, I should never have adverted to them.

"One word in relation to the gentlemen constituting the enlarged committee. Many of them are my personal friends. I dispute not the right of individual opinion. I claim no superiority over my brethren, but my own convictions are strong and sincere. There are many of the committee whom I know to be as conservative as I claim to be. I feel grateful to some for the support I received while striving to modify the determined policy of the majority. I intend no offense to the committee as a whole, unless it be an offense to offer the assurance that now and ever I do not mean to allow my individuality to be destroyed.

"R. A. KINLOCH,
"*Member of Committee from South Carolina.*
"CHARLESTON, *October 1, 1885.*"

The American Medical Association and the International Medical Congress.—"The more one considers the question," says the "Medical Times and Gazette," of London, "the more fatal do the objections appear to the principle of allowing a pre-existing medical association to play the sole part in organizing an International Congress. No medical organization whose aims are not purely and exclusively scientific can ever be truly representative of medical science. The men who are the real workers in the field of medical research, and who are therefore the only proper representatives of the profession in a scientific meeting like the International Congress, are hardly ever found playing a leading part in associations of a medico-political nature. Quite properly they leave such functions to those of their brethren who have business proclivities and time upon their hands. The latter class may be admirably fitted for the work of conducting a large medical association, but they are not qualified to greet on even terms the medical investigators of the world, and we doubt even if they are competent to decide who are best qualified to give that greeting. Thus there is always the risk, exemplified in the United States just now, of their dragging the political and ethical questions that are nearest to their hearts into competition with purely scientific questions. The only safe way of organizing a successful International Congress in any country is to leave it in the hands of the leading scientific men, who are known and acceptable not only to the hosts of the Congress, but also to its guests. We hope that on some future occasion this principle, which has until now invariably been acted upon, will be formally converted into a standing rule."

Decline the Invitation.—Under this caption the "Medical Record," of New York, says: "The month of grace allowed for the return of the gentlemen who withdrew from the organization of the Ninth International Congress has passed. There are no signs yet of the hoped-for return. The possibility, as suggested by us last week, of affecting in some way the ruinous course of the present committee, is now destroyed by the recent action of the Executive Committee, which has formally assumed dictatorial powers. We think, therefore, that it would be better, for the credit and harmony of the profession, that the acceptance of the invitation to hold the Ninth International Medical Congress in this country be withdrawn."

Excipients for Permanganate-of-Potassium Pills.—Mr. Edgar L. Patch, of Boston ("Pharm. Record"), says that, when he first had occasion to dispense permanganate-of-potassium pills, he chose that excipient nearest at hand which seemed to meet the requirements of making a mass quite readily, and preserving the salt from rapid decomposition. This was resin cerate, and, the permanganate being used in very fine powder, the cerate met the first requirement so well that he persevered in its use after Martindale had suggested the use of kaolin and paraffin, and Proctor that of kaolin and water. He never kept the pills in stock, and argued that their comparatively slow solubility was of advantage in preventing the too powerful local action of the salt. Nevertheless, some of his customers asked if the pills should "cause distress in the stomach?" He also recommended resin cerate to others who had stray calls for the pills, and who found difficulty in obtaining kaolin. Inquiry revealed the fact that at that time few wholesalers handled kaolin, and that some who sold "China clay" informed their customers that they knew nothing of kaolin.

"*Pure* kaolin," he continues, "is a white clay, a hydrated silicate of aluminium, having the formula $H_2Al_2Si_2O8+H_2O$. Coming largely from China, where it is found near the Kauling Mountains, it derives its name *Kaolin* from the locality mentioned. It is also found in France, Saxony, England, and various localities in America." Obtained from three different localities, its composition varies somewhat, ferric oxide, lime, magnesia, alkalies, and water being present in varying proportions. Hence samples differ in plasticity when mixed with water, and the many statements regarding its value as an excipient may be harmonized. After experimenting with the various excipients that have been suggested, he recommends one of the following: 1. Resin cerate, in proportion varied according to the size of the mass, from 15 to 20 per cent. of the finely powdered permanganate used. Five grains will make a mass with 25 grains of the salt; 15 grains will make a mass with 100 grains of salt. 2. One part of permanganate, 1½ parts of kaolin, and water, q. s." (Proctor.) The amount of water required will vary from ½ to ¾ of a part. 3. Permanganate, 2 parts; kaolin, 1 part; and petrolatum, q. s. The amount of petrolatum required depends upon its consistence. He uses only ¼ of a part, as, permanganate, 24 grains; kaolin, 12 grains; petrolatum, 4 grains, makes a mass somewhat more plastic than No. 1, and decidedly more so than No. 2, which has to be handled skillfully to get satisfactory results. Of the three masses, No. 2, with kaolin and water, disintegrates rapidly in contact with water, No. 3 more slowly, and No. 1 the slowest of all. Of their permanence he is unable to speak from personal observation, but it has been stated by Mr. George Smith ("Pharm. Journal," 1884)

that masses made with kaolin and paraffin lose from 50 to 70 per cent. by decomposition after six months' time. In view of this the pills should be freshly made, and the pharmacist may work by any of the three formulas suggested that best suits the case in hand.

Active Principles in Pharmacy.—Dr. R. G. Eccles, of Brooklyn, contributes to the "Pharmaceutical Record" an important article on "Infected Solutions," beginning with the following remarks:

"Aromatic waters, dilute solutions of phosphoric, citric, tartaric, oxalic, and other acids and their salts, as well as most alkaloidal solutions, encourage the growth of a variety of aquatic cryptogamous plants, whose polluting presence renders them unfit for use. They are unwelcome visitors everywhere, but in the last-mentioned places they are a great commercial misfortune, so that their suppression is a subject of growing interest. That it will continue so to grow is apparent from the trend of medical science. Every advance made by therapeutics discredits the use of tinctures, infusions, decoctions, extracts, etc., as at present indiscriminately prescribed.

"1. Because all medication is found to be an injury to the system, and on no account to be indulged in except to suppress a greater evil.

"2. Because these preparations almost invariably contain some drug not needed by the patient.

"3. Because they often contain drugs positively contra-indicated by the disease, combined with such as are pressingly necessary for the same.

"4. Because the strength of such preparations is never twice alike, and it is merely an accidental guess when the proper dose is given.

"5. Because the physiological effects of many drugs are found to border upon the toxic. If too much is given the patient is injured; if too little, he is insufficiently or not at all benefited.

"This is why the alkaloids of cinchona have, to so great an extent, displaced the older forms of administration. This is why those of belladonna, nux vomica, and opium are pressing forward in the same direction. This is partially why cocaine has been found so useful at a time when coca was about to be thrown aside as of little value. The day of active principles in pharmacy is only beginning. Every year must add to their popularity, and discredit to a great extent all that now take their places. Definite solutions like Magendie's will ere long be in daily call, and these will represent all the virtues of the vegetable world. There will then be no stimulating with alcohol when a depressant is desirable, nor constipating with tannin when heart pressure only is needed. Hypodermic medication points the way we are bound to travel, and in this method of practice all the old drug preparations are worse than useless. All the changes here foreshadowed will not come in our day. Enough, however, will come to make the loss from infection become an item of financial importance. Cocaine at ten cents a grain and eserine at twenty-five are worth saving. If we could calculate the loss upon the former from this cause during the past year it would no doubt amount to a snug sum."

The Health of Michigan.—Reports to the State Board of Health, tabulated by the secretary, Dr. Henry B. Baker, show that during the month of September diphtheria was noted at fifty-six places, scarlet fever at forty-two, typhoid fever at forty-nine, and measles at five. As compared with the averages for the corresponding month in the years 1879–1885, intermittent fever, remittent fever, dysentery, typho-malarial fever, cholera infantum, cholera morbus, diarrhœa, pulmonary consumption, and typhoid fever showed a diminished prevalence.

A New Journal of Therapeutics.—"Clinical Notes on the Local Treatment of Disease; a Record of Practical Therapeutics," is the title of a new journal, edited and published by Dr. Charles L. Mitchell, of Philadelphia. The first number, dated October, 1886, contains twenty pages of reading matter, all on subjects of practical interest. Like Dr. Squibb's "Ephemeris," "Clinical Notes" is designed for gratuitous circulation, and the publisher does not bind himself to issue it at stated periods, but only as material and circumstances may permit. From Dr. Mitchell's well-known interest in therapeutical appliances, it is to be expected that the journal will be one of value.

A Companion-Piece to "Per Orem."—The "Centralblatt für Gynäkologie" heads one of its abstracts "Anteflexio uteri mit Stenosis ossis interni," which can mean nothing else than anteflexion of the uterus with stenosis of the internal *bone!*

THERAPEUTICAL NOTES.

Digitalis as a Cardiac Stimulant in Children.—At a recent meeting of the New York Obstetrical Society a discussion took place on the treatment of bronchitis in children. Speaking on the question of stimulation, and limiting his remarks to cases of simple catarrhal bronchitis in children between six months and a year old, Dr. A. Jacobi said that in ordinary cases alcoholic stimulants were not necessary, but that he never omitted the use of such cardiac roborants as digitalis. Like a number of other drugs, digitalis, he said, was borne by children in relatively large doses, and he had found it act better as a cardiac stimulant if given in two or three large doses each day than if given in small doses frequently repeated. For children of the age mentioned he would gave a grain twice a day.

Cocaine in the Treatment of Whooping-Cough.—Dr. Moncorvo, of Rio de Janeiro ("União Med."), who has written forcibly in commendation of the use of resorcin in the treatment of whooping-cough, now recommends hydrochlorate of cocaine as an adjuvant. The throat is to be swabbed with a ten-per-cent. solution of cocaine. In a few minutes the parasiticidal solution of resorcin may be applied to the same parts without provoking either pain, vomiting, or a paroxysm of coughing.

Styptics and Depressants in the Treatment of Hæmoptysis.—Apropos of a recent article on the treatment of hæmoptysis, by Mr. W. H. Kesteven, Dr. Godwin Timms, senior physician to the North London Consumption Hospital, writes to the "Lancet" that, for the last twenty-five years, he has treated hæmoptysis with tartarized antimony, one sixteenth of a grain, in a saline draught, every hour or two. Where the profuseness of the hæmorrhage or the patient's anxiety makes it advisable to produce an immediate effect, forty minims of oil of turpentine are given every two hours, in a wineglassful of water. He adds that this treatment is most successful, except in the rapidly fatal cases in which the hœmorrhage comes from the bursting of a small aneurysm. On the other hand, Mr. F. W. Allwright, of Beaconsfield, writes to the same journal in recommendation of astringents. He can not imagine how depressants can stop bleeding, and says that he would never again try ipecacuanha.

Beef Powder in the Treatment of Simple Ulcer of the Stomach.—Under the inspiration of M. Debove, M. A. L. Pradet has written a work on the treatment of simple ulcer of the stomach, in which, as we learn from a review in the "Union médicale," he recommends the use of a mixture of beef-powder and bicarbonate of sodium. Small doses, he says, should be used for the first two days, but afterward 1,500 grains of beef powder (*poudre de viande*) and 450 grains of bicarbonate of sodium may be given daily to a man, and 1,125 grains of beef powder and 360 grains of the sodium salt to a woman. The treatment should be pursued until complete recovery has taken place, and it is only with extreme carefulness that the patient should be allowed to resume the use of ordinary food.

A Palliative of the Pains of Dyspepsia.—The same journal attributes the following prescription to M. G. Sée:

Tincture of hyoscyamus Tincture of conium	} each.....	150 grains;
Tincture of gentian.....		75 "
Essence of anise.....		10 drops.

From ten to thirty drops are to be taken with each meal, as a remedy for the pains of dyspepsia and cancer of the stomach.

Oxygen in the Treatment of Leuchæmia and Pseudo-leuchæmia.—Kirnberger ("Dtsch. med. Wchnschr."; "Union méd.") reports a case in which, after the failure of arsenical treatment, inhalations of oxygen produced a rapid increase of strength, with diminution of the swelling of the spleen, the white globules becoming less numerous, and the red globules regaining their normal proportion. After a few months a relapse took place, but, although the red corpuscles were diminished in number, the white ones were not increased—a condition termed pseudo-leuchæmia. Finally, arsenic having again failed, the inhalations led to a definitive cure.

Original Communications.

CONTAGIOUS CONJUNCTIVITIS; ITS CAUSES, PREVENTION, AND TREATMENT.*

By JOSEPH A. ANDREWS, M. D.,

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The literature of bacteriology fairly bubbles over with ingenious hypotheses; and yet the germ theory of disease is justly one of the chief principles of modern science, and substantial facts are steadily being brought forward to prove the influence of bacteria as morbific agents. It certainly is true that reports have reached us which would seem to negative the deductions from some of the experiments of prominent workers in this field of investigation; but there has been a great deal of hasty and groundless opposition to these researches. However, the inquiry into this matter is being vigorously pushed by skillful workers in the laboratories of Germany and France, and research of such vast importance to the whole human race deserves the greatest possible encouragement, and should not be regarded alone with the intellectual interest which theoretical inquiry excites.

The views which I shall have the privilege to lay before you this evening are the outcome of a practical inquiry into the cause and prevention of contagious conjunctivitis. I can only regret that the case of successful inoculation of a pure culture of the gonococcus which I made a short time since did not have for its field of operation a healthy human tissue; however, it is for others to decide whether the result obtained be of value or not.

In May, 1882,† Neisser declared that the gonococcus originally described by him in 1879 was the pathological principle of gonorrhœa; that it was the actual contagium of the gonorrhœal affection. That the presence of a micrococcus form is constant in the secretion of gonorrhœa has been confirmed by Bokai, Weiss, Aufrecht, Ehrlich, Brieger, Gaffky, Sattler, Leber, Haab, Hirschberg, Sternberg, and others; but all writers are not agreed that the micrococci they have seen in gonorrhœal pus were those occurring only in gonorrhœa, or the same which are found in all pus which has been exposed to the air, or that they differ in form and size or in other characteristics from the micrococci of other blennorrhœas. Neisser maintains that the "gonococcus" is a specific kind of coccus, which is not alone functionally but morphologically characteristic.

According to its discoverer (Neisser), the gonococcus is comparatively large, flattened on the side which is turned toward its neighbor, somewhat oval, seldom single, almost throughout double. It lies close to its neighbor with only a fine fissure between the two; in shape it is "*semmelförmig*." It multiplies by division transversely, forming a pair, these dividing at right angles to the first line of division, thus forming a group of four; they never occur in the chain-form; they are found free in the fluid, or more frequently adherent to the pus-corpuscle and epithelium. The arrangement in groups of two and four is constant in gonorrhœal pus, and, although this grouping is sometimes seen in specimens of pus from other sources, the chain-form is the more common in them. Bockhart found the gonococcus group mostly on the pus-cells or their nuclei, never in their interior; Haab, on the contrary, found them within the nuclei.

Eklund* denies that the gonococcus is alone specific for gonorrhœa, because he professes to have found similar organisms in acute and chronic purulent processes in the lungs and intestines, in ulcerative stomatitis, etc. But the bacterium of gonorrhœa seems to possess an ability which all forms which resemble it do not—viz., that of penetrating into the living cell protoplasm and of multiplying in it; but this power is soon exhausted.

In the normal human saliva there are micrococci which resemble those of gonorrhœal pus; but, if there is a morphological resemblance, their functional characteristics are, at least, not the same as those of the gonococci. There is a short, thick bacterium in the vaginal secretion, swelled by coloring agents and looking like a diplococcus. Bumm and Bockhart profess to have found the "semmelförmig" diplococcus in the secretion of the female genitals, in diphtheritic sores, in ulcerative process in the mouth, and in a preparation of the sputum of a patient with whooping-cough. Welander† found Neisser's gonococcus in all cases in which he looked for it—among 129 cases of acute and 15 cases of chronic urethral blennorrhœa; even cases of eight to sixteen months' duration were not excepted.

Neisser twice saw profuse purulent discharge from the urethra of a man which occurred after very frequent catheterization preparatory to lithotrity. The secretion contained abundant evidence of the presence of bacteria, but no gonococci were found.

In my case of successful inoculation of a pure cultivation of gonococcus I proceeded in the following manner: The cultivation medium was serum of the blood of the ox, prepared according to Koch's directions, being heated daily one hour, for six successive days, to 58° C., and thus sterilized and gelatinized by subjecting the serum to a temperature of 65° C. A small quantity of fresh pus from a case of acute urethral gonorrhœa was allowed to drop from the urethra on to the sterilized platinum-wire, and then to drop off the latter, leaving only a thin layer of pus on the wire; the wire, thus charged, was thrust into the firm blood-serum in three or four different places, and the test-tube closed with sterilized cotton-wool; a number of test-tubes were thus planted and placed at once in the incubator, the temperature of which was maintained in different cultivations at 32°–36° C. After about twenty-four hours, further inoculations were made from the first tubes. With the seventh generation I inoculated a human conjunctiva. The case was one of granular

* Read before the New York Academy of Medicine, June 18, 1885.

† "Deutsche med. Wochenschrift," No. 20, 1882, p. 279.

* F. Eklund, "Note sur les microbes de la blennorrhagie," citsd in Schmidt's "Jahrbucher," Bd. cxcvii, 1883, p. 139.

† Reviewed in "Vierteljahresschrift f. Dermatologie u. Syphilis," 1884, p. 178.

conjunctivitis *in stadio cicatricio* and with dense pannus, but without purulent secretion or any discoverable cocci in the conjunctival secretion. The choice of treatment lay between the use of jequirity and inoculation with gonorrhœal pus. Nothing was concealed from the patient, and he sanctioned the inoculation with full knowledge of what the consequences might be. I had unsuccessfully inoculated so many different animals with cultures of the gonococcus that I hailed with extreme delight this opportunity to make the trial in the case of a human being. Three weeks previous to this operation I had inoculated the same eye with a pure cultivation of the coccus taken from my own saliva, the result having been negative. I prepared the conjunctiva for the reception of the pure cultivation of the gonococcus by washing the conjunctival surface for several days with *pure water*. I then conveyed the cultivation to the conjunctival sac and bound up the eye with a roller bandage and absorbent cotton-wool, due attention having been given to the condition of these things. The result was a perfect picture of gonorrhœal conjunctivitis with abundant evidences of the presence of the gonococcus.

Bockhart* obtained a successful inoculation, from a pure cultivation (gelatin) of the *fourth generation* of the gonococcus, on the sound human urethral mucous membrane. The subject of the experiment was a forty-six-year-old paralytic whose death was expected daily. On the sixth day a typical gonorrhœa was formed, which increased in severity up to the twelfth day, when the patient died. The characteristic gonococci were found in the secretion.

Sternberg's criticism on this case is, that the fourth successive cultivation is not sufficient to insure the exclusion of the original material—"a hypothetical non-living virus"—"when the cultivation is conducted upon a solid substratum."

Sternberg did not succeed in producing urethral gonorrhœa in himself and two others with a pure culture of the gonococcus.

Loeffler and Leistikow† had negative results after inoculation of apes, dogs, and rabbits with a pure growth of the gonococcus.

Krause‡ cultivated the cocci from ophthalmia neonati on blood-serum, and with the pure cultivation inoculated the cornea, conjunctival sac, and urethra of full-grown rabbits, and adopted the same procedure in the case of young cats, pigeons, and mice; but these experiments, as well as subcutaneous inoculation of rabbits and mice, were without result. Krause then inoculated the conjunctival sac of new-born rabbits (six to ten days old) with the same cultivations (from ophthalmia neonati), and produced a purulent conjunctivitis, which was present twenty-four hours after the inoculation, and in the course of the following days became more intense. Three of the rabbits died, on the fifth and seventh days after the inoculation, from other causes; one animal lived for some time; in this one, on the tenth day there had developed a very profuse purulent discharge from the conjunctiva; the pus had the ordinary cheesy character of rabbit's pus, and contained, in addition to bacterial contaminations, numerous cocci which were somewhat smaller than those of Neisser. On the following day there was an abscess of the cornea, which perforated the latter. Krause does not assert that this result should be accepted as conclusive. He maintains that in this case Neisser's gonococcus was the active agent in the infection.

The successful inoculation of the urethras of three medical students with gonococci cultivated by Bokai can not be accepted as conclusive, because of the manner in which the cultivation was conducted.

It appears that animals are not susceptible to the poison of gonorrhœal pus, neither the cocci nor the pus itself being capable of reproducing the disease in them.

What interests us most is whether the gonococcus is the cause of gonorrhœa in the human subject; and when the objection, that the essential agent in the infection is a soluble unorganized substance contained in the pus used for inoculation of the cultivation medium, has been removed by isolation of the coccus, and the disease is induced with it alone, then we have very strong facts to argue from.

Ætiology of Ophthalmia Neonati.—According to von Graefe, all inflammations of the conjunctiva are contagious through the secretion which they furnish—contagious in the sense that this secretion must be conveyed to the conjunctival sac of a healthy eye. The more intense the swelling and discharge from the original diseased mucous membrane, and the more acute the inflammation of the latter at the time of the conveyance, the more active will be the poison. The hypothesis of contagion through the air was admitted by von Graefe, and is still held by some excellent observers; but infection through this source, I feel sure, is quite rare, and, when there seems to be no other source than the atmosphere to fall back upon in a given case of contagious eye-disease, we should still refer to the atmosphere as a probable source of infection with misgivings.

The chief cause of ophthalmia neonati is infection derived from the genitals of the mother, either at the time of birth of the child or a short time afterward, the poison in the latter instance being transferred to the child—healthy at birth—through the medium of the bath-water, but much more probably through sponges, towels, etc.

Credé maintains that a *pure catarrhal secretion* of the genitals does not produce blennorrhœa, but Haussmann* says that the vaginal secretion may be infectious. Zweifel† inoculated normal lochial secretion upon the conjunctiva of the new-born in six cases without producing blennorrhœa even once. I inoculated normal lochial secretion upon the conjunctiva of the new-born in three instances, the result being negative. In spite of these facts, it has been maintained that the normal lochia does give rise to conjunctival blennorrhœa. But there is no positive proof that this is anything more than a mere assertion.

* "Archiv f. Gynækologie," 1884, Bd. xxi. p. 505.

† "Archiv f. Gynäkol.," Bd. xvii. p. 229; see, also, his recent communication on these cases, same Archives, Bd. xxiii. p. 325.

We know that gonorrhœal pus, placed in a healthy human conjunctival sac, gives rise to the same disease with the precision of a physical experiment; therefore the view that normal lochial secretion produces conjunctival blennorrhœa in one person and not in another seems, according to this reasoning, to be untenable.

I believe that the infection occurs some time after the birth of the child much more frequently than is generally supposed, the original source of the infection being the same as in the first instance; and from this original cause many other eyes may be infected by direct conveyance of the poison to them by the mother or nurse. I could cite many instances in my own experience to support this statement. The cases of purulent conjunctivitis which occurred in my service at the Nursery and Child's Hospital (Country Branch) in 1879 originated in this way.

At the Foundling Hospital in St. Petersburg during six years 2,918 cases of ophthalmia neonatorum were observed, and simultaneously 345 wet-nurses of the children were attacked with the same disease.*

Theremin† has recorded a table from the same institution embracing six subsequent years, according to which 476 cases of "blepharo-blennorrhœa" occurred, and the relative frequency of the disease at and after birth is indicated as follows: On the first to the fourth day, fifty-seven cases; from the fourth to the eighth day, one hundred and thirty-four cases; from the eighth to the fourteenth day, ninety-four cases; later, one hundred and ninety-one cases. Olshausen thinks that when the disease occurs after the fourth day the child was infected after birth. Although ophthalmia is infrequent among the better class of patients, it is quite common among the ignorant poor, and the homes of such people are constantly menaced by the danger of a child at the breast, already a victim of the disease in question, infecting the whole family. Haussmann thinks that the purulent secretion from a sore nipple may become a source of infection.

The question has been freely discussed as to whether Neisser's gonococcus is the special bacterium of this disease. Whoever may be interested in reading over the contradictory views on this subject will find an abundance of material in Haussmann's work, "Die Bindehautaffection der Neugeborenen," Stuttgart, 1882. Leopold and Wessel‡ tell us that, of eighteen mothers whose children were not placed under prophylactic treatment, gonococci were found only in the case of one mother, and, on the third day after the birth of her child, the latter presented the familiar appearances of conjunctival blennorrhœa. No gonococci could be found among the remaining seventeen women, and their children remained free from any inflammation of the eyes. Their article contains many instructive details which it would be quite impracticable to incorporate in the present paper, which has already assumed proportions much greater than I had originally prescribed for it.

Haussmann* cites the statistics of Cederskjöld, of Stockholm, according to whom the eyes of the children of mothers with blennorrhœa were diseased in 14·6 per cent., and of the children of mothers free from blennorrhœa only 5·52 per cent. were affected. But the 5·52 per cent., were they not infected by the others?

Granular Conjunctivitis.—At the Ophthalmic Congress in Heidelberg, in 1881, Prof. Sattler announced that he had succeeded in finding in the conjunctiva of granular conjunctivitis micrococci which resembled those of Neisser, and that with a pure cultivation of those cocci he had reproduced the disease in question in a man. Leber confirms Sattler's statement as to the finding of cocci in the tissue of granular conjunctivitis. About thirty years ago Arlt† taught that there was an intimate relationship between granular conjunctivitis and struma, also tuberculosis. This view has been pretty generally abandoned by ophthalmologists of the present time, and Sattler's discovery might dispose us still further to differ with Arlt, but it is very probable that Sattler is in error in this matter. I have searched in vain for any micrococcus form in the tissue of granular conjunctivitis. In a paper published last year‡ I gave the details of the manner in which I had proceeded in investigating this question. I had examined 1,500 sections taken from 37 cases of trachoma without being able to find any cocci in them. I have since carefully examined five cases of this disease, with the same end in view, but, although I have applied the proper staining agents and the other indispensable aids in such examinations—*i. e.*, Abbe's condenser and the homogeneous immersion of Zeiss—I have never succeeded in finding any cocci in these tissues, except in cases of trachoma accompanied by an active catarrhal process. But cocci are found in the secretion of granular conjunctivitis, and the disease is unquestionably contagious, and the secretion is the carrier of this contagion; but there is this peculiarity about the disease, that it requires that certain constitutional conditions shall obtain in order that the disease may be reproduced in another to whose eye the secretion has been transferred. It is a clinical fact that struma and trachoma generally go hand in hand, and *overcrowding, filth, and poor food* are the essential factors in the production of this terrible disease.

Diphtheritic Conjunctivitis.—Fortunately for us, diphtheritic conjunctivitis is a rare disease in this country. Its mode of origin and course harmonize thoroughly with the doctrine of its dependence upon pathogenic micro-organisms. Its contagiousness is undisputed, and the germ theory affords the best explanation of its phenomena; and yet, in spite of many elaborate researches, the precise nature of the diphtheritic virus is still a matter of doubt. The majority of those who have studied the question from the pathological and experimental side declare in favor of a specific micrococcus which is found imbedded not only in the membranous deposit, but also in the lymphatic spaces, beneath the mucous membrane, in the blood, and in the in-

* Froebelius, "Medicinische Zeitung Russlands," 1885, Bd. xii, No. 33, p. 257; cited by Haussmann.

† "St. Petersburger med. Zeitschrift," Bd. v, p. 97; cited by Haussmann.

‡ "Archiv f. Gynäkol.," 1884, Bd. xxiv, p. 93.

* "Die Bindehautaffection der Neugeborenen," Stuttgart, 1882, p. 22.

† "Die Krankheiten des Auges," Prag, 1858, i, pp. 130, 131.

‡ "Archives of Medicine," vol xi, June, 1884, p. 221.

ternal organs—Oertel, Eberth, and Klebs. Loeffler* details an extensive experimental inquiry upon diphtheria in animals and man. He confirms the fact that micrococci prevail in diphtheritic membrane mingled with other forms of bacterial life, which find a suitable nidus in the necrosed and decomposing tissue; but he lays special stress, from the ætiological point of view, upon the presence of a bacillus first made known by Klebs. This organism invariably occurs in association with the micrococci, but presents, far more than these do, the attributes of a specific virus.

The micro-organism which Emmerich† alleges to be distinctive occurs in the diphtheritic lesions both of the pigeon and of man, is neither a coccus nor a bacillus, but a short, thick bacterium, which, in gelatin cultivations, forms a pellucid, grayish color, assuming a whitish appearance as it develops, and not liquefying the gelatin. It grows luxuriantly on the potato, forming on it a thick yellowish-white layer, but in blood-serum the bacterium does not grow well. In form, size, and mode of growth the diphtherial bacterium of man is identical with that of the pigeon. Inoculations were successfully made with this organism. But very great difference of opinion prevails among bacteriologists themselves as to the morphology of the diphtherial fungus. Emmerich thinks diphtheria is essentially a *house-disease*, prevailing in those seasons in which dwellings are most likely to be overcrowded.

(*To be concluded.*)

GONORRHŒA IN THE FEMALE.

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(*Concluded from page 426.*)

II.—Certain forms of this disease are much better known and much more readily recognized than others. With many physicians gonorrhœa in the female is synonymous with elytritis, and it will be readily conceded that this is by far the most common form, though not always the one which is most susceptible of successful treatment. I may here repeat the statement which I made in my first paper, that the loose tissue in the posterior vaginal fornix is very commonly a source of trouble when all other portions of the mucous membrane have been cured. This area can only be exposed by the use of Sims's speculum, or some similar instrument, with a good light either direct or reflected. The mucous membrane of the cervical canal may be involved as a primary or a secondary condition, and its rich glandular structure furnishes abundant opportunity for the accumulation of infectious material, to be propagated thence beyond the os internum. In many cases, however, it is limited by the os internum, and is wholly or in part eradicated by the use of suitable means. Less frequently the urethra and bladder are affected, this being especially true of the bladder. The anatomical relations of the mucous tus and urethra explain the infrequency of the disease, as a primary condition, in these parts in women. The discharges of the urethra in such cases abound with gonococci, and Welander, Belleli, and others have made observations upon this subject, Belleli having obtained specimens from a large number of prostitutes at the *bureau de visite* in Alexandria, Egypt (see "Unione med. egiziana," Nov. 1, 1884). An extension from the bladder to the ureters and kidneys is a possibility, and has been referred to by Sänger, but he mentions no cases which he has seen or heard of. The condition must be one of great rarity. The vulvar glands with their ducts and circum-glandular tissue, the rectum, and the skin around the external genitals, may all, or any of them, be the seat of the phenomena of this disease; likewise the mucous membrane of the body of the uterus and of the Fallopian tubes. That an extension of the process, by way of the Fallopian tubes, to the ovaries, the parametrium, and the general peritonæum may occur, and cause fatal peritonitis, is not only a possibility, but a fact which has been observed from a period at least as remote as 1846, when Mercier published the results of his investigations in the dead-house ("Gaz. des hôp.," 1846, p. 432). In fact, Sänger states (*loc. cit.*) that this disease is the cause of a larger percentage of grave chronic abdominal diseases than puerperal fever or syphilis. The weighty evidence of Lawson Tait as to its gravity is also given as a result of *his* extensive experience (see "N. Y. Med. Jour.," 1884, p 421). Thus the profession is approaching the views that Noeggerath enunciated in 1872, which, as he prophesied, have borne fruit with the years.

A form of the disease which, until recently, was overlooked, is that which involves the peri-urethral or pre-urethral glands, and upon which papers have been written by Martineau ("Bull. et mém. de la soc. de thérap.," Paris, 1884, 2 s., xiv, 81), by his pupil Guedeney (Inaug. Thesis, "Contrib. à l'étude de la blennorrhagie chez la femme," Paris, 1883), by A. Guérin, under the name of external blennorrhagic urethritis, by Hamonic ("Ann. de dermat. et de syphil.," August 25, 1883), and by Skene in the course of a lecture upon "Vaginitis and Vulvitis" ("Med. News," Philadelphia, 1884, xliv, p. 29). The glands or follicles, which are most often the seat of this trouble, were described in 1864 by A. Guérin, and correspond to the ancient descriptions of a body which is supposed to be the analogue of the prostate. They surround, or partly surround, the urethra near the meatus, sometimes being joined in the median line, at others being separated by a bridge of tissue. Their ducts pass upward within the vestibule and open on either side of, and just under, the clitoris. The inflammation which affects them may be acute, or it may be exceedingly chronic, persisting long after all apparent symptoms have disappeared. Martineau says (*loc. cit.*) he has repeatedly found gonococci in the discharges which he has obtained from these chronic cases. If, therefore, infectious power resides in the gonococcus, we can readily see how a woman who thinks herself cured may be suffering from latent gonorrhœa, and prove unintentionally and unknowingly a source of infection. This also explains the statement of Ricord, that a woman may communicate gonorrhœa

* Friedrich Loeffler. "Mittheilungen aus dem kaiserlichen Gesundheitsamte," Bd. ii, 1884, p. 421.

† E. Emmerich. "Deut. med. Wochenschrift," 1884, No. 38, p. 614.

when she does not possess it herself, which was doubtless as much of an enigma to him as his statement was illogical and absurd. Allusion has already been made to a variety of this disease to which I wish to call especial attention, because it is one of the gravest varieties, and has received considerable attention within the past year or two, notably at the hands of Lawson Tait. It is that variety which affects the Fallopian tubes. The pathology of these organs has been sufficiently investigated to inform us that, in addition to simple catarrh, hydrosalpinx, and hæmatosalpinx, there are other more serious conditions which, according to Sänger (*loc. cit.*), are usually of an infectious nature, and are either tubercular, syphilitic, actinomycotic, or gonorrhœal in character. Of these the gonorrhœal form is the most frequent. It is usually met with as pyosalpinx, but the latter is not necessarily of gonorrhœal origin. The diagnosis rests upon the discovery of gonococci. If these are found in the discharges from the genital passages, and tubal disease is evident, removal of these organs will probably reveal the organisms in the secretions which they contain, or in the mucous membrane itself. The diagnosis of tubal disease by palpation is, however, a matter of extreme difficulty, in which very few men have ever attained expertness. Even Lawson Tait says he is mistaken once in every five cases ("N. Y. Med. Jour.," 1884, p. 421). In the light of such testimony too much caution can not be observed in pronouncing opinions respecting such conditions. Autopsies upon the bodies of prostitutes have frequently revealed an inflamed, dilated, and dislocated condition of the tubes, which is at least suggestive of gonorrhœal disease, an opinion which is shared by Sänger and Tait. Finally, Sänger has described a form of this disease which he calls puerperogonorrhœal salpingitis, which may be excited in a recently delivered woman by a latent or acute gonorrhœa of her husband. Such a distinction seems quite superfluous, as it does not appear that the phenomena differ from those which are manifested in other women. The influence which gonorrhœa exerts upon fecundity was elaborately expressed by Noeggerath in the paper to which allusion has been so frequently made. In a great many cases sterility is unquestionably the result. In prostitutes especially it is fair to presume that the infrequent pregnancies are influenced by this cause. Should gonorrhœa supervene after pregnancy has been established, I have never seen that it exerted an influence upon the mother severe enough to produce a miscarriage, nor upon the fœtus any that was analogous to that of syphilis. In cases of congenital *ophthalmia neonatorum* the theory has been advanced that the gonococci traversed the fœtal envelopes and the amniotic fluid and penetrated the fœtal conjunctiva. But why such a process of selection should be followed, the eyes being chosen instead of the urethra, or some other opening which is lined with mucous membrane, does not appear. It is also probable that the eyelids are always closed *in utero*, though this might not prove an efficient barrier to the penetration of the microbes.

III.—In discussing the question of treatment, attention must be given to the value of a wise and judicious prophylaxis. Especially should prostitutes—that large class of individuals which society tolerates at such an enormous cost to itself in every way—receive attention of this character. Leaving the moral aspect of the question out of consideration for the present, although this ought to be sufficient to arouse the sympathy of any one who has the welfare of his fellow-beings at heart, it is perfectly clear that any class of individuals which distributes infectious disease in the community should be under police regulations. It matters not what the disease is, so long as it is a source of danger to the community. The reply to this may be that there is a distinction between infectious diseases which one avoids and those which one dares or defies, of which small-pox will serve as the type of one and gonorrhœa of the other. My rejoinder is that the community—the Government, State and municipal—either tolerates prostitution by taking no steps to suppress it, or it licenses it; and therefore it ought to protect the citizen from the infectious diseases which it entails. I confess that I have no elaborate scheme to offer for the accomplishment of this great end, but the remedy lies in the direction of a properly systematized medical police, with suitable hospitals or stations properly equipped; and this will come when public opinion is aroused to the necessities of the situation through the enlightened instruction of the medical profession.

Injections of sublimate, carbolic acid, iodized alcohol, dilute nitric acid, nitrate of silver, and other germicides have been recommended as prophylactic means, both for prostitutes and those who consort with them; but any one who has had experience with these classes will readily realize that this plan simply places dangerous remedies in the hands of individuals who are usually either reckless or ignorant in their use of them. Another important point in connection with the subject of prophylaxis has reference to the consummation of marriage on the part of women who are suffering, or have suffered, from gonorrhœa, and such women are by no means confined to the class of prostitutes, as any physician of experience is able to testify. Any one who has seen the mischief which is wrought in families by the discovery of such a condition will surely make the requirements not less stringent before giving his professional consent to marriage than if the gonorrhœa had been in the male instead of the female. As long as gonococci can be found in the discharges, that consent should be unhesitatingly withheld. The pathogenic nature of the micrococcus being admitted, the treatment will naturally be directed chiefly at its vitality. Whatever theory be adopted as to the nature of the disease, those agents must be used which will stop the offensive discharges, relieve congestion, and produce a healthy tone of the affected tissues with their vessels and nerves. Oppenheimer has made a large series of experiments bearing upon this subject, which are both interesting and important (*loc. cit.*). He first tried to cultivate gonococci by using fresh gonorrhœal pus from a patient in the acute stage of the disease who had not yet been treated. The pus was mixed with one part urine gelatin, two parts water, and three per cent. of meat peptone. This experiment was unsuccessful, but was followed by one which was successful, in which sterilized blood-serum was used as the cultivation fluid. The microbes were developed

upon pieces of thread which were laid in the serum.* No effect was produced upon their vitality by solutions of subnitrate of bismuth, acetate of lead, or alum. Slight effect was produced by strong solutions of sulphate of copper, zinc, or iron, and chloride of zinc. Development was arrested by a two-per-cent. solution of nitrate of silver.†

Of the mercurials, a solution of 1 to 15,000 of the nitrate or sulphate retarded development, 1 to 10,000 destroyed vitality; 1 to 40,000 of sublimate retarded development, 1 to 20,000 destroyed vitality. Solutions of mercurial salts in glycerin were equally effective with watery solutions. Chlorate of potassium or of sodium in solution was ineffective, the former being used to the limit of saturation. Permanganate of potassium was destructive in 1-to-25 solutions; in 1-to-50 solutions it retarded development; it was entirely inert in the weak solutions which have been recommended by Zeissl. Moderately strong solutions of bromine, chlorine, and iodine destroyed the microbes, while methylic and ethylic alcohol, sulphuric ether, glycerin, and chloroform were effective only when used undiluted. Tannin and resorcin were inert. Five-per-cent. solutions of carbolic acid destroyed life in ten minutes; one-per-cent. solutions only retarded development. Watery solutions of thymol and salicylic acid of sufficient strength to excite inflammation in normal tissues did not kill the organisms, while alcoholic solutions of the same strength were efficient. This is the more remarkable since alcohol alone was not destructive. Fifty-per-cent. solutions of creasote were rapidly fatal. Turpentine was quite effective; balsam of copaiba and cubeb extract were harmless. It was thought possible that the well-known efficiency of cubebs and copaiba in the practical treatment of gonorrhœa might be due to chemical changes which the drugs underwent in the system. This matter was tested by using specimens of urine drawn from the bladder of a pregnant woman through a heated metallic catheter. The urine was normal in character and had no influence upon gonococci. Two doses of copaiba balsam were then given to the patient, of fifteen grains each, and with an interval of three hours between them. The urine was then drawn with the precautions mentioned, and was found to contain conversion products (Umsetzungsproducte) of the balsam. Threads upon which cocci had been developed were immersed in this, and allowed to remain eighteen hours. At the end of that time they were transferred to a cultivation-fluid, but no development occurred. The same result followed experiments with cubebs. The supposition is therefore warrantable that these substances undergo chemical change, and, after elimination by the kidneys, perform their work upon the cocci in the genital tract. Oppenheimer's conclusion is that only sublimate, creasote, and nitrate of silver are of any practical use for the destruction of gonococci, and he is entitled to a respectful hearing, for no one, apparently, has investigated this subject more exhaustively or patiently. There is a factor, however, which is not embraced in any investigation of this character—namely, that of idiosyncrasy or personal peculiarity, and the mysterious changes which occur within the tissues and cavities of the body can not be exactly reproduced outside the body, because the conditions can never be exactly the same. It is, therefore, clinical rather than purely experimental results by which we must finally be guided. To illustrate, Oppenheimer found solutions of chlorate of potassium inert in their effect upon gonococci, but a gentleman of extensive experience assured me that they were quite efficient, with him, in subduing all the phenomena of gonorrhœa. Oppenheimer found resorcin inert, but Martineau (*loc. cit.*) obtained good results from its use. Rebatel recommends a weak injection (vaginal) of salicylic and citric acids, or of a decoction of lemon, for their efficiency in the gonorrhœa of females, which would, doubtless, have little effect upon Oppenheimer's cultivated gonococci. On the other hand, I have found, in a large number of cases, that the sublimate treatment (that is, by local applications) was quite unsatisfactory, and this experience is similar to that of Kroner, Schatz, and von Tischendorf. Oppenheimer places it at the head of the list of gonococcicides. Von Tischendorf's best results were with irrigations of acetate of aluminium and applications of iodoform. I have tried the latter many times without positive results. The best results which I have seen have been mainly from free applications of a mixture of glycerin and subnitrate of bismuth. Allow me to narrate a typical case in which the results of this treatment were quite a revelation to me:

A young unmarried woman came under my observation with gonorrhœa in an intensely acute form. The urethra was evidently involved, the mucous and submucous tissues of the vagina were inflamed and infiltrated, and there was also inflammation of the mucosa of the cervix. There was no question as to the diagnosis, as the man with whom she had cohabited was also suffering with gonorrhœa. Applications of sublimate, eucalyptus, iodine tincture, etc., were tried for two or three weeks without success. The patient was then informed that she must give up her occupation (that of book-keeper), remain in bed for a season, and receive such treatment as seemed necessary. A mixture of subnitrate of bismuth and glycerin was at hand, and a tampon saturated with this was used empirically. Two days later the tampon was removed, and, to my surprise, the congestion and sensitiveness of the inflamed portions were greatly modified, and the offensive discharge had greatly diminished. This treatment was, therefore, continued, with applications of iodoform, every day, and after a week every other day, the tampon remaining ten or twelve hours. Vaginal douches of hot water were also very carefully given once or twice a day, after the removal of the tampon. Liquid food was taken, and an abundance of alkaline drinks. In three weeks every trace of the disease had disappeared, and the patient had resumed her occupation.

I have frequently used the subnitrate of bismuth and glycerin mixture since the experience described, and always with satisfaction. Its function consists in a free depletion of the congested tissues and a very decided astringent action. The proportion of a drachm of bismuth to an ounce of glycerin may be used, the mixture being, apparently,

* The vitality of the microbes was seen in the fact that they survived the drying of the cultivation fluid, and this fact may be of importance in explaining some obscure cases of infection in which all necessary precautions are supposed to have been taken.

† This is the solution which was recommended by Credé a few years ago as a prophylactic against *ophthalmia neonatorum*, and has come into very general use for this purpose.

only a mechanical one. Such a mixture may not be directly destructive to gonococci, but, by the modifying action which it has upon the secretions, it deprives them of the qualities which are necessary to cultivation-fluids, and thus the microbes die of starvation. Whatever method of treatment is chosen, it must be carried out persistently and systematically, even to the last detail. It will not be enough to prescribe vaginal injections or uterine applications of this or that: the physician must be certain that they are used, and, if necessary, must attend to or superintend the details himself. Especially is this true in regard to those obscure forms of the disease which affect the glands and ducts of the urethra, vulva, vestibule, and fourchette. Abscesses and fistulæ may be results of the disease in these parts, and, in addition to the list of drugs for local application, it must be borne in mind that it may be necessary to use the knife or actual cautery before the disease can be overcome. Such a course has been recommended by Guedeney, Martineau, and Vidal de Cassis. If the given symptoms point to an extension of the disease to the tubes and ovaries, the question of abdominal section becomes a pertinent one. I believe that this operation is done too often. It is not sufficient that an operator can show a good percentage of recoveries after salpingo-ovariotomy; he must show positive results flowing from the removal of important organs in which, in many cases, no disease is traceable either by the naked eye or the microscope. Many plans of treatment are available before a woman should be submitted to the risks and uncertainties of a capital operation. Concerning the curability of the disease, Noeggerath's paper declared that he did not think this possible, and I have seen no statement from him to the contrary, though Neisser's doctrine was announced seven years after the first publication of that paper, and may have modified his views. Bumm believes that it may be entirely recovered from, and that it is amenable to treatment according as the area of infection is moderate in extent and near the surface. Arnaud has observed that it can be considered radically cured only when the menses have become regular and when metrorrhagia and other symptoms and complications have ceased ("L'Union méd. du Canada" [from "Abeille méd."], May, 1885, p. 223). This statement is unsatisfactory, however, for there are many cases in which neither metrorrhagia nor any irregularity of the menses occurs at any time. My own belief is that it depends upon the gonococcus for its activity; that if the mucous membrane, with its innumerable crypts, follicles, and glandules, is treated with sufficient thoroughness by either of the efficient germicides which have been mentioned for a sufficient length of time, which will vary with the extent of tissue involved and the potency of the secretions which serve as cultivation-fluids for the gonococci—that if these conditions are fulfilled the disease can be cured, for dead organisms can not reproduce themselves. Of course, this statement has no bearing upon the question of reinfection which, so far as I know, is at any time possible.

A few days ago I saw a lady who first came to me more than two years ago with gonorrhœa, which was very obstinate and rebellious to treatment. For more than a year she was almost constantly under observation, and at the end of that period I considered her cured. Since then there have been no clinical manifestations pointing to a recurrence of the disease, therefore I see no reason why her cure should not be considered positive, and I believe the same would hold equally true in any similar case.

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VALVULAR ANEURYSM.*

By ALBERT BRINKMAN, M. D.,
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The specimen I present is one of disease of the aortic and mitral valves, accompanied by valvular aneurysm of one of the leaflets of the mitral valve. The subject from whom it was taken was a man of tall and muscular physique, who entered my service at Charity Hospital, giving the following history:

John M., aged thirty-eight years, native of Ireland, and a blacksmith by occupation, enters complaining of œdema of both legs. Admits the abuse of alcohol, but denies all history of rheumatism; to use his own words, if he ever had rheumatism he was not aware of it. No evidences of syphilis obtainable. Two years ago he first noticed swelling of both ankles, and that he easily became short of breath on exertion. Applying to a dispensary, he obtained some medicine (presumably digitalis), which caused the œdema to disappear. Within the last few months the swelling has increased to such a degree as to extend up both legs to the knee joints.

Physical examination reveals an increased area of the apex beat, which, on palpation, is found displaced to the left, and downward on a line with the left nipple; the beat is not distinct, but rather diffused. A murmur is heard, commencing before and taking the place of the first sound of the heart. It is a continuous murmur, which begins before the ventricular systole and continues until the second sound of the heart; it has its maximum intensity at the apex. This murmur, or (presuming it to be a double one, mitral, obstructive, and regurgitant) part of it, is conveyed to the left and heard behind.

At the base there is a murmur with both sounds of the heart, or, as it is generally termed, a see-saw murmur. The systolic portion is heard in the vessels of the neck.

Diagnosis.—Aortic obstruction and regurgitation; mitral obstruction and regurgitation.

Urine examined. Albumin found, but no casts.

Treatment.—Inf. digitalis, ℥ ss., t. i. d., which caused great diminution in the œdema, but also the development of digitalis poisoning after one week's administration. The digitalis was stopped for a few days, and ext. convallariæ maialis fl., gtt. xv, t. i. d., substituted. In three weeks, the œdema growing worse, he was again put on digitalis.

The patient died after being in hospital one month.

The autopsy showed a greatly hypertrophied heart, the weight of which, after its cavities were freed from blood, was twenty-four ounces. This is a maximum weight for a heart with combined aortic and mitral disease, a heart with both of these lesions generally being intermediate in weight between that which obtains in the two separate forms of the disease, the organ being lighter than in aortic and heavier than in mitral disease. Sibson gives cases of this kind in the male as averaging from 14 ℥ 8 ʒ to 21 ℥ 8 ʒ. The extremes of mitral disease are 14 ℥ to 18 ℥; the extremes of aortic disease are 14 ℥ to 46½ ℥, the latter being that of a case of aortic obstruction mentioned by Bristow.

* Read before the Brooklyn Pathological Society, May 14, 1885.

Upon opening the heart, contraction and thickening of the aortic valves were found, with calcareous incrustations and vegetations. The mitral valve, besides being insufficient, shows a valvular aneurysm of its posterior leaflet.

Sibson, in "Reynolds's System of Medicine," gives the mode of development of these pouches, or aneurysms, as follows. After speaking of the ordinary pathological lesions found in mitral disease, he says: "Sometimes, however, the inflammation deepens at its original seat on the surfaces of contact of the mitral valves and extends beyond those surfaces, so as to affect a large portion of the flaps of the valves on their ventricular surface. Under these circumstances the inflamed, softened, and thickened structure may undergo granular degeneration, and its ventricular layer become broken or ulcerated. The auricular layer of the valve thus tends to yield before the pressure of the blood, which forces its way through the breach into the ventricular layer, and to form pouches or aneurysms protruding into the left auricle." I may mention that the process may stop here, or, as Sibson goes on to say, "the auricular layer may then be involved in the inflammation, and become in turn subjected to granular disintegration and breaking up of tissue, so that the flap of the valve may become perforated." This has been the case in the specimen before you, after the formation of the pouch perforation has occurred into the auricle.

Now, we know that the mitral valve is peculiarly liable to these aneurysms—more so than the aortic valves. It is comparatively seldom that we meet with them on the aortic valves. This predisposition is readily accounted for if we glance for a moment at the action of the mitral valve. "The mitral valve is closed on exactly the same principle as the aortic valve—namely, by the pressure of the blood, driven during the ventricular systole into the small open cells on the under or ventricular surface of the valve. The force with which the blood presses upon the closed mitral valve, the closure of which is caused by the contraction of the ventricle, is much greater than the force with which the blood presses upon the aortic valve, the closure of which is caused by the recoil of the previously distended walls of the aorta. The flaps of that valve—namely, the aortic—are pressed together by the backward portion only of the effect of the recoil of the aortic walls, which expends itself in every direction; and that force of recoil is itself but a portion of the original propulsive force of the left ventricle, which presses with its full power upon the closed mitral valve. The surfaces or lines of contact or closure of the mitral valve extend along and just within the borders of its two flaps. This border of contact is not a mere edge, but a surface or line of adaptation, made up of the small bead-shaped cells that dovetail into each other along the margins of the flaps; the result is that the margins of contact of the mitral flaps press against each other, when the valve is closed, with much greater force, tension, and concentration than the margins of contact of the aortic valve."

Taking this view of the action of the mitral valve, it is seen that the valve is subject to valvular aneurysm because of the great amount of pressure brought to bear against it at the ventricular systole, and also because endocarditis does not attack the very edge of the mitral valve, but the margin just within its edges; and after an endocarditis has occurred, with its production of new tissue, and this new tissue undergoes fatty, granular, or calcareous changes, ulceration sets in on the body of the valve; this ulceration either goes on to perforation, causing rupture of the valve and consequent regurgitation, or the structure of the valve becomes so attenuated that a portion of it yields to the blood-pressure and forms a pouch or valvular aneurysm. Again, the mitral valve, which is situated in the muscular center of the ventricle, and in the focus of its internal inflammation, must be more prone to these aneurysms than the aortic valve, which has broader surfaces of contact, less pressure of blood, and no tendinous traction. To demonstrate further that the pressure is greater against the mitral than against the aortic valve, take a case of aortic valvular aneurysm; instead of the pouch protruding in the direction of the aorta, the aneurysm protrudes downward into the ventricle. Therefore, to cause these pouches to protrude into the ventricle, the blood-pressure must be greater on the aortic side of the valves than on the ventricular; but the pressure produced by the aortic recoil is decidedly less than that caused by contraction of the ventricle, as I have before proved.

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

By GEORGE R. FOWLER, M. D.,
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(*Continued from page 404.*)

At my request, Mr. Max Schwarz, of New York, Superintendent of the Technical School for Brewers, known as "The First Station of the Art of Brewing," etc., and late a pupil of Prof. F. Cohn, of Breslau, Germany, made the following experiments upon the antiseptic powers of hydronaphthol at his laboratory:

In the first instance the following incubation liquid was prepared, viz.:

Distilled water.....	1 litre;
Chemically pure grape-sugar.....	100 grammes;
Potassium phosphate.....	30 "
Ammonium nitrate.....	30 "

This was sterilized by boiling for thirty minutes.

This liquid was divided in ten equal parts as follows:

Part	I,	containing	no	hydronaphthol.				
"	II,	"	1	part in	9,000	parts	of	the liquid.
"	III,	"	1	"	8,000	"	"	"
"	IV,	"	1	"	7,000	"	"	"
"	V,	"	1	"	6,000	"	"	"
"	VI,	"	1	"	5,000	"	"	"
"	VII,	"	1	"	4,000	"	"	"
"	VIII,	"	1	"	3,000	"	"	"
"	IX,	"	1	"	2,000	"	"	"
"	X,	"	1	"	1,000	"	"	"

Of each of these above-named liquids four equal parts were incubated in the following sequence, after all had been sterilized by boiling beforehand, with the germs of the following fungi:

Penicillium glaucum,
Mucor mucedo,
Aspergillus niger,
Sterigmatocystis nidulans.

After incubation these culture-liquids, forty in number, were placed in an air water-bath (incubator) which was kept at a temperature of 24° C. for forty-eight hours. After the lapse of this time a strong fungoid growth could be perceived in all the control tests, which latter, of course, did not contain any hydronaphthol, while all the liquids containing hydronaphthol had remained clear and free from fungoid growth, and remained so for more than five days, when they were disposed of.

These experiments prove that hydronaphthol, in proportion of 1 to 9,000, prevents the development of these germs. Even more diluted solutions of hydronaphthol may possess antiseptic action, but exact observations have yet to be made in order to ascertain the limit of its antiseptic power. This, of course, would be of highly scientific interest, but for practical purposes the above given proportion of 1 to 9,000 may be sufficient in all cases where inhibition of the germs of this class is desired.

A second series of investigations into the antiseptic properties of hydronaphthol was conducted as follows.

To each of the above-named solutions the compound was added as follows:

1 part of hydronaphthol in 9,000 parts of the solution.
1 " " " " 8,000 " " "
1 " " " " 7,000 " " "
1 " " " " 6,000 " " "
1 " " " " 5,000 " " "
1 " " " " 4,000 " " "
1 " " " " 3,000 " " "
1 " " " " 2,000 " " "
1 " " " " 1,000 " " "

and a control-test, free from hydronaphthol.

After careful sterilization by means of boiling, to these were added three cubic centimetres of a suspension of the best, purest, and healthiest beer-yeast (*saccharomycis cerevisiæ*); these were well agitated, and then kept quiet for four days, all being well protected from the germs floating in the atmospheric air by closing the mouths of flasks containing these liquids with sterilized cotton-wool.

After four days' standing, about one tenth of each of these liquids was distilled off separately, and the ten different distillates tested for alcohol by addition of a solution of iodine in a potassium-iodide solution rendered alkaline by means of potassium hydrate.

After twenty-four hours' standing the precipitates thus formed were examined under the microscope, and the following results obtained:

In the distillate of the solution containing no hydronaphthol, iodoform was found.

In the distillate of the solution containing
1 part hydronaphthol to 9,000, iodoform was found.
1 " " " 8,000, " " "
1 " " " 7,000, " " "
1 " " " 6,000, " " "
1 " " " 5,000, " " "
1 part hydronaphthol to 4,000, iodoform was found.
1 " " " 3,000, " " "
1 " " " 2,000, no iodoform was found.
1 " " " 1,000, " " " "

From these experiments the conclusion is to be drawn that 1 part of hydronaphthol dissolved in 2,000 parts of a solution which, under ordinary circumstances, ferments readily with yeast, is capable of holding in check this fermentation. Microscopic examination showed that in the liquids containing hydronaphthol in the proportions of 1 to 1,000 and 1 to 2,000, the yeast-cells presented the appearances of a coagulated protoplasm, while those in the other liquids showed a good and healthy protoplasm.

The foregoing experiments confirm the observations made at the Johns Hopkins University laboratory concerning the inhibitory antiseptic effect of this compound. The hope that a positive germicide effect may yet be demonstrated is suggested by the results of these observations and the extremely dilute solutions found to be efficient in the inhibiting of these organisms.

The following series of cases is herewith presented, comprising my experience up to the present date, in the practical application of hydronaphthol to surgical practice. Some interesting points are worthy of mention, among others the fact that the application of the powder directly to the skin was not without some disadvantages, in that it produced irritation, and in two cases, at least, was responsible for a failure to secure union by first intention. These cases, however, continued to pursue an aseptic course. When the hydronaphthol was diluted in a two-per-cent. trituration with carbonate of magnesia, this feature was no longer noticeable, and the value of the new antiseptic was fully demonstrated.

Case I.—*Floating Body in Knee Joint.*—Mrs. G., aged fifty-six, for several years past has suffered from sudden pain in knee joint, especially while ascending or descending a stairway. This was followed frequently by an attack of synovitis. Recently these attacks have recurred with increasing frequency, and she became clamorous for relief. Examination revealed the presence of a floating body in the joint. On September 14, 1885, I opened the joint, having failed in an attempt to fix the body for the purpose of cutting down directly upon it. I passed my finger into the interior and searched for and removed the body. It proved to be of the shape and character usually found under these circumstances, and of about the size of a hazel-nut. The joint was thoroughly irrigated with a warm solution of hydronaphthol, 1 to 1,000, a few strands of catgut introduced for purposes of drainage, the wound closed with a continuous catgut suture, pure hydronaphthol dusted over the wound, a sawdust cushion which had been saturated in a hot alcoholic solution of hydronaphthol and then dried was then bandaged over the wound, a well padded back splint applied, and the patient placed in bed. No pain, fever, nor other untoward circumstance occurred to give me any uneasiness in this, my first case of importance in which the new antiseptic was used. At the end of fourteen days I removed the dressings for the first time, flexed the limb at a right angle, and in a few days the patient was walking about well. There was an excoriated spot near the line of union, which a subsequent experience led me to believe that the hydronaphthol, applied as it was in its undiluted state, was responsible for.

Case II. [illegible] and a

half. Osteo-myelitis of the left radius. Operation September 14th, at St. Mary's General Hospital. Incision entire length of radius, upon outer and posterior aspect of arm. Bone sawed through middle with chain-saw, and each half separated from periosteum and removed. Hydronaphthol solution, 1 to 1,000, used for irrigating; drainage-tube of soft rubber placed in position; sutures of catgut; pure hydronaphthol dusted along line of sutures and wood-flour dressing applied. Dressings first changed, on account of profuse discharge, on eighth day. Edges of wound united at intervals, primary union taking place, perhaps, in the aggregate, in about one half of the length of the incision. The skin about the points where union had not taken place was red, and in spots presented an excoriated appearance; this latter being due, no doubt, to the pure hydronaphthol dusted upon the edges of the cut surfaces. The wound was irrigated as before and redressed, and healing thereafter proceeded without interruption. No rise of temperature after third day.

Case III.—*Wry Neck; Open Section of Sterno-cleido Mastoid.*—M. S., aged eight. Wry neck resulting from measles four months ago. Sterno-cleido mastoid contractured. September 18th made section of the muscle, both at its clavicular and sternal attachments; irrigated with hydronaphthol solution; catgut drain and sutures. Dusted hydronaphthol and carbonate of magnesia (two parts to one hundred) along line of incision; dressed with wood-flour sterilized with corrosive sublimate, and rendered antiseptic by hydronaphthol. Head retained in position by plaster-of-Paris dressing, including chest, shoulders, and head. No fever, pain, nor other disturbance. Entire dressing removed on twentieth day. Wound healed perfectly; no pus.

Case IV.—*Wood's Operation for Radical Cure of Hernia.*—E. M., aged fourteen. Inguinal hernia, left side, of several years' standing. Has tried many trusses, but, owing to sensitive skin and extremely nervous condition of child, were abandoned. The parents solicited an operation for his relief. September 23d, operation of Mr. John Wood performed. Silver-wire suture. Hydronaphthol solution, 1 to 1,000, used for irrigating. Wound in scrotum left open; dressings of wood-flour and hydronaphthol applied. No fever nor other cause for anxiety. Wire and last dressings removed on fifteenth day. Needle punctures closed in twenty-four hours; wound in scrotum granulating in a healthy manner Ointment of hydronaphthol (℥ss. to ℥j) ordered for latter. Discharged, cured, on twentieth day.

Case V.—*Ligature of Femoral Artery for Elephantiasis.*—Mrs. C., aged forty-eight, admitted to hospital September 23d. Elephantiasis arabum of both lower extremities below knee joint of four years' duration. Patient an opium *habitué*. Operation of ligature of femoral above profunda on September 24th. Irrigation by means of hydronaphthol solution, 1 to 1,000. Pure hydronaphthol sprinkled along line of sutures. Wood-flour-cushion dressings and a spica bandage applied. No fever, but dressings had to be removed on fourth day on account of profuse serous discharge. Skin along line of sutures irritated and in some places excoriated. Union for about one third of the length of wound only; deeper portions of wound united. Dressed thereafter with an ointment of hydronaphthol (℥ss. to ℥j). Granulating healthily.

The limb was at first cold and of a yellowish gray color; in a few hours it became warm. In eight days it was found to have been reduced in size fully one third. Case still under observation.

Case VI.—*Strangulated Hernia; Operation.*—E. W., aged seventeen. Right inguinal hernia had existed for several years; for last two or three years had worn no truss. Hernia had not been reduced completely for four months. Admitted to St. Mary's General Hospital, September 24th. When seen by me was in acute general peritonitis, fæcal vomiting, knees drawn up, countenance drawn and anxious, pulse small and thready, surface cold and clammy. Symptoms of strangulation had existed for six days prior to admission. Stimulated freely; three hours later herniotomy performed; sac opened; gut believed to be yet in good condition, so far as could be ascertained. Large mass of omentum excised, and some portions adherent to canal were brought up and stitched with catgut to internal ring with neck of the sac. Hydronaphthol, 1 to 1,000, used for irrigating, and pure powdered hydronaphthol dusted along line of incision; wood-flour dressings applied. Patient rallied after vigorous stimulation. Dressings removed on fourth day, owing to their becoming disarranged by restlessness of patient. Deeper portions of wound found to be healed. Integumentary margins were found to have been irritated, swollen, and gaping. Sutures of catgut had softened by the copious exudation from the wound edges, and had given way. Granulation went rapidly on; peritonitis rapidly subsided; bowels moved spontaneously on the seventh day. Patient sat up on the twenty-first day. The wound rapidly granulated under the application of hydronaphthol ointment (℥ss. to ℥j).

Case VII.—*Perforating Wound of the Elbow Joint.*—J. C., aged eight. Upon the evening prior to applying at my office, September 24th, while reaching up to unlatch an area-gate, his foot slipped from the stone step, and his left arm was caught upon one of the iron pickets of the gate. He called for assistance, and his mother lifted him from the sharp iron rod upon which he hung. A ragged wound was found upon the inner border of his arm, near the posterior surface. A dressing of vaseline was applied. The boy complained greatly of pain, and the following morning he was brought to my office. The joint was very much swollen, hot, and tender. Synovial fluid was escaping from the wound. A probe, passed along the wound track, entered the joint midway between the inner condyle of the humerus and the olecranon process of the ulna. Pulse 130, temperature 102⅘°. Wound surroundings and joint irrigated for several minutes with warm solution of hydronaphthol, 1 to 1,000, drainage-tube introduced, parts dusted with hydronaphthol and magnesia (2 to 100). Paper-wool and hydronaphthol dressing and trough-splint applied. In twenty-four hours temperature reduced to 99°; pulse to 80. Pain had entirely disappeared. Dressings removed on the fourth day for the purpose of removing the drainage-tube; for this latter catgut drains were substituted. Arm was found to be normal in size and appearance. On the fourteenth day following the injury the dressings were again removed, when the wound was found to be healed, with complete movement in the joint.

Case VIII.—*Osteo-sarcoma of Tibia.*—Mrs. M., aged fifty-four. Blow upon middle third of left tibia about four months prior to operation. Admitted to St. Mary's General Hospital, October 2d. Large mass of broken-down sarcomatous growth (fungous hæmatodes) upon anterior aspect of tibia, at about its middle. Amputation at knee joint performed October 5th by lateral-flap method. Hydronaphthol irrigation (1 to 1,000); rubber drainage-tube; hydronaphthol and carbonate of magnesia (2 per cent.) were well triturated together and dusted along line of sutures. Dressings of wood-flour cushions applied. No rise of temperature, pain, nor other inconvenience. Dressings not disturbed until tenth day. Parts aseptic; drainage-tube removed; union perfect; no irritation. Cushion of wood-flour reapplied to small opening through which drainage-tube had emerged.

Case IX.—*Compound Fracture of Leg.*—T. W., aged eight, school-boy. Brought in by ambulance October 8th. Heavy truck-wheel had passed over his left tibia and fibula at the junc-

tion of the upper with the middle third. Wound leading down to fibula admitting my index-finger; another over tibia, about an inch and a half long. Surrounding parts and wound itself thoroughly washed and deeper portions irrigated with hydronaphthol solution, 1 to 1,000. Several strands of catgut were passed from bottom of each wound through the soft parts; hydronaphtholated magnesia and wood-flour cushion dressings applied; limb supported in a wire-cloth splint and suspended. No pain since dressings were applied; slight fever at end of first twenty-four hours, which subsided in a few hours without any treatment. Primary dressings still *in situ* at present writing (October 19th, eleventh day), and these will not be disturbed, unless some special indications exist, until bony union is believed to have taken place.

Case X.—*Supra-condyloid Osteotomy for Genu-varum.*—Rosie K., aged thirteen. Three months previously I performed excision of the knee joint for tubercular osteitis of the inner femoral condyle and head of tibia. Owing to extremely thin shell of bone left after gouging out with Volkmann's sharp spoon cancellous tissue of condyle and head of tibia, good apposition of the parts was not obtained, and, when the dressings were finally removed, the limb was found to be in the position of genu-varum. To correct this, a supra-condyloid osteotomy, after the manner of Macewen, was done on October 8th at the hospital. The incision, however, was made upon the outer instead of the inner border of the thigh. Catgut drain inserted; wound sutured; hydronaphthol in carbonate of magnesia (2 per cent.) dusted along line of sutures; wood-flour cushion dressing and plaster-of-Paris splint applied. No fever, pain, nor discharge has occurred up to present writing (October 19th). It is not expected that the dressings will be removed in this case until union of bone is believed to be complete.

Case XI.—*Fibrous Tumor at Site of Pre-trochanteric Bursa.*—J. H., aged forty-seven, Egyptian sailor. Admitted to hospital on account of growth over right trochanter. Fell from rigging of vessel some years ago and received an injury to the bursa in this region, which led to suppuration. Since then there appeared the present growth, which has grown slowly, and of late has occasioned him some inconvenience, and at times been tender and painful. Operation of excision October 8th; hydronaphthol solution, 1 to 1,000 for irrigation, etc.; catgut drains. Hydronaphtholated magnesia (2 per cent.) and wood-flour cushion dressings held in position by spica. Dressings found disarranged, and therefore changed on fourth day. Union progressing along entire line of incision; no irritation or discharge; case thus far afebrile and painless (eleventh day).

(To be continued.)

COCAINE ANÆSTHESIA IN FEMORAL SUPRA-CONDYLOID OSTEOTOMY AND EXCISION OF THE HIP JOINT.*

By MILTON JOSIAH ROBERTS, M. D.,

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The temporary character of the local anæsthetic effect of cocaine, thanks to the brilliant suggestion of Dr. Corning,† is a thing of the past. It is now possible to prolong this effect of the drug to any desired extent by simply obstructing the circulation of the blood through the tissues into which it is injected, thus effectually preventing its escape from the area desired to be rendered anæsthetic.

In the "Medical Record" of this date, October 17th, will be found a communication from me on cocaine in bone surgery, with a description of my first operation. I now desire to report two additional operations performed, under cocaine anæsthesia, this afternoon. These operations were both performed in one of the Randall's Island hospitals, and one or both of them witnessed by Dr. James R. Healey, Dr. E. L. Cocks, Dr. G. H. Cocks, Dr. C. C. Bradley, Dr. Stephen Vittum, Dr. O. C. Tarbox, Dr. M. J. Rockwell, Dr. G. D. Wheat, and Dr. R. Lewis, the six last-named gentlemen composing the house staff and assisting in the operations.

Before describing the operations in detail, however, I may remark that they were undertaken with the idea of making a crucial test of the efficacy of the method of local anæsthetization employed. Just what advantages this particular method possesses, and the determination of the range of its practicable applicability, are questions which can not be satisfactorily answered by the results obtained in a few experimental operations. It is possible, nevertheless, by the elimination of obvious sources of error, to determine the probable extent, profundity, durability, and regularity in the production of the local anæsthetic effects of the drug.

My first operation, above referred to, was for elbow-joint disease. It involved, in addition to the extensive division of soft tissues, the excavation of the entire inner condyle of the humerus and part of its outer condyle. Though a small drill-hole was made transversely through the upper end of the ulna, which bone, upon microscopical examination of the *débris* thus removed, was ascertained to be in a healthy condition, the main part of the operation was confined to the removal of diseased bone, and therefore the parts divided might not have been possessed of their normal degree of sensitiveness. This source of error, as will appear, does not require to be considered in the operations now to be reported upon. Again, my first patient, though a delicate female in an exceedingly apprehensive frame of mind, was an adult. The question arose, Was the method also applicable to operations on children? Then, too, there was the question of fear and mental excitement, which forced itself into recognition, when considering the possible causes of the manifest absence of pain during the operation.

Femoral Supra-condyloid Osteotomy for Genu Valgum.—The first operation which I have to report was performed upon a boy about four years of age. Some months ago, the patient being ætherized, I did four cuneiform osteotomies upon the bones of his legs in their lower third for the correction of anterior curvatures. There remained marked genu valgum of the left limb. When placed upon the operating-table on this occasion, the little fellow showed some signs of fear. Applying a fine needle, half an inch in length, to a hypodermic syringe containing a freshly made five per cent. solution of cocaine (Merck's), I made super-

* Reported to the Clinical Society of the New York Post-Graduate Medical School and Hospital, October 17, 1885.

† "On the Prolongation of the Anæsthetic Effects of the Hydrochlorate of Cocaine when Subcutaneously Injected. An Experimental Study." By J. Leonard Corning, M. D. "New York Medical Journal," September 19, 1885.

ficial injections over the inner anterior aspect of the thigh just above the knee. The successive injections, for the most part, were made into the periphery of the area of redness (ischæmia) resulting from previous injections. Whenever this rule was deviated from the child would wince and complain of pain, though he did not cry out. For the purpose of anæsthetizing the deeper tissues, the short needle was replaced by one an inch long and the injections were continued. Having secured anæsthesia along the line of Macewen's incision, an Esmarch's bandage was applied from the toes up to the knee joint, where it was fastened. A second Esmarch's bandage was continued from this point up the limb to about five inches above the joint. Here the thigh was encircled by a strong elastic band, and the Esmarch's bandage last applied removed, exposing that segment of the limb to be operated upon. The bandage first applied was left in position throughout the operation. Three or four injections down to the bone were made along the proposed line of incision. The knife was now carried down to the bone along the same line, making an incision two inches and a half long. The child made no complaint whatever. Introducing the needle of the syringe through the wound thus made I injected six or eight minims under the periosteum and into the tissues above (in front) and below (behind) the bone, in order that the passage of my retractors between the bone and soft parts, as well as the subsequent section of bone, might be rendered painless. Upon my attempting to introduce the retractor, the child evinced discomfort when I reached the outer aspect of the bone. I immediately withdrew the retractor and injected about four minims down to the bone and under the periosteum, on the outer aspect of the thigh. This enabled me to proceed with the introduction of the retractors without complaint on the part of my little patient. The retractors being introduced and the soft tissues drawn back, freely exposing the bone, I quickly removed a cuneiform segment from the femur just above the epiphysis, by means of my electro-osteotome. Again no pain was manifested by the child. The Esmarch's bandage and elastic girdle about the thigh were removed, the wound was closed and covered with antiseptic dressing, and the limb brought into line and secured in position by means of a gutta-percha splint. During this latter procedure and the first punctures of the hypodermic needle the child complained slightly of pain. At all other times during the operation he manifested no discomfort. He was laid upon a cot near by and watched the subsequent operation with apparent delight, for whenever I looked at him he smiled pleasantly, and, when questioned, answered cheerfully. In this operation three grains of cocaine were injected.

Excision of the Hip Joint.—Encouraged by the results thus obtained in the cocainization of bone and overlying soft tissues, I proceeded at once to try the efficacy of local anæsthesia in excision of the hip joint, there being a patient in the ward awaiting this operation. The subject of the second experimental operation was a girl about six years old who had suffered from hip disease for many months. An abscess, the result of the morbid process going on in the bone, had opened spontaneously and was discharging its pus through a fistulous opening.

The superficial and deep structures were cocainized in the same manner as before, a two-and-a-half inch needle being used for the deepest injections. I had not proceeded far when I was informed that my supply of cocaine was exhausted. A messenger was immediately sent for more cocaine solution, but could only procure a four-per-cent. solution which had been made up several days. With this I continued the injection until I had apparently secured profound anæsthesia along the intended line of incision. A strong elastic band was tied about the proximal end of the thigh. With his fingers placed under it on the outer aspect of the limb, an assistant stretched this band and drew it upward over the crest of the ilium. The pressure thus produced was sufficient to interfere with the superficial circulation. No means were at hand for compressing the abdominal aorta. The usual incision for exsection of the joint was made down to the bone. The patient complained considerably of pain, but did not cry out. Cocaine was injected through the wound into the tissues about the upper end of the bone. Injections were also made into or under the periosteum. The venous hæmorrhage was considerable, and seemed to wash the cocaine out of the tissues into which it had been injected. On this account, or in consequence of being obliged to use a weaker solution, and one not freshly made, the anæsthesia was not so profound or so enduring as in the previous operation. A longitudinal incision through the periosteum did not cause the patient any pain, but, when the periosteum was peeled off from the bone, the pain experienced was considerable. Section of the bone below the great trochanter with the electro-osteotome was without pain. Upon removal of the bone, the head and most of the neck of the femur were found to have been destroyed by disease. The acetabulum did not appear to be involved. The wound was closed with strong catgut sutures, drainage-tubes having been previously introduced, antiseptic dressings were placed over the line of suture, and a gutta-percha splint was molded to the contour of the limb and body, and allowed to harden.

105 Madison Avenue.

Book Notices.

Minor Surgical Gynæcology. A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynæcological Practice, including General Rules for Gynæcological Operations and the Operations for Lacerated Cervix and Perinæum and Prolapsus of Uterus and Vagina, for the Use of the Advanced Student and General Practitioner. By Paul F. Mundé, M. D., Professor of Gynæcology at the New York Polyclinic and at Dartmouth College, Gynæcologist to Mount Sinai Hospital, etc. Second Edition, Revised and Enlarged, with three hundred and twenty-one illustrations. New York: William Wood & Co., 1885. Pp. xxii-552.

(*First Notice.*)

We are glad to welcome a second edition of this excellent book, which now appears in a form more worthy of it. The author was very happy in the original idea of his manual, since

he wisely confined himself to just those minor technicalities which had been previously described in a most imperfect manner by the writers of more ambitious treatises. The real practical value of the book was at once apparent on comparing it with even such manuals as Chrobak's. It was, in a word, the difference between pure didactic construction and object-lessons. Not to dwell at length upon the reasons for the popularity attained by Dr. Mundé's work on its first appearance, it will be safe to assume that the present edition possesses additional claims to the reader's esteem. Part III is entirely new, while Part I and Part II have been carefully revised, and contain a considerable amount of fresh matter and several new illustrations. "Many cuts of instruments," as is aptly stated in the preface, "have been omitted for æsthetic reasons." It will be impossible, in the brief space allotted to us, to review critically the minor improvements of the new edition; but a glance at the more important points will serve to indicate the general scope of the volume.

In the section on the vaginal touch several new paragraphs will be noted, while Figs. 14 to 20, inclusive, have been added. Figs. 21 to 28, inclusive, also bear the author's initials, and are worthy of commendation. Pages 66 and 67, which describe the disinfection of instruments, contain most valuable advice with regard to an important subject which is too often overlooked by general practitioners, and, indeed, by not a few specialists, who are either too careless or too "conservative" to employ the simple precautions here given. One thing is certain: there would be a far smaller number of unfortunate results following gynæcological manipulations if the routine practice suggested by Dr. Mundé was more general. The omission of the usual confusing array of specula will be remarked as a decided improvement, while the additions to the section on holding the speculum (pages 85 to 91), including the excellent illustration (Fig. 45), must render the subject perfectly clear even to one who had never seen Sims's instrument in use—a condition of ignorance which is happily rare in these days of post-graduate instruction. Among the new paragraphs in the section which describe the use of the sound we note with approval the author's emphatic statement that this instrument is to be used *to confirm, and not as a substitute for, the bimanual examination*. Due stress is laid upon the dangers and contra-indications. Traction upon the uterus is deservedly reprehended as a pure diagnostic aid.

Part II, including pages 127 to 409, has received a thorough revision, but the interpolations are only apparent after a careful comparison of the two editions page by page. There are several new illustrations, some of which it must be confessed are not so clear as they might be (see page 220). The process of dilating the cervical canal, both by the bloodless method and by discission, is thoroughly described, and the advantages and disadvantages of each are fairly stated. The long and valuable section on pessaries has not been essentially altered. There are still rather too many illustrations for practical use.

Part III, on "Gynæcological Operations," being the new portion of the book, merits a careful examination. Under the head of "General Considerations" the author discusses the time of operating, the treatment of patients before and after operations, and the different varieties of sutures, disinfection, and anæsthetics. These pages will be of great value to the inexperienced operator, since they furnish just that information which his less fortunate predecessors have been able to acquire only by a long apprenticeship. Although no new facts are brought forward, the old ones are arranged in a compact, yet most readable, form. Nearly fifty pages are devoted to the operation of trachelorrhaphy, so that we are safe in assuming that the subject has been treated exhaustively. This otherwise excellent chapter is marred by the presence of a number of cuts which rather suggest, than actually illustrate, the conditions which they are intended to portray. To the experienced reader they are sufficiently clear, but, as works of art, Figs. 233 to 244, inclusive, are not lovely to look upon. The fault certainly does not lie with either the author or the artist, and the former deserves praise for his attempt to emancipate himself from the custom of copying the old cuts that have gone the rounds of all the text-books.

The Climate of Canada, and its Relations to Life and Health. By W. H. Hingston, M. D., D. C. L., L. R. C. S. Edin., etc. Montreal: Dawson Brothers, 1884. Pp. 266.

The author gives us, in this scholarly production, the result of many years' interest in and study of the climate of Canada. The nucleus for his essay was a discourse delivered before the Natural History Society of Montreal several years ago. Thi has been added to from time to time as relevant material came to hand, resulting in a book which retains the familiar colloquial style, and contains considerable matter which would not, perhaps, have appeared in a complete homogeneous essay on the subject, which Dr. Hingston expressly states this is not. He has succeeded, however—in the chapters on Climate proper, the Relations of this Climate to Health and Life, and on the Habits of the People—in giving us much new and valuable information about the country.

A short Introduction is given for the benefit of those who are not familiar with the constituents of climate and their effects on the human economy.

We learn from a study of Part I that, while there is great variety in different regions of the country, the climate as a whole may be set down as belonging to the dry, stimulating class—one especially adapted for a residence to those with a tendency to consumption, or in whom early signs of pulmonary disease have already developed.

On turning to Part II to obtain the author's *opinion* of the effect of the climate on mortality and disease (for statistical information is scant), we fall upon the opinions of an enthusiastic friend to whose sensation heat is never so hot, or cold so cold, in Canada as anywhere else, and by whom any deterioration in the people, or relatively great mortality (as in young children), is charged entirely to the habits of the people themselves. Unfortunately, as we have said above, accurate statistical information is wanting even of causes of death, except that which is furnished by the surgeons at the army stations, which makes a very favorable exhibit compared with that of the British stations. Fevers are, as a rule, mild, especially those of malarial origin. In regard to consumption, the army statistics support the modern theory of the superiority of a cold, dry climate over a warm, moist one for those predisposed to it, showing that Bermuda has 8·9 cases of it to 1,000 of mean strength of the army there, while Canada has only 5·6. According to the author's experience, affections of the skin are less frequent here than elsewhere; cataract is more common, but, nevertheless, blindness much less frequent. Scrofulous inflammation, so common a cause of blindness in Europe, is rare here. Blindness in Canada is commonly caused by small-pox, cataract, or injury. Contagious diseases—such as small-pox, measles, and whooping-cough—are more common than in Europe, especially in winter, when fuel is saved at the expense of ventilation. In the whole of Canada the proportion of the insane is one to seven hundred and twenty. In speaking of seasons, Dr. Hingston notices that the mortality commonly diminishes with the temperature, and that the colder parts of the country are in reality the more wholesome. The closing chapter—on the habits of the people in regard to eating, drinking, clothing, etc.—shows such a

bad condition of things, in the author's judgment, that it is certainly wonderful he is still able to maintain, as he does, that there is no evident deterioration of the European physique in Canada. At least a table of contents, but, better, a table of contents and index, should be added to another edition.

Clinical Lectures on Scrofulous Neck. By T. Clifford Allbutt, M. A., M. D. Cantab., F. R. S., F. R. C. P. And on *The Surgery of Scrofulous Glands.* By T. Pridgin Teale, M. A., M. B. Oxon., F. R. C. S. London: J. & A. Churchill, 1885. Pp. 32.

These two clinical lectures on scrofulous glands of the neck —one by a well-known physician, the other by a practical surgeon, the one treating of their cause and dangers to health, the other dealing with their surgical treatment—are well worthy of careful study. Dr. Allbutt insists upon the secondary nature of the enlargement of these glands of the neck, and considers that, in the vast majority of cases, the irritation, which is the cause, has its starting-point in a pathological condition of the mucous membrane of the pharynx, nose, or ear; that when once this increase in the size of the glands begins it is apt to go on to caseation, and adhesions form between the capsule and the gland, and also between the former and the surrounding tissues of the neck, terminating in the formation of an abscess; that, when once suppuration has taken place, it will undermine and perforate the skin and leave sinuses, which will continue to discharge until the diseased gland has been entirely eradicated.

He is very skeptical in regard to the spontaneous subsidence of these swellings, if the gland has attained much increase in size, as caseous matter has in all probability formed, and suppuration will take place. Medical treatment is of little use. When, however, the enlargement is not great and caseation has not taken place, much can be done by general constitutional treatment and a residence by the sea. He considers that after one is satisfied that cheesy matter has formed, the time for surgical interference has been reached, and that extirpation of the diseased gland or glands is called for.

Mr. Teale in his portion of the book treats of the surgical management of these enlarged glands. He advocates their removal by cutting down upon the gland and shelling it out of its capsule, if the latter has not become incorporated with the gland, and if the former has not become entirely degenerated. For, if this state has been reached, suppuration is almost inevitable, the skin will become undermined, sinuses form, there is great danger of other glands becoming involved, and disfiguring scars result. When abscesses have formed he advocates enucleating the diseased gland with a "spoon" and scraping the sinus. By these means the cause of the abscess is removed if pus has not formed, and, if suppuration has taken place, limits its duration and amount. In the former case the scar left after the operation is represented by a line, and in the latter case is much less noticeable than where the suppuration has been allowed to go on.

The volume is a practical and useful one, and should be generally read.

BOOKS AND PAMPHLETS RECEIVED.

A Text Book of Pharmacology, Therapeutics, and Materia Medica. By T. Lauder Brunton, M. D., D. Sc. F. R. S., F. R. C. P., Assistant Physician and Lecturer on Materia Medica at St. Bartholomew's Hospital, etc. Adapted to the United States Pharmacopœia by Francis H. Williams, M. D., Boston. Philadelphia: Lea Brothers & Co. Pp. 1035.

A Text Book of Medical Chemistry, for Medical and Pharmaceutical Students and Practitioners. By Elias M. Bartley, M. D., Adjunct Professor of Chemistry, etc., in Long Island College Hospital, etc. With Forty Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 376. [Price, $2.50.]

Milk Analysis and Infant Feeding. A Practical Treatise on the Examination of Human and Cows' Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants. By Arthur V. Meigs, M. D., Physician to the Pennsylvania Hospital and to the Children's Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 102. [Price, $1.]

De l'emploi du chlorhydrate de cocaïne dans le traitement de la coqueluche. Par le Docteur Moncorvo, professeur de clinique des maladies de l'enfance à la Policlinique de Rio de Janeiro, etc. [Extrait de "l'União Medica."]

Correspondence.

LETTER FROM WASHINGTON.

The Coming Meeting of the American Public Health Association. —Sanitary Inspection on the Canadian Border.

Washington, *October 20, 1885.*

Arrangements are being made for the meeting of the American Public Health Association, to be held here in December next. It is thought that by the earlier date of the meetings heretofore held much of the influence that would otherwise have been extended to legislative circles has been dissipated, but that a meeting during the opening week of the session of Congress, when the members are all here, will be much more effective in securing such legislation as is thought necessary. Dr. Toner and the health officer called on the President this week, and, it is said, secured from him a promise that he would be present at the opening exercises of the association. The "Conference" of health officers will take place at some time during the meeting, and, as they are the ones directly interested in the practical execution of State and local health laws, they naturally exert a much greater influence upon Congress than the association itself.

The revival of the Quarantine Act of 1878 has given the Government the only authority it has had in the management of national quarantine, since the expiration by limitation of the act of June 2, 1879, which substituted the National Board of Health for the Surgeon-General of the Marine-Hospital Service. Under the act mentioned it is possible to have a pretty strict land or sea quarantine at any place where the States have made no provision for it. There is now an inspection service organized along the Canadian frontier which will no doubt prove equal to the emergency. Michigan and New Hampshire are managing their own inspections—all, however, in harmony with the Marine-Hospital Service—but the States of Vermont, Maine, Massachusetts, and New York, through their respective governors, asked the Government to establish the service. Surgeon H. W. Austin, of the Marine-Hospital Service, has had immediate charge of the work on the frontier. The inspections, however, were apparently begun too late to insure absolute safety, although great good is done by the systematic vaccinations now for the first time imposed on travelers crossing our Northern border.

Work is progressing on the new Medical Library building foundations; the excavation is complete and the concrete is being filled into the trenches preparatory to laying the stonework.

A meeting of the local Committee of Arrangements of the International Medical Congress was held at Dr. Garnett's office last week. Nothing transpired of public interest.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 24, 1885.

THE GOVERNOR OF NEW YORK AND THE STATE BOARD OF HEALTH.

We lately charged that the Governor of the State of New York was directly responsible for the attitude that we presumed the State would be obliged to take in asking aid from the General Government in the task of preventing an extension of the Canadian small-pox epidemic over the border. It has now transpired that such aid has been asked for by the State, and therefore the State is now depending upon the General Government to do for it what it would have been amply able to do for itself, but for the Governor's action in vetoing the appropriation of the moderate sum of fifteen thousand dollars made by the Legislature for the use of the State Board of Health.

Some of the newspapers, recognizing the awkwardness of the situation, have endeavored to palliate the Governor's course by making it appear that he simply vetoed an appropriation intended to cover a deficiency, that he pursued that course in consequence of his having discovered that there was really no such deficiency as had been alleged, and that the current impression concerning the veto is the result of misrepresentation.

In answer to all this, we have simply to remark that, long before the Legislature took any action in the matter, a document signed by all the members of the State Board of Health was submitted to Mr. Hill, setting forth the financial needs of the board in the following terms:

"As will be seen by reference to the report of the Executive and Finance Committee, the expenses of the board during the past fiscal year have exceeded the amount of its appropriation, the sum voted by the Legislature for the prosecution of its work being but $20,000, while the actual expenditures foot up to $21,971.36. Fortunately, an unexpended balance to its credit at the beginning of its last fiscal year enabled the board to discharge its obligations without incurring indebtedness; but the large growth of its registration work and the unprecedented demand for its engineering and sanitary counsel warn the board of threatened financial embarrassment during the coming year unless the $20,000 granted by the last Legislature for the continuance of its work is supplemented by a suitable subsidy in the supply bill. Urgent appeals are frequently received from local boards of health and citizens of various parts of the State for advice and assistance in questions of supreme moment to public health, requiring for their elucidation skilled sanitary inspection and often exact analytical examination. As far as the pecuniary resources of the State Board have permitted, prompt response has been made to such appeals; but, as they increase in number, lack of means compels reluctant neglect of some of them. Furthermore, under the duties imposed upon the board, to 'make inquiries in respect to the causes of disease, and especially of epidemics, and investigate the sources of mortality, and the effects of localities, employments, and other conditions upon the public health,' it is evident that a system of sanitary investigation was contemplated far beyond the present possibility of attainment, but absolutely needful to enable it to take 'cognizance of the interests of health and life among the people of the State.' Toward the fulfillment of these, the most important duties of the board, the sum of $15,000 is asked, and even with this, in view of a threatened epidemic visitation, the demands upon the board during the coming year will probably exceed its powers of compliance. The regular appropriation of $20,000 barely suffices to defray the expenses incident to the reception, recording, filing, and indexing of the State vital statistics at the central office, together with the voluminous correspondence necessitated by the wide range of questions constantly referred for reply."

It was in consideration of these facts that the appropriation was asked for, and the document from which we have quoted was transmitted by the Governor to the Legislature. The Ways and Means Committee granted the $15,000 asked for, and it was the committee's wording—not the Board of Health's—that made the item in the Supply Bill read for "deficiency." But the fact that the word "deficiency" did so appear now serves as the technical quibble on which the veto is sought to be justified; because, forsooth, the Comptroller's books do not show any balance on the wrong side of the account. Of course, the Comptroller will not pay anything in excess of the sum actually in his hands, so that there can never be a "deficiency" shown on his ledgers. It is puerile, therefore, for the Governor's apologists to urge that the State Board of Health asked for an appropriation to cover a deficiency, and that the non-existence of any deficiency was the Governor's reason for vetoing the bill. The Governor knew perfectly well at the time that he was depriving the board of money which it sorely needed to enable it to carry on the work that it was its duty to carry on; he knew, too, that, if the board had had a million dollars at its disposal, it could not legally spend more than $5,000 in any one year for sanitary inspection. When we add to this restriction the fact that another veto—that of the appropriation for the State survey—has deprived the Board of Health of the gratuitous services of Mr. Gardner, who, as director of the survey, was *ex-officio* a member of the board, in consequence of which the board has had to set apart $3,000 out of its $5,000 for engineering work imposed upon it in various acts passed by the last Legislature—when we take these facts into consideration, the full measure of Mr. Hill's blow at sanitation may be imagined.

THE PROPOSED NEW NATIONAL MEDICAL SOCIETY.

The plan of which we gave an outline some weeks ago, being that of a correspondent who had devoted a good deal of thought to the subject, and had found that it commended itself to a number of the leading members of the profession before whom he had laid it, has been favorably spoken of by several of our contemporaries, some of which have suggested modifications that are certainly worthy of consideration.

One of the suggestions thus brought forward is to the effect that an excellent society might be formed by the simple amalgamation of the various national special societies that now exist. The obvious objection to this is, that the general practitioners would not be represented, and it is undeniable that they include,

and always will include, a large proportion of the strong men of the profession. Except for work in a special line, no organization that leaves out the general practitioner can become of much consequence to the profession as a whole. We doubt if the suggestion was seriously intended, but it is one that has been made before, and therefore is worthy of notice, although, we think, only to be rejected.

The "Medical Record" approves of our correspondent's plan in the main, but thinks that, unmodified, it would not be sufficiently "democratic." We presume that by this our contemporary means that it would not be representative in the geographical sense. Our own idea is that it ought not to be. A strictly regional representation is of consequence only where legislation is involved, and the less legislation the new society attempts, or is designed to attempt, the better. We are just now suffering from too much legislation. Does any one suppose that the Royal Society and the French Academy fail to "represent" the learning and the culture of Great Britain and France? Yet the geographical notion, we fancy, would be scouted by both of them. The "deestrick" system has never yet led to anything very high-minded.

Nevertheless, the geographical idea may prove tolerable in this instance, provided it is hedged about by certain safeguards, and, if it should prove to be dear to the great majority of American physicians, we should not oppose it; neither, we suppose, would our correspondent.

MINOR PARAGRAPHS.

INTERNATIONAL COLLECTIVE INVESTIGATION.

We have received a very carefully prepared pamphlet designed for the guidance of individual observers in the work of the collective investigation of disease set on foot at the last meeting of the International Medical Congress. The pamphlet deals with rickets, acute rheumatism, chorea, cancer, and urinary calculus, and contains blank forms, which those who receive them are asked to fill out and return to Dr. Jacobi, one of the American members of the Congress's committee on the subject, the other being Dr. N. S. Davis.

The pamphlet is interesting in itself, and doubly interesting as suggesting the query, How can the undisputed holder of an official position under the Congress—and Dr. Jacobi is undoubtedly to be so reckoned—be looked upon as having been ineligible to any office the committee charged with organizing the ninth Congress saw fit to confer upon him? Yet that is precisely the illogical position that the New Orleans meeting of the American Medical Association took when it virtually instructed its enlarged committee to displace him from the organization as it then stood.

AN "INDORSEMENT" OFFERED FOR SALE.

In another column we publish a letter from Dr. W. Oliver Moore, calling attention to an injustice that certain competing pharmacists have practiced toward Messrs. Mariani & Co. in "pirating" published records of the successful use of the Mariani preparations of coca, and at the same time craftily making those records appear to apply to their own preparations. It is very much to be regretted that a house that has been so punctilious in avoiding even the semblance of any offense against the courtesy of trade should have been treated in this shabby way by some rival manufacturers. It is still more to be regretted, however, that a member of our own profession should have shown such a willingness to exchange his "indorsement" of the Vin Mariani for money, as is apparent in a letter lately received by Messrs. Mariani & Co., from which we quote as follows:

"Will you kindly favor me with four (4) copies of your essay on 'Erythroxylon Coca,' and oblige? If you will refer to the 'Med. Record' for ....., advertising page vi, you will see me quoted by ——— & Co. for indorsement of fl. ext. coca. That is indeed a very good preparation, but your *Vin Mariani* is *very fine*. If we have the cholera, I should give it as a leading tonic. If my indorsement, *as the first user of coca in the U. S.*, will advantage you any for advertising purposes, I will furnish it to you for $25. If, also, you will honor me with some samples of your Pâte Mariani, you will oblige."

It is consolatory to know that the firm in question looked upon this bit of impudence as quite phenomenal. We would advise this "first user of coca" to keep on using it—upon himself—in the hope of ultimately raising himself above pseudo-scientific mendicancy.

THE PENNSYLVANIA STATE BOARD OF HEALTH.

The State of Pennsylvania has been somewhat tardy in establishing a State board of health, but perhaps she has only been making haste slowly. Quite likely, this fact has not been altogether to her disadvantage. At all events, she has constituted her first board, as we learn by a recently published "Address of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania to the People of Pennsylvania," almost entirely of medical men, the single exception being that one member of the board is an engineer. We at once recognize the value of an engineer in the board, but we have always been at a loss to estimate the precise advantage of having broken-down "statesmen" or political "workers" in such positions. The board's "Address," to which we have alluded, is a remarkably simple and cogent exhortation to the people of the State to further the work of the board in their own behalf, quite free from the cant that so often figures in such documents. It must be said that the new board seems to be entering upon its work in a most commendable spirit, and we wish it the fullest measure of success.

THE PROFESSION OVER-CROWDED ABROAD.

Much having been written about the over-crowding of the ranks of the medical profession in this country, some dreary consolation may be drawn from the state of things that is represented to prevail in at least two foreign countries, one of which is even newer than our own. It seems from a recent article in the "Lancet" that the repletion of the ranks has lately been made the subject of serious inquiry by a medical society in Belgium. It appears that certain "specialists" are allowed to practice in that country without having taken a medical degree, and the complaint is made that the preliminary examination is not severe enough.

The other country referred to is Australia, from which a member of the British Medical Association writes a long letter to the "British Medical Journal," complaining of the enormous difficulties in the way of success in practice. He says that at Ballarat there are more medical men to-day than there were when the population was greater by fifteen hundred.

NEWS ITEMS, ETC.

The New York Obstetrical Society.—At the annual meeting, held October 20th, officers were elected as follows: Dr. Paul F. Mundé, president; Dr. H. T. Hanks, first vice-president; Dr. Louis A. Rodenstein, second vice-president; Dr.

Henry C. Coe, recording secretary; Dr. Emil Noeggerath, corresponding secretary; Dr. Edward L. Partridge, treasurer; Dr. James B. Hunter, pathologist; Dr. Colin Mackenzie, Dr. Bache McE. Emmet, and Dr. Clement Cleveland, members of the committee on admissions (to hold office from 1885 to 1887, acting in conjunction with Dr. Robert Watts, Dr. H. T. Hanks, and Dr. J. B. Hunter, who continue in office until 1886).

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the three weeks ending October 20, 1885:

DISEASES.	2 weeks ending Oct. 6.		Week ending Oct. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	1	3	1
Typhoid fever	78	16	33	12
Scarlet fever	40	3	21	3
Cerebro-spinal meningitis	2	2	4	4
Measles	6	1	6	0
Diphtheria	79	33	53	22
Small-pox	11	0	1	1

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, October 7th: *Montreal, Canada.*—October 1st to 13th: 391 deaths from small-pox, in the city, and 101 deaths in adjacent municipalities. *Kingston, Canada.*—October 2d: Free from epidemic diseases. *Three Rivers, Canada.*—For the week ending October 10th: 6 cases and 2 deaths from small-pox. *Toronto, Canada.*—For the week ending October 10th: 1 case of small-pox reported; 3 cases are now being treated in hospital. *Havana, Cuba.*—For the week ending October 8th: 20 cases and 10 deaths from yellow fever. *Cardenas, Cuba*, September 26th; *Matanzas, Cuba*, October 7th; *St. Thomas*, October 2d; *San Domingo*, September 28th, and *Cape Haytien, Hayti*, September 26th: All free from epidemic diseases. *Acapulco, Mexico.*—For the week ending September 27th: 4 deaths from yellow fever. *Guaymas, Mexico.*—For the month of September: 200 cases and 47 deaths from yellow fever; 26 of the deaths were among officers and soldiers. *Callao, Peru.*—September 5th: 1 death from small-pox. Yellow fever has disappeared. *La Guayra, Venezuela.*—For the week ending September 12th: Free from epidemic diseases. Yellow fever is, however, prevalent and fatal at *Caracas. Buenos Ayres.*—For the months of July and August: 205 deaths from small-pox. *London, England.*—For the three weeks ending October 3d: 15 deaths from small-pox. *Glasgow, Scotland.* For the week ending October 3d: 1 death from small-pox. *Edinburgh, Scotland.*—For the week ending September 12th: 1 death from small-pox. *Bradford, England.*—September 19th: 1 case of small-pox reported. *Paris, France.*—September 26th to October 8th: 4 deaths from small-pox. *Bordeaux, France.*—For the week ending October 3d: 2 deaths from small-pox. *Antwerp, Belgium.*—For the week ending October 3d: 2 deaths from small-pox. *Barcelona, Spain.*—From September 10th to 20th: 425 cases and 170 deaths from cholera; also 1 case of small-pox reported. Cholera is abating and assuming a milder form in all the districts. *Cadiz, Spain.* September 19th: Total mortality during the week, 186. Average mortality, 40. The excess is attributed to cholera. September 26th: 118 deaths from cholera during the week. *Valencia, Spain.*—September 19th: 3 cases and 1 death from cholera. The port (Grao) of Valencia is now supposed to be free from cholera. *Gibraltar, Spain.*—For the week ending September 27th: 2 cases and 2 deaths from cholera. From August 1st to date of report there had been 24 cases and 19 deaths from cholera. October 4th: No new cases of cholera within the past eleven days. *Tarragona, Spain.*—From September 1st to 28th: 75 cases and 37 deaths from cholera. No new cases reported since the 24th. *Genoa, Italy.*—From September 20th to October 4th: 5 cases and 2 deaths from small-pox. *Venice, Italy.*—From September 5th to 19th: 17 cases of small-pox. *Trieste, Austria.*—From September 2d to 26th: 23 cases and 6 deaths from small-pox. *Prague, Bohemia.*—September 24th: 1 death from small-pox. *Zurich, Switzerland.*—From September 12th to 30th: 2 deaths from small-pox. *Warsaw, Russia.*—From September 12th to 26th: 5 cases and 4 deaths from small-pox. *Calcutta, India.*—From August 2d to September 5th: 19 deaths from cholera. *Jerusalem, Palestine.*—For the months of May, June, and July: Small-pox reported prevalent. *Colombo, Ceylon.*—August 15th: 34 cases and 24 deaths from cholera reported.

The following is the number of cases and deaths from cholera in Spain, from March 4th to September 17th, inclusive: 259,684 cases and 96,094 deaths. In Italy, from August 4th to September 13th, there were 165 cases and 89 deaths from cholera.

The Washington Obstetrical and Gynæcological Society.—At the annual meeting, held on the 16th inst., officers were elected for the ensuing year as follows: Dr. A. F. A. King, president; Dr. W. W. Johnston and Dr. J. Taber Johnson, vice-presidents; Dr. C. H. A. Kleinschmidt, recording secetary; Dr. S. S. Adams, corresponding secretary; Dr. G. B. Harrison, treasurer; Dr. C. F. Hagner, Dr. L. Tyler, and Dr. Adams, committee on business; Dr. G. N. Acker, Dr. H. H. Barker, and Dr. H. D. Fry, committee on admissions; Dr. T. C. Smith, Dr. J. R. Bramwell, and Dr. Kleinschmidt, committee on publicaton; and Dr. Acker, Dr. G. W. Johnston, and Dr. Harrison, committee on pathological specimens.

The New York Academy of Medicine.—A special meeting was held on Monday evening, the 19th inst., for the purpose of founding a section in ophthalmology and otology. Dr. C. R. Agnew was chosen president, and Dr. J. A. Andrews secretary. The meetings will be held on the third Monday of each month, excepting July, August, and September.

The late Professor Charles Robin is thus spoken of by the Paris correspondent of the London "Medical Times and Gazette": "The history of Professor Robin was for a long space of time the history of medical microscopy itself, and he stood prominent as the representative of that branch of study in opposition to Velpeau and other practical and clinical teachers, who endeavored to cast ridicule upon the microscope and histology as viewed in relation to medical science. The triumph of Robin appeared complete when, in 1861, a chair of histology was created at the Faculty of Medicine, of which he became, of course, the first occupant. His success was great at first, but he soon became unpopular with the students on account of his extreme severity as an examiner; while, on the other hand, the clerical party, then predominant, were incensed at the so-called materialistic tendencies of his lectures and writings. The combination of these two hostile forces led to violent scenes, in which the professor was hissed, abused, and prevented from speaking. At a later period he regained his popularity through the petty persecutions of the clerical party, which, among other annoyances, excluded him from the list of persons qualified to sit upon a jury, although at this time Robin was unquestionably one of the most celebrated men of science in Europe. He had become, in spite of strenuous opposition, a member of the Institute in 1866. When the Senate was created in 1870, Robin was named a Senator by his native department (Ain). He re-

mained a member of the Assembly till his death, although in politics, like many scientific and literary celebrities, he was content to play a dumb part. Indeed, both his qualities and defects made him unfit to play the part of a Demosthenes; he had neither the eloquence nor the assurance which are the stamps of the political orator, and which are seldom developed by a severe process of scientific training. Robin was one of the chief disciples of Auguste Comte, and one of the founders of the celebrated *Société de biologie*, along with his intimate friend, Claude Bernard. He was also closely connected with Littré, and became with him one of the joint editors of the *Dictionnaire de Nysten*, which, although in the beginning a mere vocabulary of words employed in medical science, became a stumbling-block to orthodox believers and a sort of gospel to the followers of positivism, through the extreme boldness of some of its definitions, those, for instance, of *Ame*, *Homme*, and a few others of the same description. In private life Robin was a most amiable and disinterested man. All his pupils were much attached to him, and he will be sincerely regretted by his numerous friends."

Obituary Notes.—The death of Dr. William Workman, of Worcester, Mass., took place on Saturday, October 17th, in the eighty-seventh year of his age. He was born in Colerain, Mass., was graduated from Harvard Medical School in 1825, and became a member of the Massachusetts Medical Society in 1831. After practicing in Shrewsbury, Mass., for ten years, in 1835, he settled in Worcester, where he has since resided. He was for ten years a trustee of the Worcester State Lunatic Hospital.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department United States Army, from October 11 to October 17, 1885:*

Irwin, B. J. D., Lieutenant-Colonel and Assistant Medical Purveyor. Ordered from Department of Arizona to New York city for temporary duty in charge of Medical Purveying Depot at that place, relieving Captain Henry Johnson, Medical Storekeeper. S. O. 233, A. G. O., October 10, 1885.

Morris, Edward R., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty in Department of the Missouri. S. O. 233, A. G. O., October 10, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 17, 1885.*

Baldwin, L. B., Passed Assistant Surgeon. Detached from Naval Hospital, Philadelphia, and ordered to Navy-Yard, Mare Island.

Dickinson, D., Surgeon. Detached from Naval Hospital, Mare Island, and ordered to Training Ship Portsmouth as relief to Surgeon A. M. Moore.

Moore, A. M., Surgeon. Detached from Training Ship Portsmouth, and to await orders.

Shaver, Joseph, Assistant Surgeon. Detached from Receiving Ship St. Louis, and ordered to Naval Hospital, Philadelphia, as relief of Passed Assistant Surgeon Baldwin.

Hester, F. A., Assistant Surgeon. Detached from U. S. S. Minnesota, and ordered to the Tennessee as relief of Passed Assistant Surgeon Nelson H. Drake.

Drake, Nelson H., Passed Assistant Surgeon. Detached from the Tennessee 31st inst., and to await orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended October 10, 1885.*

Babinette, P. H., Surgeon. To proceed to Tuckerton, N. J., as inspector. October 7, 1885.

Austin, H. W., Surgeon. To proceed to Albany, N. Y., on special duty. October 6, 1885.

Gassaway, J. M., Surgeon. To examine surfmen at Ellsworth, Me., and other ports of First District Life-Saving Service. October 9, 1885.

Society Meetings for the Coming Week:

Monday, *October 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *October 27th:* New York Dermatological Society; New York Surgical Society; Buffalo Obstetrical Society (private); Medical Societies of the Counties of Putnam (quarterly), Queens (semi-annual—Garden City), and Rockland (semi-annual), N. Y.; Boston Society of Medical Sciences.

Wednesday, *October 28th:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational); Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Medical Society of Gloucester County, N. J. (quarterly); Middlesex, Mass., North District Medical Society (Lowell); American Academy of Medicine (New York—first day).

Thursday, *October 29th:* New York Orthopædic Society (at 214 East Thirty-fourth Street. Two or three short papers on "Rotary Lateral Curvature"); Cumberland County, Me., Medical Society (Portland); Massachusetts Medical Benevolent Society (annual); American Academy of Medicine (second day).

Letters to the Editor.

LACERATIONS OF THE CERVIX UTERI.

Jersey City, N. J.

To the Editor of the New York Medical Journal:

Sir: In your report of the proceedings of the Medical Society of Virginia, on the 10th inst., I noticed an abstract of a paper read by Dr. Bedford Brown, of Alexandria, on the "Treatment of Lacerations of the Os and Cervix Uteri without Surgical Operation." I read the same with great interest, and fully indorse the treatment he suggests. It has been followed by me for many years with excellent results. The graduated solutions of nitrate of silver, ℈j to ℈ij, and ʒj to 1 oz. of water, enable the physician to select the required strength adapted to the particular case. I have always used cotton on the end of an applicator, in preference to a camel's-hair brush, as it can be thrown away and a new piece used for each application; or, when there is enlargement of the cervix, I moisten or saturate the same with glycerin, which has the property of causing a serous discharge, and thereby tends to reduce the size of the cervix. When the cervix is large and indurated, I know of nothing equal to hot-water injections, once or twice a day, and continued until the desired results are obtained—softening and a return to the normal size. For this purpose I prefer the fountain syringe to any other I know of. I have lately finished the treatment of two patients who had suffered from lacerations of the os and cervix uteri. They were treated principally with the nitrate-of-silver solutions, Lugol's solution, hot-water injections, and occasionally scarifications of the cervix. Both entirely recovered.

James Craig, M. D.

RIVAL PREPARATIONS OF COCA.

133 East Thirty-eighth Street, N. Y., *October 14, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of January 3, 1885, page 19, in a report of a paper read before the New York Medical Society, on "The Physiological and Therapeutical Effects of the Coca-Leaf and its Alkaloids," occurs the following: "For the past ten years Dr. Fauvel has used it, both internally in the form of Vin Mariani, and also by local applications to the pharynx and larynx in spray or by brush, in the form of a fluid extract, or, more recently, of a concentrated non-alcoholic preparation more of the nature of a cordial (prepared by Mariani & Co.)."

Several manufacturers of coca preparations have taken occasion to quote from this paper, each in turn substituting the name of *his own* production instead of the one mentioned in the original.

As the preparations of coca mentioned in my paper were personally tested and found to be the best of a large number experimented with, I wish to call attention to these misquotations and substitutions.

Very truly, W. Oliver Moore.

*** We have taken the trouble to compare the report of Dr. Moore's remarks with the little book on coca prepared by M. Mariani, and the latter with the circulars issued by a number of manufacturers of coca preparations; and we certainly think that some of these manufacturers have taken an unwarrantable liberty in appropriating work that evidently cost M. Mariani a good deal of time and no little outlay of money.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of October 14, 1885.

Dr. George F. Shrady, President *pro tem.*

Melano-Sarcoma of the Face.—Dr. John A. Wyeth presented a woman seventy years of age who showed the results of an operation for removal of a melano-sarcoma of the face. Fourteen years ago a small tumor appeared at the left of the nose, and remained nearly stationary for several years, after which it enlarged gradually. The integument alone seemed to be implicated. Four years ago it was burned with some escharotic. A short time ago Dr. Fox made a diagnosis of melano-sarcoma, and sent the patient to Dr. Wyeth for operation. Dr. Wyeth carried the incision from well up on the nose outward an inch and a half, and a quarter of an inch below the palpebral border. The gap was filled with integument drawn over the malar bone. The operation was done only two weeks ago, but perfect union existed at present and there was no ectropion.

A Cast of the Bladder.—Dr. H. J. Boldt presented a cast of the bladder of a woman aged eighteen years who had recently given birth to her first child. Delivery was normal. Soon afterward, September 21st, she complained of pain in the hypogastric and lumbar regions. There was tenderness on pressure. Micturition caused no pain. The urine contained albumin, blood-casts, and a small quantity of pus. The diagnosis was made of catarrhal nephritis. At this time the temperature was 102·6° F., but some days later it rose to 106°. The patient felt something in the urethra while urinating, and, on examination, Dr. Boldt thought the sac to be a portion of the inverted bladder. He replaced it, and did so several times subsequently. Dr. Lusk, who saw the patient in consultation, thought it to be an inversion of the bladder, and, as the presenting portion was becoming putrid, it was dusted with iodoform. Finally it was expelled and was found to be, as Dr. Boldt believed, the mucous membrane of the bladder with some submucous tissue and perhaps some of the muscular fibers. He had not examined it microscopically, and consequently wished that it be referred to the Microscopical Committee. After its expulsion, the bladder-walls seemed to be entirely denuded of their lining membrane, and became thickened, and the cavity greatly decreased in size. A large quantity of urine was passed during the twenty-four hours. The patient died, on the 10th of October, with cerebral symptoms, probably of a septic nature.

Large Sarcoma of the Ovary.—Dr. Cushier presented a sarcomatous tumor, probably of the ovary, as large as a bucket, removed post mortem. The patient, forty-nine years of age, otherwise healthy, had first noticed an enlargement of the abdomen about a year previously; the increase in size was then very rapid. Her health had become greatly impaired when she was seen by Dr. Cushier. Dr. Hunter saw her in consultation, and an exploratory incision was made, but the operation was discontinued. The patient died on the fifth day afterward, probably of disappointment at not having the tumor removed, and of exhaustion. There was found to be slight red hepatization of the left lung, with some pulmonary nodules of the nature of the abdominal tumor, and nodules in the retro-peritoneal glands. The tumor involved the left ovary and the uterus, and was pronounced to be a spindle-and-round-celled sarcoma, probably originating in the ovary, the more common origin of such growths.

Dermoid Cyst of the Ovary.—Dr. Cushier also presented a dermoid cyst of the ovary removed last Thursday. It had been of comparatively rapid growth. There was some elevation of the temperature prior to the operation. Adhesions existed throughout, but were not firm. The larger cavity was filled principally with sebaceous material; only a small pouch was occupied by hair.

Congenital Cyanosis.—Dr. L. E. Holt presented the heart, lungs, and kidneys of a child which had died of congenital cyanosis, forty-eight hours after birth. There was a distinct syphilitic history; the child was born about the eighth month; it weighed between four pounds and four pounds and a half, and was cyanotic. The respiration was very rapid, and the pulse could not be counted. Examination of the lungs showed over both sides marked diminution in resonance and many fine râles. At the autopsy the lungs were found to be solid, did not crepitate at all, and sunk in water; it was difficult to find with the unaided eye any air cells which had been distended. The foramen ovale was sufficiently large to admit two fingers; the right ventricle was slightly thickened; there was no disease of the valves. The spleen was enlarged and hard, and showed venous congestion. Externally the kidneys were slightly softened; the cortex was quite pale, and the pyramids were somewhat congested, showing uric-acid infarctions. There was interstitial nephritis.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of September 24, 1885.

The President, Dr. E. O. Shakespeare, in the Chair.

Tænia Echinococcus.—Dr. William Osler presented specimens of this rare parasite, which had been reared experimentally by feeding a dog with hydatids from the liver of a pig. The animal was killed about seven weeks after the feeding, and the small intestine was found to contain many hundreds of the ma-

ture tape-worms. The portion of bowel exhibited had many adherent to the mucous membrane. From the small size of the worms, only a few lines in length, they were very apt to be overlooked. Cobbold stated that the only specimens procured in England had been experimentally reared. Dr. Leidy had never met with the adult worm in this country. That it must occur here in the dog was very evident from the frequency with which echinococcus cysts (the larvæ) were met with in the hog and other animals.

Cysticercus Cellulosæ.—Dr. Osler exhibited the heart, the brain, and a portion of the flesh of a pig, containing the "measles," as the larvæ of the *Tænia solium* were called. Both organs were thickly studded with the cysts, which were also very numerous throughout the muscular system. The animal was fat and had seemed to suffer very little inconvenience. Attention was called to the cysts beneath the tongue and to the possibility of telling whether an animal was measled by an examination of this part during life. Microscopic slides of the parasites were shown and a slide of a cysticercus, with a very large caudal vesicle, from the omentum, in which situation it might grow to the size of a walnut.

Distoma Hepaticum; its Effects on the Liver.—Dr. Osler also showed the liver of an ox, showing enormous enlargement of the bile-vessels and calcification of their walls, due to the chronic inflammation excited by the presence of the flukes. The main ducts were thicker than the thumb, and even the smaller tubes were as hard as the stem of a clay pipe. The liver substance was wasted but not cirrhotic. In spite of this extensive disease, the animal was well nourished. Specimens of the flukes in spirit and mounted were also shown.

Tænia Flavopunctata.—Dr. William Pepper presented the specimens of *Tænia flavopunctata* described by Prof. Leidy in the "American Journal of the Medical Sciences" for July, 1884. This species had never but once before been seen and recognized, and then by Weinland, of Boston, in 1858. Both specimens had been expelled from young children and averaged twelve inches in length.

Tænia Mediocanellata.—Dr. Pepper also presented the head and neck of a *Tænia mediocanellata*. It had occurred in a young man. A course of starving, followed by castor-oil and pelletierine, had removed a portion of the worm; afterward a repetition of the starving process, without the castor-oil but with the alkaloid, had brought away the entire worm dead. Dr. Pepper said he was particularly interested in this series; it spoke forcibly of the necessity of studying comparative pathology. The specimens were very perfect and more instructive than more highly organized species. In practice he had found the *Tænia mediocanellata* as difficult to expel as the *Tænia solium*. The exhibition of the small variety, the *Tænia flavopunctata*, taught the necessity of careful examination of the stools.

Litholapaxy.—Dr. de Schweinitz exhibited the kidneys, ureters, and bladder of a man who had died after this operation. The patient, aged seventy-three years, had for two years previous to the operation suffered with straining during the act of micturition and other symptoms of hypertrophy of the prostate gland, and of vesical calculus. The urine contained albumin, pus, epithelium, and granular casts, and had a specific gravity of 1·018. The patient's habits were intemperate. The operation of litholapaxy was performed, marked difficulty having been experienced in the introduction of the instruments. After the operation the patient exhibited great restlessness, præcordial pain and a rapid, feeble pulse. Subsequently he became comatose, and died twenty hours after the operation, the immediate cause of death being, apparently, the formation of a heart clot. A post mortem examination was made about ten hours after death. Old pleuritic adhesions were found on the right side. The muscular structure of the heart was flabby; there was a firm "chicken-fat" clot in the right ventricle. The liver was slightly enlarged and soft. Both kidneys were granular and contained cysts. The bladder was thickened, and showed ecchymoses on its mucous surface. The prostate was enlarged.

Dr. Tyson thought this case added one more to the list showing the impropriety of crushing for stone when kidney disease was present. He did not know why, but under such circumstances the cutting operation was more suitable. He cited the case of Louis Napoleon as an instance of the danger of crushing in the presence of kidney disease. In answer to a question of Dr. Barton's regarding the kidneys, he said that they were contracted, though not decidedly so, as there was good secreting structure left. The cysts were part of the pathological anatomy of granular kidney. He believed the cause of death to have been uræmia.

Dr. G. G. Davis said that in such cases a post-mortem examination was in reality of the nature of an investigation. Death might be due to direct violence done the urethra, the prostate, or the bladder; or it might be due to extension of inflammation to the peritonæum, or to some unknown cause, as in the present case.

Dr. de Schweinitz said that the urethra was not examined, and agreed with Dr. Tyson that the cause of death was uræmia. This was the more probable because an officious attendant, against orders, had administered rather full doses of morphine.

Syphilitic Abscess and Necrosis of the Tibia.—Dr. Henry Beates presented a specimen of syphilitic abscess and necrosis of the tibia removed by amputation at the middle of the thigh. The patient was a strumous man who three years previously had suffered from an attack of obstinate sciatica accompanied by a marked degree of muscular atrophy of the affected limb, followed by lameness. Two years later a swelling developed at the femoral side of the gluteo-femoral crease, which opened and discharged small fragments of necrosed bone. The sinus was finally healed and fair health enjoyed for several months. Seventeen weeks ago osteitis of the tibial head developed, followed, in a short time, by suppurative synovitis. The pus perforated the ligamentum posticum and burrowed beneath the gastrocnemius, elevating it and the posterior tibial muscular structures from the bone. Free incision evacuated this, but the destructive process continued, resulting in the formation of sinuses and complete disintegration of the joint. Hectic was pronounced, and, to save life, amputation was performed on the day previous. Longitudinal section through the femur, joint, and tibia disclosed the extensive destruction effected in so comparatively short a time. The articulating surface of the condyles was denuded of its cartilage and the surface of the bone was roughened. The patella was bound firmly to the trochlear portion of the condyles. The articular elements were destroyed. The head of the tibia was completely necrosed and broken down. The medullary canal of the tibia, throughout its entire extent, was infiltrated with pus. The surface of the bones was also the seat of the morbid process. The pus from the joint had burrowed upward beneath the internal and external vasti muscles and deprived the femur of its periosteum for a considerable distance. The anterior face of the tibia was denuded in like manner, while the crest, at the middle, was the seat of ulceration. At the time the disease occurred the patient first noticed a chancre. Six weeks later the secondary phenomena developed and were promptly met with anti-syphilitic remedies. Was the strumous disease influenced by the syphilis? The specimen was referred to the Committee on Morbid Growths for microscopical examination, with instructions to look for tubercle bacilli and for those said to be peculiar to syphilis.

Dr. DAVIS was desirous of knowing if the disease of the head of the tibia was due to scrofula or syphilis; the worm-eaten character of the ulcer on the tibia looked like syphilis.

Dr. C. M. WILSON inquired if there had been fever, rigors, and evidences of pyæmia in this case. It was undoubtedly one of osteo-myelitis, and in a similar case of traumatic origin, which he had exhibited, rigors had been present.

Dr. JURIST asked how the presence of acute syphilis in the patient would affect the prognosis of the operation.

Dr. BEATES replied that there had been symptoms of septic fever, and, as the acute symptoms of syphilis had been absent for some weeks, he did not think this would affect the prognosis.

Sudden Death from Laryngeal Obstruction.—Dr. LOUIS JURIST presented the larynx and trachea removed post mortem from the body of man, aged thirty-eight, a book-keeper, who had suddenly died. He had not had syphilis. He had taken cold on Saturday and had a sore throat; on Tuesday he chatted with the doctor, and an examination gave no evidence of anything except ordinary pharyngitis; on Wednesday he went to his business; on the evening of this day the doctor was sent for in haste, and, on going at once, found the man dead. Nevertheless, a hurried laryngotomy was done, and efforts were made to restore the heart, but without avail. Dr. Jurist removed the larynx through the thoracic cavity. He was in doubt as to the mode of death. The lungs were fairly healthy, though cheesy on one side. There must have been an abscess present.

Dr. TYSON was surprised that marked improvement should have followed the treatment by emetics and sedatives, as the abscess must have been present; perhaps the outlying œdema was subdued and the condition thus improved.

Dr. WHARTON had had no experience in such cases, but agreed with Dr. Jurist that the operation of tracheotomy, and not laryngotomy, was indicated.

Dr. JURIST was in doubt in regard to the diagnosis; it rested between perichondritis and a subsequent abscess or phlegmonous laryngitis. He was inclined to the former view.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of May 14, 1885.

The President, Dr. B. F. WESTBROOK, in the Chair;

Dr. A. H. P. LEUF, Secretary.

Pulmonary Abscess and Pyæmia.—Dr. GLENTWORTH R. BUTLER read an account of a case, for Dr. LEWIS S. PILCHER. [It was reserved for publication.]

A Cranio-rhachitic Monster with Exomphalos was shown by Dr. W. J. BRANDT.

Valvular Aneurysm.—A paper with this title was read by Dr. ALBERT BRINKMAN. [See page 455.]

Pulmonary Miliary Tuberculosis.—A fresh specimen was shown by Dr. A. H. P. LEUF.

Meeting of June 11, 1885.

Intra-capsular Fracture of the Femoral Neck.—Dr. J. H. HUNT presented a specimen of this kind, in which there had been an impaction of the neck into, and the formation of a false joint within, the great trochanter.

The PRESIDENT considered it a remarkable case because of the site of the false joint.

Dr. Z. T. EMERY presented a specimen of the same injury, with a false joint.

Dr. HUNT remarked that it was peculiar in that there were fibrous connections, like so many chordæ tendineæ, between the false joint surfaces in place of a ligamentum teres. He asked if it was possible for a heavy woman, as this one was, to have her hip give way spontaneously instead of its being due to violence.

The PRESIDENT could not account for the impaction except by violence. He questioned whether a spontaneous fracture could have caused the fall of the woman, and this, in turn, have given rise to the impaction.

Dr. HUNT rejoined that she was very intelligent and disclaimed having stumbled. There was no history of tripping. The fall seemed to be spontaneous. He simply desired to know whether it was possible that the fracture could have preceded and caused the fall and the latter the impaction. He hardly supposed it probable, but did not consider it impossible.

Acute Lepto-meningitis.—Dr. ARNOLD STUB read the history of a case as follows:

"A gentleman, thirty-seven years of age, of steady habits, whose former history gave no clew to any previous disease, and who for years past had no other complaint except an occasional severe neuralgic pain in the face, for which it seems, however, he never consulted a physician, returned from a theatre during a cold and stormy night (March 28th) at 11.30. It seems he went to bed perfectly well, but awoke at 2 A. M. (March 29th) and called the members of his family to his room, on account of a severe attack of vomiting he had been seized with. It seems he offered no explanation as to how he felt, but lay in bed constantly vomiting and moaning, and, upon being asked what ailed him, only said: 'It is awful.' It seems that his family thought he had been eating or drinking something unusual, and waited until morning before they sent for me. Upon my arrival, about 9 A. M., March 29th, I found him lying in bed, continually tossing about, smiling and grinning in a peculiar, almost idiotic manner, and talking at random. Upon being asked how he felt, he declared he felt all right, and had no pains, but he pointed toward his abdomen if the question was pressed. He still vomited occasionally. The pulse was 80 and, like the temperature, the heart's action, and the pupils, perfectly normal. Upon inquiry, I could not learn when he had urinated last. He certainly had not done so since 2 A. M. Percussion showed the bladder to be empty. The introduction of a catheter was impossible on account of his restlessness. I diagnosticated uræmia. Taking into consideration the entire absence of all symptoms tending toward brain trouble, his apparently empty bladder, the fact that he had been sitting in a hot, closely packed theatre, and afterward returned home during a snow-storm, I felt justified in coming to such a conclusion, and I ordered fifteen grains of calomel to be given at once, and, two hours afterward, one ounce of castor-oil, which he took and retained. I also ordered liq. ammonii acetatis, ʒ ij, every hour, and hot bran-bags to be applied to the lumbar region. About noon of the same day I found no effect from the calomel and castor-oil. An enema passed his bowels without producing a fæcal evacuation, and there was no change in the symptoms or improvement of the patient. I then called Dr. Wallace in consultation, who, upon examining the patient, coincided with my views and suggested that two drops of croton-oil be given. It was done and repeated in two hours, but without effect until late in the evening, when an enema, consisting of castor-oil, soap, salt, and warm water, produced one copious stool. No urine having passed, I managed to introduce a catheter, and, to my surprise, I succeeded in withdrawing one quart of urine, which proved to have a specific gravity of 1·024, and to contain no albumin, no casts, no blood-coloring matter, but to contain a normal quantity of urea, no sugar being present. No change of symptoms had taken place since morning, so I concluded to continue the treatment, and prescribed only thirty grains of bromide of potassium at bedtime. Early in the morning of March 30th Dr. Wallace and I met again and concluded to call in Dr. Gray for consultation.

The latter, after examining the patient, came to the conclusion that, provided we were able to exclude kidney disease, meningeal trouble, with a strong suspicion of syphilitic origin, would have to be considered next, and therefore he recommended the use of iodide of potassium, gr. viij, three times daily, bromide of potassium, 3 ss., three times a day, and hyoscyamine, gr. $\frac{1}{60}$, every four hours. From the time I introduced the catheter the day previous the patient did not urinate. I catheterized again at 4.15 P. M., March 30th, and withdrew a pint and a half of urine, which corresponded exactly with the urine of the day previous. The patient had been fed March 29th and 30th with gruel and beef-juice and water whenever he showed any inclination to take them. Thirst did not seem to trouble him. His general condition remained the same as upon the day previous; he would answer questions in a rather incoherent way. Upon being asked to get up and walk, he would do so without any apparent effort. At 6.15 of the same evening he was taken with a cough and expectorated a good deal of mucus. At 6.35 he became very restless, and his pulse ran up to 112. Five minutes later he had a convulsion. I administered at once some chloroform by inhalation, but without effect upon the convulsions. I telephoned at once to Dr. Wallace and Dr. Gray. The former was not at home. The latter responded to my call and recommended the use of amyl nitrite by inhalation, and, no effect being produced upon the convulsions, a hypodermic injection of thirty drops of tincture of veratrum viride. As already mentioned, the pulse was 112 five minutes before he had the convulsions; at 7.15 it was 140; at 7.25, 180, with a respiration of 28 a minute. The pulse varied between 180 and 160, with a respiration of 40, until 8.55, when I administered thirty drops of tincture of veratrum viride hypodermically. Three minutes afterward the pulse fell to 144. Five minutes later it was 140, and then it gradually fell until it came to 96, at 9.35, and remained so until the patient died, in convulsions, at 10.30 of the same evening. The following day Dr. Leuf performed the autopsy, and will relate to you the details of the same."

Report of the Autopsy, by Dr. Leuf.—"The patient was a strong, well-built male. The autopsy was held about twenty hours after death, and rigor mortis was well marked. Both kidneys was found in a state of the most intense congestion it was possible to see. The blood almost welled out of them as soon as the tension of their substance was relieved by section. Pressure caused additional free sanguineous exudation. They had a very deep purple color and were both alike. The bladder was empty. The other abdominal and the thoracic viscera presented nothing unusual in appearance as to congestion or other anomalous conditions. The pia mater was intensely injected and perfectly dry on the surface, while beneath it, upon the cerebral surface, there was a large amount of widely diffused extravasated blood. The hæmorrhage most likely originated in the smaller vessels of the pia at the bottom of the sulci, because when no blood appeared upon the surface it was found in abundance at the bottom of the fissures, and none was found on the surface of a convolution without its being discovered in the adjacent furrows in sufficient amount to distinctly separate the contiguous walls. In my opinion the meningeal inflammation was caused by the kidney congestion, but, as there is room for honest difference of opinion on this point, I prefer to leave its consideration to others."

Dr. William Wallace had been puzzled with the case. He had thought that there was no brain trouble, and had considered it renal. The condition of the brain surprised him. He considered the kidney trouble primary. He had never seen bloodier kidneys. He thought that Dr. Leuf's theory might be correct, but acknowledged that the results of the autopsy made him more puzzled than ever.

Dr. Stub was able to quote but one authority in favor of renal disease producing meningeal affections. A man in "von Ziemssen," in a long letter, held that kidney disease often produced meningeal trouble. Dr. S. G. Armor, he then recollected, had also made a similar statement at the Kings County Society. Acute hyperæmia resulting from nephritis might end in sudden death, but in this case it was more than a hyperæmia.

The President asked if Dr. Stub still considered the case one of uræmia.

Dr. Stub replied that he did not, and that he had made out the death certificate for lepto-meningitis.

Dr. Albert Brinkman remarked that Loomis said that renal disease often caused serous inflammations, and especially if an acute attack occurred during the chronic disease.

The President thought that the intense vomiting, without any other symptom, excluded uræmia. Inasmuch as much fluid would be evacuated by continuous emesis, it could not be expected that a normal amount of urine would be passed. The paralysis of the bladder was indicative of cerebral or spinal trouble. He thought the renal congestion accidental. We often found many internal congestions in case of sudden death. He thought there was hardly enough uræmia to account for the meningeal trouble. He would ask if there had been any other symptom besides vesical paralysis to indicate disease of the cord.

Dr. Stub answered, "No." In reply to the question, whether there had been anything noticed in the vomited material to indicate poisoning, Dr. Stub said that there had not.

Dr. Leuf explained that he believed the kidney trouble to have caused the meningeal inflammation for several reasons. The meningitis was in the first, or dry, or congestive stage, a condition rarely met with of so marked a type. The kidney congestion must have been of several days' duration, as the extensive and universal corpuscular infiltrations of the kidney substance demonstrated as seen by the microscope. Renal disease was not infrequently the cause of not only cardiac, but also cerebral and meningeal disorders; and, while it was easy to explain this on the supposition that the increase of arterial tension all over the body, resulting from renal affections, caused secondary congestions and inflammations in remoter organs, the vascular apparatus of which was weakest, the reverse could not be rationally inferred. It had just appeared that only three authoritative statements could be adduced to uphold the views he had just expressed. There certainly were many more, and he knew of none just now that upheld the contrary view, that meningitis was ever the cause of nephritis. It also seemed to him that the urine that had been drawn off by catheterization had been in the bladder for some time. The catheter was not passed at first, because percussion over the hypogastrium elicited a tympanitic sound, but then a partly filled bladder did not project up into the abdomen and was usually covered by coils of the ileum distended more or less with gas. The president had thought fit to assume a very recent origin of the nephritis, because of the lack of uræmic symptoms, and accounted for the small amount of urine voided by the copious discharge of liquid in continuous emesis. Now, it seemed just as plausible to suppose that in spite of urinary retention, due to intense nephritis, sufficient urea was passed by the mouth in the vomited matter to prevent uræmic symptoms. Concerning the chair's allusion to the congestions so common in cases of sudden death, he would only say that, having made a very large number of autopsies in just such a class of cases, he had not only never seen anything like such a congestion in such cases, but even not in *any* kind of case whatever.

Dr. Stub asked if the congulability of the blood was not a sign of ante-mortem extravasation, and its non-congulability of post-mortem effusion.

The PRESIDENT replied that it was not a safe rule to follow, as some poisons might prevent coagulation.

Dr. STUB wished to know of what kind of poisoning the case under discussion could have been.

Dr. SEWUNY suggested poisoning with arsenic.

Dr. STUB rejoined that that could not be, because there was no gastro-intestinal disturbance visible at the autopsy, no purging during life, and no reason to suspect it in any way.

Dr. ECCLES asked if it might not have been poisoning with iodide of potassium.

Dr. STUB thought it might more likely have been with chlorate of potassium.

Dr. W. H. FARRINGTON wished to know if there had been any evidence of blood in the urine drawn during the patient's illness.

Dr. STUB replied that there had not.

Dr. LEUF alluded to a case of poisoning with chlorate of potassium, in which he had made an autopsy for the coroner. It was that of a girl about fifteen years of age, and her mother had given her by mistake about eight drachms of this drug in as many hours. The kidneys in that case were almost exactly like those he had described this evening, except that the Malpighian corpuscles appeared as *black* punctate bodies, and so did all the solitary follicles of the intestines.

Dr. SULLIVAN was not satisfied with the diagnosis. He thought the conditions of the kidneys and brain were caused by the convulsions. He had had a similar case some time before—that of a man who came home, ate his dinner, became unconscious (apparently apoplectic), regained consciousness later in the evening, rambled in his conversation, was almost well next morning, and wholly so in a few days. This man did not know whether he had had convulsions or not, although such was stated to have been the case. He was a chronic dyspeptic. The whole trouble was probably due to some disturbing article of food. The speaker believed the case under discussion to have been similar to his, and death to have been due to exhaustion of the nervous system. Sudden cold might have caused the attack. He was still not satisfied as to the cause of death and would like to be enlightened.

Dr. STUB replied that the last speaker's remarks would have been more to the point if the case under discussion had begun with convulsions. He would like Dr. Leuf to answer the question as to the cause of death, because he ought to know it best.

Dr. LEUF informed Dr. Sullivan that it was acute leptomeningitis.

The PRESIDENT did not believe that the arterial tension caused by renal congestion could be sufficient to cause a meningeal hæmorrhage.

Dr. FARRINGTON recalled a statement of Dr. Stub's about Dr. Gray's having suspected syphilis, and desired to know if any evidence of it had appeared.

Dr. STUB replied that there had not, and that Dr. Gray was himself satisfied of it.

Malignant Tumor of the Sacrum.—Dr. LEUF presented the specimen with the following abstract from the notes of the last attending physician: On October 11, 1883, the diagnosis was compression of the spinal cord, but was only inferential. Eight days later, upon consultation with Dr. John C. Shaw, a small tumor of the sacrum was noticed to the right of the median line. On January 10, 1884, the diagnosis was changed to sacral caries, but with a doubt as to its correctness. From May 9, 1884, the diagnosis of sacral tumor was positively adhered to until the day of death, January 6, 1885. Neither lower limb was wholly paralyzed. Slight motion was always possible. There was marked œdema below the knees, and later all below the hips was very much swollen. Acetate of potassium was given to relieve the dropsy. A large bed-sore formed at the site of the tumor and in the vicinity. There were always marked pain and insomnia unless morphine injections were given. Fainting spells were frequent. The temperature ranged from 101° to 102° F., and some tenths of a degree above; the pulse from 96 to 120 a minute. Occasionally there were hæmorrhages from the ulcerated tumor. Microscopical examination of some of the tumor obtained with a hypodermic syringe caused a diagnosis of encephaloid sarcoma to be made, based upon the presence of a profusion of round cells with very little stroma. The mode of death was by syncope. From puberty the patient had always been a poor eater. He never liked good substantial food, such as meat and vegetables, but only pies, cakes, and sweets. He had always been below par in appearance, looking thin, pale, and delicate. Several years before the beginning of the disease he had a fall upon the sacrum, causing severe local pains for several days, but from this he apparently fully recovered.

The speaker had been requested to make the post-mortem examination, and the following was an outline of what was found. All the thoracic abdominal viscera presented the usual appearances noticed in those who died of inanition. They were all pale and atrophied, and the intestines contracted to their utmost. A tumor was found projecting forward and upward from the anterior surface of the sacrum so as to fully half fill the pelvic cavity. Upon pressure it yielded a slightly crepitant sensation like the yielding of a very fine and incomplete calcareous shell, a sensation quite common in osteo-sarcomatous growths, on account of the distension and thinning of the bone by the contained growth. There was no discoloration of the coverings of the intra-pelvic portion of the tumor. Posteriorly, there was a gangrenous opening about 2 ctm. in diameter on a line crossing the two posterior-superior iliac spines, and a little to the right of the mesial plane. It was located on the summit of a lump projecting about 4 ctm. The skin of the whole posterior pelvic region was destroyed and the bone laid bare by a deep and extensive bed-sore, involving to some extent the exposed bones. The odor was very characteristic of malignant tumor. The growth had extended laterally so as to involve the auricular surfaces of both ossa innominata, and the muscles in contact with them in the immediate vicinity of the sacro-sciatic foramina. The pyriformes were wholly changed to the appearance of the growth itself, except that they were a little softer. The outlines of the muscles involved were also so blended that they could hardly be discerned. The sacrum, the lower two lumbar vertebræ, the coccyx, and the posterior thirds of the innominata were removed, and, on section being made through the growth, it appeared in spherical sections united by a connective tissue, gelatinous and fluid substance.

Both lower limbs were enormously distended with œdema, from the center of the thigh down. They appeared much as if affected with elephantiasis. Otherwise the body was as extremely emaciated as it could possibly be. Additional bed-sores were found along the spines of the scapulæ, extending at least 2 ctm. above and below, and exposing the aponeurosis and substance of the trapezius and deltoid. There were some even on the back of the elbows. Every spinous process, from that of the vertebra prominens to the large sore at the site of the tumor, had button-holed its way through the skin, forming a series of irregular circular openings all along the spinal column.

Dr. ECCLES said the patient had been in his hands for four months. Two consultations had been held with Dr. Shaw, and for some weeks Dr. Benjamin Westbrook had attended with him. When he was first called the patient complained of intense pain in the lumbar region combined with sciatica. The character of the lumbar pain suggested a rheumatic complication. Treat-

ment with large doses of salicylate of cinchonidine speedily relieved this, leaving the neuralgia as intense as ever. After this treatment he no longer endured such excruciating pain when in a recumbent position. Up to this time no one had thought of his trouble having any mechanical cause. It was looked upon as a simple neuralgia. Later on, however, the symptoms began to appear in the other leg, suggesting some common cause in the abdominal region. A condition of hyperæsthesia of the feet and lower part of the legs began to trouble him. He could not endure the lightest touch. The liniments applied hurt him when first put on. Sometimes he complained of prickling pains in the soles of the feet as if needles were being inserted. After this œdema set in, beginning with the toes and working up both limbs in a slowly progressive manner to a considerable distance above the knees. The urine was carefully watched from time to time for kidney trouble, but none was found. Constipation was a constant symptom, and required continual attention. As the trouble progressed the young man became less and less able to move around, even with the aid of his crutches, and was at last permanently confined to his reclining chair. To give him some rest and change, Dr. Westbrook devised an adjustable cot upon which he could be placed occasionally. From quite an early date in his trouble the temperature kept above 101°, sometimes running as high as 103°. This suggested to Dr. Shaw tuberculosis as a complication, but the post mortem did not confirm it. Before the speaker had called in Dr. Westbrook two homœopathic practitioners had been invited to see the patient without his knowledge. Their diagnosis, as afterward discovered, was aneurysm of one of the iliacs. They first heard the distinct *bruit* which then appeared but afterward passed away. The patient survived by several months the time they set for his death. Up to and beyond this time every attempt at discovering an enlargement by pressure through the abdominal wall failed. A slight enlargement, however, did appear over the right sacro-iliac synchondrosis looking more at first like an œdematous spot than anything else. This gradually grew larger, spreading toward the sacrum. From the time when the symptoms first appeared bilaterally until the tumor became too large for its presence to be doubted, his diagnosis had hung between disease of the sacro-iliac joint and sarcoma. Dr. Benjamin Westbrook first demonstrated the presence of the tumor by touching it through the rectum. The aneurysm theory of the homœopathists was rejected by all the regular physicians who saw the patient. Dr. Wight, some two months after Dr. Westbrook's examination, pronounced it osteo-sarcoma. The case was a remarkable one in every way. It was treated by all sorts of practitioners during some part of its career. Even the spiritualists had a trial of their skill. The patient was an unusually bright young man, a student of Columbia School of Mines, and had just returned home from an extended tour in Egypt, Palestine, and Central Europe, when he was attacked. He took the Oriental trip because of ill-health.

Dr. Stub had not seen the case under discussion, but had met with a similar one. A man had a slight sciatica; afterward both legs were affected; for a period of several weeks he steadily persisted in efforts to walk in this condition. Then he had to go to bed; he could hardly shift his position in bed without suffering excruciating pain; there was fever with loss of appetite; he could not get up even with the aid of machines; the pain only existed in the lower limbs. Dr. A. Jacobi came over from New York and diagnosticated myelitis. The patient was blistered and counter-irritated in various ways, and received all kinds of medication. The diagnosis was adhered to, until a movable tumor of the sacrum was discovered and a diagnosis of cancer made. Subsequently there occurred what was believed to be a general cancerous nodular infiltration.

Dr. Eccles stated that a diagnosis of myelitis had also been made by the attending physician in the case reported by Dr. Leuf, and adhered to almost to the last, although the physician was acquainted with the diagnosis of sacral tumor made by the preceding attendants. We sometimes saw strange coincidences. While he was in Europe the preceding summer, in Kilmaurs, Ayreshire, Scotland, he met with the case of a young man of about the same age as the patient whose case had been reported, and with almost exactly the same history, who died at almost the same time. There was no autopsy in that case.

The President said that there were two or three clinical points in the case to which he would like to call attention. The arterial *bruit* which had misled the so-called homœopathic physicians was synchronous with the radial pulse, of about the same character as the sound produced in an artery of medium size by pressing upon it with the stethoscope, and audible over the vertebral column from the upper dorsal to the upper sacral region. He was unable to give any explanation of it, but thought that no experienced auscultator should have mistaken it for an aneurysmal *bruit*. The second fact of interest to the clinician was the elevation of temperature which prevailed throughout the time that he had had the patient under observation. It suggested the idea of vertebral caries, and the diagnosis, so far as he was concerned, had lain between caries and a malignant tumor. After several aspirations of the swelling, which occupied the sacral region, between the posterior spinous processes of the ilia, more marked upon the right side, it was pretty certain that there was no pus, for nothing but blood ever appeared in the hypodermic syringe. At that time he was not aware that sarcomatous growths gave rise to pyrexia, but he had since seen an account of some observations by a European physician, whose name had escaped his memory, which went to show that this did occur. Palpation of the tumor through the rectum had not been very satisfactory, as it could barely be reached with the finger, and was too distant to be accurately mapped out. He remembered a similar case in which he had made an autopsy for Dr. McCorkle and Dr. Barker, in which also the growth had made its way through the greater sacro-sciatic foramen. In that case there had been a sciatic neuritis, presumably excited by the irritation from the pressure of the growth, and the perineurium was thickened to such an extent as to enlarge the nerve to at least twice its ordinary dimensions.

He had been informed by a credible person that, toward the last, the unfortunate boy had been put under the care of a female whose method of treatment was to occupy the same bed with the patient and impart to him some of her "vitality," "animal magnetism," or whatever she called it. This was, to him, a new system of practice.

Dr. Stub remarked that there had been an elevation of temperature in his case.

The President thought that it might have been due to the erosion of bone.

Dr. Eccles: "Isn't the age unusual?"

Dr. Leuf: "For carcinoma it is, but for sarcoma it is not."

An Incompatible of Antipyrine.—Dr. Eccles announced that some days previous, while making pharmaceutical investigations, he had had occasion to mix some sweet spirits of niter with a solution of antipyrine. At first the mixture was clear and colorless, but, after some hours' standing, became green. The optical appearances of this fluid were identical with those of the anilines, and, as antipyrine was a coal-tar product, he supposed the change was due to the formation of a green aniline, and so it had proved to be. This incompatibility was all the more important as both substances were used for antipyretic purposes, and might be prescribed together.

Miscellany.

The International Medical Congress.—In an editorial article entitled "A Medical Star Chamber," the "Boston Medical and Surgical Journal" says:

"The Executive Committee of the committee appointed to arrange for the meeting of the International Medical Congress in America in 1887 has recently held a meeting in New York city. An editorial in the 'Journal of the American Medical Association' contains all the information concerning it that is made public. The little that is vouchsafed us has certainly the merit of exciting curiosity as to what has been left untold. To prevent all further misunderstanding, both at home and abroad, the committee unanimously adopted the following declaration of independence: 'That the actions of this Executive Committee are final, not being subject to revision, amendment, or alteration, by either the Committee of Arrangements or the American Medical Association.' How will the Committee of Arrangements and the American Medical Association like that? The opinion of Mr. Randall, delivered no longer ago than last May, was urged in support of interference with the original committee for alleged too great independence of action. If of force at that time it is equally good authority at present· 'I might add, in addition,' said Mr. Randall, 'that the theory that a select committee created by a body with certain defined powers and duties gives any *vested rights*—so to speak—which places it above or beyond the power of the creating body to review or regulate, is one not only without precedent in parliamentary law, practice, or history, but is untenable on any ground of parliamentary principle.' Prof. Frederic S. Dennis was appointed Associate Secretary-General, and *another* was appointed Chairman of the Finance Committee. Why *another's* name should be concealed from an anxious public we can only conjecture. Is the anonymous gentleman too modest to allow his name to appear? Is some nameless individual to assume the expenses of the Congress? Is secrecy necessary as a safeguard against theft, or is the committee ashamed of its appointment? It must be a very bad choice indeed which can be worse than such ostentatious secrecy. It would seem as though this branch of the enlarged committee was bound to destroy what little respect was left for the proposed International Congress."

The same journal publishes the following letter from Dr. Henry I. Bowditch:

"Boston, *October 8, 1885.*

"Mr. Editor: Since Dr. J. S. Billings, as general secretary of the committee for arranging the International Congress for 1887, informed me that I was selected as one of the vice-presidents of the Congress, I have had no *official* notice either of my summary displacement by the new committee at its meeting in Chicago (June 24th) or of my reinstatement by the same committee (September 3d). For this and other reasons to be named, I ask a place in your journal for the following statement: When urged by some friends to sign the protest made in several cities by gentlemen opposed to the action taken at New Orleans, I replied, 'It would be absurd for me to do so, because the committee has already expelled me from office.'

"Since that time I have watched with interest the course pursued by the 'Journal of the American Medical Association,' and also that of the new committee for the International Congress. I have read with pain the perpetually recurring bitterness and insinuations against all those who had dared to express opinions adverse to the doings of the association, or those of its new committee. I was surprised and disgusted while reading the editorials of August 1st, entitled 'The International Medical Congress and its Enemies,' and that of August 29th, 'International Medical Congress of 1887 and the American Medical Association.' From these editorials any foreigner reading them would not have the least suspicion that the controversy on the 'code' had any share in the imbroglio at present existing. I wholly deny that those who now disapprove of the course the association and its committee have taken are the 'enemies of the International Congress.' On the contrary, they are, in my opinion, its best friends.

"Notwithstanding my objection to such editorials, I have continued to decline to sign the protest in the hope that, by so acting, I might perchance do something toward the promotion of professional harmony in America.

"But the last manifesto of the committee and gross assumption of despotic power for making all future arrangements for the Congress (*vide* 'Executive Committee of the Ninth International Congress,' 'Journal of the American Medical Association,' September 3d) convince me that I can remain no longer in the position in which the new committee (as I learn from the journals) placed me without my knowledge or consent at their meeting in September.

"That manifesto by the new committee is equaled by nothing in the history of medicine in this country, save the arrogant position taken by the Judicial Council of the American Association at its meeting in Cleveland in 1883. The Council, through its chairman, declared that the Council 'took the responsibility' of requiring every member to sign *annually* the code of ethics, or to lose his right to meet his fellows at the gatherings of their association for the advancement of the sacred cause of Medical Learning!

"That decision of the Council was disgraceful alike to the Council as declaring its assumption of power which it did not legally possess, and to the association for its pusillanimity in submitting, *even to the present day*, to the insult then inflicted upon it—a so-called scientific and learned body.

"To one who looks behind the scenes and knows whose intellectual power, combined with honest but misguided bigotry, has influenced the Council of the American Association, there is no difficulty in understanding the present position of the 'Committee for the International Congress.'

"The same dominant mind governs both. I loathe all such ungenerous and bigoted work, and therefore retire from office in the same public manner that I have been placed there. In declining thus publicly the honor it would confer on me, I am only imitating the example set by the committee in its intercourse with me.

"Respectfully yours,

"Henry I. Bowditch, M. D.

"P. S. By a singular *coincidence* I have received to-day, since the above was in type, from the chairman and secretary of the committee, official notice of my appointment to the office of vice-president of the International Congress. Upon mature reflection I can not alter my decision as above given."

The "Medical News," of Philadelphia, announces the declinations of Dr. Henry F. Campbell, of Augusta, Ga.; Dr. E. O. Shakespeare, of Philadelphia; Dr. Henry G. Beyer, of the navy; Dr. John J. Mason, of Newport, R. I.; Dr. Jerome H. Kidder, of Washington; and Dr. J. M. Flint, of the navy.

Editorially, the "News" says:

"In the beginning of the Congress controversy extreme solicitude was expressed by some members of the association for the assertion of its supreme authority in everything pertaining to the organization of the Washington meeting, and its journal devoted many pages to advocating this point. Now, however, that the new Executive Committee has proclaimed its independence of the parent committee and of the association, by formally declaring that its acts are 'not subject to revision, amendment, or alteration by either the committee of arrangements or the American Medical Association,' the journal has not a word to say against their usurpation of power, or about the propriety now of maintaining the authority of the association in the premises. It does not point out how the *new* committee have laid themselves open to 'the charge of having ignored the body from which its existence and all its powers had been derived,' or how *they* 'coolly turn the association into a "foot-ball" and contemptuously kick it out of their way.' It no longer talks about members making 'a bold attempt to use the national character and prestige of the American Medical Association as a "decoy duck" to obtain their own appointment to office.' The authority of the association is openly defied by its own committee, and its journal suddenly becomes silent on the subject."

The "Pacific Medical and Surgical Journal," of San Francisco, closes an editorial article as follows:

"The American committee had one chance to retrieve itself, but that is past, for it has ignored the representations of the profession, both in Europe and our own country. Now we shall have no compro-

mise. Those blatant notoriety hunters, with the impudence which has characterized them from the very commencement of their action at New Orleans, have endeavored to carry out their plans in defiance of the wishes of the professional world, and to the disgrace of their own country. They have shown themselves to be utterly regardless of everything but vainglory. Through a premeditated and carefully arranged plan, suddenly sprung upon the association, they jumped into a position of power, and that power they have abused until their very names are becoming execrable in the ears of their countrymen. The profession must either indorse the action of Dr. Billings's committee, or request that the Congress be held in some other country, and we advise our brothers to withhold all subscriptions until one or other of these conclusions has been adopted. In the event of no action being taken in the matter, then let those men play at having a congress, and handle their puppets like any other showmen; but never let the American nation forget itself so far as to countenance such mimicry as a national event."

Regulations for the Maintenance of Quarantine Inspections on the Northern Frontier of the United States.—The following circular, dated October 10th, has been issued by Surgeon-General Hamilton:

To the Medical Officers of the Marine-Hospital Service,

Customs Officers, and others concerned:

The act approved April 29, 1878, entitled "An Act to prevent the introduction of contagious or infectious diseases into the United States," provides that no vessel or vehicle coming from any foreign port or country where any contagious or infectious disease exists, or any vessel or vehicle conveying persons, merchandise, or animals affected with any contagious disease, shall enter any port of the United States, or pass the boundary-line between the United States and any foreign country, except in such manner as may be prescribed under said act.

Attention is now directed to the prevalence of the contagious and infectious disease of small-pox in Montreal and other places in the Dominion of Canada, and the law referred to is held to apply alike to trains of cars and other vehicles crossing the border and to vessels entering ports on the northern frontier.

Because, therefore, of the danger which attaches to the transportation of persons and baggage, and articles of merchandise, or animals, from the infected districts, the following regulations are framed, under the direction of the Secretary of the Treasury, and subject to the approval of the President, for the protection of the health of the people of the United States against the danger referred to:

1. Until further orders, all vessels arriving from ports in Canada, and trains of cars and other vehicles crossing the border-line, must be examined by a medical inspector of the Marine-Hospital Service before they will be allowed to enter the United States, unless provision shall have been made by State or municipal quarantine laws and regulations for such examination.

2. All persons arriving from Canada by rail or otherwise must be examined by such medical inspector before they will be allowed to enter the United States, unless provision has been made for such examination as aforesaid.

3. All persons coming from infected districts, not giving satisfactory evidence of protection against small-pox, will be prohibited from proceeding into the United States until after such period as the medical inspector, the local quarantine, or other sanitary officer duly authorized, may direct.

4. The inspectors will vaccinate all unprotected persons who desire, or are willing to submit to, vaccination free of charge. Any such person refusing to be vaccinated shall be prevented from entering the United States.

5. All baggage, clothing, and other effects, and articles of merchandise, coming from infected districts, and liable to carry infection, or suspected of being infected, will be subjected to thorough disinfection.

6. All persons showing evidence of having had small-pox or varioloid, or who exhibit a well-defined mark of recent vaccination, may be considered protected, but the wearing-apparel and baggage of such protected persons who may come from infected districts, or have been exposed to infection, will be subjected to thorough disinfection as above provided.

7. Customs officers and United States medical inspectors will consult and act in conjunction with authorized State and local health authorities so far as may be practicable, and unnecessary detention of trains or other vehicles, persons, animals, baggage, or merchandise, will be avoided so far as may be consistent with the prevention of the introduction of diseases dangerous to the public health into the United States.

8. Inspectors will make full weekly reports of services performed under this regulation.

9. As provided in Section 5 of said act, all quarantine officers or agents acting under any State or municipal system, upon the application of the respective State or municipal authorities, are empowered to enforce the provisions of these regulations, and are hereby authorized to prevent the entrance into the United States of any vessel or vehicle, person, merchandise, or animals prohibited under the act aforesaid.

10. In the enforcement of these regulations there shall be no interference with any quarantine laws or regulations existing under or to be provided for by any State or municipal authority.

The Transportation of Dead Bodies.—At a recent meeting of the Michigan State Board of Health the secretary reported that, by invitation, he had attended, September 16th, in Lansing, a meeting of the Michigan Association of General Baggage Agents, and taken part in the discussion of the subject of the meeting, "The Transportation of Dead Bodies." At that meeting a committee was appointed to draft rules for the guidance of agents of railroad companies in the transportation of dead bodies. The chairman of that committee, Mr. H. P. Dearing, the general baggage agent of the Michigan Central Railroad, appeared before the board and presented the rules as adopted by the committee. He said the design was to make a set of rules that would meet the views of the several State boards of health, and be adopted by all the great lines of railroad in the United States, so that there should be uniformity of practice, thus better protecting the lives of railroad employees and those of travelers. Rule 1 absolutely prohibits the transportation of bodies dead from small-pox, Asiatic cholera, typhus fever, and yellow fever. Rule 2 provides that all other dead bodies may be transported, provided they are incased in an antiseptic interment sack, hermetically sealed, in addition to being in a coffin, and this in a tight wooden box, except those dead of diphtheria, scarlet fever, typhoid fever, erysipelas, measles, or other contagious and infectious diseases, which must be wrapped in a sheet thoroughly saturated with a strong solution of chloride of zinc (one half pound of the chloride of zinc to a gallon of water) before being incased in the hermetically-sealed sack. The coffin must be surrounded by sawdust saturated with a solution of chloride of zinc of the same strength. Rule 3 specifies that no person or article that has been exposed to the infection may accompany the body. Rule 4 provides that some one must accompany the body; and forms for certificates are given. After discussion of the subject, the board approved of the rules.

The American Academy of Medicine.—At the ninth annual meeting, to be held at the New York Academy of Medicine, on Wednesday and Thursday of next week, papers are expected to be read as follows: "The Study of Medicine as a Means of Education," by Dr. Robert Lowry Sibbet, of Carlisle, Pa.; "Medical Supervision in Student Life," by Dr. Charles McIntire, of Easton, Pa.; "Western North Carolina as a Health Resort," by Dr. Henry O. Marcy, of Boston; "The Importance of Climatology considered as a Regular Branch of Study in Medical Colleges," by Dr. E. H. M. Soll, of New York; the president's address, entitled "What is Medicine?" by Dr. Albert L. Gihon, of the navy; "Medical Evidence," by Dr. Thomas J. Turner, of the navy; "Report on Laws regulating the Practice of Medicine in the United States and Canada," by Dr. Richard J. Dunglison, of Philadelphia, and Dr. Henry O. Marcy, of Boston; "Health Officers, Ancient and Modern," by Dr. Benjamin Lee, of Philadelphia; "Micro-organisms and their Relation to Disease," by Dr. Samuel N. Nelson, of Cambridge, Mass.; "Observations on the Relation of Bacteria to certain Puerperal Inflammations," by Dr. Ernest W. Cushing, of Boston; "Medical Licenses and Medical Honors," by Dr. Edward Jackson, of Philadelphia; "The Physician and his Patient," by Dr. John Devin Kelly, of Utica, N. Y.; "Physicians of Delaware in the Eighteenth Century," by Dr. Lewis P. Bush, of Wilmington, Del.

Georgetown University.—The Washington correspondent of the Philadelphia "Medical News" says that, at the time that Surgeon-General Hamilton, of the Marine-Hospital Service, handed his resignation to the President, he also resigned the professorship of surgery in the Medical Department of Georgetown University. It was accepted with reluctance, and ex-Surgeon-General Wales, of the navy, was finally appointed to the vacancy. When, however, it was learned that the President would not accept Dr. Hamilton's resignation, Dr. Wales at once resigned the professorship, whereupon Dr. Hamilton was re-elected to the chair.

Diphtheria of the Œsophagus.—Dr. H. D. Fry, of Washington ("Am. Jour. of the Med. Sci."), contributes an interesting study of this rare affection, and reports a case which occurred in his own practice. The diagnosis of diphtheria of the œsophagus is extremely difficult. In most cases it is absolutely impossible to recognize the disease. This difficulty is met with not only when the œsophageal mucous membrane is primarily the seat of diphtheritic inflammation, but also when it is implicated by extension of the false membrane from the pharynx or larynx. In the vast majority of the reported cases its presence was not suspected until revealed by post-mortem examination. Symptoms, at most, only warrant a suspicion of the existence of the affection. An important indication is the expulsion, by the mouth, of bands of false membrane, provided no symptoms exist to indicate that the air-passages are involved. The expectoration of a membranous cast of the œsophagus is the only positive sign of the disease. The obscurity which accompanies nearly all affections of the œsophagus is well illustrated by the experience of Steffen. Out of forty-four cases, including diphtheria, hyperæmia, catarrhal inflammation, ulceration, ecchymosis, and gangrene, the diagnosis was made in only three; the remainder were found on post-mortem examination. Dr. Fry concludes his paper with a careful analysis of the symptoms which were observed in the twelve cases which he has been able to find fully reported in literature.

The Limitations of Colotomy in Disease of the Rectum.—Dr. Charles B. Kelsey, of New York (*Ibid.*), defines the following as the indications for colotomy: 1. In congenital malformations of rectum or anus in children in which a tentative operation in the perinæum has failed to reach the rectal pouch. 2. In intestino-vesical fistulæ. 3. In tumors occluding the rectum which can not be relieved by any other means—dilatation, division, hot water, or electrolysis. 4. In non-cancerous, simple, or specific stricture and ulceration of the rectum (with or without fistulæ), where the disease can not be relieved by proctotomy or dilatation, or division of the fistulæ and local treatment of the ulceration. 5. In cancer where the disease can neither be removed nor the passage re-established, and where death is probable from obstruction—except in cases where the immediate dangers of the operation more than counterbalance any good likely to be gained by it. 6. In volvulus or intussusception of the colon or sigmoid flexure, where reduction by the aid of laparotomy has been found impossible.

The Choice of Methods in Abdominal Delivery.—Gastro-hysterotomy has been improved by the introduction of the uterine suture, and lives have been saved that must otherwise have been lost; but no change in the old operation can compensate for the delay and intermeddling so generally indulged in (where the knife is the only remedy that promises success), to the fatal termination of the case. In an instructive article, Dr. R. P. Harris, of Philadelphia (*Ibid.*), shows that it is in vain to practice this operation in the United States unless it is done in good season. Since January 1, 1875, 29 out of 38 cases have ended fatally, and 21 children were extracted dead, leaving 17, of whom 1 soon perished from causes occurring before delivery. Twenty-eight women were in labor from one day to two weeks, and fifteen of them more than three days. The Sänger modification with its simplifications has been performed 12 times, saving 6 women and 10 children, of which 5 cases belong to the credit of Dr. Leopold, of Dresden, who saved 4 women and 5 children. Of 8 German cases, 6 ended in recovery. These women were in labor respectively 12 hours, 8, 30, "some hours," and 16 hours, and in 1 case the time was not mentioned. The women whose cases were marked "favorable" by reason of their condition before the operation all recovered. A tabular record of cases is given by Dr. Harris.

Laparo-elytrotomy also numbers 12 cases, with 6 recoveries and 7 children saved. Nine of the cases belong to New York city and Brooklyn, where 6 women and 5 children were saved. These 6 women were in labor respectively 11 hours, 4 days, 16 hours, a week, 8 hours, and 22 hours. There were 4 "*favorable*" cases among the 12, all of which ended in recovery. These two cities have a credit of 11 Cæsarean operations, saving but 2 women and 2 children. In 10, the prognosis was "*unfavorable.*" In cases made more serious by delay, laparo-elytrotomy promises better than gastro-hysterotomy, and should be preferred to it. It also promises more favorably for British cases, so far as we can judge by New York, where the mortality was formerly equal to that of England. A table of the operation is given.

The Porro-Cæsarean operation, Dr. Harris shows, is *par excellence* the method for hospitals, where the women should be under anticipative treatment and operated upon very early in, or just prior to, labor. The Müller modification is preferable where the placenta is upon the anterior uterine wall, or the fœtus dead and putrid. Dwarf subjects require that the delivery under the knife should be effected very early, as exhaustion occurs after a short effort of nature, and death is apt to result in such cases. The Porro operation has been the most successful in the cases of dwarfs.

The Causal Relation of Obstructed Cardiac Circulation to Lymph Stasis.—In a learned article, Dr. S. C. Busey, of Washington (*Ibid.*), points out that retardation, or arrest of the current of the fluid in the thoracic duct at or near its outlet into the subclavian vein, may produce dilatation, distension, and rupture of lymphatic vessels, and consequent effusion of chyle and lymph into the serous cavities. The remoteness of the effects from the obstacle interrupting the current of the fluid may depend upon various concomitant conditions, especially upon the anatomical integrity and the distensibility of the vascular walls. When the impediment to the flow of chyle and lymph occurs at or near its outlet, the area of stasis and ectasis will necessarily depend upon the duration and extent of such obstacle; and hence, when the area of ectasia is extensive, the manifest inference is that the cause has been one of gradual development and protracted duration. The influence of partial obliteration or stenosis of the thoracic duct at or near its termination in the causation of dilatation or rupture of some part of the lymph-vascular system can not be doubted. The evidences of experimentation must be accepted as conclusive. The effects of stenosis produced by the gradual encroachment from disease of the duct or of surrounding and contiguous tissues and structures are shown by clinical and post-mortem citations. In this latter class of cases the ectasia is gradual in its development and more extensive in its field. In cases where the lymphangiectasis was consequent upon the slowing or interruption of the venous blood-current in the left subclavian vein, the relation of cause and effect seems equally well established. Dr. Busey shows that such diseases of the heart as slow, impede, or stagnate the venous blood-current in the left subclavian or innominate vein may also produce lymph-stasis.

The Predisposing Causes of Aneurysm.—In a valuable paper Surgeon-General Hamilton (*Ibid.*) presents an elaborate study of the predisposing causes of aneurysm. So far as his inquiry has extended, the only constant element among all the alleged causes of aneurysm is that of climate. Neither syphilis, nor alcoholism, nor occupation, nor heat, alone, appears to have an appreciable influence on the causation of this disease. As to how far the influence of diet may extend in the production of aneurysm he has been unable to form any conclusion, but it is possible certain kinds of food may have a powerful influence.

The Academy of Medicine's Section in Practice of Medicine held a regular meeting on Tuesday evening, the 20th inst., at which Dr. Lawrence Johnson read a paper on "The Choice of Remedies," and a general discussion took place on the question, "Is Typhoid Fever ever of Spontaneous Origin?" We would suggest that a somewhat closer approach to accuracy in the cards of announcement would not be amiss. On the card announcing that meeting Dr. Lawrence Johnson's services as Dr. Lawrence Johnson, Dr. W. H. Thompson's as Dr. W. H. Thompson, Dr. J. Henry Hammond's as Dr. J. Henry Hammond, and Dr. S. Oakley Vanderpoel's as Dr. J. Oakley Vanderpoel.

The Brooklyn Pathological Society.—Dr. Daniel Ayres will deliver his second lecture on "The Pathology of the Inflammatory Process" at the next meeting of the society, to be held at the Brooklyn Eye and Ear Hospital on Thursday evening, the 29th inst.

The New York Academy of Medicine.—At the meeting of the Academy held on Thursday, the 15th inst., Dr. F. A. Castle, the treasurer of the Board of Trustees, reported the final payment of two thousand dollars on the mortgage on the Academy's property. This leaves the Academy entirely free from debt.

THERAPEUTICAL NOTES.

The Use of Iodoform Collodion, especially in Neuralgia.—Dr. William Browning, of Brooklyn ("Am. Jour. of the Med. Sci.") gives his experience with this remedy for external application, together with notes on the preparation itself, and a brief study of its action. The strength usually employed is one part of iodoform to fifteen of collodion. Half an ounce is usually sufficient for a single application. Dr. Browning has found it most effective when painted on in very thick layers, which may be conveniently done with the usual camel's-hair brush. As soon as one coating becomes a little firm another is applied, and so on until it appears to have an average thickness of $\frac{1}{4}$ mm. In the neuralgic cases a cure, when effected, was usually accomplished with one or two applications. The troubles found most amenable to this treatment were narrowly localized neuralgias, especially when corresponding to some particular nerve and not dependent on any demonstrable lesion. In fact, if a neuralgia, or what is thought to be one, proves intractable to this means, we should doubt its being a purely functional affection, and look carefully for some tangible cause. It has thus a certain diagnostic, as well as a therapeutic, value. Several times its complete or partial failure has led to a more searching and successful examination. Even in such cases much temporary relief is often afforded. Supra-orbital neuralgias, even of malarial origin, particularly if the miasmatic infection dates back some time, seem quite amenable to this treatment. It is not recommended as a substitute for the use of quinine, but only as an adjuvant where the latter fails or acts too slowly.

The Use of Strychnine in Nervous Disease.—Dr. Landon Carter Gray, of Brooklyn (*Ibid.*), reports five cases which show that strychnine was not well borne in two cases of severe acute myelitis, or in two cases of subacute poliomyelitis; that doses of $\frac{1}{25}$ of a grain, continued for four days, three months after the onset of transverse myelitis with early extension to the lateral columns, suddenly induced alarming symptoms of poisoning; that one patient with chronic general myelitis of traumatic origin was greatly benefited, as was likewise one with general myelitis in which the onset had been gradual; that in five cases of progressive muscular atrophy it acted remarkably as a stimulant; and that, as Dr. Weir Mitchell has indicated, it was decidedly beneficial to persons with neurasthenia who, after eight or ten weeks' treatment with rest and forced feeding, were taken out of bed, although it failed to agree with three subjects of the same affection treated in the ordinary way.

The Treatment of Extra-uterine Pregnancy with Electricity.—Dr. Henry G. Landis (*Ibid.*) remarks that it may be regarded as proved that electricity in some form is a specific cure for extra-uterine pregnancy. It arrests the growth and destroys the vitality of the embryo and cyst, and its use is followed by a truly remarkable disappearance of all or the greater part of the growth in a short time. This at least is true when the electricity is used during the first half of the pregnancy. As we approach the period of viability in the child the risk of rupture of the cyst diminishes, and the propriety of surgical interference at or near term becomes greater. The great advantage of the faradaic current over all other forms of electricity has been shown, but opinion is not yet settled as to whether we should use a local current for a long time or a strong current briefly, and how many repetitions of the application are necessary. To determine these points, Dr. Landis has conducted a series of experiments based upon the supposition that success is achieved by the death of the embryo, the *specific* value of the method being that the fœtus will surely be killed if it gets a large enough dose of the current. The experiments are also based upon the supposition that the fœtus is in the matter of vitality to be compared with some of the lower forms of life. Dr. Landis draws the following conclusions: 1. In using the faradaic current in extra-uterine pregnancy, the applications should be protracted for an hour, if the patient can bear it. 2. The current should be repeatedly applied, in order that the vitality of the fœtus may be finally exhausted. 3. The current should be used in great strength for at least one sitting. 4. The current probably acts, not only by destroying the fœtus, but by its action upon the placental circulation; an additional reason for a long application.

Bismuth as a Dressing for Wounds.—M. Gosselin and M. Héret ("Progr. méd.") have been studying the mode of action of subnitrate of bismuth upon wounds. It is known that this drug has the effect of diminishing the oozing of blood after an operation. Although, in itself, it has no coagulating power, it acquires such a property by virtue of the disengagement of nitric acid upon the mouths of the capillaries. Moreover, it has an astringent action, due at the same time to the nascent nitric acid and to the oxide of bismuth, a germicidal effect, and a special sedative operation. The subnitrate should be preferred, as the other salts have not, of course, the coagulating and constrictive power that is due to the acid. It may be used either in powder or by irrigation in the proportion of 1 to 50.

Formulæ for the Use of Iodoform.—"Nouveaux remèdes" quotes the following formulæ from the "Courrier médical":

An Injection for Chronic Catarrh of the Bladder, Urethritis, etc.—

Iodoform	1 part;
Glycerin	5 parts;
Distilled water	100 "

For Hypodermic Injections in Syphilis.—

Iodoform	1 part;
Sulphuric ether, Olive-oil, each	5 parts.

For Internal Use in Convulsions.—

Iodoform	18 grains;
Iodide of potassium	1 drachm;
Red wine	2½ drachms.

From three to fifteen drops are to be given, in a glass of wine, three times a day.

Pills for Bronchitis and Emphysema.—

Iodoform	1½ grain;
Lycopodium	6 grains;
Extract of phellandrium	15 "

Divide into ten pills. From three to five to be taken daily.

Chloroform in the Treatment of Post-partum Hæmorrhage.—Dr. F. Betz ("Memorabil.") was lately led by Robinson's reports of the efficacy of alcoholic injections into the uterus to try the effect of inserting a sponge saturated with chloroform. Severe burning pain was at once produced in the whole parturient canal, but brisk uterine contraction supervened promptly, and the bleeding was stopped. In another case he pressed against the cervix a tampon moistened with a mixture of chloroform, sulphuric ether, and a little acetic ether. The same results followed. The styptic action, he remarks, is wholly due to muscular contraction, and not at all to the coagulation of blood.

Belladonna as an Adjuvant to Iodide of Potassium.—Aubert ("St. Petersb. med. Wchnschr."; "Memorabil.") states that the use of belladonna prevents the unpleasant effects sometimes produced by iodide of potassium on the naso-pharyngeal mucous membrane. Three quarters of a grain of extract of belladonna, in pill form, given with the iodide, are sufficient, and the use of the adjuvant need not be continued long, for after a short time the disposition to the unpleasant effects referred to disappears and does not return.

Antimony in the Treatment of Psoriasis.—Mr. James Mason ("Glasgow Med. Jour.") says that in some of the most inveterate cases antimony "acts like a charm," causing a rapid disappearance of the scaling. He alludes to the case of a man whose face and head became almost entirely free from scales after a week's use of five-minim doses of wine of antimony. The author adds that the antimonial treatment of psoriasis has been practiced for several years by Dr. Cavafy, of St. George's Hospital, London.

Original Communications.

A CONTRIBUTION TO THE TREATMENT OF CERTAIN FRACTURES OF THE BONES OF THE LEG, AND OF THE PATELLA, BY DRILLING AND WIRING OF THE FRAGMENTS.*

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MR. PRESIDENT AND GENTLEMEN: The following five cases of compound fracture of the bones of the leg, together with three of simple fracture of the patella, which I have treated during the past three years by drilling and wiring of the fragments, are presented, not so much with the view of taking a new departure in the management of this class of injuries as for the purpose of inviting a discussion of the subject at large, and with the object of determining, as far as may be from a limited amount of material, whether the method by wiring in the worst cases of compound fracture of the leg, and in certain exceptional cases of simple fracture of the patella, to which the plan has been restricted in my own practice, possesses any advantages over the older and more usual means of treatment, either in the way of greater safety to life, additional opportunities for avoiding an amputation, primary or secondary, in favoring the reparative processes, or, finally, in the direction of a saving of time and a mitigation of suffering for the patient.

CASE I.—John Sheridan, Irish, liquor dealer, aged twenty-seven, healthy.

February 6, 1884.—Was injured by street-car this morning, the wheels passing obliquely over the right leg near the knee. Compound fracture of the tibia, two inches below the tubercle, associated with a contused and lacerated wound, four inches long, extending upward and inward from the seat of fracture. Fracture exposed, under bichloride irrigation, by an incision four inches long, made parallel with the crest of the tibia, and communicating with the original wound. The fracture was found to be oblique from above downward and from within outward. Deep pockets, filled with coagulated blood and sand, extended upward in the subcutaneous tissue to above the knee joint, and downward for a distance of four or five inches. The fascia of the leg was extensively lacerated, the tibialis-anticus muscle badly torn and contused, and the periosteum stripped from the fragments of the bone for some distance.

The blood-clots, sand, and shreds of tissue were removed by washing, scraping, and the use of the scissors; the fragments drilled and wired together with a double strand of No. 26 silver wire.

The wounds were closed with carbolized catgut sutures; the pockets drained with rubber tubes through counter-openings; the limb was dressed antiseptically, and suspended in a cradle made of heavy wire netting.

18th.—Highest temperature since the operation 100·6°, and during the last week it has been normal. No pain. Dressing changed to-day for the first time (twelve days). No pus in the dressings. The incision made with the knife has healed throughout by first intention; a small linear dry slough is found on one edge of the original wound, where the skin was much contused; there is no swelling, no inflammation, and the leg looks remarkably well; drainage-tube removed, and the limb dressed as at first. From this time all went well; the remainder of the wound cleaned, granulated, and healed kindly, and the patient was discharged June 2d (sixteen weeks after the injury) with no shortening or other deformity, and able to walk well. Patient seen April 23, 1885, and says his injured leg is "nearly as good as ever."

CASE II.—Nellie Murphy, Irish, tailoress, aged thirty, good health.

Her left knee has been partly flexed and ankylosed for several years past, due to an old synovitis.

February 15, 1884.—Fell down stairs to-day and sustained a fracture of the left tibia just below the tubercle, compounded by an opening in the skin one inch in length; fracture slightly oblique, with considerable displacement of fragments. Another simple fracture of the same bone was discovered at the junction of the lower and middle third.

16th.—Under bichloride irrigation, an incision, three inches long, was made at the seat of the upper fracture, over the crest of the tibia.

The soft parts were not seriously lacerated, but considerable dissection of the connective tissue had taken place from a large amount of effused blood.

The wound was thoroughly cleared of clots and cleansed; the fragments were drilled and wired as in Case I. Wound closed with catgut, drained through counter-opening; limb dressed antiseptically and suspended.

In this case I ventured to predict delayed union of the upper fracture on account of its locality and from the fact of its being complicated by another fracture lower down, my experience in similar cases having taught me that any fracture at the upper end of this bone is less likely to unite promptly, *cæteris paribus*, than one in the middle of the shaft, due, probably, to its greater distance from the principal trunk of the nutrient artery; and, furthermore, that when a multiple fracture is present, the one which is nearest to the nutrient foramen will be the first to unite; or, in other words, the lower fracture, under these conditions, seems to appropriate to itself whatever reparative material is brought to the injured bone through this channel, leaving the upper fracture mainly dependent upon the small vessels which have first ramified in the periosteum before entering the bone.

17th.—Temperature 101·4°.

26th.—Temperature normal since last report. Dressings changed to day for the first time (eleven days). No pus; wound healed; tube removed and new dressing applied.

March 15th.—Dressing removed; union of fractures not firm; plaster splint applied.

Subsequent History.—The lower fracture united with slight deformity, owing to the impossibility of keeping the lower end of the middle piece in position, in about the usual time; but the union of the upper fracture was delayed for many weeks.

Patient discharged July 25th (five months after the wiring), able to support the weight of the body on the limb.

November 20th.—Union not absolutely perfect, but patient able to walk well by the aid of a cane.

* Read before the New York Clinical Society, April 24, 1885.

Case III.—Thomas Rafferty, Irish, laborer, aged forty-three, healthy.

July 21, 1884.—To-day, while working in a quarry, a heavy stone fell from a derrick, striking an iron bar which he held in his hand, and driving it, with great force, against his right leg. On examination, I found a small incised wound at the junction of the lower and middle third, on the inside of the leg, which communicated with a fracture of the tibia, and also with a large hæmatoma extending from the wound to below the internal malleolus. The patient had lost much blood and was still bleeding freely. Under irrigation, an incision was made, beginning two inches above the wound and curving downward to include it and the hæmatoma, four or five inches in length.

The fracture of the tibia was found to be oblique from above downward, forward, and inward, with some comminution of the bone; one fragment, one inch and a half in length, and several smaller ones were removed. The internal malleolus was denuded, bruised, and roughened; the sheath of the tibialis-posticus muscle was opened and the muscle itself badly torn; the connective tissue was lacerated and extensively infiltrated with blood; the fibula was fractured higher up, but not compounded.

The wound was cleansed, the hæmorrhage controlled, the fragments drilled and wired with heavy copper wire coated with silver, and the limb dressed like the others.

August 2d.—Highest temperature since the operation 100·8°.

11th.—First dressing to-day (twenty days). Wound healthy and healing, with the exception of a small dry slough at the center of old hæmatoma.

30th.—Redressed. Slough separated and wound nearly healed.

September 6th.—Wound healed and plaster splint applied.

24th.—Plaster splint removed; found twisted portion of wire protruding through a small ulceration of the skin; wire cut and removed; union not firm; percussed the bone above and below the seat of fracture with small rubber mallet. This was followed by a mild attack of simple cutaneous erysipelas, lasting two weeks, at the end of which time the union was found to be firm and bony.

Patient discharged, March 29th (eight months from the date of the injury), with good union of the fracture, but with some stiffness of the ankle joint, due chiefly to his great timidity in using the limb.

Case IV.—Henry Hall, American, wall-paper maker, aged forty-six; healthy.

February 22, 1885.—Fell in the street to-day while intoxicated and sustained a compound fracture of both bones of left leg, about three inches above the ankle joint. The fracture of the tibia was very oblique from above downward and inward, the fractured surfaces being four inches long and the ends of the fragments very sharp. Two small wounds of the skin, caused by puncture of the upper fragment, were found on the inner side of the ankle just above the malleolus. Under irrigation, an incision, five inches in length, was made to expose the fracture. There was much overriding of the fragments, and great difficulty in effecting reduction, even with the patient profoundly under the influence of ether, and it was impossible to maintain apposition except by powerful extension and counter-extension. A bleeding vessel of some size, probably the internal malleolar, was ligated. The fragments were then drilled and wired in two places with heavy silver wire. Dressing and after treatment like the others.

March 14th (twenty-two days).—First dressing; wound nearly healed; highest temperature since the operation 100·4°. Applied plaster splint with fenestra opposite wound.

April 1st.—Wound healed; union pretty firm.

Discharged July 10, 1885 (twenty weeks), with good union; good position of foot; good motion in ankle joint and with no perceptible shortening of the limb.

Case V.—Leopold Marks, German, tinsmith, aged forty-three; healthy.

July 10, 1885.—A heavy slab of marble fell on his left leg to-day, producing a compound and comminuted fracture at the junction of the lower and middle third.

11th.—Under irrigation, an incision four inches long over the crest of the tibia showed the fracture to consist of five fragments. Its general direction was first from above downward and outward, then from above downward and inward, the two lines including a large wedge-shaped piece of bone, measuring three inches in length on its longest side, and including at its apex nearly the whole of the diameter of the bone. This, together with two smaller fragments, was found to be so completely isolated from all vascular supply that its removal from the wound was rendered necessary; in fact, the large fragment was turned upon itself so as to occupy an antero-posterior position with regard to the long axis of the tibia, while one of its sharp points had seriously lacerated the deep muscles of the leg and was lying in dangerously close proximity to the posterior tibial artery. Deep pockets, filled with clotted blood and reaching for two or three inches above and below the wound, were exposed and cleansed. The main fragments were then drilled in two places and brought together with heavy silver wire; the wound closed and drained through one of the bone punctures; the limb dressed antiseptically, and put up like the others.

The patient had no symptoms worthy of note. Dressings changed on the twelfth day, and the wound found healed; tube removed and limb redressed.

August 1st.—Plaster splint applied. Patient still under treatment.

Through the courtesy of Dr. L. W. Hubbard, formerly house surgeon to Bellevue Hospital, I am accorded the privilege of bringing to the notice of the society the prominent features of one of the most interesting and instructive cases of this kind which have ever fallen under my observation.

This case, in which I had the pleasure of assisting Dr. Hubbard, will be reported in full in the "New York Medical Journal" in connection with my own.*

Case I.—*Fracture of the Patella.*—Henry Vilner, Hebrew, peddler, aged twenty-four; feeble health, badly nourished.

June 9, 1883.—Patient was knocked down in the street to-day and sustained a transverse fracture of the right patella. When admitted to the hospital there was a large effusion of blood into the joint, with great swelling and ecchymosis. The fragments of bone were separated about three inches, and it was impossible to approximate them at any time. He was treated with cold applications, ice to the joint, position, and various forms of apparatus without benefit until July 12th, when the joint was opened, under irrigation, by a crucial incision, and thoroughly cleaned out. The fractured surfaces were then scraped, the fragments drilled and wired, and the joint drained. The wound was then closed with a continuous suture of carbolized catgut, the limb dressed antiseptically, and the knee joint immobilized. The operation was followed by some sloughing of the edges of the skin-wound and by the formation of a circum-articular abscess; but all eventually repaired, and the patient was discharged, October 1st (sixteen weeks after the injury), with bony union of the patella, able to walk well, and with about twenty degrees of motion in the joint.

* Brief history of case given.

Patient seen eighteen months after the injury, with full motion of the joint, with perfect bony union of fragments, and he stated that he had walked twenty miles the day before without inconvenience and without artificial support of any kind.

Case II.—*Fracture of the Patella.*—James Klein, German baker, aged forty-five; healthy.

January 9, 1885.—Fell in the street to-day, striking the bent right knee on a stone and fracturing the patella transversely. The joint was greatly distended with blood and very painful. I was unable to determine the exact nature of the fracture on account of swelling and effusion.

The limb was suspended and treated with cold applications.

February 2d.—Knee still very much swollen, hot, tender, and painful, and I fear a suppurative inflammation of the joint.

Opened joint, under irrigation, by a crucial incision.

The capsule of the joint and the aponeurotic structures were all extensively lacerated, with their ragged edges turned into the cavity of the joint. The patella was fractured transversely about its middle, with the upper fragment split longitudinally into two portions, but not entirely separated from each other, while three smaller fragments were found loose in the joint. The cavity of the joint was enormously distended with clots, in which the main fragments were deeply buried.

The joint was thoroughly cleaned, the fragments drilled and wired in two places; the capsule and aponeurosis trimmed and sewed up with fine catgut; the skin-wounds closed separately in the same way, and the joint drained. Antiseptic dressings were then applied, and the limb suspended in a wire cradle.

14th.—First dressing (twelve days); wound healed; no fluid in the joint; tubes removed and new dressings applied. Highest temperature since the operation, 100·2°.

28th.—Fragments in good position and apparently united; applied plaster splint. Discharged about the middle of March.

April 22d (twelve weeks after injury).—Can bend knee to right angle, and union seems to be perfect. Walked ten miles with cane two days ago.

Case III.—*Fracture of the Patella.*—J. H., laborer, American, aged thirty-three, healthy.

June 10, 1885.—Six months ago patient was thrown from a wagon and sustained a transverse fracture of the right patella. The knee joint is now nearly useless; the fragments are three inches apart, and apparently held together by a very thin fibrous band. Joint opened under irrigation; the fractured surfaces freshened, and the fragments drilled in two places, wired, and the limb put up like the others. The patient had no constitutional disturbance whatever as a result of the operation. At the end of ten days the wound was dressed and found healed throughout; drainage-tubes removed and joint redressed.

29th.—Limb put up in plaster splint.

Patient left hospital about the middle of July, still wearing splint, but apparently with good bony union of the fragments.

The chief points of interest in these cases are, first, the facility which the method affords for the removal of blood-clots, foreign bodies, and torn tissue, thereby leaving a comparatively clean wound, which is likely to repair with little, if any, suppuration or sloughing, provided the operation is done antiseptically.

Secondly, the ability which it gives the surgeon to effect a complete and immediate reduction of the fracture, and the subsequent maintenance of the fragments in perfect apposition by means of the wire suture—an important indication, and one which it is impossible to fulfill in many cases by other means; and the consequent avoidance of such irritation of surrounding soft tissues as must necessarily occur when rough fragments of bone are allowed to move more or less upon each other.

Thirdly, the avoidance of frequent dressing, which always necessitates the disturbance of the reparative processes to a greater or lesser extent with each repetition; the increased probabilities of speedy union when the fragments are securely put together and held in apposition during the whole course of the treatment, not to mention the saving of pain for the patient, and of time and trouble for the surgeon.

Fourthly, and perhaps most important of all, the ability which the method gives to the surgeon to save certain limbs, the seat of bad forms of compound fracture, which would otherwise seem to demand primary amputation, or which, if treated in any other way, might seriously endanger life from prolonged suppuration, sloughing of soft parts, necrosis, osteo-myelitis, septicæmia, pyæmia, etc.

A CASE OF
COMPOUND FRACTURE OF THE TIBIA TREATED BY WIRING.*

By LEROY W. HUBBARD, M. D.,
LATE HOUSE SURGEON TO BELLEVUE HOSPITAL.

F. L., aged thirty-six years, native of Germany. Patient was admitted to the hospital about midnight May 15, 1884, having been transferred from another institution in the city. The following history was obtained: Four days ago he had fallen through the floor of a new building and sustained a compound fracture of the left tibia. At the time of his admission to Bellevue the man was in an active delirium, presenting the usual symptoms of delirium tremens. As the limb appeared to be well supported and dressed, it was deemed advisable not to disturb it before attempting to control the delirium.

May 16th.—Less troublesome to-day, though still delirious. Temperature somewhat elevated, and pulse rapid and compressible.

During the evening it was discovered that considerable hæmorrhage had taken place, and, as the patient was now quiet, the dressings were changed. On exposing the leg, the fracture was found to be very oblique and situated about three inches above the inner malleolus. Owing to the displacement of the fragments, the sharp point of the upper piece had again punctured the skin, making an additional wound. The skin for several inches around the seat of fracture was dark and had a sloughy appearance. Several free incisions were made in it, and drainage-tubes inserted. All hæmorrhage had apparently ceased, and the leg was redressed with a thick antiseptic dressing and supported by side-splints.

17th.—The patient was etherized and examined by Dr. Stephen Smith, Dr. J. W. Wright, and several of the hospital staff. On removing the dressing, it was found that venous hæmorrhage had taken place, and a large, soft clot lay between the dressing and the skin; that the connective tissue of the entire limb from the ankle to the knee was extensively infiltrated with blood, and the leg presented the appearance of the first stage of moist gangrene. Indeed, it seemed almost hopeless to make the attempt to save it, and I have no doubt that a few years ago almost any surgeon of experience would have advised immediate amputation at the knee joint as the only probable means of saving the patient's life. Influ-

* Presented, by permission, by Dr. J. Williston Wright with his paper read before the New York Clinical Society, April 24, 1885.

enced, however, by the excellent results previously obtained by wiring severe compound fractures in several other cases occurring on the division, it was determined to try what conservative surgery under strict antiseptic methods would accomplish. The seat of the fracture was exposed; the clots of blood surrounding it were removed; the lacerated connective tissue, sheaths of muscles, etc., trimmed; and the fragments brought into apposition as nearly as possible and held together by a suture of silver wire passed through holes drilled in the bone near the margins of the fracture. A free incision was then made on each side of the leg down to the muscles, extending from the seat of fracture to just below the knee. All of the clots of blood were removed by scraping and irrigation. The incision on the inner side was then closed partly with deep silver wire and partly with superficial catgut sutures, drainage-tubes being placed at various points. The incision on the outside was left open on account of tension. During the whole of the operation continuous irrigation with a solution of hydrarg. bichlor., 1 to 2,000, was employed. The wounds were dusted thickly with iodoform, and the limb was dressed with pads of carbolized gauze and borated cotton, and supported with side-splints held by turns of a carbolized bandage.

The patient rallied well from the operation, and had no more delirium from that time. The temperature rose the next day to 102·5°, but after that was never above 101·75°, and by the fourth day was normal.

19th.—The limb was placed in a posterior wire cuirass and suspended.

June 5th—Nineteen days after the operation.—Dressing changed for the first time. The incision on the inner side was nearly healed throughout; the granulations on the other side were healthy and secreting laudable pus.

The fragments were in very good apposition, and granulations had begun to cover the surface of the bone. The leg was subsequently dressed every seventh or eighth day, and each time was found much improved.

July 19th.—A plaster splint applied, and patient allowed to sit up.

October 1st.—Walking about the ward supporting himself with a crutch.

December 17th.—Discharged from the hospital with wounds healed, good union of fracture, able to walk well, and with only a slight amount of shortening.

130 West Twenty-first Street.

CONTAGIOUS CONJUNCTIVITIS; ITS CAUSES, PREVENTION, AND TREATMENT.*

By JOSEPH A. ANDREWS, M. D.,

Member of the American Ophthalmological Society; Ophthalmic Surgeon to Charity Hospital, New York, etc.

(*Concluded from page 452.*)

Prophylaxis of Ophthalmia Neonati.—Starting from the proposition that the infection of this disease is derived, in the first instance, from a pathological vaginal secretion from the mother, thorough and judicious cleansing of the diseased vagina should be practiced before the birth of the child, and, when the child of such an infected mother is born, its eyes should be washed with a saturated solution of boric acid, and a two-per-cent. solution of nitrate of silver be dropped into the conjunctival sac; and the child and mother should not alone be kept from other children, but the mother should be told of the contagious character of her disease and warned against using towels, sponges, or cloths that have been used on her own person, for wiping her child.

The eye-trouble begins about the second or third day after birth, also sooner or later; the sooner, the more intense it will be, generally.

Credé first tried thorough cleansing of the diseased vagina of the mother before the birth of her child. The number of cases of eye-trouble was diminished thereby, but it did not disappear. Then he began to disinfect the eyes of the children, and the results were more favorable. This is quite natural, because, if the child is infected at the time of its birth, no amount of attention bestowed upon the mother would affect the child so long as it was neglected. At first Credé proceeded as follows: In all cases of gonorrhœa or chronic vaginal catarrh in the hospital, the vagina was frequently washed with lukewarm water, or a solution of carbolic acid, or salicylic acid, two per cent.; near term this was done every half-hour. The eye-trouble was less frequent, but it was not stamped out. In 1879 he made the first trial of prophylactic instillations into the eyes of the new-born immediately after birth, and used a solution of borax (1 to 60) without satisfactory results.* Then he tried a solution of nitrate of silver (1 to 40), which was dropped into the eyes soon after birth. These instillations were preceded by careful washing of the eyes with a solution of salicylic acid (two per cent.). Children thus treated remained free from eye-trouble. From June 1, 1880, all eyes, without exception, were, immediately after birth, first washed with plain water and disinfected with a solution of silver nitrate (two per cent.), a single drop being placed in each eye; then the eyes were cooled with pledgets of linen wet in a solution of salicylic acid (two per cent.). The vaginal douching was, on the contrary, discontinued. Only one child, on the sixth day, had a mild conjunctivitis of the left eye, without swelling of the eyelids, and was cured in three days. It was shown in this case that in the hurry the prophylactic instillations had not been made. Sometimes a slight hyperæmia followed these instillations, and now and then there was a slightly increased secretion in first twenty-four hours; these appearances do not persist after the first day. Previous to the introduction of this treatment in Credé's clinic at Leipsic ten per cent. of the children born there had eye-trouble; since its employment, from June 1, 1880, till March, 1883, the percentage was reduced at once:

1880 (7 months),	211	children,	1 case;
1881	400	"	1 "
1882	418	"	2 cases;
1883	131	"	No case.
	1,160		

The patient in 1880 was not disinfected. The mother, in one of the two cases which occurred in 1882, had syphilis and gonorrhœa, and what is of interest to us to remember in this connection is that, in spite of the instillation of silver nitrate (two per cent.) immediately after birth, it was too late. Credé says that the other case (1882) resembled one of catarrhal conjunctivitis.

* "Archiv f. Gynakol.," 1881, Bd. xvii, p. 52.

Abegg* washed the eyes with pure water immediately after birth. The result was that among 2,266 births there were 66 cases of ophthalmia neonatorum, or about three per cent.

At the suggestion of Alfred Graefe, Olshausen† used a one-per-cent. solution of silver nitrate, without previously washing the eyes, and reduced the percentage of ophthalmia neonati from 12·5 to 6 per cent.; but he observes that *the percentage would have been even smaller had the measures been more exactly practiced from the beginning.*

Hecker (München) used a one-per-cent. solution of silver nitrate as a prophylactic, but he had about as many cases as before, and Credé's criticism upon these results is that one per cent. is not sufficiently strong.

In Maternity Hospital, Blackwell's Island, New York, Dr. Garrigues applied a two-per-cent. solution of silver nitrate to the eyes of all the children born during his service at that institution from October 1, 1882, to March, 1883, and from October 1, 1883, till March 31, 1884, during which time 351 children were born, but not a single case of eye-trouble occurred among those children. Dr. Garrigues does not state whether any of the mothers were infected or not. At the same hospital, in Dr. Mundé's service, the house surgeon, Dr. B. Hughes Wells, informs me that between April 1 and May 15, 1885, 83 children were born, all of whom were treated with silver nitrate (two-per-cent. solution), there being not a single case of eye-trouble. In the six weeks preceding Dr. Mundé's service (Dr. Murray's service) 58 children were born. In this instance a one-per-cent. solution of silver nitrate was used, and there were more than 10 or 12 cases of ophthalmia neonati, but none of these cases led to loss of sight; only in one case was there ulceration of the cornea, and in this the latter was not perforated.

Horner‡ indorses Credé's treatment with silver as the most effective. In the discussion on Dr. Horner's paper, the expediency of employing this treatment in private practice was questioned. It was said that the eversion of the lids should not be intrusted to a midwife, because she might drop the solution on the cornea and damage it. Credé replied that he never everted the lids, because he deemed this superfluous; he dropped the silver solution (two per cent.) on the cornea without having seen a single case in which this cauterized the cornea.

Königstein# observed, among 1,092 children in Späth's clinic for whom no prophylactic measures had been adopted, blennorrhœa in 4·76 per cent.; catarrh in 14·5 per cent. He adopted Olshausen's plan of washing the eyes frequently with a solution of carbolic acid, one per cent. Of those thus treated, two per cent. had blennorrhœa and six per cent. catarrh. Finally, of 1,300 children treated according to Credé's method, one half per cent. had blennorrhœa and six per cent. catarrh.

Felsenreich, in the clinics of Carl and Gustav Braun, reduced the percentage of blennorrhœa by Credé's treatment from 3·34 to 1·93 per cent.

In 1881, Bayer* treated 361 children at the Stuttgart Lying-in Hospital according to Credé's plan, and there was not a single instance of eye-trouble; while in 1880, among 354 children born at the same institution, there were 34 cases, and in 1879, among 351 children, there were 51 cases of ophthalmia neonati, no prophylactic treatment having been then employed.

At the Royal Lying-in Institute in Dresden, Credé's treatment was introduced on October 1, 1883.† The instillations were made about a quarter of an hour after birth, after the child had been washed and its eyes cleansed with a piece of linen dipped in fresh water. In a few cases, in the confusion occasioned by many births occurring in quick succession, the instillations were made somewhat later. From October 1, 1883, to July 10, 1884, 1,002 live children were born. Uncleanliness, intense elytritis, and granular elytritis were present in numerous instances, and other influences were also noted which might have contributed to favor a blennorrhœal infection in the children, but not a single case of blennorrhœal conjunctivitis occurred.

Credé's treatment, with its instillations of a two-per-cent. solution of silver nitrate, and especially the additional applications for twenty-four hours of a solution of salicylic acid (two per cent.) on pledgets of linen, involves a strict personal supervision which must be counted. But the evidence, taken all in all, certainly proves the value of a two-per-cent. solution of silver nitrate as a prophylactic in ophthalmia neonatorum; yet it should not be used to the exclusion of scrupulous cleanliness.

In order to guard against post-natal infection—which, as I have said, I believe to be more common than that at the time of birth—children should be kept in their cots and not given to the mother (if she is infected) except at the time of nursing, and then all the precautions respecting the use of sponges, towels, etc., should be kept in mind.

If it is possible, by the means indicated, to cut down the percentage of cases of ophthalmia neonati so impressively as the statistics cited above would seem to prove that we can, it is quite impossible to exaggerate in words the importance of the gain.

Horner has shown that, among 100 blind asylums of Germany and Austria, between 33 per cent., or, to be more exact, between 20 per cent. and 79 per cent. of the blind children had lost their sight from ophthalmia neonati.

In a statistical report submitted to the Blind Congress in Paris, in 1879, F. Daumas declared that, of 56,391 eye-patients treated by himself, 1,178 had become incurably blind, 108 cases of blindness being due to incurable disease and 1,070 to curable disease.

In the United States, ophthalmia neonati causes blindness in numbers exceeding 32 per cent. of the cases of preventable diseases of the eye.

Now, inasmuch as blindness from the disease under consideration occurs mainly among the poor, and is due chiefly to ignorance regarding its dangerous character and the consequent neglect to apply prompt and effective medical aid, it behooves the profession to draw general attention, and

* H. Abegg, "Archiv f. Gynakol.," 1881, Bd. xvii, p. 503.

† R. Olshausen, "Centralblatt f. Gynakologie," 1881," No. 2, p. 33.

‡ "Correspondenzblatt der schweizer Aerzte," 1882, No. 7.

"Wiener med. Presse," 1882, No. 24.

* "Centralblatt f. Gynakol.," 1882, p. 515.

† Leopold and Wessel, "Archiv f. Gynakol.," 1884, Bd. xxiv, p. 89.

especially that of midwives, to this very important subject. Our general dispensaries might substantially aid the dissemination of this desired intelligence by having conspicuously printed on the card presented to every female patient who applies for medical aid the following Instructions regarding New-born Infants:

"*If the child's eyes become* red *and* matter *begins to* run *from them, at any time after birth, take the child at once to a doctor.* The disease is very dangerous, and, if not treated at once, it may destroy the sight of both eyes."

Let me now give you an outline picture of purulent conjunctivitis as it is but too frequently seen at our eye-infirmaries. The mother takes her child to the infirmary with the statement that the child's eyes had "run matter" for some days; but the eyelids had become so red and swollen, and the child so restless, that she thought she had better take it to the hospital. We examine the eyes and find a large slough of one or both corneæ, and the sight of one or both eyes destroyed. Every eye-surgeon has seen many such cases. Could a stronger reason be given for the urgency of sending out words of warning to these unfortunate people? A mother would not neglect early attention to her child with this disease if she knew how terrible the consequences would be of so doing. The next question is, How shall we treat such cases? To return such a child to its own home would be to expose the rest of the family to the disease; and, again, such patients are brought to us at the infirmaries three times weekly; they then return daily to their homes, where the ignorance of the simplest rudiments of personal and domestic hygiene which invariably prevails there must necessarily neutralize whatever good they may have received at the hospital; indeed, patients with this disease require to be under skilled and constant surveillance; and, if our eye infirmaries will not receive these cases because of the danger of infecting their other patients, the exigencies of the case are best met by the establishing of a separate hospital for the treatment of contagious ophthalmia.

In Great Britain steps were taken last year in the direction of making efforts to prevent the terrible consequences of ophthalmia in the new-born, and it is hoped that the committee appointed for the same purpose at the last meeting of this Academy will succeed better than our colleagues across the Atlantic in carrying out the plans they may agree upon to meet the end in view.

Treatment.—The attendant's hands and nails must be thoroughly cleansed and his or her eyes protected with *protective spectacles.* If one eye only is affected, its fellow should be sealed with cotton-wool, covered with adhesive plaster, and over this a solution of rubber should be painted, so as to exclude any discharge which may run over the bridge of the nose from the affected eye, and, in the case of infants, the hands should be secured, in order to keep them from the eyes. In the case of adults, a far better protective covering for the healthy eye is one recommended by Dr. Buller, of Montreal, which consists of a piece of macintosh, about four inches and a half square, with a watch-glass (old-fashioned, deep glass) fastened to a hole in the center through which the patient can see; the whole is then fixed by broad pieces of strapping to the nose, forehead, and cheek, its lower and outer angle being left open for ventilation. In case of redness or swelling of the conjunctiva, this covering must be discontinued and the conjunctiva painted, as a preventive, with a two-per-cent. solution of silver nitrate, followed by cold applications.

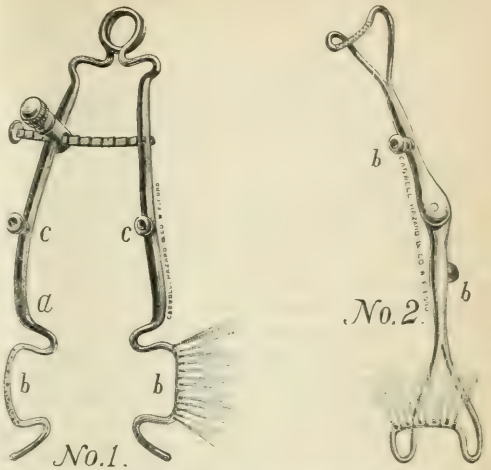
So long as there are increasing redness and swelling of the eyelids, together with rising temperature of these parts, and a watery or sticky, transparent secretion, which shows that we have to do with a pure inflammation, the treatment must be anti-inflammatory, directed to the contraction of the paralytic vessels, and thereby diminish the filtration and diapedesis; and the remedy is the same in the case of the eye as in other parts of the body. The ice-cloths should be applied, and, according to the height of the local temperature, their use should be more or less vigorous; but, *under all circumstances, the cold applications must be diligently changed*, in order that the action of the cold may be as nearly as possible equable. When the local heat is very great, the cold must be maintained day and night.

When purulent conjunctivitis is fairly established, the indications for treatment are: 1, to wash away the infective material as thoroughly and as early as possible; 2, to render the conjunctival surface as nearly as possible aseptic. It is impossible to exaggerate the importance of securing a perfect fulfillment of the first of these conditions. If the disease is seen at the very onset, and the eye cleansed at once, its course will be less violent than where this is not done. This washing may be done with a saturated solution of boric acid, or a two-per-cent. solution of carbolic acid, the latter to be weaker as the discharge grows less. The eye must, of course, be carefully examined for any change in the cornea. It is not necessary that we should employ our solution in sufficient strength to be germicidal. The ordinary method adopted in purulent conjunctivitis of washing the eye with a so-called antiseptic fluid does not kill the bacteria in the secretion, but removes the contagious principle as completely as may be, or so dilutes it that it can do harm only in a less degree; and it will be found that the secretion actually decreases in proportion to the disappearance of the cocci from it. I think that for this reason the irrigation should be maintained for several minutes at a time—ten to fifteen minutes. I would then paint the conjunctival surfaces of the upper and lower lid with a two-per-cent. solution of silver nitrate, or even twelve per cent. if the conjunctiva is much swelled; and, in case the latter strength is used, wash afterward with a solution of sodium chloride. The strength of the silver solution is to be regulated by the succulence and vascularity of the conjunctiva—the more pronounced these conditions, the stronger should the solution be. This having been done, *cover the conjunctiva with an antiseptic dressing consisting of boric acid (six per cent.) or carbolic acid (two per cent.) and vaseline.* The vaseline will be retained much longer than a watery solution would be. This dressing will, in a great measure, have the power (without injury to the cornea) of arresting the vital activity of the bacteria, of starving them out, as it were, by so changing the nutritive pabulum required for their development that they can not appropriate

it to their use. The irrigation will have to be repeated as often as may be indicated by the quantity and quality of the discharge. If there is much swelling of the eyelids, the outer canthus should be cut. The application of cold should not be made with ice-bags. Pledgets of linen—to be burned after use—should be laid on a piece of ice at the bedside, and this application of cold requires care and a constant attendant.

In the severe forms of gonorrhœal conjunctivitis—and this disease is nearly always very severe—when not seen very early and treated at once, the cornea runs great risk. The eyelids are intensely swollen, and when the ocular conjunctiva is much infiltrated the cornea is in great danger of suppuration, and the treatment should be directed to the reduction of the pressure on the eyeball and diminution of the secretion already formed. The pressure caused by the chemosis and swollen lids compresses the vessels which supply the margin of the cornea, causing an insufficient circulation. In order to remove this factor, the outer commissure should be divided to its fullest extent, together with the canthal ligament. The late Mr. Critchett, of London, proposed to divide the upper lid vertically to the orbital margin in severe cases, evert the flap and fix it to the skin above, and he says the cornea does not suppurate when this is done. Fuchs * has modified this operation. He divides the outer commissure to such an extent as to relieve also the symptoms of pressure. He then puts a suture through the lower lid and attaches it on the cheek, ectropionizing it entirely. He detached the suture, in the case he reports, at the end of the fifth day, and the healing was good. If the cornea is involved, it requires special attention in addition to the use of atropine. A thorough removal of the secretion from the upper *cul-de-sac* is not possible by the ordinary means; this may, however, be done by means of a simple instrument which I have devised for the purpose. The instrument is an eye-speculum, the arms of which are hollow and the claw deeper than in the ordinary eye-speculum; it has a number of perforations for the passage of the fluid, which is supplied by a fountain syringe. It is inserted between the lids with great gentleness, and care should be taken not to injure the cornea with it. The lids should be gently lifted from the eyeball by means of the speculum, and the spray of fluid allowed to play upon the upper *cul-de-sac*. Even when the lids are extremely painful, it is a relief to have them gently lifted from the eyeball and the stream of fluid allowed to play upon the upper conjunctival *cul-de-sac*.

Of course the use of this instrument should not be intrusted to an ordinary nurse, but the physician can at least perform the operation twice daily, and keep up the irrigation for from ten to fifteen minutes. The solution of carbolic acid in the case of adults, when the inflammation is intense, may be as strong as three per cent.—to be diluted as the disease improves; this is astringent as well as antiseptic. And the silver I would apply, according to the exigency of the case, in four-per-cent. or twelve-per-cent. solutions, and neutralize with salt and water, and then apply the medicated vaseline to the conjunctiva, and over the lids the iced cloths. Iodoform has not met with much favor in this disease. Quinine in solution has also been used, but it has no



The instrument shown in Fig. 1 may be used for either eye, the tube with the water-supply being attached at *c*, and to the upper branch only in case it is desired to irrigate the upper *cul-de-sac* alone. Fig. 2 represents a folding lid-elevator (of large and small size) designed for the same purpose as the spring-speculum. The tube of the fountain syringe is attached at *b*.*

advantage over the carbolic acid. Dr. H. Linds Ferguson (Dublin) reports cases of gonorrhœal conjunctivitis in which he has had good results from the use of finely powdered boric acid. The bichloride of mercury has no claim to advantage over the boric acid.

Diphtheritic Conjunctivitis.—Measures of prophylaxis based upon bacteriology must lie in the future. We must be content with the enforcement of general hygienic laws. Mr. Tweedy † used one-per-cent. solutions of quinine in this disease, and did not see any serious damage to the cornea when it was used. Iodoform does not seem to be of much use in diphtheritic conjunctivitis. Vossius ‡ recommends a four-per-cent. solution of salicylic acid in glycerin.

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SPINAL ANÆSTHESIA AND LOCAL MEDICATION OF THE CORD.

By J. LEONARD CORNING, M. D.

It is my desire on this occasion to draw attention to a procedure in therapy which, so far as I am aware, possesses the merit of novelty. The arguments which I shall advance in its favor are twofold in kind: First, I shall cite certain physiological facts with which the procedure in question stands in immediate relationship; and, secondly, I shall endeavor to record conscientiously the actual phenomena evoked by the use of the method itself.

To take up the argument in this order, I would remark, then, that, when a certain quantity of a remedy, say strych-

* "Centralblatt f. prakt. Augenheilkunde," 1881, p. 198.

* These instruments are made by Mr. W. F. Ford, of Messrs. Caswell, Hazard & Co.

† London "Lancet," 1882, No. 1.

‡ "Klin. Monatsbl. f. Augenheilk.," Bd. xix, p. 425.

nine, is thrown under the skin of a frog, certain phenomena make their appearance which show indubitably that the functions of the spinal cord are profoundly affected. The animal is thrown into violent convulsions, and assumes a rigid attitude, and we have presented the picture of an artificial tetanus. This is a spectacle of the physiological laboratory, and one with which we are all familiar.

If, now, we remove the posterior arches of three or four of the vertebræ of the animal, and, seizing the membranous coverings of the cord, insert the end of a hypodermic needle so that we are able to inject a small quantity of a solution of strychnine, we shall find, first, that not only are the convulsive phenomena immediately produced, but, secondly, that a smaller quantity of the fluid is required to evoke them than when the drug is placed under the skin at a point remote from the spinal cord.

It was formerly supposed that this phenomenon was due to the direct contact of the strychnine with the nervous elements of the cord, but Harley * has shown that the poison can act only through the intermediation of the blood-vessels, since, when the latter are separated from the cord, the solution remains entirely inert, the convulsions failing to appear.

From the foregoing considerations, it is clear that, in order to obtain the most immediate, direct, and powerful effects upon the cord with a minimum quantity of a medicinal substance, it is by no means necessary to bring the substance into direct contact with the cord; it is not necessary to inject the same beneath the membranes, as in the case of the frog, since the effects are entirely due to the absorption of the fluid by the minute vessels. On the other hand, in order to obtain these local effects, it is first necessary to inject the solution in the vicinity of the cord, and, secondly, to select such a spot as will insure the most direct possible entry of the fluid into the circulation about the cord. Is there in man a locality which fulfills these conditions? Instead of answering this question at once, I will rather detail some recent experiments performed by myself, by means of which, I trust, all doubts on the subject will be effectually set at rest.

Protocol of Experiments.—Some time since I began a series of experiments with a view to determining whether the local medication (anæsthetization) of the spinal cord was within the range of practical achievement. The drug made use of was the hydrochlorate of cocaine. As the introduction of a hypodermic needle beneath the membranes of the medulla spinalis is not practicable without removal of the arches of the vertebræ (on account of the danger of wounding the cord), I decided to inject the anæsthetic between the spinous processes of the lower dorsal vertebræ. I was led to resort to this expedient from a knowledge of the fact that in the human subject numerous small veins (venæ spinosæ) run down between the spinous processes of the vertebræ, and, entering the spinal canal, join the more considerable vessels of the plexus spinalis interna. From these theoretical considerations I reasoned that it was highly probable that, if the anæsthetic was placed between the spinous processes of the vertebræ, it (the anæsthetic) would be rapidly absorbed by the minute ramifications of the veins referred to, and, being transported by the blood to the substance of the cord, would give rise to anæsthesia of the sensory and perhaps also of the motor tracts of the same. To be more explicit, I hoped to produce artificially a temporary condition of things analogous in its physiological consequences to the effects observed in transverse myelitis or after total section of the cord. I therefore anticipated a more or less local action of the drug upon the cord. My hopes in this regard were based somewhat upon the well-known lethargy of the circulation in the cord, particularly at its lower portion—a condition of things highly promotive of the local action of the drug.

Experiment I.—This was performed on a young dog. At ten o'clock, A. M., I injected twenty minims of a two-per-cent. solution of the hydrochlorate of cocaine into the space situated between the spinous processes of two of the inferior dorsal vertebræ. Five minutes after the injection there were evidences of marked inco-ordination in the posterior extremities; the dog threw his hind-legs about aimlessly, holding them far apart, much after the manner of some ataxic patients. A few minutes later there was marked evidence of weakness in the hind-legs, but there were no signs whatever of feebleness in the anterior extremities. I now tested the condition of sensibility by means of a powerful faradaic battery, one of the conducting cords of which was attached to a fine wire brush. When the wire brush was applied to the hind-legs, there was no reflex action whatever on the part of the latter, at least such was the case except when the most powerful currents were employed. But, on the other hand, when I applied the wire brush to either of the anterior extremities, the limb was drawn away violently, and the animal set up the most dismal howls. Similar effects were observed on pinching and pricking the limbs.

These phenomena persisted for a considerable length of time, and traces of inco-ordination were observed two hours after the injection had been made. After the lapse of about four hours, however, the dog seemed to have recovered his usual health, and walked about without difficulty.

During the duration of the experiment nothing of an abnormal nature was observed in the fore-legs. I infer from this fact that the action of the anæsthetic was practically local, being confined, for the most part, to that portion of the cord situated immediately beneath the point of injection. It is conceivable, however, that, had the quantity of anæsthetic fluid injected been greater, the anterior limbs might also have been affected. An *absolute* localization of of the anæsthesia is indeed hardly within the range of possibilities, on account of the numerous blood-vessels. It is true, nevertheless, as we have seen, that the local action of the drug is greatly favored, at least so far as the inferior segment of the cord is concerned, by reason of the lethargy of the circulation at this point.

Experiment II.—This was performed on a man who had long been a sufferer from spinal weakness and seminal incontinence, and who for many years had been addicted to masturbation and other forms of sexual abuse. Without entering into the details of the case, which are devoid of any special interest, I will proceed at once to give an account of the experimental observation which constitutes its only claim to attention.

As in the case of the dog previously referred to, I was bent upon abolishing reflex action and annulling sensory conduction

* "A Handbook of Therapeutics," by Sydney Ringer, M. D., New York, 1870, p. 387.

in the cord. To this end I injected thirty minims of a three-per-cent. solution of the hydrochlorate of cocaine into the space situated between the spinous processes of the eleventh and twelfth dorsal vertebræ. As there was no numbness, tingling, or other evidence of modified sensibility after the lapse of six or eight minutes, I again injected thirty minims of the solution at the same spot and in the same manner. About ten minutes later the patient complained that his legs "felt sleepy"; and, on making a careful examination with the wire brush, I found that sensibility was greatly impaired. Currents which caused lively sensations of pain and reflex contractions in the upper extremities were disregarded and barely perceived in the lower limbs. The same was true of the prick of a needle. Fifteen or twenty minutes later the anæsthesia had increased in intensity, and, although there were some evidences of diffusion on the part of the anæsthetic, the impairment of sensibility was principally limited to the lower extremities, the lumbar regions, the penis, and the scrotum. About this time I applied the wire brush to the soles of the feet and to the toes, using about the maximum strength of a powerful faradaic battery, without causing either pain or reflex contractions, while a current of half the strength evoked intense pain and reflex contractions in the upper limbs. Some time later I fancied that I could discern some obtuseness of sensibility in the upper limbs; but on this point I feel compelled to speak with reserve. When the patient closed his eyes he experienced some dizziness while standing, but there was no inco-ordination or motor impairment discernible in the gait. The power of distinguishing differences in pressure seemed also to be preserved; but I regret to say that I did not test the sensibility to variations of temperature. The passage of a sound, though usually accompanied by considerable pain, remained almost unperceived, and an urethral electrode caused no inconvenience, even when strong currents were used. The sensibility of the scrotum and glans penis was also impaired to a marked degree, as proved by repeated tests with the electric brush. The pupils were but slightly dilated.

When the patient left my office, an hour or more after the injections, sensibility was still impaired to a marked degree, but otherwise he seemed none the worse for his experience. The patellar tendon reflexes were, however, abolished.

The therapeutic advantages afforded by such local medication would seem to be great in a large number of morbid conditions of the cord. There is, indeed, no reason why strychnine and other remedies should not be employed in this local manner as well as cocaine. In strychnine poisoning, tetanus, and hydrophobia, it should also render good service. I will merely add that on the morning succeeding the injections the patient informed me that he had experienced tingling sensations and numbness in the lower limbs until nightfall. There was also dryness of the throat and mouth, accompanied by mental exhilaration. I could hear nothing of any cardiac disturbances.

On making an examination with the electric brush, sensibility was found to be normal in the lower limbs, scrotum, and glans penis. The passage of the sound was, as formerly, accompanied by some pain, and the urethral electrode provoked unpleasant sensations, even when mild currents were employed.

The only constitutional symptoms complained of were headache and slight vertigo, already referred to. At no time was there nausea.

Whether the method will ever find an application as a substitute for etherization in genito-urinary or other branches of surgery, further experience alone can show. Be the destiny of the observation what it may, it has seemed to me, on the whole, worth recording.

26 West Forty-seventh Street, *October 27, 1885.*

SEASICKNESS AND ITS TREATMENT.

By ADOLPH KESSLER, M. D.,
NEW YORK.

In the "New York Medical Journal" of September 20th I find a therapeutical note, taken from the "Berlin. klin. Wochenschrift" and "Lancet," in which Manassein recommends the use of cocaine in seasickness, and speaks of the gratifying results obtained in several cases. Unaware of the fact that it had been recommended and used in seasickness, I gave it a pretty extensive trial this summer, merely prompted by its general physiological and anæsthetic effects, but with results far from gratifying. It does not act as a palliative, much less as a curative; on the contrary, its use does actual harm. The effect of cocaine upon seasickness, as a combination of the most varied bodily and mental sensations, is purely negative, except for a decided increase and aggravation of certain symptoms. The most striking effect of the medicine is an intense and persistent nausea, which becomes the more distressing as all efforts, mechanical or otherwise, of obtaining relief by vomiting prove unavailing. Now, any one that has ever suffered the pangs of seasickness will agree with me that this very nausea, *unrelieved by vomiting*, forms the most distressing and depressing feature of the mysterious disorder, and that the act of vomiting is the only efficacious means by which temporary relief is afforded and comparative physical and mental comfort restored to the sufferer.

The cocaine seems to exercise a paralyzing influence upon the motor-nerve apparatus of the stomach, thereby hindering vomition and preventing the display of the only function which is apt to give any relief, and which nature itself has beneficently instituted as a *vis medicatrix*. This characteristic and uncomfortable condition is further aggravated by a total loss of appetite and an invincible repugnance to food in every form and shape—an inertia of the digestive organs, in fact, that is very rarely experienced in ordinary and even severe yet uncomplicated cases of seasickness. But the influence of the drug does not stop here; it reaches further yet and extends to the whole length of the alimentary tract, giving rise to great torpidity of the intestines; defecation becomes almost impossible without artificial measures, and is even then slow, difficult, and painful, and reacting unfavorably upon the entire system.

However favorably cocaine might affect the nervous system, intellect, and mind, under ordinary circumstances when taken on land, I have certainly failed to notice its brightening and inspiriting effects during the reign of seasickness, except that it sharpened the pangs of the latter by keeping the suffering victims wide awake and unable to find rest and oblivion in sleep.

The bromides have enjoyed a certain reputation in the treatment of seasickness since the late and lamented

Dr. Beard first recommended their use, and there can be no reasonable doubt of their partial efficacy in a large number of cases.

Of course, it would be an exaggeration to allege for them the potency of specifics or even uniform efficacy, but they exercise a palliative and sedative influence, and mitigate considerably the grave symptoms of the disorder. And yet, in the face of this admission, I should feel unwilling to recommend their use, as the unpleasant after-effects of the bromide treatment outweigh by far the benefits which it apparently confers. A great many persons who resort to the use of the bromides for the purpose of checking seasickness, and who saturate their systems with the salts almost to the extent of bromism, enjoy a certain kind of immunity while on the sea, only to discover afterward that they purchased comparative comfort at a very high cost. For, contrary to the usual rule of the disorder ceasing immediately after landing, they do not at once recover that bodily and mental equipoise that constitutes normal health, but suffer for some time with varied morbid sensations bearing a close resemblance to seasickness, and affecting alike body, mind, and temperament. This singular condition, which I experienced myself twice after using the bromides, and not otherwise, seems to be a direct and positive result of the medicinal agency employed, and of its physiological effort to overcome the affection. It appeared almost as if Nature had resented the check imposed upon her, and, in throwing it off, had reasserted her power and avenged the interference with her laws.

If I can thus adduce nothing in favor of cocaine and the bromides, it might not be amiss to say a good word in behalf of the hydrate of chloral, which renders excellent service in seasickness, without causing or leaving any ill effects. It does not directly interfere with and check the disorder, as the two other remedies seem to do, but merely mitigates and relieves the most distressing symptoms, and prepares the system gradually in overcoming the further inroads of the affection without much discomfort. It does not restrain the act of vomiting whenever this latter promises to afford relief, but it relieves the painful and convulsive heavings of the stomach, and, after being taken for some time, it finally stops the vomiting by removing altogether the nauseous feeling which gives rise to this gastric disturbance. The sensation of nausea being removed, vomiting ceases of its own accord. In doses of twenty grains, administered twice or three times in twenty-four hours, chloral relieves all the more prominent symptoms of the disorder, especially nausea, headache, nervous prostration, and mental wretchedness; imparts a sound and undisturbed sleep, which contributes as much, and perhaps more, to the general improvement than anything else; and keeps appetite, digestion, and action of the bowels in a pretty normal condition. Having crossed the Atlantic more than a dozen times, and experienced the horrors of seasickness in all degrees of intensity; having, furthermore, tried all modes of treatment, I can recommend but two measures—moderate doses of chloral whenever the remedy is not contra-indicated, and total abstinence from the use of excitants and stimulants in the shape of food and drink.

A bland, wholly unirritating diet is best tolerated by the stomach, and the effect of artificial appetizers is not only illusory but actually injurious, while the use of spirituous liquors considerably aggravates the gastric and cerebral symptoms. The reputation of champagne is exaggerated, and its good effects are solely due to the carbonic acid which it contains, and which proves far more beneficial in the simpler vehicle of certain mineral waters.

644 Lexington Avenue.

Book Notices.

Micro-organisms and Disease. An Introduction into the Study of Specific Micro-organisms. By E. Klein, M. D., F. R. S., Joint Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. With 108 Engravings. London: Macmillan & Co., 1884. Pp. xii–195. [Price, $1.]

The reader will recognize in this book the series of articles which were published in the "Practitioner" for 1884. It is a modest little volume, but is none the less a thorough and scholarly exposition of the subject of which it treats. Dr. Klein's reputation as a bacteriologist, which has been increased by his prominent connection with the Cholera Commission, will render his book, small as it is, an authority upon the question of micro-organisms. He states briefly and clearly those facts which will be most useful to the general reader, avoiding scientific discussions so far as possible, and confining himself to concise statements of the latest theories. Of the twenty-one chapters, the first five treat of the methods of bacteria-cultivation and microscopical examination, the next three of bacteria and micrococci, while the ninth, tenth, and eleventh chapters deal with bacilli. Vibriones, spirobacteria, yeast and mold, fungi, and actinomyces, have each a separate chapter. Chapters XVII, XVIII, and XIX treat of the vital phenomena of micro-organisms. The concluding chapter contains a brief statement of our present knowledge with regard to germicides. The illustrations are well executed and assist materially in the understanding of the text. There are copious references to the literature of the subject, and a complete index. It is easy to believe from the amount of research displayed in the little work that it is the outcome of ten years of careful experiments and investigations, as is stated in the preface.

A Compend of Organic and Medical Chemistry, including Urinary Analysis and the Examination of Water and Food. By Henry Leffmann, M. D., D. D. S., Professor of Chemistry and Metallurgy in the Pennsylvania College of Dental Surgery, etc. Philadelphia: P. Blakiston, Son, & Co., 1884. Pp. viii–124. [Price, $1.]

As a quiz compend this handy little volume will be found to contain most of the information necessary to the medical student. The first half of the book treats briefly of organic chemistry. There are rather more ponderous formulæ than we should look for in such an elementary work. Animal chemistry receives a short notice. The section upon urine is the best in the book, being concise and practical. We are glad to meet with a full description of Dr. Squibb's simple quantitative test for urea. The picric-acid test for sugar is also not forgotten. A short chapter on water-analysis and one on foods conclude the compend. The book is neatly bound, and there is an exhaustive index.

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DIELECTROLYSIS.

Among the "Therapeutical Notes" which we present this week, there is one that will undoubtedly awaken the interest, not to say the curiosity, of many of our readers. We refer to the brief paragraph which summarizes a communication lately made to the Paris *Académie de médecine* by M. Brondel, on the direct medication of the internal organs by what he terms "dielectrolysis," meaning thereby the electrolytic decomposition of a chemical compound and the forcing of its active medicinal constituent through the tissues of the body by virtue of its affinity for one of the poles of a galvanic battery.

Perhaps this is the most notable therapeutical novelty that has come up since the anæsthetic power of cocaine was announced. We think it proper to call it a novelty—just as we felt justified, some months ago, in speaking of rectal anæsthetization as a novelty, although something in the same direction had been done before by Pirogoff and others—although, within but a very few days of the date of M. Brondel's communication, a well-known French author, M. Spillmann, showed that, so long ago as in 1871, he had published something to the same purpose, and had referred to the idea as having been entertained by some others even at an earlier period. M. Spillmann's experiments were performed in 1870, and he published a note in the "Archives générales de médecine" (1871, vol. ii, p. 490), in which he said: "It is known that, by causing a galvanic current to pass through a solution of iodide of potassium, we cause the metal to be deposited at the negative pole, and the iodine at the positive pole. The same thing will take place if a tissue which is a good conductor is interposed between the two electrodes. It is easy to convince one's self of the truth of these statements. Beer ('Berl. med. Presse,' x, 1869, 37) and Eulenburg ('Berl. klin. Wochenschr.,' vii, 1870, 16) were the first to dream of the application of these phenomena. In my experiments I made use of glass cylinders, traversed at one end by a platinum wire, and closed at the other with an organic membrane. To avoid every source of error, the cylinders were scrupulously cleansed after every experiment, the membrane was changed, and the platinum wire was heated. Experiments were made by interposing a disc of potato, the thigh of a frog, a bit of veal two centimetres in thickness, then the forearm, the thigh, the hand, and the cheek."

M. Spillmann added, in substance: "It seems evident that iodine may be transported through living tissues from the negative to the positive pole. This transfer may take place even in cases where no reaction is found at the positive pole; in its transit through the tissues the iodine may encounter alkaline solutions by which it is arrested, and it may also be swept away in the circulation. If its therapeutical application is really efficacious, the method of which we have been speaking would have the advantage of acting directly and most intensely upon a given diseased part. I believe, nevertheless, that the application of electrolysis to the passage of medicinal substances is subject to many a drawback; the intensity of the current necessary to the purpose is generally such that often the patient can scarcely endure it. Moreover, can not the same results be arrived at, more slowly perhaps, by the internal administration of the drug?"

In something like the foregoing words, M. Spillmann calls up his former expressions in a recent letter to the "Gazette hebdomadaire de médecine et de chirurgie," and he adds: "These conclusions, which I formulated in 1871, I would to-day reproduce. Less fortunate than Dr. Brondel, I employed electrolysis for ganglionic tumors, goîtres, articular affections, etc., but, I must say, without much success. I also tried experiments with the aid of arsenical salts and salts of mercury. I did not think that I ought to persist in a course which seemed to me quite inferior to other well-known methods of introducing medicaments into the economy."

Certainly, we have here a valid claim of priority, but, alas, at the same time, a wet blanket thrown over the method. Another check to our enthusiasm is encountered in M. Dujardin-Beaumetz's report to the *Académie*, to the effect that M. Bardet, the well-known electrician, had repeated some of M. Brondel's experiments, and always with negative results. But it may be well to bear in mind M. Spillmann's suggestion as to the medicinal substance being arrested in its course through the tissues. At all events, it seems to us that M. Brondel's plan should not be hastily declared unworthy of further trial.

THE PROPOSED NATIONAL ACADEMY OF MEDICINE.

In this issue we publish a letter from the gentleman whose plan for a new national medical society we outlined some weeks since. Our correspondent now gives more definite details, and corrects some misapprehensions as to the precise scope of his idea.

There is only one point in regard to which we must utterly disagree with him, and that is his modest assumption that he himself is not likely ever to be made a member of such an august body as he proposes. He still wishes his name not to be mentioned in connection with the matter, and is even so careful as to ask not to have any hint given as to the locality from which he writes. While we accede to his preference in these particulars, we must express our regret that the weight of his name is withheld from the support of the undertaking.

We are quite convinced that some such plan as that which he has worked out will sooner or later be taken up by the profession. It is evident that such an organization would soon have weighty matters of business to act upon at its semi-annual meetings, but, yet, that it would be free from any temptation to such snap action as the American Medical Association took at its New Orleans meeting. It seems likely, therefore, that, not only as a scientific body, but also as the body most competent

to enact what little legislation the profession might be in need of from time to time, it would at once take the leading position before the world, regardless of what might or might not be done by the national medical associations now in existence.

MINOR PARAGRAPHS.

DIRECT MEDICATION OF THE SPINAL CORD.

The phenomena which Dr. Corning describes in this number of the "Journal," as the result of injecting a solution of cocaine into the tissue between two vertebral spinous processes, seem to point the way to a new development of the practice of local medication. The part which, as he suggests, may be taken by certain veins of considerable size situated in the interspinous spaces is a matter that is doubtless still to be worked out, but it will be seen that he lays little stress upon this matter of theory. The main point is that, should it be shown to be safe, the practice to which his observations may lead appears likely to offer a very prompt way of bringing a portion of the organism under the influence of a drug—one that may prove a precious resource in certain desperate conditions.

THE SUPPLY BILL AND THE STATE BOARD OF HEALTH.

While, as we pointed out last week, we can not admit that the Ways and Means Committee's interpolation of the word "deficiency" in the clause appropriating a sum of money to the board's use, to enable it to carry out a system of sanitary inspection, justified the Governor's veto—both because the context makes it apparent that the word was not intended to convey the idea that the board had asked for the means of making good a deficiency in the accounts, and because two other items for the board's benefit were likewise vetoed (one of them appropriating the small sum of five hundred dollars to cover various minor disbursements—among other things, for laboratory appliances)—we must, nevertheless, give it as our judgment that the committee was not at all warranted in submitting to the Governor a bill so loosely drawn. Surely, a "committee on style" would be in order at Albany.

AN ANTI-VACCINATION AGITATION.

Those unhappy individuals who from time to time make a public display of their horror at the practice of vaccination lately held a meeting in New York, at which they demonstrated anew their utter lack of appreciation of facts. There is little danger of their making any impression on the community; but why were they so cruel as to time their meeting so as to preclude the attendance of those of their brother "cranks" who may have felt more urgently impelled to take part in the meeting of believers in "faith cures" held in Buffalo?

INSANITY AMONG FEMALE PHYSICIANS.

"Lyon médical" makes the remarkable statement that statistics show the disastrous effects of medical study on the intellectual faculties of woman. In the year 1881, it appears from the census, there were twenty-five women practicing medicine in England, and our contemporary thinks that the number has undoubtedly increased since that time. From 1880 to 1884, eight had been placed in lunatic asylums, and at the close of last year three were under treatment.

NEWS ITEMS, ETC.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, October 7th: *Montreal, Canada.*—For the week ending October 21st: The epidemic of small-pox has spread rapidly during the week. The deaths reported in the city were 394 and in the adjacent municipalities 96, as compared with 262 and 70, respectively, in the week ending October 13th; 2,454 deaths from the disease have been reported in Montreal and vicinity from the beginning of the epidemic to October 21st, inclusive. *Toronto, Ontario.*—For the week ending October 17th: No further reports of small-pox. *Havana, Cuba.*—For the week ending October 15th: 14 cases of yellow fever and 6 deaths. *Cardenas, Cuba.*—For the week ending October 17th: Free from epidemic diseases. *Matanzas, Cuba.*—For the week ending October 14th: The same. *Nassau, N. P.*—For the week ending October 3d: The same. *San Domingo.*—For the week ending September 16th: The same. *La Guayra, Venezuela.*—For the week ending October 3d: Yellow fever still prevalent and fatal in Caracas; a few cases of suspicious character have occurred in La Guayra. *Paris, France.*—For the week ending October 10th: 3 deaths from small-pox. *Rheims, France.*—For the week ending October 3d: 4 cases of small-pox and 1 death. *Antwerp, Belgium.*—For the week ending October 10th: 3 cases of small-pox. *Copenhagen, Denmark.*—For the month of August: 11 deaths from small-pox. *Barcelona, Spain.*—September 21st to 30th: 392 cases of cholera and 137 deaths. During the month of September 1,440 cases and 609 deaths were reported. The epidemic is abating generally, although an increase in the number of cases and deaths is observed at times, the victims being chiefly those who left the city on the appearance of the disease and have recently returned. *Cadiz, Spain.*—For the week ending October 3d: 73 deaths from cholera. *Valencia, Spain.*—For the week ending October 3d: 2 cases of cholera and 1 death. *Venice, Italy.*—For the week ending September 26th: 5 deaths from small-pox. *Trieste, Austria.*—For the week ending October 3d: 8 cases of small-pox and 4 deaths. *Prague, Bohemia.*—For the week ending October 8th: 2 deaths from small-pox. *Calcutta, India.*—For the week ending September 12th: 4 deaths from cholera. *Shanghai, China.*—August 21st to September 4th: 8 cases of cholera and 5 deaths. The disease is said to be more prevalent among the Chinese than for many years. *Toulon, France.*—September 5th to 10th: 57 cases of cholera and 23 deaths. The following is the number of cases and deaths from cholera in Italy from September 17th to 23d, inclusive: 1,323 cases and 820 deaths. In Spain, from March 4th to September 23d, there were 264,629 cases of cholera and 97,865 deaths.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 27, 1885:

DISEASES.	Week ending Oct. 20.		Week ending Oct. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	1	0	0
Typhoid fever	33	12	37	8
Scarlet fever	21	3	24	3
Cerebro-spinal meningitis	4	4	0	1
Measles	6	0	7	1
Diphtheria	53	22	46	25
Small-pox	1	1	1	0

The Cholera in Spain.—The United States consul at Santander reports to the Secretary of State, Washington, under date September 19th, that the epidemic is decreasing, and hopes are entertained that the disease will soon entirely disappear. The consul at Algiers telegraphs, October 24th, "public health is doubtful; ships will leave with foul bills of health."

Yellow Fever at Ship Island.—Three cases of yellow fever have been reported, at the office of the supervising Surgeon-General of the United States Marine-Hospital Service, as having arrived on a vessel recently from Havana.

The Medical Society of the County of New York.—At the meeting of October 26th officers were elected as follows: President, Dr. Daniel Lewis; Vice-President, Dr. Laurence Johnson; Secretary, Dr. Wesley M. Carpenter; Assistant Secretary, Dr. Charles H. Avery; Treasurer, Dr. Orlando B. Douglas; Censors, Dr. F. R. S. Drake, Dr. H. T. Peirce, Dr. W. E. Bullard, Dr. W. O. Moore, and Dr. F. M. Weld.

At the same meeting the following amendments to the by-laws were passed: The first one, offered by Dr. Jacobi and passed unanimously, reads "That the Comitia Minora be directed to recommend no applicant for admission to membership unless he be a graduate from a medical college in good standing, or a licentiate of a regular unsectarian State or county medical society of this or any other State; or, if his diploma or license be of sectarian character, unless the applicant declare in writing his or her abnegation of sectarian principles and practice." The second provided that the annual dues should be the sum voted at each annual meeting, but not exceeding five dollars. The third provided that the annual dues should be payable in advance after the annual meeting, and that they should be remitted, for the year in which they joined, to those who joined the society in the months of September and October. The first of the two following paragraphs was passed, by a small majority, after much discussion; the second was lost:

1. "If any member shall fail to pay the yearly dues within thirty days after the fourth Monday in November, when the same shall become payable, it shall be the duty of the treasurer to serve, in the manner in which notices in suits are required to be served on attorneys, upon each member so in default, a copy of this by-law and a notice to the effect that unless such dues are paid within fourteen days thereafter his name and the amount due by him will be reported to the society at its next succeeding stated meeting, and entered upon the minutes; and, if they are not so paid, the treasurer shall report the same accordingly. At the next stated meeting of the Comitia Minora after the date of such report, the Comitia may, by order, without further notice, strike from the roll the name of any member continuing in default, and he shall thereupon cease to be a member of the society, provided that, upon his written application explaining such default, and the payment of all dues to the date thereof, or provided that the Comitia unanimously remits the arrears, the Comitia shall have power to remit the penalty of this by-law."

2. "It shall be the duty of the treasurer to take a similar proceeding in the case of any member who shall have had credit for a part of his initiation fee, and also any candidate who has no credit for initiation fee, and who shall fail to pay the same after demand thereof made within fourteen days after the expiration of the three months allowed by the by-laws (Chapter XII, Article 4), for completion of membership; and the terms of the foregoing by-law shall apply to the last-mentioned cases in all respects."

The proposed amendment to Chapter IV, Article 4—which read, "It shall be the duty of the secretary to prepare annually, and send to each member of the society, a register containing the names, addresses, and office hours of the active members of the society, the register to be prepared at such time and in such manner as the Comitia Minora shall direct" called forth remarks by Dr. Jacobi, who thought it would be better to provide for such a register by special action from year to year than in a by-law. It would be desirable, he added, if the society could prepare an official register for the entire State and adjoining counties, to take the place of the faulty register issued by the Medico-Historical Society. Dr. Loomis indorsed the remarks made by Dr. Jacobi regarding the desirability of having an impartial official register of the State and adjoining counties, and moved an amendment providing for the same to be issued by the county society. On motion, the whole matter was referred to the Comitia Minora with power. The annual dues for the coming year were fixed at three dollars.

The Discontinuance of the Michigan State Inspection of Travelers is announced in a circular, dated October 21st, addressed to the inspectors, and signed by the secretary of the State Board of Health, Dr. Henry B. Baker. The circular reads as follows:

"GENTLEMEN: The State Health-Inspection Service, established by this board under Act No. 230, Laws of Michigan, 1885, will cease immediately, in accordance with a letter this day received from Governor Alger, in which he says: 'Of course, however, the State Board will not discharge these officials until the [United States] Government takes the matter up.' By request of the Governor, I have informed Dr. H. W. Sawtelle, U. S. Marine-Hospital Service, Detroit, Mich., that 'this State will take no further action in the matter.' I understand that the reason for this is that the Governor considers that the 'Regulations for the Maintenance of Quarantine Inspections on the Northern Frontier of the United States,' issued by the Treasury Department of the United States (Department No. 153), and approved by the President of the United States, is applicable in Michigan as well as in other States, and that the United States Government should maintain the inspection in Michigan as well as in other States. In closing, permit me to thank you for your efficiency. During your service no small-pox has entered Michigan, so far as known; but it has been reported to have been conveyed from Montreal, by person or otherwise, to Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Pennsylvania, Illinois, and Wisconsin. The most exposed of any State, Michigan has so far escaped."

The rules under which the inspectors acted were as follows:

"1. All travelers and immigrants coming into Michigan from Ontario shall be subject to inspection by an officer appointed by the Michigan State Board of Health. 2. All baggage, household goods, and other effects, belonging to people moving into the United States or to suspected travelers, must be disinfected before entering the country. 3. All immigrants and suspected travelers who do not present proper evidence of recent vaccination or other immunity from small-pox must be vaccinated before entering the State. 4. After October 15, 1885, no passenger-car coming from Montreal or other infected district shall be allowed to enter the State without being properly disinfected. 5. Freight and cars from Montreal or other place liable to be infected, consigned to any place in Michigan, must be thoroughly disinfected before being allowed to proceed. (See Rules 19, 22, and 31, Rules of this Board, under Act No. 230, Laws of 1885.) Inspectors are expected to notify health officers of places outside of Michigan to which are consigned freight-cars from suspected places, if they are not disinfected because not consigned to this State."

The inspectors at Port Huron were Hiram R. Mills, M. D., M. Northup, M. D., and Mortimer Willson, M. D. Those at Detroit were J. J. Mulheron, M. D., Wm. Fitz-Hugh Edwards, M. D., F. W. Owen, M. D., A. B. Chapin, M. D., and F. D. Heisordt, M. D.

The Army Medical Corps. We learn that a board is now sitting in New York for the examination of candidates for appointment on the medical staff. We have before published the circular usually issued to applicants, and we would now call the attention of candidates to the following paragraphs contained in the circular:

"III. Oral examinations on subjects of preliminary education, general literature, and general science. The board will satisfy itself by an actual examination that the candidate possesses a thorough knowledge of the branches taught in the common schools, especially of *English grammar, arithmetic, and history and geography of the United States.*

Any candidate *found deficient in these branches will not be examined further.*"

"IV. Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves; it is always made a subject of this examination and will be considered *a vital one in the examination for promotion after the expiration of five years' service.*"

The Medical Society of the District of Columbia.—At a meeting held on Wednesday, the 28th inst., Dr. Joseph Taber Johnson reported a successful case of hysterectomy for tumor, the character of which will be determined by the microscopical committee of the society.

A New Medical College in Washington Territory.—The medical department of the Territorial University, at Seattle, was lately organized. The faculty consists of Dr. T. T. Minor (medicine), Dr. R. Willard (obstetrics and diseases of women and children), Dr. E. L. Smith (surgery), Mr. J. Baker (chemistry), Dr. G. A. Weed (physiology and hygiene), Dr. C. H. Merrick (materia medica and therapeutics), Dr. L. R. Dawson (anatomy and histology), Dr. J. W. Waughop (psychological medicine), Dr. J. C. Sundberg (ophthalmology, otology, and laryngology), and Dr. J. S. M. Smart (adjunct in clinical surgery and genito-urinary diseases).

The German Faculties.—According to the "Progrès médical," Dr. Werth succeeds Professor Litzmann in the chair of obstetrics at Kiel, and Dr. Ebner has been made a Privat-Docent at Prague.

Obituary Notes.—The death of Dr. Hewitt C. Fessenden, of Eastport, Me., took place on Thursday, October 22d, at the age of sixty-six. He was graduated from the Medical School of Maine, and had resided in Eastport for about thirty years.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 18 to October 24, 1885:*

McPARLIN, T. A., Colonel and Surgeon. Directed to await further orders in New York city. Letter from A. G. O., October 19, 1885.

VOLLUM, E. P., Lieutenant-Colonel and Surgeon. Assigned to duty as attending surgeon, Headquarters Department of the Platte, Omaha, Neb., relieving Assistant Surgeon William C. Shannon. S. O. 103, Department of the Platte, October 15, 1885.

HEGER, ANTHONY, Major and Surgeon. Directed, in addition to his present duties as member of Army Medical Examining Board, now in session in New York city, to perform the duties of attending surgeon in that city. S. O. 240, A. G. O., October 19, 1885.

BAILY, JOSEPH C., Major and Surgeon. Granted leave of absence for twenty days. S. O. 225, Department of the East, October 19, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine Hospital Service, for the two weeks ended October 24, 1885.*

LONG, W. H., Surgeon. To proceed to Detroit, Mich., and assume charge of the service. October 23, 1885.

AUSTIN, H. W., Surgeon. To proceed to Albany, N. Y., on special duty. October 14, 1885.

WILLIAMS, L. L., Assistant Surgeon. Relieved from duty at Norfolk, Va.; to proceed to Washington, D. C., for temporary duty. October 20, 1885.

Society Meetings for the Coming Week:

MONDAY, *November 2d:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *November 3d:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson County, N. J., Medical Society; Androscoggin County, Me., Medical Association (Lewiston); Hampden, Mass., District Medical Society (Springfield).

WEDNESDAY, *November 4th:* Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot County, Me., Medical Society (Bangor).

THURSDAY, *November 5th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans, N. Y. (annual—Albion); Boston Medico-Psychological Association; Obstetrical Society of Philadelphia.

FRIDAY, *November 6th:* Practitioners' Society of New York (private).

SATURDAY, *November 7th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Professor Samuel G. Armor, of Brooklyn.—We regret exceedingly to be called upon to record the death of Dr. Armor, which took place on Tuesday, the 27th inst., in consequence, it is understood, of an attack of pneumonia.

Dr. Armor was born in Washington County, Pennsylvania, January 29, 1818. His parents, who were of Scotch-Irish stock, removed to Ohio when he was a mere child, and his training was therefore almost wholly in the West, Ohio being considered in those days a part of the far West. He took his medical degree in 1844, at the Missouri Medical College, in St. Louis. His attainments and his capability as a teacher were speedily and widely recognized, and for varying periods he was a member of the faculties of Iowa University, Cleveland University, the Medical College of Ohio, the Missouri Medical College, and the University of Michigan. Finally, in 1866, he was made professor of therapeutics, materia medica, and general pathology in the Long Island College Hospital, and the following year he became professor of the practice of medicine and of clinical medicine in the same institution, a position which he held up to the time of his death. He was also one of the visiting physicians to the hospital, a consulting physician to St. John's Hospital, and a member of the Medical Society of the County of Kings.

Dr. Armor was a painstaking and successful practitioner and an excellent lecturer. He often took part in the discussions at meetings of medical societies, and he usually preferred to write out his remarks for publication, rather than to trust to the reporters. The esteem in which he was held was not confined to the city in which he lived; far beyond the limits of Brooklyn he was recognized as one of the foremost of American physicians. He was possessed of a cordial, hearty manner which

won for him friends among all with whom he came in contact. His wiry physique gave promise of a long life, and the news of his death will therefore be all the more shocking to those who knew him.

Letters to the Editor.

THE PROPOSED NEW NATIONAL MEDICAL SOCIETY.

October 24, 1885.

To the Editor of the New York Medical Journal:

SIR: I am well satisfied to see by the Journal received today that my suggestion of last summer, relative to a National Academy of Medicine, has justified itself in the amount of attention it has attracted. It is particularly encouraging to be able to infer, from the variety of the views expressed by other journals and by your correspondents, that the main proposition—the present need of an authoritatively representative medical body in this country—is generally accepted and seriously considered by writers of widely differing opinions as to how the need is to be met. The project, if finally successful, must needs be such as is satisfactory to the profession at large, and can not be wisely formulated until every important criticism likely to be offered has been expressed and freely discussed.

When I offered you my suggestion I had in mind as an example the American Academy of Sciences. This body is, as you are aware, a close corporation, limited in number, whose membership is for life. Admission to its ranks is looked forward to by aspiring students of science as the crowning reward of their lives, and the visible and public evidence of their success. It is recognized by the national Government, to which it is the official and legal adviser as to all questions of scientific interest. It is not intended to, and does not in fact, occupy any part of the field of local or general scientific associations. And, although its annual elections rarely occur without causing bitterness and heart-burnings, often more or less just, because of its failure to choose men who have deserved the honor, this very fact is an evidence that its plan is successful in practice, since, if the honor were not earnestly desired, there would be little disappointment. And although, as has always been true likewise of the French Academy, any one can point to great names outside of the Academy with surprise that they are not upon its rolls, it is equally true that very few get in who ought to be out.

Very much such a body seems to me to be what is needed by the medical profession of the United States—not to take the place of the American Medical Association, or of any other geographically representative body which may hereafter be created, but to occupy a place of its own, the vacancy of which is just at this time sadly apparent to us all.

There is no scientific virtue in localities, nor can maturity of judgment or perfection of culture be mapped out by State lines. A true representation of the medical science of a country can only be expressed by the association of *representative men*—that is, of men who represent the high calling they have chosen, and not the particular section of the country in which they happen to reside. Who, for instance, would dare to maintain that such men as Austin Flint, Sr., or John C. Dalton, were representatives of New York city in any such broad and true sense as their names were household words in the mouth of every student of medicine in the whole extent of the country?

To limit the discussion, should it continue, to the proposition which I have in view, I will briefly restate it. I propose:

1. That there be organized a body of one hundred eminent medical practitioners, to be called the National Academy of Medicine.

2. That the Academy seek a charter from Congress, recognizing it as the official adviser of the Government, to which may be referred any question relating to preventive or practical medicine or the public health which may arise.

3. That membership in the Academy be for life, and that vacancies occurring therein be filled by the vote of its own members.

4. That its purposes be, *a*, the consideration of questions and prosecution of inquiries referred to it by the national Government; *b*, the discussion and investigation of questions and inquiries of general importance to medical science; *c*, the consideration of questions referred to it by local or general medical societies.

5. That its meetings be two in each year: the annual (business) meeting, to be held at Washington, D. C.; the semi-annual (scientific) meeting, to be held in such place, variable from year to year, as may be determined by vote of its members.

As to the best way of starting such an academy my inexperience is somewhat at fault, and you will need the counsel of wiser and more practiced heads. I will, however, suggest the following as preliminary steps:

Let an informal meeting be called of a very few of those best and most widely known as teachers in medical science and practice. You will not have to look far to find half a dozen names which are on the backs of well-thumbed text-books in every medical library in the United States. Let these gentlemen draw up a circular, stating the general purpose of their action, and send the same to a few of the most widely known medical men in every part of the country where truly representative men are to be found. Let the circular request the gentlemen to whom it is addressed to call meetings in their several localities to discuss the subject and to suggest modes of preliminary action—whether, for instance, delegates should be chosen (who should in no case be themselves candidates for membership) to a general meeting for the election of the first fifty of the Academy; or a plan for original representation should be drafted, apportioning membership in proportion to the number and standing of the medical schools in a district, according to which local elections should be held for the selection of the first fifty members. When fifty members shall have been chosen, let the Academy organize, and take its own deliberate time (the longer the better) for filling its number to the limit of one hundred.

The conditions for membership should not, in my opinion, be established until after the organization of the Academy; but I earnestly hope that the doors will be thrown open as widely as possible, exacting allegiance to no code or system, and excluding no class of so-called "specialists," in which material fit for the purposes of the Academy may be reasonably looked for.

Thus, although perhaps collecting its nucleus, for simplicity's sake, from districts bounded geographically, the Academy will be freed from local influences as soon as it is organized, and may fill up its ranks with due deliberation with those whom it regards as most worthy wherever it may find them.

The greatest difficulties seem to me to lie in the first formation of the Academy, and I am inclined to think that, considering the inborn bent of our countrymen toward political methods even in scientific matters, it will be well that as much as possible of the preliminary work be undertaken as a labor of love by those who, like your correspondent, have no hope of becoming members of the Academy themselves.

I am, sir,

THE CORRESPONDENT MENTIONED IN YOUR ISSUE OF SEPTEMBER 12TH.

THE CANADIAN EPIDEMIC AND THE STATE BOARD OF HEALTH.

Albany, October 14, 1885.

To the Editor of the New York Medical Journal:

Sir: I believe that few of the public or of the profession know either the limitations of the active powers of the State Board of Health, or the measures which it has been able to adopt to prevent the invasion of small-pox from Canada.

Although the board has nominally "cognizance of the interests of life and health throughout the State," and is verbally empowered to "from time to time engage suitable persons to render sanitary service," the very Act conferring these powers and duties stipulates that "no more than five thousand dollars in any one year shall be expended for such special sanitary service." Forasmuch as several acts were passed by the last Legislature calling on the State Board to supervise or prepare plans for public works involving special skill in sanitary engineering, the larger part of this limited sum is necessarily devoted to such purposes, and it has been beyond the power, though within the wish, of the board to engage competent inspectors at all the points of entry from Canada.

But, in partial compensation for this involuntary inefficiency of the central board, the new Public Health Act, passed last winter, makes it the duty of every local board of health

"To guard against the introduction of contagious and infectious disease by the exercise of proper and vigilant medical inspection and control of all persons and things arriving in such city, village, or town from infected places, or which, for any cause, are liable to communicate contagion; to require the isolation of all persons and things infected with or exposed to contagious or infectious diseases, and to provide suitable places for the reception of the same; to prohibit and prevent all intercourse and communication with or use of infected premises, places, and things; and to require and, if necessary, to provide the means for the thorough purification and cleansing of the same before general intercourse therewith, or use thereof, shall be allowed. And it shall be the duty of every such board of health to report to the State Board of Health promptly facts which relate to infectious and epidemic diseases, and every case of small-pox or varioloid occurring within its jurisdiction; and to provide at stated intervals a suitable supply of vaccine virus of a quality or from a source approved by the State Board of Health; and, during the existence of an actual epidemic of small-pox, said local board of health shall obtain fresh supplies of said virus at intervals not exceeding one week, and shall at all times provide thorough and safe vaccination for all persons within its jurisdiction who may need the same."

These measures are to be taken at the expense of the several localities, and, consequently, in a community of frugal-minded taxpayers, are not likely to be as thoroughly carried out as might be desired. To maintain a constant guard at places where trains are frequently arriving; to examine luggage and freight; to provide vaccine enough for all unprotected persons; to disinfect suspected articles; to provide a "quarantine of observation"—all these require an outlay of money, which, in a rural district, is reluctantly given. Nevertheless, to compel the execution of the act, it is decreed to be a misdemeanor on the part of any local board to violate "any lawful instruction of the State Board of Health."

Acting upon the authority thus given, as soon as small-pox was known to have assumed epidemic proportions in Montreal, early in June, a circular was sent to every local board of health on the frontier and along the main lines of travel, directing them to exercise watchfulness for the exclusion of infected persons or things, and to secure thorough vaccination, especially of school children and persons employed about railway stations, boat landings, and other points of travel or traffic. Thanks to the energy of most of the local health officers, these precautions were promptly adopted, and in nearly all the exposed localities along our extensive border vaccination has been actively in progress, and the few cases which have been imported into the State have been effectively isolated without any spread of the disease. Continual correspondence, by circulars and letters, has been maintained with several hundred local boards, and every means short of pecuniary assistance that human effort could compass has been used to insure the protection of the State; with what success thus far is shown by the fact that, while small-pox was raging uncontrolled for months almost at our doors, not half a dozen cases crossed our line, and these had no extension. Now that the Canadian authorities are awakened to more decisive action, I feel even less anxiety than before popular apprehension was aroused, and greater confidence in the efficiency of the local boards which have already served their apprenticeship under the most disadvantageous circumstances.

The "epidemic fund" appropriated by Congress last year is under the control of the Treasury Department, and its financial aid is given, through the Marine-Hospital Service, only at the request of the Governors of States, addressed to the Secretary of the Treasury, boards of health having no direct voice in the matter. The Governor of New York has made official application for aid from this source, and means will ere long be provided for the inspection of trains before they reach the frontier; though even then the number of high-roads crossing our land boundary-line and the multitude of smaller places of debarkation along our lake and river shores will still be avenues of possible invasion which it would require almost an army to guard, and our chief reliance must be in the preventive efficacy of vaccination.

I am, sir, yours faithfully,

Alfred Ludlow Carroll, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 13, 1885.

The President, Dr. R. F. Weir, in the Chair.

Hæmatoma of the Thigh.—Dr. H. B. Sands presented a specimen obtained from the body of a man who died in June last in St. Luke's Hospital. The interest of the case lay in discovering, if possible, the seat of the lesion for which an operation was performed in the month of June, 1883. The case had been fully reported in the "Archives of Medicine" for December, 1884.

A man, fifty-one years of age, had suddenly developed in the left thigh a swelling of very large size. At first this was thought to be an aneurysm, but it lacked many of the features of an aneurysm, and Dr. Sands diagnosticated a hæmatoma communicating with a vein. At the time of the operation seven pints of blood, by measurement, were evacuated from the tumor, and it was estimated that a pint of blood was lost; in other words, the tumor contained a gallon of blood. He found a large opening leading from the sac into what seemed to be one of the profunda veins, and tied the vessel in question above and below the bleeding point. The man recovered and regained the use of his limb. Two years later he died in St. Luke's Hospital of visceral diseases implicating chiefly the liver and kidneys. At the autopsy a segment of the affected limb was removed and submitted for examination to Dr. Hall, who had made the following report:

About the middle third or fourth of the left femur, with an abnormally developed linea aspera, forming a sharp ridge where the perforating arteries pass through. Attached to the femur are a part of the vastus internus, and the adductores longus, brevis, and magnus. Left in position are part of the rectus femoris and sartorius, the superficial and deep femoral arteries and veins, the anterior crural nerve, and posteriorly the great sciatic nerve. Anteriorly the skin and superficial fascia have been stripped off in great part. At the inner side of the anterior surface of the specimen, above the vastus internus, a portion of integument has been left, containing a longitudinal cicatrix about three inches in length. The long saphenous vein has been dissected out and cut off above, but remains attached below. It contains a thrombus throughout its course. The fascia lata has been divided, and the muscles have been separated so as to expose the superficial femoral artery and vein throughout. They are pervious and apparently rather larger than usual, but not atheromatous. The profunda femoris is large and pervious down to the last perforating artery. Here the last perforating artery penetrates the adductor magnus and is continued pervious on the posterior surface of the specimen. The artery itself terminates close to the ridge of bone from the linea aspera in a mass of dense cicatricial tissue. An artery, apparently the continuation of this, emerges from the posterior surface of the specimen, from the cicatricial tissue, contains a thrombus, and is lost on the posterior surface of the adductor magnus. A single large vein accompanies the profunda artery, passes beneath the last perforating artery, and terminates abruptly in the cicatricial tissue. The cicatricial mass is about two inches in length, involves the attachment of the adductor magnus to the bone, and is connected with the cicatrix mentioned above. A large vein, not accompanying any artery, passes from below upward into the cicatricial tissue, and terminates in a small, irregular, almost obliterated cavity, partly filled with decolorized fibrin. It seems probable that a varicose vein accompanying a terminal branch of the profunda artery ruptured in or close to the attachment of the adductor magnus and gave rise to the hæmatoma, and that the terminal branch of the artery was ligatured during the operation.

Dr. Sands said that the specimen confirmed the opinion that the tumor was not aneurysmal, but was a venous tumor caused by rupture of a profunda vein, and it was possible that the determining cause of the rupture was the presence of a sharp ridge of bone springing from the femur. When the sac was emptied of clots, and before the tourniquet was applied, some fresh blood escaped, but, judging only from its color, he was unable to say positively whether it was venous or arterial; but the vessel in which the opening existed was of such large size that he had no doubt of its being a vein. The aneurysm-needle used was a rather sharp one, and in using it he punctured an artery, which, when the tourniquet was loosened, permitted hæmorrhage; but that point was at a considerable distance from the opening in the large vessel ligated. As the bleeding vein, owing to its deep situation and the condensation of the surrounding tissues, could not be isolated, the ligatures must have embraced the profunda artery as well as the vein. The blood also which flowed from the vein was very dark-colored.

A Contribution to the Ætiology of Malignant Tumors.—Dr. R. J. Hall read the following paper:

So much of an almost purely speculative character has been written during the last few years on the ætiology of malignant tumors that, did this paper contain merely a new hypothesis, I should scarcely venture to present it to the society. It consists, however, chiefly of a series of cases, most of which have come under my own observation, which, in my judgment, strongly support that hypothesis which is slowly but surely working its way into the minds of most thinking pathologists and surgeons. I refer to the hypothesis which attributes these mysterious neoplasms to a specific virus, in all probability a micro-organism.

Without stopping to give an accurate definition of the term tumor in general, it may be sufficient to say that by malignant tumors we mean such as invade the neighboring tissues and produce metastases (Ziegler, "Lehrb. d. allg. u. spec. path. Anat.," 2te Aufl., 1er Th., S. 214; Nidopel, Carc. u. Infl., "Med. Jahrb.," 1883, S. 123), and that all such tumors are included in two great classes, carcinoma and sarcoma. In regard to the first of these, almost all pathologists have accepted Waldeyer's view, that the cells which occupy the alveoli are epithelial, and the tumors therefore essentially of epithelial origin; while there is no doubt whatever that the sarcomata are built up of connective-tissue elements.

The theories hitherto formulated in regard to the origin of these tumors have been so well classified by Dr. H. F. Formad, in an exhaustive paper on the same subject (Ætiology of Tumors, "Trans. of the Path. Soc. of Phila.," Sept., 1879, to July, 1881), that I can not do better than reproduce his classification. Under each heading he has given a list of the pathologists who have supported the hypothesis. The list is as follows:

1. *Predisposition and Inflammation Theory.*—Virchow, S. D. Gross, Woodward, Samuel, Wagner, Birch-Hirschfeld, Cornil and Ranvier, Perls, Tyson, S. W. Fitz, Gross.

2. *Dyscrasia Theory.*—Rokitansky, Paget, Billroth, Simon.

3. *Embryonal Theory.*—Cohnheim, Thiersch, Waldeyer, Lücke, Masse, Hasse, Epstein.

4. *Idiopathic or Spontaneous Theory.*—Rindfleisch, Stricker, Nancrede, Payne.

5. *Nervous Theory.*—Van der Kolk, Lang, Snow.

The nervous theory is, I think I may safely say, too fanciful to merit discussion, except when considered as a possible predisposing cause. The idiopathic and dyscrasia theories mean nothing, the terms themselves being mere words which either confess our ignorance or serve as a cloak to hide it. Cohnheim's, or the embryonal theory, which has lately fallen into some discredit, undoubtedly offers a satisfactory explanation of the origin of some benign tumors, and may afford a beautiful explanation of one of the facts in regard to the structure of many malignant tumors apparently most difficult to reconcile with our hypothesis. For, if in certain regions, as the parotid, embryonic remains are of frequent or constant occurrence, and in others occur rarely or not at all, we can understand why in the one case the same irritant should give us a mixed, and in the other a simple tumor.

There remains, then, only the predisposition and inflammation theory. Under the great authority of Virchow, pathologists have been ready enough to accept this last as a sufficient explanation; that they have been, and are still, very slow to recognize that the inflammation is of a specific kind, is due, I think, chiefly to the following causes: When, following closely on his "Cellular Pathology," it was demonstrated by Virchow that tumors consisted of cells not differing genetically from those found in normal tissues, the discovery excited such enthusiasm that many were convinced that the life-history of the cell alone could sufficiently account for all the phenomena. Thus, according to the widely accepted view of Thiersch, in old age the resistance of the connective tissue is diminished, the interstitial spaces are widened; under some local irritation the deeper epithelial layers proliferate and penetrate the underlying tissues, enter the lymph-spaces, and are swept into the neighboring lymphatic glands, where, in accordance with their life-history, they develop indefinitely, and, not being on a surface where constant desquamation can occur, must do so at the expense of the surrounding tissues. Thiersch, while correctly recognizing the inflammatory character of at least one group of malignant tumors, the carcinomata, could not at that time make the distinction, now clearly recognized, between simple or non-infective inflammations and infective; and his followers, with less

excuse, refuse to do so even now. We have many instances of local infective inflammations giving rise to metastases—not one, so far as I know, of the non-infective. The view that malignant tumors are of inflammatory origin is one which has spread widely among pathologists, especially since it has been found necessary to place the so-called granulomata, tubercle, lepra, and syphilis among the inflammatory diseases. The points of analogy between these and the malignant tumors are too numerous and obvious to have escaped observation. They have been presented at length by Dr. Formad in an exhaustive paper, and by Dr. Nidopel. Time will only permit me to discuss them briefly to-night.

Tubercle, which may be taken as the representative of the granulomata, was long considered to be an ordinary inflammation in a tissue predisposed to disease; this is the standpoint which many pathologists occupy at present in regard to malignant disease. It is interesting to note Formad (The *Bacillus tuberculosis*, and some Anatomical Points which Suggest the Refutation of its Ætiological Relation with Tuberculosis, "Phila. Med. Times," Nov. 18, 1882), whose weakness for peculiarities in the lymphatic system as sufficient to account for the origin of tubercle led him to reject the tubercle bacillus, and brought down on him what can only be described as the annihilating criticisms of Professor Koch (Krit. Besprechung d. gegen d. Bedeutung der Tuberkelbacillen gerichteten Publicationen, "Dtsch. med. Wchnschr.," Nov. 10, 1883), and Dr. Shakespeare (A Criticism of Dr. Formad's Statements, etc., "N. Y. Med. Jour.," Aug. 16, 1884) finds, in the absence of the endothelium of the lymph-spaces, in carcinomata and sarcomata, a sufficient explanation of their peculiar growth.

Numerous attempts have been made to show that the anatomical peculiarities of tubercle tissue—epithelioid cells, giant cells, cheesy degeneration—are sufficient to account for all the peculiarities of the disease. The researches of Baumgarten ("Ztschr. f. klin. Med.," ix) and Weigert ("Dtsch. med. Wchnschr.," 1885, No. 35; quoted in "Med. News," Oct. 10, 1885) show that they represent only the reaction of the enfeebled cells under the irritation caused by the bacillus. A pathologist can hardly fail to be struck by the similarity of the enormously hypertrophied cells almost constantly found in sarcomata and carcinomata to the epithelioid and giant cells of tubercle, while the frequency with which they are found in a state of fatty degeneration and the readiness with which they undergo spontaneous necrosis remind us forcibly of cheesy degeneration. The discussion has not yet quite terminated among pathologists as to whether tubercle tissue always differs so much from other inflammatory products as to make the microscopic diagnosis possible in every case. In the same way the exact line between certain sarcomata and the products of chronic inflammation has never yet been drawn, while that form of tubercular skin disease known as lupus papillaris or verrucaseis, commonest on the dorsum of the hand, and of undoubted inflammatory origin, is, as I have myself had occasion to observe, indistinguishable under the microscope from epithelioma (Doutrelepont, "Ber. üb. d. Verhandl. d. dtsch. Ges. f. Chir.," 1885—Disk. üb. Tuberkulose, Volkmann). Into what absurdities we may be led by regarding carcinoma as merely a new specific inflammatory process is well shown by the statement of Formad (Ætiology of Tumors) that there are great numbers of chronic ulcers of the leg in the Philadelphia hospitals, and that a large proportion of them are carcinomata, because he has found epithelial nests and proliferation of the interpapillary epithelium. Both tuberculosis, as seen by the surgeon, and malignant tumors are distinctly associated with traumatisms. Thus, Volkmann states that the great majority of tubercular bone and joint diseases are referable to an injury (Erfahrungen üb. d. Tuberkulose, "Verh. d. dtsch. Gesellsch. f. Chir.," 1885), while Formad alleges that he finds an inflammatory origin in nearly one half of all tumors.

Dr. D. G. Zesas (Zur Kasuist. d. traumat. Tumoren, "Wien. med. Wchnschr.," 1883, No. 40; see also C. Mazzoni, Ueb. d. Sarkom., "Arch. di Med., Chir.," etc., vi, 40, f. 201, quoted in "Ctrlbl. f. Chir.," 1874, S. 169 [three cases of sarcoma after operation]; M. Landesberg, Zur Aetiol. u. Progn. intra- u. extraocularen Sarcoma, Virchow's "Arch.," lxiii, p. 1, 1875 [a case of sarcoma following an acute suppurative iridochoroiditis]; R. Barwell, On Acute Traumatic Malignancy, "Brit. Med. Jour.," Feb. 11, 1882 [gives several cases of sarcoma directly after injury]) quotes S. Wolff's statistics drawn from tumor cases observed in the surgical clinic at Berlin between 1864 and 1873, according to which, in 344 cases of carcinoma, a trauma was given as the cause 42 times, and in 100 of sarcoma 20 times.

It is well known that sarcomata usually follow a single injury, and carcinomata a long-continued irritation. The reverse is, however, by no means unknown. Thus, Weil (Sarcoma hæmorrhagicum, "Prag. Vierteljahresschr.," xxxiv, 4, 1877, p. 1, abstract in Schmidt's "Jahrb.," 185, S. 97) gives two cases of sarcoma attributed to repeated irritation.

Dr. R. F. Weir ("Am. Jour. of the Med. Sci.," April, 1876, p. 407) has reported a case of scirrhus of the penis following a contusion received four months previously, and refers to a similar case reported by Holmes Coote ("Med.-chir. Trans.," xlvii, 1863; see also Geber, Epithelialcarcinoma des Penis nach Coitus, "Wien. med. Presse," xii, 4, Jan., 1871, abstract in Schmidt's "Jahrb.," 160, p. 88). J. W. Hulke ("Med. Times and Gaz.," Feb. 8, 1873) reports a case, occurring in a man aged sixty-eight, in which a small wound of the palate, made by the stem of a pipe driven into the mouth, was followed in a month by a small "wart," which grew rapidly and, six months after extirpation, recurred, extended rapidly, and caused the death of the patient. Microscopic examination proved the tumor to be an epithelioma.

If we deny the existence of a specific virus in these cases, we are compelled to fall back upon the vague term predisposition, which was formerly used to explain the cases of tubercular disease having a similar origin. On the hypothesis of a non-specific inflammatory origin it would be difficult to account for the fact that in some countries malignant tumors are practically unknown (Formad, "Ætiology of Tumors"). For, surely, contusions and chronic inflammatoy processes, with diminished resisting power on the part of the connective tissue, can not be wholly wanting in these places. One of the strongest objections made to the assumption of a specific poison in the case of malignant diseases has been the absence of any evidence of contagion. Cohnheim ("Allg. Pathol.," 1877, quoted by Formad, *loc. cit.*) denied the existence of a specific poison, on the ground that the surgeon was never infected from the patient, *or the husband from the wife*. It is well to remember that precisely the same objection was made to the tubercular bacillus. Many physicians of large experience declared that they had never seen a case of even probable tubercular infection, yet now the journals are filled with them, and, while the surgeon seems still to be safe, the anatomist has not been spared (Cohnheim, *op. cit.*).

It is to meet this objection that I have ventured to present the following cases. Three of the series are from the practice of Dr. Sands, and one or both of the patients concerned in each case have come under my own observation; for the fourth I am indebted to Dr. Markoe, and the fifth was seen at the Outdoor Department of the Roosevelt Hospital by myself:

Case I.—Mr. Thomas E. C., aged forty, married, New York, clerk, admitted to Roosevelt Hospital December 3, 1878. Family history good. Patient has varicocele on the left side, and a tumor of the

left testicle, of twenty-two months' growth, of the size of a cocoanut, smooth, firm, and of fibrous consistence. Extirpation of the tumor, January 3, 1879, by Dr. Sands; death, January 26th, from suppression of urine due to pressure on the ureters by metastatic growths in the abdominal cavity. Microscopic examination by Dr. Delafield showed the tumor of the testicle and those in the abdominal cavity to be encephaloid carcinoma (Karg, Tuberkelbacilli in einem sog. Leichentuberkel," Ctrlbl. f. Chir.," 1885, No. 32; G. Ricke, *ibid.*, 1885, No. 36).

Mr. C.'s widow, subsequently married, Margaret Anne, New York city, aged fifty years and three months, died, while under my care, April 12, 1885, with carcinoma "en cuirasse," originating in the mammæ. The tumors were stated to have been first noticed in 1882, and in both breasts at the same time. The growth was confined to the mammary glands and the skin; no enlargement of the axillary glands occurred, and only superficial ulceration of the carcinoma. Death was due to repeated hæmorrhages from the ulcerating surfaces and to exhaustion. No autopsy was obtained. Mrs. L.'s mother, Mary Anne D., died January 30, 1885, aged eighty-one years and six months, of acute bronchitis and broncho-pneumonia. One month before her death the patient consulted me with regard to a rapidly-growing tumor of the right breast which she had first noticed one month previously. My diagnosis was probable carcinoma. The tumor was seen also by Dr. Sands, who concurred with me. The family history of this patient was good. Especially there was no history of tumors. She had been a good deal with her daughter during the illness of the latter, but did not live in the same house. No autopsy was obtained.

Case II.—Mrs. D., aged forty-three, with a good family history, was subjected to operation by Dr. Sands, on May 3, 1882, for carcinoma of the right breast of one year's duration. Recurrence took place about six months later, and the patient died about April, 1883. Microscopic examination by Dr. Satterthwaite showed the tumor to be scirrhous carcinoma. Mr. George D., aged forty-seven, husband of the last patient, came under observation October 20, 1882, suffering from a tumor of the superior maxilla. A younger brother died five years ago of what was said to be recurrent sarcoma of the testicle. The family history was otherwise good. About three months ago the patient noticed a swelling in the left superior maxillary region, and thought he noticed a hard lump beneath the left angle of the lower jaw some time before this. Both tumors have grown rapidly since. A tumor of soft consistence occupies the situation of the left superior maxilla, and extends in the direction of the malar bone. There is a mass of enlarged glands beneath the left angle of the lower jaw. Extirpation of the tumor and enlarged glands was performed by Dr. Sands. Rapid recurrence took place, and death in May, 1883. Microscopic examination showed the tumor to be an epithelioma.

Case III.—Miss Isabella S. was admitted to Roosevelt Hospital, May 25, 1885, suffering from a rapidly growing tumor involving the right superior maxilla and said to be of three months' duration. Extirpation of the superior maxilla was done by Dr. Sands, May 27, 1885. Death occurred from shock and hæmorrhage following the operation. Microscopic examination showed the tumor to be a giant-celled sarcoma. Mr. F. J. G., aged twenty, single, was engaged to Miss S. for some months before her death. He was submitted to a surgical operation on September 9, 1885, by Dr. Post, for the removal of a small cystic tumor of the right superior maxilla, said to be of only three weeks' duration. The tumor lay in front of the antrum, and did not occupy its cavity. Microscopic examination showed it to be a giant-celled sarcoma.

Case IV (taken from Dr. Markoe's work on "Diseases of the Bones," New York, 1872).—Mrs. S. N. E., aged about twenty-three, consulted Dr. Markoe, March 26, 1866, for a small tumor occupying the right side of the neck, behind the sterno-mastoid, and of about the size of a hickory nut. An operation was performed May 1, 1866, when the tumor was found closely attached to the transverse process of the fourth cervical vertebra. Recurrence took place after a few months, followed by slow growth until April 10, 1869, when a second operation was performed. Recurrence took place in the autumn of 1869, with gradually increasing paralysis due to pressure on the spinal cord. A third operation was done January 25, 1871, followed by complete relief of all the symptoms, and there has been no recurrence up to the present time. Microscopic examination by Dr. Delafield showed the tumor to be a myxo-sarcoma. Mr. E., aged fifty-six, husband of the last patient, underwent, on January 19, 1885, an exploratory incision of the abdomen to determine the nature of an abdominal tumor, the symptoms of which dated from December, 1884. A soft, friable tumor was found matting the viscera together in such a way as to prevent the possibility of its removal. The tumor was considered by Dr. Markoe to be a sarcoma, probably originating in the great omentum. The patient died about three days after the operation. No autopsy was obtained.

Case V.—Thomas C., of New York, aged fifty-three, September 4, 1885. Family and personal history good. Especially there was no history of tumors or syphilis. Sixteen years ago he broke his left arm near the elbow, but recovered without stiffness or deformity. One month ago the left elbow and the right ankle became swollen, and the swelling has increased rapidly since, without pain, redness, or tenderness, except over the internal malleolus, where the pain is quite severe. Examination shows that the inferior extremities of the left humerus and the right tibia are expanded, so as to form distinct tumors of the lower ends of the bones, the tumors being smooth and of bony hardness. The neighboring bones and articulations are unaffected. A diagnosis was made of simultaneous sarcoma of the humerus and tibia. The patient was examined by a number of surgeons, who all concurred in the diagnosis. The tumors were especially unlike, in their growth and character, syphilitic or tubercular deposits, which almost alone might be supposed to come into consideration.

While taking the patient's history I incidentally elicited the fact that his wife had died last February, after a six-weeks' illness, with rapidly advancing hemiplegia of the left side, and that the diagnosis of the attending physician, Dr. A. R. Robinson, of this city, was tumor of the brain. Dr. Robinson, whose well-known skill as a pathologist lends weight to the diagnosis, informs me that the case was a well-marked one of rapidly growing tumor of the brain involving the motor areas about the fissure of Rolando, and, so far as the diagnosis could be made clinically, undoubtedly sarcoma. Syphilis especially was carefully excluded.

I am well aware that these cases are not beyond criticism, especially on the ground of the absence, in some of them, of a microscopic examination. This, however, was unavoidable, and in none of the cases, except possibly the last, could there be much real doubt as to the nature of the disease.

In Case IV the long interval which appeared to exist between the last appearance of the disease in the wife and its occurrence in the husband may seem to deprive the case of all significance. When we consider, however, the extremely slow growth of the original tumor, as seen in Mrs. E., and how long a similar one might exist in the abdominal cavity without giving rise to symptoms, the objection loses much of its weight. The length of time also that a tumor histologically malignant may remain latent, as contrasted with the frequently rapid growth of the same or similar tumors, is, I think, not sufficiently appreciated by pathologists, and offers another striking analogy to tubercular deposits. When a tumor which has remained quiescent for many years begins to grow and takes on the character of malignancy, surgeons are apt to assume that it has undergone a histological change from a benign to a malignant growth. The following cases tend to prove that at least sometimes the assumption is unwarrantable:

Case VI.—A small tumor, about half an inch in length by a quarter of an inch in width, adherent to the skin, but situated in the subcutaneous connective tissue, was removed by Dr. Markoe from the back of a healthy man, where it had existed for many years, with, I am informed, little or no change during that time. The tumor is a small-round and spindle-celled sarcoma, with little intercellular substance, and having histologically all the characters of malignancy.

Case VII.—Minnie M., aged eighteen, single, of good family history, noticed a tumor of the neck, below the lobe of the left ear, three years ago. The tumor is of about the size of a pigeon's egg, and resembles a conglomerate of enlarged lymphatics. She states that it has scarcely grown or altered since it was first noticed. Extirpation was done May

25, 1885. Microscopic examination shows it to be a myxo-sarcoma and histologically very malignant.

Case VIII.—Miss T. had a tumor in the same region, precisely similar to the former. She was a healthy woman, aged twenty-one. The tumor had existed for five or six years and grown almost imperceptibly. She desired operation only because a brother had died about one year previously of sarcoma of the pharynx. Extirpation was done by Dr. Sands January 23, 1884. Microscopic examination showed the tumor to be of almost exactly similar structure to the last.

The possibility of direct inoculation of the human subject or of animals with malignant disease has been much discussed, and many experiments have been made with generally negative or doubtful results. I have only been able to find in the literature of the subject two at all well authenticated cases of apparent inoculation. Meissner (Ueb. Krebs, Schmidt's "Jahrb.," 126, p. 121) states that, in 104 cases of melanotic sarcoma, one patient gave inoculation from a horse with the same disease as the cause. In the discussion on Dr. Formad's ("Ætiology of Tumors"; see also Kuhn, Note sur un cas de cancer médullaire transmis par inoculation d'un animal à l'homme, "Gaz. méd. de Paris," xvi, 1861, pp. 263, 391, 405) paper, Dr. S. W. Gross quoted from the "Mag. für die ges. Thierheilkunde," 1862, p. 328, the case of an ulcerating medullary sarcoma in an ox. A woman who cleaned the sore every day acquired a tumor of the outer side of the fourth finger of the left hand. Kuhn examined the tumor and found it to be a medullary sarcoma. Among cases of supposed contagion which can scarcely be accepted as evidence, Hynerth (De l'inoculation de cancer chez le lapin, "Gaz. des hôp.," 1873) refers to cases of contagion reported by Tulpius ("Nicolai Tulpii Amstelodamensis observationes medicæ," ed. nova, Amstelodami, CIↃIXLXXII: apud "Danielem Elsevirium observ. med.," Lib. iv, p. 292, 1672 [New York Hospital Library, No. 255]), and to those to which have been attributed the deaths of Smith and Bellinger. In a discussion by Dr. Mundé ("N. Y. Med. Jour.," Oct. 27, 1883) on cancer of the penis and contagion, the author states that Demarquay, in an analysis of 134 cases, found one where local contagion was alleged, and that Dr. Welch quotes Langenbeck as saying that he had seen three or four cases caused in the same way. Dr. T. Gaillard Thomas (abstract in "Med. Record," Nov. 7, 1883, p. 547) states that he has only met with one case of cancer of the penis in which contagion seemed to be probable.

There are a great number of unsuccessful or doubtful inoculations of animals, for an account of which I must refer to the general literature, and especially to Dr. Formad's article. The only experiments which seem beyond question are those of Professor Klincke (Häser's "Arch. f. d. ges. Med.," iv, 4, 1843, quoted in Schmidt's "Jahrb.," 126, S. 91), who inoculated a dog in the jugular vein and a horse in the conjunctiva with juice from a pigment carcinoma, taken from a mare. In the horse, in sixteen weeks the lachrymal gland was transformed into a melanotic tumor; the dog died in three months, and melanotic-tumor masses were found in the lungs.

Novinski (Zur Frage üb. d. Impfung d. krebsigen Geschwülste, "Ctrlbl. d. med. Wiss.," xiv, 1876, p. 790) made twenty-seven inoculations of carcinoma from the nose of a dog into inflamed tissue, and fifteen into normal skin. All of the first were negative; two of the last positive. In the successful experiment, a small piece of carcinoma (2 mm.) was introduced into a fresh wound of the skin of the back. The wound healed *per primam*. In fourteen days the fragment had reached the size of a pea, and in three months that of a walnut. Four months after the inoculation the dog was killed. The tumor measured 3·5 ctm. in diameter, and was soft and white in section. The lymphatic glands in the subclavicular region were much swollen. Microscopic examination of the tumor showed the peripheral part to be made up of closely lying polygonal cells, of epithelial character and varying in size, infiltrating the surrounding connective tissue. In the center there were alveoli of various sizes, with more or less fine tubercles and similar epithelial cells. The same structure occurred in the lymphatic glands. A young dog was then inoculated with a piece of this tumor, but died a fortnight later (of "*Pestkrankheit*"). Examination showed a small tumor at the point of inoculation; there were no metastases. The tumor showed a typical cancerous structure.

Dr. Goujon ("Gaz. des hôp.," 1867, No. 85) gives two cases which do not appear quite so conclusive. He injected melanotic masses into the left thigh of a dog, and killed the animal after two weeks. At the point of injection there was found a melanotic tumor of the size of a Thaler; also pigment in the lymph-vessels and neighboring lymphatic glands. The lymphatic glands, including the bronchial, were enlarged and pigmented. The lungs were free. The same material was injected into the peritoneal cavity of a second dog, which was killed forty-three days later. At the point of injection and in the mesentery there were deposits of pigment. In one horn of the uterus there were two pigmented tumors. Few glands were affected; one inguinal gland was much enlarged. The bronchial glands were pigmented, but possibly this was from the lungs. All the pigment was in epithelial cells, but these were not similar to those of the tumor injected.

There is another way, however, of studying the subject. It will not be denied that there is not at present a pathologist of eminence who does not teach that malignant tumors are at first purely local. Could it be shown that sarcoma and carcinoma could be transmitted from man to man, or from man to animals, the idea that nothing but the cell was inoculated would not be able to hold its place in scientific opinion for six months. We have passed the stage when it was possible to believe that an infectious disease could be of spontaneous origin. Yet, if the disease is at first purely local, the inoculation of a distant portion of the body in the same patient, the so-called "contact-infection," is as valuable as the inoculation of another person would be. Cases of this kind are not rare in literature. The chief recorded instances are the following:

Dr. M. Nedopil (*loc. cit.*) quotes a case, narrated by Lücke, of ulcerated carcinoma of the edge of the tongue, with inoculation of the mucous membrane of the cheek on the same side; a case by Kaufmann, in which a woman had cancer of the dorsum of the right hand, and subsequently of the conjunctiva of the right eye; her relatives stated that she constantly wiped the right eye with the back of the right hand; cases by Ahlfeld (Beitrag zur Casuistik d. Uterussarkome, "Arch. f. Gynäk.," vii, 2, p. 301), Hegar (*ibid.*, ii), and Spiegelberg (*ibid.*, iv), of direct inoculation of the vagina from the uterus; and cases by Klebs of inoculation of cancer of the tongue, in the stomach. J. Reincke (Virchow's "Arch.," li, 3, p. 391) gives two cases in which carcinoma developed in the punctures made to relieve ascites due to carcinomatous peritonitis. Professor H. Quincke (Ueb. fetthaltige Transsudate, "Dtsch. Arch. f. klin. Med.," xvi, 2, p. 121) gives a similar case. C. Partsch ("Das Carcinoma," etc., Breslau), in giving statistics of carcinoma of the lips, penis, and vulva, relates one case of possible contact-infection. P. Kraske (Ueb. d. Entstehung secundären Krebsgeschwülste durch Impfung, "Ctrlbl. f. Chir.," 1884, No. 48) gives two cases of rectal carcinoma in which small secondary tumors were found at a lower point, separated by healthy mucous membrane from the primary growth, and refers to Virchow's well-known observation on the peculiar distribution of carcinoma of the peritoneum, secondary to carcinoma of the stomach (Virchow, "Die krankhaften Geschwülste," i, p. 51); to the cases of Lücke (Die Lehre von den Geschwulsten, etc., Billroth u. Pitha's

"Handbuch," ii, 1, S. 50), Kaufmann (Ueb. Multiplicität d. prim. Carcinoms, Virchow's "Arch.," lxxx, p. 347), and Klebs, mentioned above, and to a case by Erbse, in which a carcinoma of the œsophagus perforated the trachea and gave rise to secondary tumors in the lower lobes of the lungs.

Beck (Beiträge zur Geschwulstlehre, "Ztschr. f. Heilk.," v, 6, 1884, abstract in "Ctrlbl. f. Chir.," 1885, No. 34) records the following three cases from the Institute of Chiari, Prague. 1. Ulcerating cancer of the œsophagus. In the anterior part of the lower end of the œsophagus and in the stomach there was a tumor of the same character, flat-epithelial carcinoma. 2. Two carcinomata of the œsophagus separated by healthy tissue. The author admits the possibility of both being primary. 3. Multiple lymphadenoid round-celled sarcoma of most of the lymphatic glands, the lungs, spleen, and posterior surface of the stomach. In the ileum there were numerous similar nodules, not corresponding to Peyer's patches. In the cæcum there was an infiltration of almost the whole intestinal wall. The author excludes, on various grounds, all the other situations, and considers the growth in the cæcum as primary, and the other tumors in the intestinal tract as due to contact-infection, the tumor particles being carried back by antiperistalsis, the tumor of the cæcum being ulcerated and having caused much obstruction.

Beck quotes also a case, by Hjelt, of carcinoma of the ileum and colon, with primary cancer of the duodenum.

Two cases of the kind have come under my own observation, as follows:

Case IX.—Mr. A., an elderly gentleman, probably between fifty and sixty, suffered for several years from a slowly growing epithelioma of the floor of the mouth, on the left side, and encroaching on the posterior surface of the gums. Several operations were performed by Dr. Sands at varying intervals, with temporary success; but recurrence took place after periods varying from two or three years to several months. After the fourth operation, December 18, 1884, rapid recurrence took place. A flat epithelioma developed on the hard palate, just at the point where the tip of the tongue, constantly in contact with the epithelioma in the floor of the mouth, would frequently impinge. The diagnosis in this case was confirmed by repeated microscopic examinations.

Case X.—Mary M., aged forty-four, single, March 29, 1885. Family history good; no case of malignant disease known. Carcinoma of the right mamma, first noticed two years ago. Amputation of the breast was performed one year later. The axilla was not opened. Recurrence was noticed last October. Patient was first seen March 29, 1885, suffering from carcinoma, recurrent in the cicatrix of the operation, the new growth extending in the form of nodular masses, ulcerated in part, over almost the whole right side of thorax, anteriorly, laterally, and posteriorly to the external border of the scapula. The axillary glands on the same side were much enlarged, and the whole right upper extremity was enormously swollen, œdematous, and painful. On the left side of thorax, above the mamma, and on the left shoulder, were several isolated, non-ulcerated, cancerous nodules, varying in size from that of a split pea to three quarters of an inch in diameter, and not extending beneath the skin. There was a profuse sero-purulent discharge from the ulcers. The patient was last seen June 23, 1885, when the carcinoma had extended over the upper part of the abdomen and a great part of the right scapula and shoulder. Ulceration of the carcinomatous masses in the axilla had occurred. The discharge from the ulcers on the shoulder and in the axilla constantly ran down on the anterior and internal surfaces of the arm and forearm to the wrist, exciting an eczema and inducing the patient to scratch. *All along this surface there were cancerous nodules in the skin*, generally ulcerated, or excoriated on the surface; some isolated, others confluent, and extending to the wrist. She died of exhaustion July 10, 1885.

I may mention here one or two more interesting points of analogy between tubercle and malignant tumors. The former appears usually as a more or less chronic and localized disease. It occurs also as an acute infectious disease. Acute miliary tuberculosis involving the different organs with a rapidity that was a complete mystery to the pathologist until the views of Weigert (Ueb. Venentuberculose u. ihre Beziehung zur tuberc. Blutinfection, Virchow's "Arch.," lxxvii, p. 269, lxxxviii, p. 307; Neue Mittheil. üb. d. Pathol. d. acut. allg. Tuberculose, "Dtsch. med. Wchnschr.," 1884, No. 24), founded on careful anatomical research, were confirmed by the demonstration by Weichselbaum (Bacillen im Blute bei allg. acuter Miliartuberculose, "Wien. med. Wchnschr.," 1884, 12, 13), Baumgarten ("Ctrlbl. f. d. med. Wiss.," 1881, 15), and others, of tubercle bacilli in the blood. Raymond and Brodeur ("France méd.," 1883) record a case of primary acute miliary carcinosis, and refer to two similar cases by Charcot. Numerous cases have been reported, during the last few years, of general tuberculosis following operation on a local process, the operative interference having obviously opened the way for the bacilli into the general circulation (Koenig, "Bericht d. xiii. dtsch. chir. Congr."; also Tuberculose d. Knochen u. Gelenke, and Szuman, Brisement forcé eines scrophulösentzündeten Kniegelenks, etc., "Ctrlbl. f. Chir.," 1885, No. 29; P. Aubert, Le traitement du lupus à l'Antiquaille, "Ann. de dermat. et de syph.," iv, 3 [two cases of rapidly fatal phthisis pulmonum shortly after scarification of lupus]). A precisely similar general cancerous infection has been reported by Schweninger ("Bayer, ärztl. Intell.-Bl.," xxiii, 32) as follows: A girl, aged seventeen, underwent an operation for colloid carcinoma of both ovaries. The tumors were punctured shortly before the operation for diagnostic purposes. During the operation one of the tumors was torn. No reaction took place, and the wound practically healed in ten or eleven days. From this time there was a continued fever of remittent character, with diminished power and sensibility in the left arm and leg, and severe neuralgic pains and cramps in the affected extremities. Rapid extension of these symptoms took place to the right side, followed by bronchial catarrh, increasing weakness, and death, thirty-six days after the operation. A post-mortem examination showed that the peritonæum was thickly covered with carcinomatous nodules, varying in size from that of the head of a pin to that of a pea. Similar nodules were found in the liver, in the spleen, beneath the pleura, in the parenchyma of the lungs, and on the surface of the dura mater. In the interior of the brain there was a colloid tumor of about the size of a hen's egg.

Finally, it is with some hesitation that I state that I have found bacilli in a single case of rapidly growing, non-ulcerated, large-celled sarcoma of the occipital region occurring in a woman, and extirpated by Dr. Sands during the past year. The tumor tissue had been kept in ninety-five-per-cent. alcohol since the operation, and the sections were stained with fuchsin by a slight modification of de Giacomi's method for staining the bacillus of Lustgarten (Friedländer's "Fortschritte der Med.," 1885, 16, p. 543). The modification consisted merely in more prolonged immersion in the staining fluid, and may not have been essential. Every precaution was taken in the way of using sterilized vessels, reagents, etc. Of two sections examined, bacilli were found very sparingly in only one, and after prolonged examination. The examination was made with a Zeiss oil-immersion $\frac{1}{12}$, and Verick eye-piece No. 3, using, of course, the Abbé condenser. Though few in number, the bacilli found were very distinct, only one being situated in each cell, straight and apparently somewhat longer and plumper in proportion to their length than the tubercle bacilli. I know well, of course, that little or no scientific value attaches to a single observation of this kind by one man, unsupported by the evidence of any others, but mention it because it may acquire some if confirmed by future research; and at least it serves to

show that my work is not all theoretical, but practical as well. [The paper was followed by numerous references to literature.]

The President, referring to Cripps's latest work on "Diseases of the Rectum," stated that the author considered epithelioma of the rectum as probably parasitic in nature, which was supported by the fact that in the underground workers of certain mines in Silesia sarcoma occurred very frequently, whereas it did not prevail among those who lived in the adjacent country: and also that in the low lands near Liverpool in England there was no marked increase in the cases of cancer. The two cases quoted in the paper under the initial D. had been finally under his care, and they had struck him as bearing upon the question of contagion closer than any others he had ever encountered.

Dr. A. C. Post said that one interesting feature of the tumor upon which he had operated was that, although the morbid growth did not extend into the antrum, it had eroded its anterior wall so that he could pass his little finger into the cavity.

Dr. Sands was able to add another case to the list given by Dr. Hall—one in which malignant disease occurred in more than one member of the same family. A young man came to him three years ago on account of a swelling on the right side of the face over the spheno-maxillary and malar regions. It seemed to be due to the development of a tumor which was very deeply situated, and which, besides causing projection of the side of the face, was attended with a protrusion of the eye. He suspected the existence of a polypus of the spheno-maxillary fossa, and, with a view to remove it, he raised the malar bone, but was disappointed on discovering that, although a tumor was present in the spheno-maxillary fossa, it was not a polypus, but was firmly imbedded and could not be removed. The patient was known to be living, six months ago, in a state of great misery, the tumor having reached a very large size. About six months ago a brother of this patient was brought, in whom a tumor of large size had developed in the pharynx within a few months. It filled the pharyngeal cavity, and, although it was not firm in consistence, it was firmly attached. The disease was evidently malignant. The patient's general health had become very much impaired, and the speaker had been obliged to decline surgical interference. Probably both patients were now dead. They lived in the same house in Westchester County, and often occupied the same room.

It seemed to him that such cases, although they could not be accepted as proving the contagiousness of malignant tumor, indicated very clearly the direction in which future inquiries should be made in the hope of confirming the hypothesis of the parasitic nature of these morbid growths; for, certainly, there was no disease not already proved to be parasitic which would seem so likely as cancer to have such a mode of origin.

Dr. Hall remarked, with reference to the remarkable absence of cases of apparent contagion in literature, that it might be explained by the fact that, if the idea of specific poisons for malignant tumors was accepted, probably all cases recorded as of hereditary origin would fall under the head of infection. In tubercle practically the same thing was occurring now. Formerly all cases had been attributed to heredity, whereas now they were very largely attributed to infection. Congenital tuberculosis was extremely rare, and, while congenital carcinoma and sarcoma occurred, they were also extremely rare.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 15, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Organization of the Section in Surgery was announced, Dr. Stephen Smith being Chairman, and Dr. A. B. Judson Secretary; the meetings to be held the second Monday of each month.

The Final Payment on the Property of the Academy was announced by Dr. F. A. Castle.

The Comparative Results of Operations in Bellevue Hospital.—Dr. Stephen Smith read a paper with this title, which was prefaced by this paragraph: "As we drift with current events we but imperfectly estimate the real advance which any art or science with which we are daily familiar has made within a limited period. It is only when we considerately pause and deliberately compare in detail past methods and results with those now practiced and obtained that we fully appreciate the vast changes which have so insidiously and imperceptibly taken place."

He then pictured Bellevue Hospital as it was in former years, located on the made lands of a cove of the East River, without drainage, adequate sewerage, or ventilation—a receptacle of typhus and typhoid fevers, small-pox, puerperal fever, cholera, and yellow fever. Bellevue Hospital had seen little of surgery before 1850; since then the increase of surgical practice in that institution had been gradual. The methods of procedure had been entirely revolutionized. Before the introduction of anæsthetics, the most important general principle governing the operator was celerity, whereas now, while the surgeon aimed to diminish the period of anæsthesia, mere haste was condemned. The surgeon's aim at present was to avoid suppuration. Formerly he troubled himself only to keep his instruments sharp, and paid little attention to cleanliness except as it guarded against rust. Now one of the assistants gave his whole attention to the instruments, placed them in a solution of carbolic acid, and took every means to render them clean. Formerly patients were brought directly to the operating-table without the part to be dressed or operated upon being even washed. Now the greatest pains were taken to clean the seat of the disease. Formerly the personal preparation of the surgeon and his assistants was only with a view to prevent soiling their clothing. No thought was given to the hands or nails. By-standers were invited to put their fingers into the wound without previous cleansing. The sponges were cleansed only in simple water; ligatures were carried in the surgeon's pocket; but one end of the ligature was cut off, the other being left for removal by traction after its final separation from the vessel. In closing an ordinary wound, the surgeon formerly took great pains to provide for the escape of pus, for he always expected suppuration. The final dressing was of adhesive plaster, and the bandage for support and retention. The plaster was never rendered aseptic, and, by its close relations to the wound, was dangerous. The bandage was usually of unbleached muslin, and added to the risks of infection. The surgeon left many wounds open which he would now close, for formerly he expected suppuration, while now he expected to avoid it. While describing the practice before the introduction of anæsthesia and antiseptics, Dr. Smith pointed out in contrast the methods of to-day. If we followed the wounds treated by former and by modern methods from the first to the last dressings, the contrast was remarkable. If the wound was large, on the second or third day the fever formerly began, announcing suppuration, and for weeks after the dressings were changed once, twice, or oftener daily. The pus-basin, irrigator, and dressing forceps were in constant demand; there were fever, exhaustion, and depression of the patient, and then came chills, fever, and profuse sweatings, now called pyæmia, but then considered as only another stage of surgical fever. But metastatic abscesses were now things of the past. Everything was at present directed toward the prevention of suppuration.

The author then contrasted the treatment formerly adopted

in compound fractures, amputations, exsections, and ligations of arteries, with that now practiced. Amputations were not now thought of except where the nerves and arteries were so far destroyed as to prevent the conveyance of nourishment to the extremity. Formerly amputation wounds rarely, if ever, closed at Bellevue Hospital except after long-continued suppuration, and the larger ones were terribly fatal, whereas now they were among the most successful cases in the hospital, and death from suppuration and its results did not occur. Formerly psoas and other abscesses were allowed to go until they made an opening for themselves. Now they were opened and washed out with an antiseptic solution, often with the cessation of suppuration. Their walls being approximated after scraping, they frequently united almost at once. Septicæmia and pyæmia were now almost unknown in the gynæcological wards. Reviewing the surgical practice of Bellevue, it was not difficult to determine the essential feature of present methods as compared with those of the past; it was cleanliness. The agents now found efficient to secure this were soap and water to external parts, carbolic-acid solution for the instruments, bichloride solution to all surfaces and tissues, and iodoform for external dressings.

Dr. A. C. Post was prepared to accept the author's statements with regard to the thorough efficiency of cleanliness. He thought there was still room for doubt as to how far the use of antiseptics, so called, contributed to the success of operations other than as it secured cleanliness. His reason for doubting somewhat the part antiseptics played in contributing to the successful treatment of wounds was founded on the experience of the most eminent gynæcologists of Great Britain. Mr. Tait and Mr. Keith, the most successful ovariotomists, had regarded antiseptics, so called, as not only useless but pernicious; they maintained that the use of antiseptics added a small percentage of mortality to that class of operations. They both insisted, however, on thorough cleanliness. But there was no doubt of there having been a very great improvement in the treatment of surgical wounds, whether we regarded the improvement as due to antiseptic methods or to cleanliness.

Dr. W. Gill Wylie did not know whether we should have learned the full meaning of cleanliness had it not been that antiseptics, as introduced by Lister, had helped us to an understanding of it. He had no doubt that antiseptics had done good, but, like all things which had done good, they had been carried too far, and there was now somewhat of a reaction against them. He used antiseptics simply as a substitute for cleanliness, but if he could be sure of perfect cleanliness he would not use antiseptics.

Dr. Smith closed the discussion, and said that it had not been his intention to treat specially of the subject of antiseptics. Since the discussion had taken that direction, he might say, however, that in his opinion the value of antiseptics rested in their securing cleanliness. Extreme cleanliness now pervaded the wards of Bellevue Hospital. It was especially necessary that the surgeon's nails and hands should be rendered clean. Antiseptics had brought us to a knowledge of the necessity of cleanliness, and were adjuvants of cleanliness; so far as they assisted in securing cleanliness were they useful, and perhaps not much further than that. But those who were ridiculing antiseptics he thought were doing harm, for their followers might adopt less efficient methods of cleanliness than they did.

A Krackowizer Prize.—A communication looking to the establishment of a Krackowizer prize was referred to the Council with power. A resolution was also adopted authorizing the president to appoint a committee to take into consideration the advisability of certain changes of, or additions to, the constitution and by-laws.

NEW YORK CLINICAL SOCIETY.

Meeting of April 24, 1885.

The President, Dr. A. A. Smith, in the Chair;
Dr. Francis H. Markoe, Secretary.

The Treatment of Certain Fractures of the Bones of the Leg, and of the Patella, by Drilling and Wiring of the Fragments.—Dr. J. Williston Wright read a paper on this subject (see page 477), and showed several of the patients whose cases were mentioned in the paper. He also read the history of another case, prepared by Dr. Leroy W. Hubbard (see page 479).

Dr. V. P. Gibney commended the results. He was particularly astonished at the case of patella fracture shown. He thought that if simple fractures were oftener treated in this way there would be fewer cases which proved a disgrace to the profession—the increasing separation in time often rendering the limbs almost useless. He felt sure that with rigid antiseptic precautions there was little danger.

Dr. L. B. Bangs remarked that the paper had proved particularly interesting to him in view of a case which had lately come under his notice—one of compound fracture of the thigh in its upper third. The patient came under his care some days after the receipt of the injury, and when he saw it the fragments could not be replaced in position and the wounds were in a septic condition. He believed that, if the wire suture had been used early in this case, both the limb and the life of the patient might have been saved.

Dr. F. H. Markoe agreed with Dr. Gibney in believing that the unfortunate result which sometimes occurred after the most careful treatment of simple fractures of the patella might be averted by this method, but did not believe that in the present state of antiseptic surgery it should be adopted in all cases. It seemed to him that it must be particularly useful in cases in which there were well-marked obstacles to the putting of the fragments in apposition, as, for example, clots, etc., in which aspiration proved of no assistance.

Acute Phosphorus Poisoning.—Dr. E. G. Janeway reported a case as follows:

J. F. D., colored, aged twenty-five, United States, a waiter, was admitted to Ward 18 (Bellevue Hospital) April 9th, at 6 P. M. He was, from all external appearances, well, his pulse being full and regular, and his temperature in the mouth 98° F. He said he had taken, the evening before, ℥ j of bromide of potassium, having had a great deal of domestic trouble, and not having slept for a week. This gave him no sleep and produced no toxic symptoms. He confessed also that at eight o'clock the same evening he had taken the tops of three boxes of blue-topped matches, being influenced to do so by having read the account of a suicide by the same means. He was given an emulsion of magnesia and oil of turpentine, and his stomach was washed out with four quarts of water. He vomited out the tube and the remainder of the stomach contents, which smelled strongly of phosphorus, and in which were plainly seen the tops of matches.

April 10th, 8 A. M.—Temperature 99°, pulse 84 and irregular; complains of nothing but soreness in the back. During the night he had two diarrhœal movements.

10th, 12 M.—Temperature 98·75°, pulse 84, respiration 20; pulse intermittent. Was ordered whisky, ℥ ss. 3ia qu. h., and put on the use of liquid diet (milk and lime-water). 4 P. M.—Temperature 98°, pulse 90 and good. The urine was examined, and found of a reddish-yellow color, of acid reaction, and of a specific gravity of 1·030. It contained a trace of albumin, no casts, but amorphous urates. He had two scanty diarrhœal movements, containing little fæces.

11th, 4 P. M.—Temperature 99, pulse 72, respiration 25. Inhalations of oxygen-gas were ordered, of five minutes' duration, every half-hour during the day. He slept well during the night.

12th.—Complains of general weakness, and soreness in the back persists. The urine has been examined repeatedly, but no blood or casts have been found.

14th.—Doing well. The corneæ show slight jaundice.

16th.—Since the 11th inst. the temperature has ranged between 98° (morning) and 99° (evening). The pulse is good. He was allowed to get up, and the inhalations of oxygen were stopped.

He was discharged cured on the 20th.

The President remarked that for some years past he had taught the use of oxygen-gas in the treatment of acute phosphorus poisoning, but could not recall his authority for so teaching.

Dr. Janeway mentioned that, so far as he could ascertain, it was not recommended in any of the ordinary text-books.

Reports on the Progress of Medicine.

GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

Vicarious Menstruation and Menstrual Exanthemata.—Heitzmann ("Med. Jahrb.") remarks that by the term *vicarious menstruation* is meant the periodically recurring hæmorrhages from any portion of the body which recur at equal or nearly equal intervals of time, alone or in connection with menstruation. Such hæmorrhages may occur from mucous membranes (aside from the mucous membrane of the genital tract), or from or under the skin. Instances are related in which the bleeding has appertained to the bronchi, stomach, intestines, nasal mucous membrane, upper or lower extremities, cheeks, etc. In some cases pathological processes in different parts of the body have been associated with the phenomena. Within the last few years, especially since the publications of Leopold upon this subject in 1883, opinions have changed regarding the necessary interdependence of ovulation and menstruation. Many cases are on record in which menstruation has persisted after both ovaries were removed, and this with other facts compels us to look beyond the activity of the ovaries, or, at least, beyond the activity of the ovaries *solely*, for the cause of menstruation. The modern physiological explanation of normal menstruation is that it is an exudation of blood and blood-corpuscles, partly through the intact walls of the turgescent capillaries of the uterine mucous membrane, partly as a true hæmorrhage through the ruptured vessel walls which is favored by the construction of the mucous membrane and the falling off of its epithelial covering. The recent literature of this subject has been furnished by Leopold, Kundrat and Engelmann, Williams (J.), Wyder, Ruge (C.), and Möricke. The cause for the periodicity of menstruation has not yet been ascertained. The congestion which accompanies this function is not limited to the genital organs, and in this fact is a partial explanation of the occurrence of vicarious menstruation; at least it explains its possibility. Menstruation, whether it be normal or vicarious, is an evidence, too, of sexual maturity, and in this particular is to be distinguished from the hæmorrhages which occur before and after menstrual life, most of which, though they may proceed from the genital organs, are not connected with the monthly flow. The theory concerning the meaning and purpose of menstruation which seems most plausible to the author, though not entirely satisfactory, is that of Sigismund. This theory maintains that the uterus is prepared before the menstrual period for the presence and development of the ovum by the presence of the decidua. If the ovum is not fructified, there is no occasion for the nourishing function of the decidua, and it is cast off together with the ovum, menstruation thus being a kind of abortion. Now, regarding vicarious menstruation, in all the cases which were investigated by the author, abnormities or diseases were found in some portion of the genital tract as an explanation of the unusual hæmorrhage. Smallness of the uterus was especially noticed in this connection. Cases are quoted in which hæmorrhage occurred from the lungs, nose, stomach, nipples, scars, etc. As the time approached when the menses would naturally occur, hæmoptysis or hæmatemesis affected some of the individuals, while with others a swelling of some kind or other would be manifest, from which blood or bloody pus would be discharged for a few days, after which there would be a normal condition until the end of another month. Yet other cases are related in which with uteri of very small size there were scanty menstruation and a petechial eruption upon the skin. When the menses became normal the exanthem and other evidences of congestion disappeared, the *locus minoris resistentiæ* having been again established in its proper seat. From the cutaneous phenomena is deduced the natural inference that a reciprocal relation exists between the female genital organs and the skin, and the vicarious office of the latter is neither unwarranted nor infrequent. The performance of the same office by other parts of the body is, to a greater extent, exceptional.

Endometritis Dissecans.—Dr. P. Kubasson ("Ztschr. f. Geburtsh. u. Gynäk.," ix, 2) states, as the result of an analytical study of several preparations obtained during the past few years from patients with this disease, that the pathological process is an exfoliative imflammation of the inner layers of uterine tissue, involving not only a removal of the entire mucous membrane, but also of the contiguous bundles of muscular tissue. He finds in all literature only two cases recorded of a similar disease, and those were described by Siromjatnikoff, in the Russian language, in 1880. In one of his cases the patient died, and the uterus was carefully studied. The result was confirmatory of his opinions concerning the nature of the disease, and showed that the exfoliations were not a product of abortion or of membranous dysmenorrhœa. In each case the exfoliation occurred at or near the menstrual period. The part which was thrown off was three-cornered, had three openings, and included mucous membrane and uterine muscular tissue. With it there was also a discharge of blood, pus, and mucus. The patients showed some elevation of temperature at the time, which dropped to normal and was followed by recovery in two of the cases; in the third it became sub-normal and was followed by death. The process which resulted in this loss of substance was partly phlegmonous and partly hæmorrhagic. The study of these specimens has convinced the author that the disease is not so rare as might be supposed. The difficulty in obtaining the discharges of women will prevent such an investigation of the subject as would be desirable. Turning again to the process by which the exfoliation is accomplished, the author remarks its similarity to the process which often obtains in scurvy. Severe hæmorrhages during the process are not likely to occur, on account of the thrombi which, evidently, are quickly formed in the divided vessels. The mucous membrane may be regenerated from the small islands of that tissue which are left when the main portion is swept away. The causes of this affection are both predisposing and constitutional, but our imperfect knowledge of the subject prevents greater definiteness. The symptoms noted, in addition to rise of temperature, were vomiting, diarrhœa, dysuria, lessening of the heart's activity, acceleration of the respiration, etc., and also others which were directly referable to the pelvic organs, bearing-down pains, pains in the sides, and the mixed discharge alluded to. The prognosis can not always be favorable, especially if the Fallopian tubes are involved. Such a complication proved fatal in the third of the author's cases. In the way of treatment, the general health must be brought to as high a standard as possible, and locally such means must be used as are helpful in relieving uterine congestion [which the author seems to consider the principal element, or one of the principal elements, of disturbance]. Chief of these is the abstraction of blood by scarification or leeching. Narcotics and poultices will be required should the pain be severe.

The Significance of Alterations in the Kidney which follow the Development of Fibroid Tumors of the Uterus, with reference to the Indications for and the Prognosis of Hysterotomy.—Pozzi ("Ann. de gyn.") summarizes his paper in the following conclusions. 1. Compression of the bladder and the ureters is a complication which is frequent with fibroid tumors of the uterus, even with those which are moderate in size. It may involve, and with rapid progress, grave altera-

tions in the kidneys, such as hydronephrosis, cysts, sclerosis, and fatty degeneration. 2. When this compression is exerted upon the bladder its effect is readily recognized, but the same is not true when the ureters are encroached upon, and a positive lesion can not always be diagnosticated until albuminuria has supervened. 3. Compression of the bladder or ureters ought to have great weight among the indications for operation, and may, of itself, determine active interference on the part of the surgeon. 4. When hydronephrosis exists, the indication for operation is an urgent one, especially in view of the danger which threatens the unaffected (or presumably unaffected) kidney. In cases of this character hysterotomy should first be performed, and when the patient has recovered from that operation the cyst may be attacked. 5. The prognosis of hysterotomy is grave, according as the analysis of the urine indicates renal disturbance. If Bright's disease is clearly established it would be a positive contra-indication to the operation, but a slight degree of albuminuria would not be a contra-indication.

The Statistics of Uterine Cancer and its Operative Treatment.—Hofmeier ("Ztschr. f. Geburtsh. u. Gynäk.") states that a new era in the operative treatment of uterine cancer began with the announcement of Freund's operation. Ruge and Veit have studied and published the account of the pathological anatomy pertaining to the subject. The question recurs continually, Have the results which have been obtained repaid the time and labor which have been expended. The statistics of this paper were gathered mainly from the records of Schröder's policlinic and his private practice. From the former, of 18,000 cases, 603 were cases of uterine cancer. From the latter, of 9,400 cases, 209 were of uterine cancer, respectively 3·6 per cent. and 2·18 per cent. The great preponderance of cases in public over those in private practice is noteworthy, and is attributed by Schröder to the severer experience of the poorer classes in the struggle for existence. The age of the patients in the collated cases varied between 20 and 85, no cases being presented under 20:

From 20 to 29 years of age	there were	16	cases.
" 30 to 39 " "	"	195	"
" 40 to 49 " "	"	272	"
" 50 to 59 " "	"	192	"
" 60 to 69 " "	"	65	"
" 70 to 79 " "	"	7	"
" 80 to 85 " "	there was	1	case.

In only 39 of these cases were the patients nulliparous, and the rule was, as has been enunciated by Gusserow, the greater the number of children, the greater the predisposition to cancer. Of the individuals referred to in the foregoing table, 76 had borne 10 or more children each. It was observed that the puerperal period is especially favorable to the rapid development of the disease. Of the entire number of cases studied, in 236 there was cancer of the (1) portio vaginalis, in 181 it affected the (2) cervix [*i. e.*, the supra-vaginal portion of it], in 28 the (3) body was involved, and in the remaining 367 the variety is not specified. The average age of those who are included in the first variety was 42, of those in the second 47, of these in the third 54·5. The average number of children borne by those who are included in the first variety was 6; 7 of them were nulliparæ, 33 were primiparæ. The age of the youngest in this group was 26, that of the oldest was 63. In the second variety the average number of children was 6·5; in 4 of the cases the patients were nulliparous, in 23 they were primiparous. The disease in this (2) variety came late in life, in many cases, frequently long after the menopause. Of the third variety 21 per cent. were nulliparous; the average number of children was 3·6. No individual was operated upon until after a thorough examination under anæsthesia had been made, and no hope of permanent recovery was held out in cases in which the uterus was fixed, or the folds of Douglas's *cul-de-sac* and the tissue surrounding the cervix were involved. The magnitude of the operation (*i. e.*, whether complete or partial extirpation) was limited mainly by the variety of the disease. In 160 cases operations were performed in the hope of obtaining a radical cure. The prognosis of ultimate recovery was least hopeful in those cases in which the cervical mucous membrane was affected, since the probabilities were strongly in favor of the disease being extensively diffused at the same time. This was especially true in old women. In 96 of the cases in which the portio vaginalis was involved, vaginal or supra-vaginal amputation was performed; in 8 the uterus was extirpated *in toto*, *per vaginam*. Of the 39 cases of cancer of the cervix (supra-vaginal, or cervical mucous membrane), in 9 supra-vaginal amputation was performed, and in 30 the entire uterus was removed, 6 of the latter operations being by Freund's method. In 17 instances operations were performed for cancer or sarcoma of the body of the uterus, 13 of them consisting in the abdominal supra-vaginal amputation, and 4 in total extirpation of the uterus; two of the latter operations were after Freund's method. Of the 160 cases operated upon, 31, or 19 per cent., were fatal—20 from septic infectious processes, within a few days, 8 from hæmorrhage, in most cases within a few hours after operation, 1 from trismus, 1 from shock after Freund's operation, and 1 from iodoform poisoning. Of the vaginal and supra-vaginal (cervical) amputations 12·3 per cent. resulted fatally. Of the vaginal and supra-vaginal (by abdominal section) total extirpations 26 per cent. of the former and 30 per cent. of the latter resulted fatally. Of the Freund operations 62 per cent. were fatal. Of the 17 cases of cancer of the body of the uterus in which operations were performed, 6 were fatal from the immediate effects of the operation, in 4 the ultimate result was not ascertained, in 3 others a fatal issue from recurrence of the disease occurred within a year, and in the remaining 4 there had been no recurrence during periods ranging from two to five years. In the 19 cases of total extirpation the operation was too recent for any judgment as to its ultimate value in 2 of them, in 5 the disease recurred within six months, in the remaining 12 only 2 were quite free from recurrence after three years. In 7 cases of cancer of the cervical mucous membrane the supra-vaginal amputation (*per vaginam*) was performed, and only two of the patients were free from recurrent disease at the end of two years. In 96 cases of cancer of the portio vaginalis, vaginal or supra-vaginal amputation was performed, 85 of the patients surviving the operation. At the end of three years 12 of these 85 were known to be entirely well; concerning several no report was obtainable; all the others had suffered recurrence. The uterus was entirely removed *per vaginam* in 8 instances for disease of the portio vaginalis, 7 of the patients recovering. At the end of fourteen months only 1 of the 7 was known to be well. Of 129 successful operations of all kinds, there had been no recurrence after two years in 28 cases—that is, 21·8 per cent. In four of these, however, the disease recurred at periods varying from two years and a half to three years and a half. Notwithstanding these unfavorable facts, the author believes that an extension of life for two years is ample justification for the risks of a capital operation. The most favorable prospects for radical cure are thought to be offered by an operation which shall consist of excision plus the use of the actual cautery. In comparison with this method of operation Schröder does not think favorably of the galvano-cautery wire. As a summary, the results which have been set forth by these statistics, though not so favorable as could be desired, furnish a justification, in the opinion of the author, for a continuance of operative measures.

Nephritis consecutive to Epithelioma of the Uterus.—Lancereaux ("Annales des mal. des organes gén.-urin.") boldly advances the proposition, which he thinks is justified by his experience, that in every case of epithelioma of the neck of the uterus there is, at some time, nephritis existing as a complication. This lesion is distinct from primitive interstitial nephritis, and is not, like that, accompanied by hypertrophy of the heart. Twenty-three cases are detailed to substantiate his proposition, these being cases which could be thoroughly investigated post mortem. Three varieties of epithelioma may affect the uterus, or, in other words, as many varieties as there are varieties of epithelium in connection with the uterus. That which is developed from pavement epithelium is the most common form, and may begin either from the vaginal *cul-de-sac* or from the lips of the vaginal portion of the cervix. It is this variety also which, on account of its situation, predisposes more than any other to degenerative changes in the urinary passages and the kidneys, and it is the sole variety to which the author refers in this paper. Its progress is marked by ulceration, with its accompanying fœtid, sanious discharge, and by the characteristic indurated condition of the tissue of the *vaginal portion* of the cervix. The humoral changes which accompany its development are, in some cases, so severe as to lead to a fatal issue before the kidneys have become involved

such cases being, of course, exceptions to those which are laid down in the author's general proposition. Notable features of the disease, also, are severe pain, especially along the course of the lumbar and sciatic nerves, disordered digestion and nutrition, and various troubles in connection with the urinary passages. Urination becomes frequent and painful, and may be accompanied or followed by spasms. The urine may be bloody, and under the microscope may reveal epithelial cells, leucocytes, and crystals of various kinds. At other times it may be clear, pale, and abundant. In still other cases it may be purulent. Its solid constituents are very apt to be diminished. In the larger portion of the author's cases albuminuria was present, and uræmia, more or less intense, was so common that it was regarded as the rule. The form was that which affects the alimentary canal, being manifested by loss of appetite, vomiting, and diarrhœa. Less frequently uræmia, with cerebral manifestations, was present, being manifested by headache, insomnia, delirium, or coma. Uræmia accompanied by dyspnœa was rarely seen. Uræmia, in some form or other, is assumed to be, habitually, the cause of death, if that event is not attributable to some accident, or to a complication. The propagation of this disease seems to be, in the majority of cases, in the direction of the bladder rather than that of the rectum. It is brought about by means of the epithelial traces which lead to the formation of an embryonal connective tissue in the midst of the tissue which unites the bladder with the upper part of the vagina and the cervix uteri. Next epithelial elements appear in this tissue, which, as they develop, compress and produce atrophy of the muscular fasciculi, and form nodosities which project toward the *bas fond* of the bladder and along the course of the ureters. The resulting ulceration leads to vesico-vaginal fistula. The ureters, surrounded by the epithelial growth, become nearly occluded at the point of obstruction. Above that point they become dilated by the retained urine, as well as the pelves and calices of the kidneys, the Malpighian bodies become atrophied to a greater or less extent—in a word, there is a condition of hydronephrosis. After a primary enlargement of the kidneys there follows a diminution in size. The capsule may be easily removed, revealing the free surface of the organ smooth, yellowish, and without granulations. The cortical substance is thin, firm, and yellowish upon section. The pyramids are small, indurated, and sometimes atrophied. Microscopical examination shows that the lesion of the kidney, in cases of this character, is a diffuse sclerosis, and, in the author's experience, it was most pronounced at the summit of the Malpighian bodies, the uriniferous tubes being here separated by bands of embryonal tissue and the tubes themselves being more or less atrophied. At the middle and base of the Malpighian bodies the process was found to be less intense. The cortical substance is involved in this process, the glomeruli and the convoluted tubules of the periphery being chiefly implicated. In many of the tubules the epithelium has disappeared, in others it is only disarranged. These are the principal characteristics of nephritis which is consecutive to uterine epithelioma. The disorders which follow the imperfect performance of its functions by the kidney are principally those which have reference to the alimentary canal.

On the Treatment of Uterine Cancer; Advantages of Amputation of the Neck of the Womb with the Galvanic Wire.—Gallard ("Ann. de gyn.") urges the propriety of giving more attention to what are apparently hopeless cases of disease, referring especially to uterine cancer. He has tried the plan of injecting, with caustic fluids, diseased tissues and those which are immediately contiguous to them in the hope of staying the progress of the disease, but no lasting benefit has resulted; indeed, he thinks such measures are oftener harmful than useful. Cauterization with iron at red heat has given good results in a certain number of cases, but it is believed that the simple burning of the diseased foci is not sufficiently radical in such a disease as cancer of the uterus. The serre-nœud of Maisonneuve and the écraseur furnish more thorough means for operation than any of the foregoing, but they have certain disadvantages, among which may be mentioned difficulty of adjustment and liability of the wire either to slip or break. With the galvanic wire adjustment is easier, for only a fine wire is required, and this can be guided by the fingers to the desired point, and kept in position during the operation without much trouble. The electric current having been established, the cervix, grasped with hook-forceps, is to be drawn freely downward until the uterine tissue is cut through. The author does not deny that the same accidents may occur with the cautery-loop which frequently happen with the serre-nœud or the écraseur, and in some cases it has been necessary to abandon the use of the former and complete the operation with one of the latter instruments. Twenty-five cases have been operated upon by the author, in which more or less complete histories have been taken. Twelve of these have, it is thought, been cured. In three of them the time which has elapsed since the operation is, respectively, eighteen months, two and a half years, and nearly four years, and no trace of the disease is discoverable. Even should the disease return after the operation with the galvanic loop, its progress seems to be less rapid than when a cutting instrument has been used, probably because of some modification which the tissues have undergone as the result of the operation. Accidents following the operation are very rare, occasional hæmorrhages having been observed. There is some pain, but not so severe as in some classes of burns, and it may readily be relieved. The patient should remain in bed for about three weeks, during which time there should be no examination or treatment, unless it is imperatively demanded.

Total Extirpation of the Uterus by the Vagina.—Demous ("Rev. de chirurgie") remarks that extirpation of the uterus is one of the operations which have been considered unjustifiable by many surgeons, and that there are some who so consider it even at the present time. Of ancient origin, it was for a long time discarded, to be revived, like many others, as the fruit of antiseptic surgery. Especially in cases of cancer of the uterus does it hold out the single chance of relief from that dreaded and dreadful disease, but it is also worthy of consideration in any chronic disease of the uterus (1) when that disease threatens the patient's life; (2) if there is a certainty that no other operation holds out any chance of recovery; (3) if complete removal of the diseased parts can be accomplished without wounding neighboring organs; (4) if no other fatal disease complicates and contra-indicates the operation. A large, rigid, and unyielding uterus and a small vagina would be effectual contra-indications to the performance of the operation. When operation has been decided upon, in a given case, the following plan of treatment is suggested by the author as appropriate: Rest for a number of days preceding the operation, especially if the patient is subject to hæmorrhages; hot vaginal injections of carbolized water, during the same period, frequently repeated; a cathartic on the evening of the day preceding the operation, and a rectal injection the following morning. The operation should be performed in a well-lighted and ventilated room, with an even and mild temperature. After the patient has been placed in the lithotomy position, the hair should be shaved from the genitals; the vagina, vulva, and contiguous parts should be disinfected with carbolized water of the strength of 30 to 1,000. The bladder should be evacuated, and, at one's option, an application of chloride of zinc may be applied to the cervix. The last-mentioned recommendation is both for purposes of antisepsis and to diminish the probabilities of hæmorrhage. Next, the walls of the vagina are separated widely with retractors, the cervix is seized with a volsella and drawn downward and forward as far as possible, and a circular incision of the vagina is made with a straight bistoury at a sufficient distance from the uterus to include healthy tissue, if that is possible. The further separation of the cervix from its surrounding tissues should be made by tearing with the finger, if the tissue is not so firm that a cutting instrument is required. The close proximity of the bladder, and the danger of wounding it, must be borne in mind, as the dissection is continued until the anterior peritoneal *cul-de-sac* is opened. This opening must be extended until the uterus is freed from its attachments anteriorly, after which the organ is to be completely retroverted, either by the fingers passed into the anterior opening, or by instrumental means. The most difficult part of the operation follows, namely, the ligation and division of the broad ligaments. Catgut ligatures are preferred by the author (No. 1 for the first ligature on each broad ligament, No. 2 or No. 3 for the others), and they are to be passed by means of a long, curved needle fixed in a handle, and pierced near its point. The first ligature includes the upper third of the broad ligament, the round ligament, and the Fallopian tube. The latter is not to be penetrated by the needle. The second includes the middle third of the broad ligament, and the third its lower third; the latter also includes the trunk of the uterine artery. These ligatures must be passed

as far from the uterus as possible, in order to include healthy tissue, and must be tied firmly and with unusual care. The uterus should then be cut away from the broad ligament which has thus been secured, and the same procedure adopted with the remaining broad ligament. The ovaries are not to be removed. Hæmorrhage from small vessels is not usually abundant, but it is better to tie them whenever they are cut. Various modifications of this operation (which is attributed to Récamier) have been suggested by different surgeons for the purpose of facilitating the removal of the organ and giving greater security against hæmorrhage. The possible accidents of the operation are the wounding of the bladder or the ureters, in addition to the possibility of hæmorrhage, which is ever present. The shock experienced by the patient is usually not severe, and not to be compared with the shock which attends hysterectomy by abdominal section. After the removal of the organ the wound of the vagina may be left open (and the author thinks this a bad and a dangerous plan), or the edges of the wound may be brought together, a suitable opening being left for drainage. This means is all-important in this operation—far more so than in most cases of ovariotomy. The suturing of the peritonæum is neither recommended nor disapproved, the author frankly admitting his want of experience in this direction. The vagina is to be packed with iodoform gauze, or with salicylated cotton. This should be removed upon the second day, or sooner if the discharge is abundant, and should be renewed sufficiently often to insure healthy surroundings to the wound. The use of frequent vaginal injections is not approved. Sänger's statistics, published in 1883, show one hundred and forty-three operations, of which one hundred and thirty-three were for cancer, six for prolapsus uteri, and four for fibromata uteri. In one hundred and three cases the operation was successful, the patients recovering, at least for a time. The time varies from a few weeks to an indefinite period. In fact, reliable statistics can not as yet be made. Schröder, Martin, Lomer, and von Teuffel have had cases in which there was no recurrence after a year and a half or two years from the time of the operation. As a further element in favor of the operation, should recurrence take place, the symptoms which accompany it are not likely to be so severe as those which accompany the primary disease. As to the mutilation which is caused by the operation, the author asks if it can be considered greater than that which follows operation for cancer of the tongue, œsophagus, or rectum.

Miscellany.

The Present Status of the Affairs of the Congress.—The "Maryland Medical Journal" says: "The new committee on the reorganization of the Congress, which held its meeting in New York on September 3d to 'repair the damages' occasioned by the resignations of the gentlemen appointed by the first committee, does not seem to have met with such marked success as its official organ, the 'Journal of the American Medical Association,' predicted for it. Indeed, so far from having repaired the damages previously inflicted upon the Congress by its Chicago work, this committee has made blunder after blunder until its action has become ridiculous in the eyes of the entire profession throughout this country and Europe. Its mistakes have been so glaring and faulty that one of its own number has been forced to show that its affairs have been conducted in the interest of its own officers, and that its deliberations have been so suppressed and manipulated that the reports of its meeting in New York were not in keeping with the facts.

"The committee has added another insult to the list of injuries previously perpetrated by its arbitrary assumption of authority. Through its Executive Committee it has formally declared that its acts are 'not subject to revision, amendment, or alteration by either the Committee of Arrangement or the American Medical Association.' In fact, it usurps all power and resolves to run the Congress according to its own methods. The result of this singular and unjustifiable procedure begins to be apparent. Within the last ten days a number of the appointees of the New York meeting have declined to accept the positions to which they were assigned. Such gentlemen as John C. Dalton, Henry I. Bowditch, Henry F. Campbell, Robert Battey, E. O. Shakespeare, and others have been forced to desert the sinking fortunes of an organization which has done nothing but trifle with the best interests of American medicine since it came into existence.

"Some weeks ago, in discussing the outlook for the Congress, we urged the present committee to resign, and gave, as we believed, satisfactory reasons for this advice. The resignation of this committee would have been a graceful act and would have saved the profession in this country from the mire of contention into which it has been cast by the unwarranted action of the association at New Orleans. The committee, however, saw proper to lay aside all considerations for the interests of the profession and entered upon the work of reorganization of the Congress in a manner agreeable to its membership. This committee has no one to censure but its own membership, if its action has failed to give entire satisfaction to the profession. It has proceeded with its work in the face of active and outspoken criticism, and it must stand or fall accordingly. We have believed that the work it was attempting to do was wholly unnecessary, and we have advocated its abandonment of this work on the ground that its continuation would promote nothing but strife and dissensions. We have never believed that the success of the Congress could be promoted by its interference. On the contrary, we have predicted that the Congress would fail if intrusted to its efforts. This prediction we believe will be shortly verified. The work of disorganization has continued, the breach has been made wider, and the affairs of the Congress are in a more pitiable plight now than at any previous time. If this committee now fails to see the handwriting on the wall which significantly tells of its downfall, we are at a loss to account for its stupidity and want of comprehension. Its continued effort to carry out this work of reorganization only increases the depth of its mortification and chagrin at its final overthrow. We would again suggest to this committee the advisability of gracefully stepping down from its present lofty but absurd and arrogant position."

In another article, the same journal says: "The present Secretary-General of the Congress has had nothing good to say of those gentlemen constituting the original Committee of Eight on the Organization of the Congress for having accepted positions in the various offices of their own appointment. How can the Secretary-General reconcile his own position in this respect? Virtually the American Medical Association and the International Congress are combined in his august person. He is more autocratic than the Czar of Russia."

A Philadelphia View of the Congress Organization.—The "Journal of the American Medical Association" publishes the following, in a letter from its Philadelphia correspondent, "C. W. D.":

"The questions in regard to the proposed meeting of the International Medical Congress, which were the subject of so much discussion when I last wrote, have ceased to be a live issue in this city. The action of the new committee in New York seems to leave nothing to be done but to wait and see whether the European men will come to America under the circumstances or not. It is believed here that they will not, at least not in sufficient numbers to give the meeting an international character. It is also thought by some, and hoped by others, who did not approve of all the acts of the original committee, that those who have charge of the interests of the Congress in Europe will decide to hold the next meeting in some city there—Berlin is spoken of as most likely. This, as one of the most conservative men in this city said to me a few days ago, would be the simplest way out of an awkward dilemma, and would furnish an opportunity for the present excitement of feeling to subside to the advantage of all concerned.

"I have heard some comment upon the action of the new Executive Committee in New York on September 24th, whereby they unanimously resolved that what they were to do was not subject to 'revision, amendment, or alteration' by the General Committee, which appointed them, or even by the American Medical Association itself. It is wondered here whether such a declaration of independence will be tolerated by the association when it meets in St. Louis, or whether it will send the committee out to read and reflect upon the opinion of Mr. Randall with which their predecessors were put to naught. Time alone can

show; but the members of the original committee are said to feel a keen regret that they did not at the start adopt this easy method 'to prevent all further misunderstanding, both at home and abroad.'"

The False Position of the Committee of the American Medical Association resolutely adhered to.—Under this heading the "North Carolina Medical Journal" says:

"Discussion, so far, has done little to stay the ruinous course pursued by the malcontents of the New Orleans meeting in regard to the International Congress. The new combinations of the Chicago and New York committee meetings have only made a bad matter worse. When we look back upon the whole affair from this standpoint, we can not help feeling that those gentlemen who represented the International Medical Congress made a very unwise move in asking the American Medical Association to take any part in the construction of the forthcoming meeting. These gentlemen would have done far better by taking the whole responsibility upon themselves, and this course would have been satisfactory to the members of the last Congress, the evidence of which we have in Sir James Paget's letter to Dr. Hays. The discourtesy of the American Medical Association toward the original committee seems not to occur to the reconstruction committee, and there can be but one interpretation of the whole matter—the new committee intends to organize a Congress upon a basis so objectionable that it has already divided the profession into two parties. If the gentlemen composing this new organization are willing to undertake it, they can not be prevented, but it would be well if they could be, both for the success of the Congress and the unity of the profession. We have written the above lest by silence it might be thought that this journal has altered its views upon the subject. The American Medical Association has made a false step, and it will be exceedingly fortunate if it recovers from it without estranging some of its most desirable members."

THERAPEUTICAL NOTES.

The Juice of the Fig-tree as a Digestive.—Signor Bianchi, of Florence ("Semaine méd."; "Lyon méd."), has ascertained that a drop or two of the juice of the leaves, or of the unripe fruit, will rapidly reduce a bit of fibrin to a *bouillie* soluble in water and giving the reaction of the peptones. This new agent is therefore likely to be of service in cases of dyspepsia due to defective secretion of the gastric juice. It should also be capable of taking the place of papain as an application to diphtheritic membranes and ulcers.

An Injection for Paralysis of the Bladder.—The "Union médicale" credits the following formula to Dumreicher:

Extract of nux vomica	3 to 6 grains;
Distilled water	6 ounces.

One sixth of the whole is to be injected into the bladder every day, and retained for an hour. At the same time, electricity may be used with advantage, and micturition is to be regulated as much as possible the urine being passed every four hours.

The Treatment of Inflammation of the Vagina.—According to the same journal, M. de Sinéty recommends the following liniment:

Subnitrate of bismuth	90 grains;
Crystallized carbolic acid	15 "
Glycerin	6 drachms;
Distilled water	3 ounces.

Cotton tampons soaked in the mixture are to be introduced into the vagina. They may likewise be moistened with coal-tar or covered with the following ointment:

Pyrogallic acid	150 grains;
Starch	225 "
Vaseline	1½ ounce.

At least two applications should be made daily, and care should be taken to carry the tampon to the very top of the vaginal *cul-de-sac*. They must be carefully freed from all excess of either liniment or ointment, as it would run out upon the vulva and create unnecessary pain.

Caustic Crayons.—Moser's formula (*Ibid.*) is given as follows:

Powdered charcoal	1 ounce;
Nitrate of potassium	1 drachm;
Porphyrized iron	75 grains;
Benzoin	15 "

Add enough adhesive powder to make forty crayons. These crayons are hard, light easily, and produce immediate cauterization, so that they are suitable for the treatment of poisoned wounds.

Direct Interstitial Medication by Dielectrolysis.—M. A. Brondel, of Algiers, brought forward a novel plan of medication at a recent meeting of the Paris *Académie de médecine* ("Rev. méd."). By the term dielectrolysis (*diélectrolyse*) he refers to a process for making a nascent chemical substance pass through the tissues. For example, taking iodine, a body which is readily "dielectrolyzable," he applies to any desired part of the person a compress wet with a solution of iodide of potassium, and over it he places the negative electrode of a galvanic battery, the positive electrode being held against any indifferent part of the body. The iodine leaves the potassium, and, actually traversing the intervening tissues, rapidly arrives at the positive electrode, as may be ascertained by testing with starch-paper. In effect, therefore, this is a hypodermic, or rather interstitial (*intra-organique*), method without wounding the skin or producing pain. As a great number of simple bodies may thus be made to penetrate from one point to another, the practical applications of the new method may be very numerous and very important. By it the author has cured fibrous tumors of the uterus, a case of perimetritis, a rheumatic ovarian neuralgia, and several cases of chronic rheumatism. He has in view further trials upon parasitic and malignant tumors, diseases of the skin, syphilis, neuralgias, etc., and especially pulmonary consumption, on which latter he proposes to try the action of various mineral antiseptics, such as arsenic, mercury, fluorine, etc.

Cocaine in the Treatment of Hay Fever.—In a paper lately read before the College of Physicians, of Philadelphia, Professor J. M. Da Costa said:

"The manner of employing the cocaine is not without importance. It may be used with a small atomizer as a spray. But the readiest means is to inject from five to eight drops up each nostril, the head being thrown backward; in some persons once, in most twice, daily will be found sufficient. It will be necessary to instruct patients not to irritate the membrane by rubbing it needlessly with the glass tube, or pushing this up too far. Thus, a patient who had had hay fever for thirteen years, and who was at the sea-shore on the 17th of August when the hay fever came on, and in whom tincture of *Ignatia amara* seemed favorably to influence its course, tried cocaine in one nostril only. He inserted the tube far up, irritated the membrane, and water ran from that nostril, which became sorer and more inflamed than the other. More judicious attempts produced better results, but he could not be persuaded to give the remedy a fair trial, owing to his first experience with it. Its mode of action in hay fever is partly by the local insensibility it produces, partly by the contractions of the capillaries it induces. The effects are thus chiefly local. It will not arrest the bronchial catarrh or the asthma which attend some cases; yet it is astonishing how it seems to lessen the tendency to these complications when early applied, and before they have got much headway. Is its action, then, not partly a reflex action? That the remedy is radical, and, strictly speaking, curative, I have not found; but that it gives great comfort, converts bad into light cases, enables those to stay at their homes who otherwise are obliged to flee to hay-fever resorts, relieves much suffering and distress, I know and have fairly tested. In no case of rose-cold or hay fever ought cocaine to be left untried."

Ethyl Compounds of Mercury.—In view of the present rage for testing all possible compounds of mercury in regard to their fitness for hypodermic use, Dr. P. Hepp, of Strassburg, has thought it wise to publish a sort of warning concerning some of the ethylderivatives, in the form of a preliminary note ("Ctrlbl. f. klin. Med."). He has been engaged in studying the properties of ethylmercury and ethylsulphate of mercury, but he has not yet been able to look upon it as warrantable to use these dangerous poisons on the human subject, although the temptation to use them is heightened by the fact that neither an oily solution of the former nor an aqueous solution of the latter causes the slightest pain when injected under the skin. He refers to the sad results to two English chemists from inhaling the fumes of methylmercury.

Lectures and Addresses.

A SKETCH OF THE LIFE OF JAMES LAWRENCE LITTLE, M. D., AND OF THE TWENTY-FIVE YEARS IN WHICH HE PRACTICED SURGERY IN NEW YORK.*

BY D. B. ST. JOHN ROOSA, M. D., LL. D.

JAMES LAWRENCE LITTLE was born, of Scotch-Irish and English ancestry, in the city of Brooklyn, February 19, 1836. He attended private schools in his native city until he was about twenty years of age, when he attempted to become a bookseller, and for this purpose became a clerk in a Fulton Street establishment kept by Mr. Riker. The firm that engaged him had a stock of medical books as well as of general literature. The young clerk was soon so deeply engaged in the study of these books that he proved a very inefficient salesman, and he soon gave up his attempt in business. This inclination to the study of medicine had already been seen in young Little when he was a mere boy. After much cogitation as to the ways and means of getting a skull for the purpose of study, he finally approached a venerable African grave-digger, who consented to furnish him with the desired relic if he would bring twenty-five cents and a paper to wrap it in. Young Little secured the treasure on these terms, and, returning home, took a peep at it, and, to his youthful horror, found that it was an unprepared skull looking upon him in the ghastly covering of facial integument and scalp. Fear got the better of his anatomical enthusiasm, and seeking a plan to get rid of what was now a source of dread at its horrible aspect, as well as fear lest he might be found with such an unexplainable object upon him, he threw it into the waters of Wallabout Bay, and postponed his medical studies for a season.

After leaving the bookstore, Little entered the office of Dr. Willard Parker as a private student, and at the same time he matriculated in the College of Physicians and Surgeons. After Dr. Little had become a distinguished surgeon, Dr. Parker gave the writer an account of how he nearly rejected him when he applied for entrance to his already crowded rooms. He was at first disposed to decline to receive another student, but he was impressed by the great earnestness of the tall and handsome young man, and he consented to take another student. "But," continued Dr. Parker, "I never had occasion to regret my decision. Punctually as the clock struck nine the click of the young man's step was heard upon the doorstep, and I got to recognize his step and to count upon him, whoever failed." The word *click* aptly describes the short and quick step that many of Dr. Little's contemporaries will recall as one of his personal characteristics.

After being in Dr. Parker's office more than two years he successfully passed a competitive examination, and was appointed a junior assistant in Bellevue Hospital. This appointment did not take effect until the following spring. Meanwhile, in March, 1860, he was graduated at the College of Physicians and Surgeons. He then resigned his position at Bellevue, and after examination he was appointed junior assistant on one of the surgical divisions of the New York Hospital. A resignation of a place in one hospital to take a similar one in another was something unusual, and it was said at the time that it caused a little unpleasant feeling among the staff at Bellevue, for Dr. Little was well known to some of them, and to James R. Wood in particular, as a promising man whom it was not well to lose.

Bellevue Hospital was just coming into some importance as a school of surgery, and chiefly through Dr. Wood's clinics and his prizes for anatomical preparations offered for competition among the medical schools. Yet at that time it could in no manner compare with the New York Hospital in furnishing opportunities to a surgical student. It was an institution belonging to the city, receiving only paupers to its wards, and it was governed by politicians. It had much more importance as a school of medicine than as one of surgery. Dr. John W. Francis was one of its consulting physicians, and occasionally gave a mellifluous and learned address in its amphitheatre, and Alonzo Clark, John T. Metcalfe, and Benjamin W. McCready held clinics in the wards, while on Saturdays there was a great crowd of students to witness the rapid and skillful surgical operations of the renowned pupil of Valentine Mott, James R. Wood. Certainly any young doctor in medicine might have been honored by entrance into such a hospital. But the New York Hospital was a wealthy and private corporation, governed by some of the best laymen in the city, and, more than all, it was one of the most renowned schools of surgery in the world. In its amphitheatre Wright Post and Kearney Rodgers had won their fame, and here Valentine Mott, who was still living and lecturing upon surgery, had tied the arteria innominata. He was consulting surgeon with Alexander H. Stevens, John C. Cheesman, and Alfred C. Post. Of these, but one now remains, an honored link to connect us to the medical New York of fifty years ago. The active members of the surgical staff were Gurdon Buck, John Watson, Thaddeus M. Halsted, Willard Parker, William H. Van Buren, and Thomas M. Markoe. Of this number but one now survives, and he happily in full vigor of mind and body.

The old hospital was beautifully situated on Broadway, facing Pearl Street, on ample grounds, with grand old elms. Its beautiful lawn, upon which tame deer might often be seen, was a surprise and delight to the strangers in New York, who came suddenly upon this break in the whirl of a great city. The house staff was in a traditional state of excellent discipline. Its members vied with one another in their care of their cases, and their dressings of fractures and ulcers were at once the delight and dismay of medical students, who followed the attending surgeons about the wards. It was not strange, then, that young Little, especially when urged by his preceptor, resigned his place in a hospital which had no past for one whose annals, twenty-five years ago, were more full than perhaps any surgical hospital in the land.

* Read before the New York Academy of Medicine, November 5, 1885.

In April, 1860, Dr. Little began his duties at the New York Hospital as a junior walker. In April, 1885, he died. Hence, it may be truly said that a quarter of a century bounded his professional career. What a twenty-five years it has been for medical and surgical science in New York and in the world! There were then three colleges and perhaps eight hundred students and practitioners attending lectures in the College of Physicians and Surgeons in Twenty-third Street, the University in Fourteenth Street, and the New York Medical College in Thirteenth Street. Bellevue Hospital Medical College existed only in the embryo of its medical clinics and James R. Wood's exploits on Saturday afternoons. Clinical instruction was in its infancy, and there were but two hospitals, at long distances from the colleges, where it may be said to have existed in a meager way, and then to be attended by not more than a score or so of the students, except when a great operation was to be performed. Now there are added to the New York and Bellevue, the great Charity Hospital on the Island, St. Luke's, the Roosevelt, the Presbyterian, Mount Sinai, and St. Vincent's; these are all more or less used for clinical teaching, and eighteen hundred or more students and physicians attend the lectures of the three colleges of our faith, the College for Women, the Post-Graduate School, and the Polyclinic. Among the most widely known of the teachers at the colleges were Parker, Gilman, Watts, St. John, and Joseph M. Smith, in Twenty-third Street; John William Draper, Bedford, Paine, Van Buren, Post, and Metcalfe, at the University; Horace Green, Fordyce Barker, Ogden Doremus, and Carnochan, in the New York College; while George T. Elliot, Charles A. Budd, Loomis, Jacobi, Thomas, and Sands were, as would be said in Edinburgh, *extra-mural* teachers, who were nearly within the walls. As we recall many of these names, the words of the Latin poet come at once to our memory:

> "Eheu fugaces posteum posterum,
> Labuntur anni."

When Dr. Little entered the New York Hospital the civil war had not broken out, although exciting meetings of students had been held on account of the John Brown raid, and Southern students were being pledged not to return to Northern cities for instruction. Terrible strife was soon to cause the erection of immense hospitals by the medical staff of the United States army, from whose records surgical literature was to be enriched to an extent not dreamed of by the surgeons of this country. The battle-fields of Manassas, Shiloh, Gettysburg, and around Richmond were, from their awful experiences, to train a race of men which has caused American surgery and medicine to take a higher place in the world than would have been attained by half a century of work in small civil hospitals, while the Sanitary Commission was to open up a field for the cultivation of sanitary science and of active benevolence hitherto unknown.

When Dr. Little entered the wards of the New York Hospital the thermometer was not used to show the temperature of the body. The laryngoscope and ophthalmoscope had just been placed in the hands of a very few specialists, but they were not at all employed in the New York general hospitals. There was but one hospital of any considerable importance for diseases of the eye and ear, and that had not one half the number of patients it now has, although three similar institutions have been added to the charitable and educational resources of the city. There were no training-schools for nurses, and scarcely any trained nurses worthy the name. Those whom we had were chiefly males, who had been promoted from being patients to be nurses, with a strong preference for alcohol as a stimulant, while the women, in many instances, had been scrubbers in the wards over which they now presided. Not but that there were some excellent nurses in those days, however. Pyæmia, erysipelas, and hospital gangrene were then dreaded foes, and antiseptic surgery, if practiced in attempts at absolute cleanliness, was not understood as now, when patients, after operations, are saved, not as by fire, but as a matter of course. Marion Sims was just about to found the Woman's Hospital and become the intellectual progenitor of men who with him created modern gynæcology. All this Dr. Little saw, and in much of it he was an active participant.

New York, in 1860, had two or three medical journals, not of extended circulation, while an Ishmaelitish scribbler or two issued monthly bulletins in a style of medical journalism now happily extinct. There were two medical bookstores, called publishing-houses rather by courtesy than as a matter of fact, for no New Yorker wrote a medical book, and very few even edited or translated one. New York scarcely claimed equal rank with Philadelphia as a medical center. Now New York boasts three publishing-houses where American medical books are issued, and that in considerable number. Her medical journals are more widely circulated than those of any other city in this country, and they are to be found by the side of the works of American medical men upon the library-tables of the physicians of every nation.

In the hospital, Little gave promise of his future career. He was assiduous and faithful as an assistant, and suggestive and enthusiastic as a house surgeon. His humorous contemporary, Dr. Samuel W. Francis, remarked of him, that even then there was *multum in parvo*. He reported many of the cases occurring in the wards in the "American Medical Times." It was while in the hospital that he devised his method of making and applying plaster-of-Paris splints. It is not too much to say that chiefly, if not entirely, through Little's efforts plaster-of-Paris splints became a practical application. Until then, although much recommended, experience had shown that it was not well adapted for a surgical dressing. Little saw in plaster of Paris a material which, if properly used, would form that so much to be desired, an immovable and yet porous splint. Those of us who were associated with him remember his painstaking trials in preparing the plaster, in securing the proper consistency, and the material best adapted to take up the solution; the disappointments and failures until a splint was produced which convinced his colleague, the house surgeon of the other division, and the attending surgeons, that the days of the starch apparatus, a favorite bandage of the hos-

pital, were past. In using plaster of Paris as a splint instead of a bandage, he utilized the material as never was before done, and although it is possible that it will never have a widespread use, just as Dr. Little employed it, he gave an impetus to the subject which was perhaps the origin of the famous plaster-of-Paris jacket. His paper upon the subject may be said to be classical.*

During the civil war, on several occasions, Little's services were furnished to the Government. He was for a time surgeon-in-chief to the hospital erected on the edge of the City Hall Park, and twice, at least, after great battles, he volunteered with those other New York surgeons who went to the front at the call of the Surgeon-General. Now, as then, the avenues to professional success as a teacher and consultant began at service in dispensaries and clinics. Dr. Little was engaged in such work from the days when he was a medical student and a *substitute* for the junior walker in the hospital until his death. One year after leaving the hospital he was appointed clinical assistant to Dr. Parker, who was then professor of surgery in the College of Physicians and Surgeons. In 1863 he was appointed a lecturer in the college. His first course of lectures was upon "Fractures and their Treatment." These lectures were continued until 1868, when his chair was enlarged to that of "Operative Surgery and Surgical Dressings."

Dr. Little was very popular as a lecturer. His manner was exceedingly simple—in fact, at first distressingly so; but it was earnest and devoid of mannerisms and self-consciousness. One of our most successful teachers lately said to me: "Little did not merely tell the men to apply a flax-seed poultice, but he brought the flax-seed and the cloth to the lecture-room and made the poultice before the class. Then they knew how it was done, for they had seen it." Indeed, his teaching was realistic to a degree. The man was thoroughly in love with his work. He was alive to every progressive tendency; he traveled in no rut, but was always on the alert to assist in making surgery the exact science it is so fast becoming. He took great pains with the illustration of his subject by diagrams and drawings, which were prepared by competent men under his directions with great care. An examination of his library after his death showed that he had ransacked the surgical pictures of Great Britain and the Continent to secure the best illustrations for his lectures. Certain it is that not a little of the fame of his alma mater for thorough teaching was due to Dr. Little's lectures, although they were given in the summer term, and attendance upon them was not obligatory. They were continued for sixteen years, when he resigned from the position he held in the college as a lecturer on surgery, and one of the staff of Professor Markoe, who has succeeded Parker, to accept the appointment of professor of clinical surgery in the University of New York.

But Little's best qualities as a surgeon, a teacher, and an executive officer were seen after his acceptance of the chair of surgery in the University of Vermont. This was in 1875. He had previously declined an offer of a similar chair in the Long Island College Hospital. He entered upon the work in Burlington with great zeal. There he found a medical college that still survived the vicissitudes of forty years, although those at Woodstock and Castleton, in the same State, had been abandoned. It had about sixty students. Little's keen perception of the possibilities of this field showed him that they were great. The lately elected president of the University, Dr. Buckham; the venerable Carpenter, professor of practice; with Thayer of anatomy, King of obstetrics, and Darling of anatomy, were fully alive to what lay in store for the Burlington Medical College. There was a reason for the existence of a medical college there. It was needed to supply the demand for medical education for a large number of young men from Vermont and northern New York, who could not conveniently go to Boston, Philadelphia, or New York.

The academical department, at the laying of whose corner-stone Lafayette had assisted, embraced in its faculty many soundly educated and cultured men, whose sympathies were readily enlisted for any good scheme for the cultivation and dissemination of human knowledge. They seconded the efforts of the president to give character to the various departments. The medical school acquired a certain dignity by its name, and it had that not unimportant advantage over the schools that formerly existed in the same State. Many young men, exceptionally well prepared by previous training, found it more convenient to study in Burlington, on account of the greater expense attending a long stay in a large city; and many practitioners of Vermont and northern New York found the clinics and lectures of the medical department of the University an accessible post-graduate school, which lighted up many a dark subject, and gave them a little recreation from their lonely and responsible duties as country physicians. The professor who went to Burlington from a metropolitan medical college soon saw that he had as intelligent and as earnest listeners as at home, and that he must relax nothing in his efforts to teach his science and art. With the hearty co-operation of the president of the University, who presided at all the faculty meetings, and his own colleagues, Professor Little immediately began to devise plans for increasing the fame and usefulness of the school. By personal solicitations in many instances he was largely instrumental in securing courses of lectures and clinics upon subjects not fully, if at all, embraced in the general curriculum, by specialists from colleges in our city. Then Miss Mary Fletcher, acting largely upon the advice of President Buckham and Professor Carpenter, founded a hospital, and, with a broad-mindedness not always seen in those who found hospitals, gave up its wards unreservedly to the teachers of the college. This was naturally of the greatest importance to the success of the school, for the day had passed when didactic lectures unillustrated by subjects were considered fit means of teaching medicine and surgery. Little's facilities for the performance of great operations were largely increased by the foundation of the hospital. His clinics were sought by crowds of patients from far and near. During the weeks that he lectured in Burlington the streets of the town gave evidence, by the passing through them of numerous people with surgical dressings on some part of the body, and by the great accumula-

* "Trans. of the Am. Med. Assoc.," 1867; "Med. Record," 1874.

tion of the mud-stained buggies of the practitioners of the adjacent towns, as well as by the over-filled wards of the hospital, that a great deal of surgical work was going on. Stimulated largely by Little's surgical feats, and by an executive capacity heretofore, from the want of an arena, not known to belong to him, the college grew apace in character, in importance, and in the number of students. A new building was given to the faculty in 1884, by the late Mr. Howard, and, when Dr. Little died, more than two hundred and twenty students in the class-rooms of the college mourned the loss of their professor of surgery.

In an address commemorative of Darling and Little, Professor A. F. A. King sketches the introduction of the latter to the class in a manner so graphic and descriptive of the man that it is here reproduced. Dr. King says: "I introduced him to the class, and I well remember his modest embarrassment, which would, however, have passed unnoticed by the students had he not said, in the course of his first disjointed remarks, 'I'm a little nervous, as you see.' But a patient was introduced, a diagnosis made, an operation decided upon, and a knife handed to Professor Little, and I can tell you (as you know) he was not nervous *then*."

To those of us who knew Little well it was interesting to see this preliminary nervousness when a great operation was imminent. The quick, short steps, the restless tapping of the foot when he was preparing for his work, gave little promise of the bold, self-reliant man as he stood over the patient, perhaps reeking with the perspiration of surgical ardor, but yet with steady, skillful hand working in a manner that convinced any one, competent to judge, that a life given into his hands would be preserved and returned, were it among human possibilities.

In Burlington, as in New York, "Little's luck" became proverbial, for his operations, from causes that I am not able to analyze or define, were pre-eminently successful. A well-known surgeon in New York told me, in substance, that it was a prevalent opinion in St. Luke's Hospital that it would be safe for Little to cut off a foot of an intestine, when another man could hardly touch it with a knife; and yet he was deferential to a fault to the surgical opinions of his peers, ready to adopt their suggestions, and to give proper credit for them. He was a man who exhibited great common sense as a surgeon. He was not overtrained, but he knew how to get at the upshot of a case without being unduly anxious as to how Esmarch or Lister was doing that thing now.

Dr. Little's chair in the University of New York was never a satisfactory one to him. His clinics there were held but for a part of the session, and he taught but once a week, although his classes were large, and the students, at least on one occasion, petitioned the faculty that his instructions might be continued throughout the session. The request could not be granted, on account of the pressure for time in which to give the whole curriculum. Three years after his acceptance of the position, together with six members of the former post-graduate faculty of the University, he resigned, in order, in conjunction with them, to establish the New York Post-Graduate Medical School. To this institution he gave the same hearty effort that he displayed in Burlington. His lectures to graduates were, if possible, better appreciated than by the under-graduates whom he had instructed since his early manhood. A doctor was to him a brother. Without quite knowing it himself, he acted as if he supposed that every man who sought or had acquired the degree of M. D. was as eager and honest in the pursuit of knowledge with which to save life and mitigate disease as he was himself.

It is said that he always leaned toward the student, and possibly too much, when required to vote upon his examination in the faculty at Burlington. This was not from any idea of lowering the standard of proficiency, but because he could not be made to understand that there were men who, unlike himself, regarded medicine as a business, in which they were willing to embark with as little capital as could make a fair show. During these last three years he exhibited his best qualities of faithful work, and if, as Dr. Lloyd, one of his former office students and valued assistants, says, "he was inclined to throw off his work on other shoulders, and less inclined to undertake long and serious operations," on account of some grave symptoms in his general health, it was not apparent to those of his friends who saw him only at intervals. The last public work he was engaged in was a meeting of the Post-Graduate Faculty, on the evening of March 31st, when he appeared in his usual health and spirits. At that meeting an incident occurred which was characteristic of the man. He felt impelled by his judgment to vote, on a question which then came up, contrary to his feelings. It was a question that might affect the interests of some to whom he was attached, and, after he had voted and he was found to be in the majority, he expressed his regrets that he should be obliged to vote for a policy which might prove detrimental to the interests of a friend, and he vainly sought for a compromise upon the subject.

Dr. Little's services to St. Luke's Hospital were very great, and they were warmly appreciated by his patients, his colleagues, and the management. He served one term of ten years, from 1868 to 1878, when he was retired under the rules to be made a consulting surgeon. In 1882 he was reappointed an attending surgeon, and held the position until his death. Little used to tell a story of an experience of his at St. Luke's which well illustrates the maxim that "all men think all men mortal but themselves." He was to operate, on one afternoon, upon two cases for resection of the upper jaw. The first patient died upon the table from getting blood in the trachea, and Little sent word to the survivor that he wished to postpone the operation for him. He was very much disappointed at the delay, and urgently insisted that Dr. Little should personally visit him in the ward and tell him why he did not wish to operate upon him as appointed. The surgeon accordingly went up, and with some hesitation, on account of the probable effect upon the hopes of the candidate for an exsection, frankly told him that the first man was dead, and he did not feel like going on with a case of the same kind just at the moment. But instead of being daunted the patient exclaimed, "Oh, that's nothing! I'm not afraid. The other man was a sickly

fellow. I never thought he would get through. You operate on me. I won't die." As a matter of fact, Little did soon operate upon him, he got no blood in his trachea, and he did not die.

In 1876 Dr. Little was appointed an attending surgeon to St. Vincent's Hospital, a position which he held when he died. Little always believed that the kind offices of the Rev. Vicar-General Quinn, one of the managers of that hospital, were largely instrumental in securing him this position. The Vicar-General was a priest in the wards when Dr. Little was house surgeon in the New York Hospital, and in his visitations to the sick and dying in the wards had been struck by the commanding presence, the assiduous and faithful labors of the young surgeon.

Of Dr. Little's surgical achievements in detail I am not competent to speak, nor is it necessary that I should do so. They are indelibly recorded in surgical literature—at least in part, for of late years Dr. Little was somewhat regardless, from lack of time, perhaps, from his large and exacting public and private practice, to write as much as his friends might have wished. But I may say that he was the first American surgeon to puncture the bladder with the aspirator for the relief of retention of urine. He simultaneously ligated the subclavian and carotid arteries of the right side for aneurysm of the fine part of the subclavian. The operation for stone by various methods he had performed seventy-seven times, with a fatal result in but two cases. In hare-lip and strangulated hernia he also had a large and successful experience. He entered into the advances claimed to be made by antiseptic surgery with great enthusiasm, and on his last visit to Europe, at the meeting of the International Congress in London, he investigated Lister's methods very carefully, and came back to carry out all the details of Listerism in capital operations. He was a surgeon who looked round upon a far horizon. Very few operations were foreign to his knife. Yet he was extremely appreciative of specialists, and, while not heeding their advice so much as some of those who have looked askance at them, he frequently sought their aid, and often publicly recognized their value in enlarging the field of exact knowledge. He himself used the ophthalmoscope, the laryngoscope, and other means of examination not always used by general surgeons, so that he was singularly competent to make an examination in any surgical case. In the practice of medicine also—for he by no means confined his work to surgery—he was suggestive in the matter of treatment, and had many celebrated prescriptions upon which he drew with great readiness and accuracy.

Little was a great admirer of his instructor, Willard Parker. He gave his first-born the name of his preceptor. Dr. George Shrady styles him one of his worshipers. So great was this admiration when he left the hospital that some of his friends feared he would be content to be an imitator and never strike out for himself. He seemed to have acquired Dr. Parker's art of making surgery fascinating to students; he drew them about him in great numbers. Even if the clinical material for his hour, on any particular day, was scanty, the lecture would not betray the want, for what was there was made the subject of homely but important lessons. The capacity for dignifying the every-day work of surgical practice, for making apparently minor things and details assume their true importance, belonged to him in a great degree. He could make a good clinic from material which some surgeons would not deign to spend a moment upon. Like Willard Parker, also, he attracted to himself numerous office students, who almost invariably became much attached to him.

Dr. Little was, in the good sense, a simple-minded man. He loved to sit down in such places as the office at the hotel in Burlington, and, as he became warmed in his discourse, talk to plain laymen, who understood but half of what he said, of tumors and ligations, of resections and ovariotomies, and all without any idea of boasting of his own deeds, for he had not the faintest resemblance to a braggart, but he was so interested in surgery that, like Agassiz, who talked about his study of the skeletons of fishes to stage-drivers, he fairly bubbled over upon the subject. He was fond of the meetings of the profession. After its foundation, the New York Surgical Society was his favorite place for recounting his experience and listening to the discourse of the distinguished men who organized and maintained this body. He was one of the signers of the address to the profession of the State against the re-enactment of the Old Code, and the movement to liberalize the profession had his full sympathy and co-operation. Social to a degree, he could be found late in the afternoon in the conversation-room or at the monthly meetings of his club, with a cigar for himself and for his neighbor, ready to discourse upon any subject that was uppermost in men's minds. He gave great thought and spared nothing in the education of his two sons and a nephew. He had almost exaggerated ideas of the importance to a young man of an exact and thorough course of study in a college. He did not practice his profession with an idea of amassing a fortune, but he conceived that it was better to thoroughly educate his sons than to leave them the few dollars which a niggardly economy might have allowed a physician dying in middle life to put aside from his professional income. Before his death he had the great satisfaction of seeing his eldest son fully equipped and prosperously entered upon the practice of a lucrative profession. In his latter years he interested himself very much in the study of china and bric-a-brac. It became a recreation to him to visit auction-rooms, and often he came away with a rare bit of some kind.

Galton describes a certain class of men as being incapable of advancing beyond a certain point in mental attainment, just as another class can only be developed physically to a certain inferior standard. Little was not one of these. As long as he lived he grew in mental capacity. He was never satisfied with his own preparation for the study of medicine, but, while he did not enjoy the advantages of a college training that he appreciated so highly in others, he had that which no conventional curriculum can of itself furnish—a receptive, inquiring, and unbiased mind in science; and as to merely scholastic attainments he might have well said as did John Hunter when he heard that he was reproached by a rival with being ignorant of the dead languages, "I would endeavor to teach him on the dead body that which he

never knew in any language living or dead." It has been said by one biographer of Dr. Little that he was a typical American. It is certainly true that his career is a striking example of how eminence in our profession is to be attained by the resources of our own country. His education was wholly obtained within his own city. He had none of the advantages so useful to the best of men, so without use to many, which are to be obtained in British or Continental schools. But no man more than he appreciated the labors of foreign surgeons and pathologists, no one followed more eagerly the medical literature of his time; but he was fortunate enough never to acquire that slavish esteem for books which would have led him to read so many as to cease to think for himself.

The sense of humor was fully developed in Dr. Little. From the busy and sometimes weary life of a general practitioner, and from the society of his friends, he extracted much to give zest to his work. A joke at his own expense was almost as welcome as if for another. He used to tell with great glee, and awaking much laughter as he did so, how a little trick of his to stop too prolix patients once got him into great trouble. He said that he had found a good device for interrupting a needlessly long story on the part of a patient was to ask, in the midst of the long narrative, "Please let me see your tongue." He found that patients bore this interruption very well, and that, in their eagerness to get the doctor's opinion of this index of the digestion, its wagging ceased. But on one evening a friend, who was in no sense a patient, was making a call upon him, and talked long, when Little was very tired. After a time the doctor's mind wandered afar off from the discourse to the discussion of medical cases and questions, and, turning to his friend, who was in the full tide of talk, he asked with great gravity, "Please let me see your tongue." Little was never able to explain what happened when his friend had fairly taken in the meaning of this interruption.

But I must turn from the contemplation of the varied sides of our late associate's life and character. A quarter of a century was to be the limit of his professional life. In the apparent ripeness not of old age, but of middle life, it was ordered that his work should end. As has already been intimated, he was actively engaged at a professional meeting up to a late hour on Tuesday, March 31st, and on Saturday, April 4, 1885, he was in the life beyond. In August, 1884, it was discovered that he was suffering from diabetes. I believe it is thought, by some authorities at least, that the debility induced by this disease, the existence of which was shown by the examination after death, made him less able to resist the acute affection from which he died. At any rate, it had a sensible effect upon his apparent feelings and actions, as observed by his intimates. His thirst was marked, and he became much fatigued upon slight exertion. But he continued his daily work, without creating a suspicion of the existence of any serious disease, in those who saw him only at intervals, until Wednesday morning, April 1st, when he called his friend, Dr. Lloyd, to his office, at about ten o'clock, and he found him with his head resting upon his hand and complaining of a severe pain in the right iliac fossa.

He asked Dr. Lloyd to attend to his clinic for that day, while he proposed to make one or two calls in the afternoon. He then went up stairs and took a dose of cathartic medicine prescribed by himself. At noon he said he felt better, and he went out to try and finish some work, but he soon returned, complaining of severe pain. His family physician, Dr. John S. Campbell, was sent for in the evening; when Dr. Campbell arrived he ordered a dose of castor-oil, which he had seen relieve similar attacks in Dr. Little. The night passed without a movement of the bowels, and with a steady increase in the pain. Early in the morning he sent for Dr. Lloyd and gave him the necessary instructions in regard to his practice. When Dr. Campbell came for his morning visit he advised that Dr. Loomis be sent for in consultation, and when he came, although he thought there was beginning typhlitis, he advised a dose of calomel. He also had seen Dr. Little in similar attacks, which had been relieved by cathartics.

No alleviation of the pain was obtained, nor did the bowels respond to the frequent calls made upon them; and on Friday, owing to the increase of the pain, it was found necessary to resort to the hypodermic injection of morphine. It was also noticed that there was a localized peritonitis, and, when Dr. Campbell arrived, Dr. Sands was also called in consultation. By the time he arrived, in the afternoon, the inflammation of the peritonæum had become general, and it was a question whether it would be wise to operate. This was advised against, however, when the existence of the constitutional disease was fully considered. Although the hypodermic was used freely all Friday night, it was found on the morning of Saturday that the peritonitis was much aggravated. On this morning he sent for Dr. Lloyd, and when he got to the room he found him, in spite of the peritoneal inflammation, sitting in a chair by the side of the bed. As Dr. Lloyd entered the room he asked if he thought he looked much worse than the day before, and then immediately began to give instructions with regard to some business for the University of Vermont, which he thought ought to be attended to without delay. It was suggested to relieve the distension of the bowels by an aspiration, but he objected, and the matter was not urged. Dr. Lloyd, from whom I received these particulars, then continues: "After remaining with him for some time, I left to attend to the calls, and was probably absent about an hour. Upon my return I was met at the door by one of the servants, who asked me to hurry to the room, as the doctor was worse. Hurrying up stairs, I found Drs. Campbell and Powell already there, and that collapse had set in a few minutes before. Just before my arrival the doctor had asked Dr. Campbell, 'Doctor, don't you think a little digitalis would be good for this failing heart of mine?' Dr. Sands was also sent for and arrived in a very few minutes; but there was nothing to be done, and we now knew that the end was nearing fast. As I entered the room the doctor held out his hand with the expression, 'Lloyd, I am going now'; and then, a minute later, again calling me by name, he said, 'I now realize the truth of what poor Beard said.'* Dur-

* This refers to the dying words of the late George M. Beard, in which he expressed his regrets that he could not express the thoughts of a dying man.

ing all this time he was suffering intensely, but his mind was entirely clear, and his spirit undaunted by the fast approach of death. He summoned the household servants and family about his bedside, casting anxious glances at a clock that was in his chamber, plainly showing that he was counting the moments that he still had to live. Having bid farewell to each one by name, and with the words, 'I die in the Christian faith' upon his lips, there was a final instant of distress, when this brave man yielded up his spirit to the God who gave it."

Original Communications.

CASES IN ORTHOPÆDIC SURGERY.*

By AP MORGAN VANCE, M. D.,
LOUISVILLE, KY.

Mr. President and Ladies and Gentlemen of the Kentucky State Medical Society: As your Committee on Orthopædic Surgery, I submit the following cases in operative orthopædy as my report, prefaced by a few remarks in justification of the procedures in three of the cases.

The ailment known as infantile paralysis is, and always has been, the dread of the orthopædist. It is productive of almost half the cripples we meet, and is dreadful because of the meager results attained by treatment, most of the authorities now holding that all relief derived comes spontaneously, and the effects of treatment other than that to prevent deformity and to promote locomotion are nil. This has certainly been my experience so far in the effort to revive the muscles which are lost.

The use of mechanical appliances for the purpose of gaining the above-mentioned results is very unsatisfactory for a number of reasons.

If we make apparatus strong enough to render constant breaking less liable, it will be too heavy for the weakened patient to manipulate at all, hence most patients soon discard braces, either because of this or from their inability to bear the expense of constant renewal. Deformity soon takes place, and, as the patient grows older and heavier, hopeless crippling is inevitable.

How many of these persons are daily seen on our streets! some unable to help themselves at all, others showing every degree of deformity with more or less disability. The mechanical surgeon, therefore, is constantly on the alert for new suggestions toward treatment.

It has been suggested, I believe, in England, and in some cases acted upon, though the results have not been reported, that the residue of the paralyzed muscles have a section removed, thus gaining by an inelastic band better control of the joint below. It has also been recommended, whether carried out yet or not I am unable to say, that in some forms of talipes calcaneus, for instance, the tendo Achillis be resected, thus gaining an inelastic band, as mentioned above.

The third suggestion, and the one I have taken advantage of, is to excise the useless joint and produce bony ankylosis, thus doing by bone what we attempt to do by apparatus.

This seems at first glance to be very bold surgery, but, when we look first at the utter hopelessness of these unfortunates, and at the fact that the joints are alive and the bone in young subjects healthy, we may hope for less risks than when we get our prognosis from statistics of excisions where bone disease exists. The greatest difficulty is the gaining of the patient's consent. No surgeon should ever perform any grave operation which is proposed for convenience without making the patient cognizant of the risks he is undergoing. First, because it is not right; secondly, because if it fails and the possibility of failure has not been explained, it renders surgery too unpopular in that neighborhood.

The authorities for this class of operations are very meager. In the latter part of 1881 I saw it mentioned in a journal that Volkmann had suggested this procedure for the knee and ankle where the muscles of the hip were left, and that four or five operations had been done, with what results I have not yet learned.

Not until May, 1882, did I succeed in getting a patient to consent to the operation.

Case I.—*Boy, aged Nine, Subject of Extreme Valgus from Infantile Paralysis; Unsatisfactory Use of Apparatus for Several Years; Artificial Ankylosis produced, with Good Locomo-*



Fig. 1 (Case I.).—Before excision of the ankle-joint.

* Read before the Kentucky State Medical Society, June 25, 1885.

tion resulting.—Ed. Lawrence, aged nine, of German parentage, came under my care as a dispensary patient in the early part of 1882, giving the usual history of infantile paralysis occurring at two years of age. Both limbs were at first affected spontaneously, recovery taking place to such an extent that only partial paralysis of the left lower extremity remained, producing, as the cut will show, a bad valgus.

He had been treated by various physicians, and had worn all forms of apparatus without material benefit either as to the cure of the paralyzed muscles or to locomotion.

At the first examination I proposed the operation of excision of the ankle joint for the purpose of causing stiffness in the best position for future usefulness, thus getting rid of all braces, which had been faithfully tried.

Not for several months did I gain the consent of the parents to the procedure, but finally, finding the foot fast assuming a worse position as the boy grew heavier, and the brace more often out of repair, consent was obtained.



Fig. 2 (Case I. After excision of the ankle joint.

On May 13, 1882, the operation was done, Dr. J. W. Holland administering the chloroform, and several other professional friends being present. A well-fitting, adjustable splint, made of leather and hard rubber, had been prepared to receive the limb.

The first step, after applying Esmarch's bandage to the limb, was to make an incision, some three inches long, half way between the internal malleolus and the tendon of the tibialis-anticus muscle in the axis of the extended foot, the center of the incision being over the annular ligament.

When the joint was reached was it was opened and the foot broken off the tibia, the ends of this bone and the fibula being sufficiently exposed to allow of their being removed with the ordinary amputating saw; then the upper surface of the astragalus was shaved off with a stout bistoury through the cartilage and sufficiently into the bone to insure that enough surface would be freshened to produce bony union with the tibia and fibula. The wound was closed with stitches, a counter-opening being made for a rubber drainage-tube. No bleeding being present except from the shaved surface of the astragalus, this was stopped only after bruising the surface with the handle of the bistoury.

Surgical fever in this case ran as high as 102° F., but no very alarming symptoms occurred, and within three weeks the external wounds were closed. I think this would have occurred earlier had it not been for the great secretion of synovia, which caused the wound to open several times.

Three years have now elapsed, and this boy has been able to walk without apparatus and with no inconvenience. There is at this date three quarters of an inch shortening of that limb, with bony union of the astragalus to the tibia and fibula.

A mistake was made at the first dressing of the foot by placing it in slight extension, hoping thereby to more easily overcome the effects of shortening by simply extending the heel of this shoe. I believe this makes him step off this foot in valgus still, despite the fact that the foot was set in varus; and has produced, by the greater strain, weakening of the ligaments anterior to the astragalo-tibial junction. From this mistake, the result is not so good as it would have been if the foot had been placed at right angles, though the result obtained decidedly justifies the means.

Case II.—*Boy, aged Seven; Subject of Infantile Paralysis, of Six Years' standing; Partial Spontaneous Recovery of One Limb, the other almost completely Powerless and Greatly De-*



Fig. 3 (Case II).—Before excision of the knee joint.

formed; No Locomotion without Crutches; Excision of Right Knee followed by Bony Ankylosis, with Relief of Deformity and Great Improvement in Walking.—Charley Hadfield, aged seven; subject of infantile paralysis since ten months of age, both lower extremities being affected; the left had spontaneously improved to such an extent that, comparatively speaking, it had become quite useful.

Many forms of apparatus had been worn and every known treatment had been tried, and, from the history, I should judge very faithfully.

The photographs will better show this child's condition than I can by any written description. Suffice it to say, as the boy grew older he more fully realized his helpless condition, and kept complaining that his father would not have anything done for his relief.

The case came under my observation three years before its last appearance, and I had then advised the operation afterward done. The father, remembering this, came again and consented to it, after understanding its full gravity and assuming his share of the responsibility.



Fig. 4 (Case II).—After excision of the knee joint.

I went so far as to let him hear a discussion upon the propriety of this form of operation by the members of the Medico-Chirurgical Society of Louisville, which was not at all favorable to its performance.

On October 21, 1884, after an open splint, made of leather and hard rubber, had been prepared, the operation was done in the presence of a number of professional friends, Dr. J. M. Ray administering the ether.

As shown by the photograph, the limb was greatly deformed, the leg flexed, rotated, and partially luxated outward and backward. On account of this deformity, the first step in the operation consisted in making an incision longitudinally along the inner border of the patella, having for its center the joint. Before turning the bones out to be sawed off the patella was removed, then the ligaments were divided and the ends of the femur and tibia easily exposed and removed with an amputating saw. There was no hæmorrhage, as in Case I, as the sawing closed the cancelli. The external ham-string was left untouched, it being the only muscle of the thigh which had any vitality left, and by its contraction had produced luxation and rotation of the tibia. This muscle served as a perfect tension band to hold the bone in apposition.

There was little or no shock following the operation, and the limb was at once placed in the splint. Ten hours after the patient was placed in bed the temperature was found to be 105° F. Reasoning that nothing but malaria developed by surgical procedure could produce such a fever as this in so short a time, quinine was used liberally with the effect desired, and had to be kept up for a considerable time.

The boy suffered little during his convalescence, and was confined in bed for eight weeks before the wound closed; during this whole time there was an excessive discharge of synovial fluid, as in Case I. His general health was much improved, as will be noticed by the difference in his appearance as shown by the photographs.

The only accident occurring during his convalescence was at about the end of the third month, when the wound and counter-opening reopened completely, following the formation of pus.

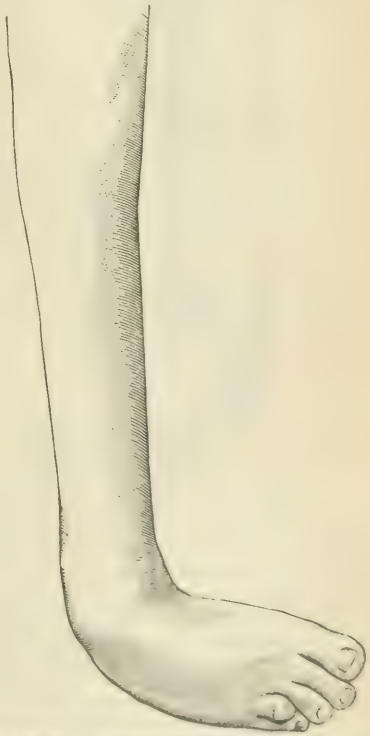


Fig. 5 (Case III).—Before excision of the ankle joint.

The child had been walking about with the convalescent plaster dressing still on, and had probably bruised the limb, or

there was slight exfoliation of bone, causing the pus formation, which, being confined under the dressing, forced the wound open from end to end, instead of discharging, as is usually the case, from a small opening at the point of least resistance. Rapid healing soon took place, and the boy has been perfectly well since. Firm bony union now exists at the site of the knee, and the boy is able to stand without the aid of crutch or support of any kind, and can walk quite well.

The long confinement produced weakness of the left limb, but this is fast gaining strength by use. The action of the hip is pendulum-like, as there is little or no power to flex the thigh. The foot in this patient was in a state of equino-varus, and was straightened during his confinement. If a proper shoe is worn, no operative interference will be needed, as was at first anticipated.

Case III.—*Case of Talipes Equino-Varus from Infantile Paralysis in a Young Woman aged Twenty-five; Complete Correction by Tenotomy and Retentive Apparatus; almost Complete Relapse after Four Years; Excision of Ankle Joint, with Correction of Deformity and Good Locomotion anticipated.*—Feb-



Fig. 6 (Case III.).—After excision of the ankle joint.

ruary 6, 1885, Emma Moore, aged twenty-five, infantile paralysis of right lower extremity, resulting in talipes equino-varus. Four years ago, deformity relieved by tenotomy and retentive apparatus, which was used, until worn out, with comparatively good locomotion; then a rapid return of the deformity. At this second appearance excision of the ankle joint was proposed and readily, under the existing circumstances, consented to, as she was unable to get about at all.

The patient was placed in the City Hospital of Louisville, and the operation done before the medical classes, February 6, 1885, Dr. J. M. Ray giving ether. After the hæmostatic bandage was applied, a longitudinal incision was made, just anterior to the external malleolus, about three inches in length; the tip of the fibula was snipped off with the bone-pliers to facilitate the breaking of the foot off the tibia, which was then easily accomplished, the articular cartilage being removed by an amputating saw from the tibia and by Hay's saw from the astragalus, there being little or no hæmorrhage, the ligaments acting as tension bands to help hold the bones in apposition, as the hamstrings did in Case II.

An adjustable splint had been made to receive the limb and hold it at rest in the best position. Upon examination of the pieces of bone removed, quite a good deal of what appeared to be fatty degeneration was found in that taken from the tibia, while that from the astragalus appeared firm and healthy.

Prognostications of a fatal result from osteomyelitis and subsequent drain were freely made by my professional brethren present. Notwithstanding the many disadvantages in the way of surroundings and an intercurrent dysentery, she made a good recovery, the only surgical complication being the appearance, about the third week, of a diffuse cellulitis of the anterior part of the calf, yielding readily to treatment.

At the date of obtaining the photograph the patient was in splendid condition, the foot in good position, bony union between the astragalus and tibia secured, and she could bear her weight on this foot, though not allowed to walk on it yet, for fear of irritation and renewed suppuration.

Case IV.—*Subcutaneous Osteotomy of the Femur below the Trochanter for Angular Deformity of Thigh from Hip Disease; the Great Crippling relieved and Good Locomotion obtained.*—June 11, 1884, Homer Colbert, aged nine years, the subject of spinal caries and true hip disease, both long since spontaneously

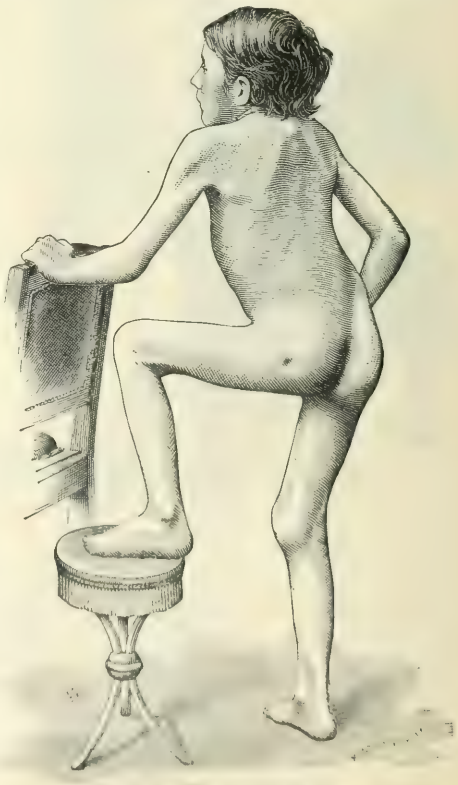


Fig. 7 (Case IV.).—Before the operation.

cured, the hip being ankylosed by bone at an angle of less than 90° with the pelvis, the deformity resulting being greater because of the spinal disease in high dorsal region, which took up most of the power of compensation in the lumbar spine.

This boy could stand with difficulty by holding on to his left knee and right hip, but could not walk, his mode of locomotion being on all fours. The patient was an inmate of the Methodist Orphan Home, and ready consent to the operation was obtained; and, on the date mentioned, it was performed in the presence of the visiting physicians of the institution and several other professional friends. The patient was anæsthetized by Dr. Senteny, and turned upon his right side. A block of marble, well padded, was pressed tightly upward on the inner side of the thigh as high as the perinæum would allow. The chisel was entered just below the trochanter, the edge of the blade being in the axis of the limb. It was then sunk by steady pressure to the bone, then turned with the edge across the bone, and driven, with sharp strokes of the mallet, through until its hard substance on the other side was reached and partly entered. The direction was then changed and the same amount of cutting done in several directions until sufficient weakening had been produced to insure our being able to complete the fracture.

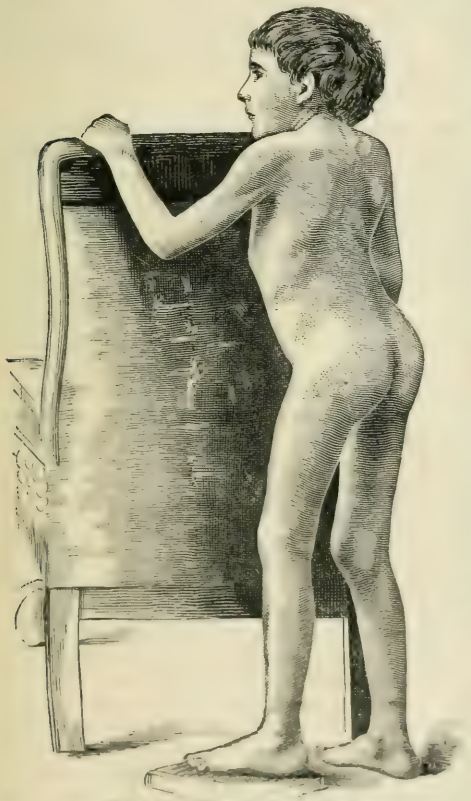


Fig. 8 (Case IV).—After the operation.

Without removing the chisel, the edge of the padded block was placed opposite the chisel and rested on the table, thus acting as a fulcrum at the weakened point. The pelvis being fixed by an assistant, a quick and forcible depression of the lower end of the femur completed the fracture.

The chisel was then removed, and tenotomy of the muscles going to the anterior-superior spinous process of the ilium was done, when, without much difficulty, the limb was brought down and fixed in plaster of Paris, 90° of deformity being overcome. The wounds were dressed with compresses of absorbent cotton and the case was treated as a simple fracture, going on to conclusion without a bad symptom, the boy being able to walk at the end of five weeks. He walks now—when the second photograph is taken—any distance without difficulty, using an elevated shoe to compensate for about one inch and a half shortening of the affected limb.

Case V.—*Deformity of Left Lower Extremity in a Young Man of Seventeen, the Result of Knee-Joint Disease of Many Years' Standing, relieved by Subcutaneous Osteotomy of Lower End of Femur.*—A. B., aged seventeen years, came under observation last November for treatment. There were the history and the evidence locally of an old inflammation of the left knee joint dating back to early childhood. The limb was greatly deformed, and he walked with painful inconvenience. The knee was found with very little motion, flexed at an angle of 135°, the leg being very much rotated in its relationship to the thigh; there was combined with this marked genu valgum. The compensating deformity of the foot being quite great and walking being painful, I was unable to get photographs in this as I did in the other cases.

The procedure of dividing the bone was exactly as in the preceding case, the final steps being much more difficult because of the limited motion at the knee, and the fear that it might be further damaged if too much strained by the use of the leg as a lever; but I succeeded by having the upper part of the bone fixed by a very strong assistant, then, grasping the condyles in both hands, with the application of sudden force downward, using the same fulcrum as before, the fracture was completed and the deformity overcome, after tenotomy of the external ham-string tendon. The limb was dressed in plaster and went on to firm union as a simple fracture.

The young man now walks anywhere without difficulty, and is the possessor, comparatively speaking, of a comely limb, a compensation of one inch and a half being added to the shoe.

June 21, 1885.

HYSTERICAL HEMIANÆSTHESIA, AND ITS IMPORTANCE.

By F. C. FERNALD, M. D. (Harvard),
WASHINGTON, D. C.

Our text-books of medical practice have so little to say on the subject of "hysterical hemianæsthesia" that the majority of practitioners understand neither the full meaning of the term nor its importance as a symptom. The symptom, although most commonly met in young women, is not confined to any age or sex. The left side is far oftener affected than the right. The anæsthesia, which is limited to one side of the body (beginning exactly in the median line) and to its members, and to the special senses of the same side, is, in a strongly marked, typical case, absolute; the sensibility of the skin to touch, pricking, pinching, heat and cold, induced and constant currents, is lost; the faculties of sight, hearing, smell, and taste on the affected side are gone; the accessible mucous membranes also have lost their sensibility; the muscular sense is absent; the skin is cooler and paler than that of the sound side, and bleeds only a little, or not at all, when pricked or slightly cut.

As in other affections, typical cases are not often seen. The variations are numerous; one or more of the special senses may escape entirely or become only slightly impaired; cutaneous sensibility may be merely more or less dulled, or dulled as regards one or another kind of irritation; different areas of skin on the affected side may differ widely in the degree of anæsthesia.

There is no characteristic method of invasion; the trouble may come on suddenly, either with or without loss of consciousness, or it may appear gradually. Its duration may be days, months, or years.

Its departure may be sudden or gradual. There are also motor symptoms, as a rule, and these are generally on the same side as the anæsthesia. They may assume the form of mere weakness, of paralysis, or of rigidity. In cases of this sort the motor disturbance may pass off rapidly, while the sensory disturbance remains; sometimes the two sets of symptoms pass off *pari passu;* at other times both may grow progressively worse.

There are no especial causes of an attack; it has been known to be produced by a strong impression on the emotions, by a fall, and by a jarring or slight injury received in railroad cars. But of most cases there is no assignable cause.

A few rare cases have been reported which presented precisely the same clinical picture as hysterical hemianæsthesia, and of which alcohol, chronic lead-poisoning, and organic brain disease, respectively, were considered the cause. Before going further, it may be well to cite a few illustrative cases.

Case I.—*Hysterical Hemianæsthesia with Hysterical Hemiplegia.*—This patient came to the out-patient nervous clinic of the Massachusetts General Hospital (in which the writer was assistant). E. B., female, thirty-four years old, married, complained of inability to use the right arm and right leg; was able to walk with some difficulty by aid of cane; movements of arm and fingers possible but awkward. This inability to use her arm and leg had been going on for over two years. Previous to this trouble she had pain in right shoulder and arm, which she attributed to strain occasioned by housework, to which she was unaccustomed. After two months of pain she suddenly became hemiplegic. At the time of her visit to the clinic the knee-jerk was normal; no apparent atrophy of muscles on the affected side. By black-board test, the field of vision of right eye limited; color-perception also impaired in same eye; hearing on this side dulled to both air and bone conduction; taste on right side of tongue absent; unable to distinguish the odor of turpentine in right nostril. Her general health was good. With encouragement was able, after a few minutes, to walk without the cane.

Case II.—*Hemianæsthesia from Chronic Lead-poisoning.* (Reported by Sturge, "Brit. Med. Jour.," London, 1878, i, p. 784.)—A man, fifty-two years old, employed in white-lead works, treated in hospital for lead-colic; cured; returned to work; three days later noticed slight weakness in left arm and leg; also observed diminution of sensibility of left half of body. Complained of itching and tingling of left hand and foot; while in hospital noticed dimness of vision in left eye, which has since increased. *Examination:* Grasp of left hand weaker than right; no dragging of left leg, but says it tires quicker than the other; power to resist forced extension or flexion of left leg diminished; no facial paralysis; general sensibility much diminished on left side; same true of face and tongue; in lower part of leg and in foot sensation but slightly dulled; unable to smell with left nostril, right normal; hearing of right ear normal, but with left ear a watch was heard only when placed in contact with that ear. Treated with metal discs; no result. Remained in hospital several weeks unimproved.

Case III.—*Hemianæsthesia Due to Alcohol.* (Reported by the same author, *loc. cit.*)—Man; habitual drinker; had had one epileptiform attack. For two years had paresis of right side. Was admitted to hospital with delirium tremens, and at this time was noticed to have muscular weakness and anæsthesia on right side; amblyopia of right eye; odors not perceived in right nostril; hearing of right ear enfeebled; sense of taste much dulled on right side of tongue. Hemianæsthesia remained stationary for ten days, then began to improve; five weeks after admission, sight equally good on both sides; hearing improved; smell normal; general sensibility still slightly diminished on right side. *Treatment:* Iodide of potassium, gr. xv per diem, with bitter tonic.

Case IV.—*Hemianæsthesia Due to Organic Brain Disease.* (Mentioned by Sturge, *loc. cit.*, but originally reported by Türck, 1859.)—Female, twenty-two years old: died six months after an apoplectic attack followed by hemiplegia and loss of special senses and general sensibility on right side. Autopsy showed a patch of softening lying outside of optic thalamus, which was intact; two thirds of the foot of the corona radiata was involved.

Diagnosis.—Hysterical hemianæsthesia has one striking peculiarity in the fact that the patient is usually unaware of its existence, and that the physician himself is apt to overlook it unless he makes his examination in a thorough and methodical manner. Hence a short description of the proper mode of making the examination may not be out of place. To avoid deception, it is essential that the patient should have his eyes closed during the testing of the cutaneous sensibility, and it is best that he should also not know beforehand what is to be done. The test is made by pricking with pin, by electric brush, by small bottles of water at different temperatures, and by other means that readily suggest themselves. This examination of the skin should be the first test in the examination of the patient, because, if any anæsthesia is found, it gives the key to the affected side, and knowing this we can avoid being deceived while testing the special senses. Always try the special senses of the suspected side first; otherwise the patient may be self-deceived by mistaking what we may call the "after-images" of the impressions that have been made upon the well side for genuine impressions on the affected side.

Both sides of the body should be tested and compared throughout. The field of vision is examined by the black-board test described in Webber's "Nervous Diseases" as follows: "If accuracy is required, it is necessary to use a blackboard with a point of fixation, the patient being placed at a distance of a foot from that point, with one eye covered; a bit of white paper or chalk is then moved from the outside inward until the patient can see it, and a mark is made on the board. This is repeated at short intervals around the central spot until we have marked out roughly the field of vision of the eye." The color test can be made in a similar way by substituting bits of colored paper for the chalk. Conduction of sound through the bone is tested by

a vibrating tuning-fork held between the closed teeth, while both ears are closed; air-conduction is tested by the voice, tuning-fork, or watch, always having the other ear closed.

Nature does not draw sharp lines. Hence it is not always possible to distinguish hysterical from non-hysterical hemianæsthesia. Frequently, however, a doubtful case is cleared up after several examinations and after carefully watching it for a time.

The tendency on the part of general practitioners probably is to ascribe the symptoms to organic brain disease rather than to hysteria. But organic disease is a very rare cause of hemianæsthesia, for only four or five cases with autopsical proof have been reported. The absence of mental disturbance, of persistent cephalalgia, of facial paralysis, of abnormal electrical reaction and of nutritive changes in the muscles, of syphilis or history of it, point to hysteria. Dr. Walton, of Boston, was the first to show that in hysteria the hearing is affected in a peculiar and characteristic way in that bone-conduction is impaired or lost before air-conduction is affected. However, a patient may not present himself soon enough for the physician to observe this. The concentric contraction of the field of vision and loss of color-perception are also characteristic of hysteria. Hemiopia is the usual form of defect in cases where the visual centers are involved by organic disease. Chronic lead-poisoning may be excluded if there be no history of lead, or if no lead be found in the urine either before or after the exhibition of iodide of potassium. The history will also exclude alcohol. Finally, in many of these hysterical cases there is a fluctuation in the symptoms quite characteristic; there may be, for instance, a complete transfer of all the symptoms from one side of the body to the other, or repeated improvements, or even complete recovery, followed by relapses—all utterly inconsistent with the hypothesis of organic brain disease.

Malingering may be suspected, *especially in railroad cases* where there is possibly a question of damages. It is quite inconceivable, however, that a person, often a very ignorant person too, should be able to simulate hysterical hemianæsthesia in its entirety, with the peculiar modifications of vision, hearing, smell, and taste. The amount of injury that may be incurred without pain in these hysterical people is marvelous, and is satisfactory evidence against malingering. Skerritt ("Brit. Med. Jour.," London, 1888) tells of a case of this kind in which a finger-tip was chopped off and a leg broken entirely without pain. The so-called hysterical or nervous temperament is by no means a universal concomitant of hysterical hemianæsthesia. Many of the most marked cases present no other symptoms whatever of hysteria.

Importance of Hysterical Hemianæsthesia.—In all obscure cases of nervous disease one should make it a rule to look for hemianæsthesia, for, if that be found, the other symptoms will most likely be of hysterical origin also. In medico-legal cases, especially railroad cases, we have in this symptom the strongest possible evidence against the theory of shamming, behind which the defendants almost invariably try to intrench themselves.

Treatment.—The treatment is highly unsatisfactory as a rule, often useless. Some patients with hysterical paralysis seem to have lost merely the "knack" of making the muscular contractions essential to certain movements. A case of this kind came to the writer's notice while assistant in the out-patient nervous clinic of the Massachusetts General Hospital. A man with hysterical hemianæsthesia and hysterical hemiplegia, the motor disturbances being especially marked in the leg which was powerless, appeared on crutches, saying that his condition was brought on by a slight shock received in a railroad car. In less than half an hour spent at the clinic he was able to walk across the room unaided by crutches, but awkwardly, however. This result was brought about by having him fix his attention on certain muscles, while these were made to contract by the stimulus of the faradaic current, after which he was induced to imitate the movements by effort of will. He was then told that if he came again on crutches it would be his own fault. He did not give them up, however. He entered suit against the railroad company, but recovered before the trial came off. Massage, tonics, electricity, especially the wire-brush, are sometimes of value. The application of metal discs has been known to cure. A full description of this mode of treatment is to be found in Bartholow's "Therapeutics." Mental and moral influences and *time* are the best curative agents.

1013 Fourteenth Street, Washington, D. C.

THE TREATMENT OF LARYNGEAL PHTHISIS.*

By E. FLETCHER INGALS, M. D., Chicago.

Professor of Laryngology in the Rush Medical College; Professor of Diseases of the Throat and Chest in the Woman's Medical College.

At a meeting of the American Laryngological Association in 1883 I presented a paper on the subject of the treatment of laryngeal phthisis. The views I then held have been but little modified by my subsequent experience, and I can hope to offer very little that is new to those who have read it. However, the malady is one of so distressing a character that it merits constant effort in seeking means for its relief. I, therefore, have yielded to the request of the secretary to present the subject at this time, with the hope of eliciting a discussion in which much may be brought out that will prove mutually advantageous to us and to those who may hereafter come under our care.

In what I have to say I purposely confine myself to a few suggestions concerning treatment alone, ignoring the entire subject of pathology, ætiology, and diagnosis of the disease.

I gave in detail, in my former paper, the history of several cases, in which I endeavored to illustrate the methods which, in my experience, had proved most successful in meeting the following indications, viz.:

1. The relief of pain.
2. The cure of the disease.
3. The prolongation of life, if the disease could not be cured.

* Read before the American Climatological Association, May 28, 1885.

For the relief of pain I have had more satisfactory results from the use of a pigment consisting of morphine, gr. iv; carbolic acid, gr. xxx; tannic acid, gr. xxx; glycerin and water, āā 3 iv, than from anything else I have ever tried. It will usually benumb the parts for from twelve to thirty-six hours.

In the intervals between the applications of this pigment, sedative powders may be employed with benefit. Sometimes great relief may be obtained by allowing the patient to use the pigment at home in the form of a spray, first diluting it with two or three parts of water, or even employing it in full strength when we find that it is used properly; thus applied, it relieves the pain and checks cough.

In mild cases, a sedative powder—consisting of morphine sulphate, gr. j–ij; benzoin, gr. xx; bismuth subnitrate, gr. xx; iodoform, gr. xx—may be used by the patient, and even in severe cases it will sometimes be found very beneficial. Powders may be applied directly to the larynx by means of a bent tube, or, in cases where the throat is very sensitive, they may be thrown through the nares with an insufflator, providing they are blown in with considerable force at the moment of a deep inspiration. In about half the cases where this method is tried the application to the larynx will be thorough and satisfactory.

For the cure of the disease, in the early stage when there is simple hyperæmia, the ordinary topical applications for chronic laryngitis seem beneficial; and, even later on, we may hope sometimes to check the progress of the disease by the same remedies, thus preventing the distress incident to extensive ulceration and exfoliation of the cartilages.

At the time I prepared my former paper I had hope for much benefit, in the ulcerative stage, from the application of eucalyptol by means of a brush or a spray; but my expectations have not been fulfilled, although I have found it useful in a few cases.

While great reliance is placed on local treatment, the constitutional malady, which is present in most, if not all, of the cases of laryngeal phthisis, should not be neglected. This requires the same treatment as uncomplicated pulmonary consumption, and a cure of the local affection can hardly be hoped for unless the pulmonary disease can be checked, although life may be prolonged by local applications for the relief of pain. In cases where death is inevitable I follow still the general line of treatment already suggested, which was clearly marked out in my former paper, and the results are very satisfactory. Two patients whom I reported cured in 1883 are still well. One, Dr. J. C. G., who was reported as declining in health, died four months afterward from hepatic disease, which caused excessive enlargement of the liver, but he had no return of the laryngeal affection.

Sometimes the epiglottis or the arytæno-epiglottic folds become the seat of the ulcerative process. There is then likely to be so extensive a destruction of the tissues that the glottis can not be properly closed in deglutition. In such cases food and fluids pass into the larynx and give rise to such severe paroxysms of cough or suffocation that patients will abstain from food for days rather than endure the agony sure to follow any attempt to swallow it. Under these conditions topical applications can do very little, unless feeding is carried on through a stomach-tube. In other cases, where the ulceration has not selected these parts or advanced to such a degree, much can be done to prolong life by the use of some local application to benumb the parts and enable the patient to eat with comfort. For these the pigment of morphine, carbolic acid, and tannin has proved most beneficial.

From the new anæsthetic, cocaine hydrochlorate, I hope for good results; but my experience in its use has been so limited that I can not speak with authority. Thus far its cost has prevented thorough experimentation. Applied in a strong solution of from ten to twenty per cent., with a brush or as a spray, directly to the part, it will probably efficiently relieve pain for a few minutes, or for a time sufficiently long to enable the patient to partake of a hurried meal with some degree of comfort. However, the great objection to its use in this manner is that, in most cases, it is impossible for the physician to be in attendance at the right time three times a day.

The addition of the cocaine to the sedative powder already mentioned would doubtless add to its efficiency, and would furnish an anæsthetic which might be applied by the patient either directly to the larynx or, in the manner spoken of, through the nares.

The combination of cocaine, gr. j, with gr. ix of powdered starch I have recommended to be employed in this manner. I have given the powder for home use in but one instance, and then in the proportion of only two per cent. The patient reported that it did no good whatever. Its failure was probably due to the fact that so small a proportion of the drug was used.

Lack of time has compelled me to confine myself in this paper to my own experience; but I hope that what I have said may call out the personal observations of others, which will be far more valuable than anything I could compile on the subject.

Note.—Since the foregoing was written, I have several times employed cocaine hydrochlorate in laryngeal phthisis, but the results have been unsatisfactory in every case, except in reducing the swelling of arytæno-epiglottic folds.

64 State Street, Chicago, *May 23, 1885.*

SOME MINOR POINTS IN THE USE OF THE GALVANO-CAUTERY.*

By HARRISON ALLEN, M. D.,
PHILADELPHIA.

I desire to call attention to a novel means of application of the snare to the removal of hypertrophied tissue and polypoid growths in the nasal chambers. The single feature of interest in the instrument employed is comprised in the facility with which the loop is maintained in a heated condition. The general shape of the instrument is essentially that of the Jarvis snare. For the details and full descrip-

* Read before the American Laryngological Association, June 25 1885.

tion of the instrument, reference is here made to an article, by the writer, in the "Journal of the Franklin Institute," April, 1885, and a second in Pepper's "System of Practical Medicine," vol. iii.

The advantages maintained for the heated wire over the cold wire are as follows: First, the loop, being pressed against a swelling whose base is broad, can be completely imbedded in it. Secondly, the tissue embraced by the loop can be removed with rapidity. Thirdly, the operation is much less painful than the removal of growths with the cold snare. Fourthly, the bleeding is insignificant in amount.

Let me in addition speak of the manner in which an electrode can be manipulated so as to reach with accuracy points which are remote from the nostril, and which can not be readily seen by the operator. A perfectly straight instrument, when thrust directly back through the nose as far as it will go, will reach, as is well known, the vault of the naso-pharynx nearly at the spot at which inspissated mucus is so commonly found. If the platinum-loop of the electrode is bent at its middle to a right angle, and in this shape thrust through the nose, the main axis of the instrument will be found to touch the vault at its anterior curvature, while the deflected portion will reach a point more remote. When in this position, if the electrode is made part of the galvanic circuit, the loop of course becomes heated, and will imbed itself in the mucus, and the mass can subsequently be withdrawn through the nose.

To reach surfaces at the plane of the posterior nares, it is only necessary to withdraw the electrode from its position at the vault until it is seen by means of reflected light to rest upon the surface which it is desired to cauterize. It is always well to remember that the applications can be made without the electrode being secured to the electrode-handle. When the electrode is in position, the free ends of the instrument, which project beyond the nostril, can be lightly touched by the electrode-handle without in any way endangering a change of position on the part of the loop. The slightest motion on the part of the patient will simply break the contact between the electrode and the connecting wires. The method just narrated is especially useful in cauterizing the membrane overlying the posterior surface of the middle turbinated bone.

SURRENDERING TO DISEASE TOO WILLINGLY; LARGE DOSES OF STRYCHNINE.

By G. SPRAGUE, M. D.,
CHICAGO.

The case reported in the issue of the "New York Medical Journal" of June 20th, by A. D. Rockwell, M. D., New York, of chronic myelitis, is one more of the frequently occurring instances where medical men too often yield to discouraging indications, not estimating at their value the usual effects upon young subjects of wisely planned and long-continued treatment in a given direction, this being seconded by the inherent tendencies in young subjects *toward recovery*. Dr. Rockwell says in that report: "Four physicians, including myself, who had become interested in the case, regarded the condition as entirely hopeless." He adds that "the father, in the face of a completely discouraging prognosis, insisted upon unceasing efforts being made," the result being subsequent recovery.

The case was, "Miss B., aged sixteen," while on a Sunday-school excursion, sat upon a wet, cold rock until congestion of the parts adjacent to the point of exposure was produced, this being followed by paralysis, as stated.

To illustrate the principle here contended for, we will make brief mention of a case:

O. L., a book-keeper, aged twenty-two, of sanguine temperament, short stature, and very vigorous physique, feeling slightly indisposed, applied to a young practitioner from a reputable school, who gave the young man a wet pack, a mode of procedure commonly adopted in his practice, as he afterward stated to the writer. The result of the too-long-continued wet pack upon the body and limbs of the young man was—there being no especial elevation of temperature present to meet the shock—to produce congestion of the base of the brain and upper portion of the spinal column, resulting in epileptoid spasms, these recurring at frequent intervals during each day. He passed at once into the hands of another practitioner, who at the end of nine days acknowledged his inability to control the manifestations. The writer was called to the case (two years have now elapsed), finding the violence of the epileptoid spasms increasing in violence. Pulse 115, temperature 102·5°, tongue coated, and bowels not moving. Put the patient upon ½-grain doses of calomel, conjoined with a little aloin, each three hours, and after the fourth dose the bowels commenced to move gently, the evacuations being small and quite like tar in appearance. The bowels were kept gently in action, the movements taking on a healthy character on the third day. A blister was applied upon the upper portion of the spine, 4 × 4 inches. An immediate abatement of the convulsions followed, to be succeeded, very naturally, by total paralysis of the left side, of both motion and sensation. Ten weeks of treatment found him on his feet, and, feeling pretty well, he asked the privilege of going twelve miles out to spend a short time with a friend. I granted this, with the understanding that he was to be immediately brought back to the city upon the first indication of anything being wrong.

But while at his friend's he was seen by an acquaintance from New York city, who said, "Come with me and I will give you a job at book-keeping." He went without advising me of the movement, which would, of course, have been objected to; worked ten days at his books, was hauled to his boarding-house in a hack, with total loss of motion and sensation in the left side, as before. Medical attendance was summoned, and at the end of a week he had the combined aid of three medical men. The result soon was a declaration from the attendants, all concurring, that the case was a hopeless one; that he could never again walk. Upon this decision being given, his friends here sent for him, and he was brought home, the family supposing the case was, as stated, a hopeless one. I stated to the father of the young man that I hardly concurred in that opinion; that I would give him the necessary attention if they would pledge to faithfully second my movements in every particular; that if he was no better in two months, perhaps he would be in four; and if no better in four months, possibly he might be in eight; if not improved in eight months, perhaps at the end of a twelvemonth we might see him on his feet. As before, there was total loss of motion and sensation of left side, with obstinate tendency toward constipation, which condition was carefully watched and attended to. On the principle that we sel-

dom have pronounced outward manifestations without the coexistence of internal organic disease, the treatment was conducted upon this proposition, early in the management planning to place a blister, 3 × 3 inches, each third day, over the upper twelve inches of the spinal column. After the effect of the third blister was obtained there were indications of improvement. After the fourth had been brought to bear the improvement was pronounced. Regarding other means used, mention will be made under the heading that follows. As to the progress made, in four months the young man could walk, with the aid of his staff, by sliding the left foot across the floor. Soon thereafter he was on the street. Within six months he was ready for duty; a portion of last summer kept books for an ice company, from 7 P. M. to 7 A. M., without injury. At this writing he is book-keeper for one of the city ice companies. There is still a tendency to torpidity of the bowels, but no twenty-four hours is permitted to pass without a movement being produced.

Large Doses of Strychnine.—Having before me, in the issue of the "New York Medical Journal" of June 27, 1885, reference in the proceedings of the American Neurological Association to the use of strychnine in large doses, I take this occasion to say that in the case above related strychnine, in solution (I would in no case administer the drug in pill form), was given in $\frac{1}{40}$-grain doses at first, gradually increasing until $\frac{1}{8}$ grain was given three times daily for two months or more, no manifestations being made other than steady improvement in the patient's condition, with final recovery, as stated above. In a case of nicotin poisoning, under my charge during the past four years, with steady improvement, I have given strychnine in $\frac{1}{12}$ to $\frac{1}{15}$-grain doses for weeks together, three times daily, at such times as the pulse ranged from 60 down to 47 a minute.

Book Notices.

The Curability and Treatment of Pulmonary Phthisis. By S. Jacoud, Professor of Medical Pathology to the Faculty of Paris; Physician to the Lariboisière Hospital, Paris, etc. Translated and Edited by Montagu Lubbock, M. D. (London and Paris), M. R. C. P. (Eng.), Assistant Physician to Charing Cross Hospital and to the Hospital for Sick Children, Great Ormond Street, London. New York: D. Appleton & Co., 1885. Pp. xiii–407. [Price, $4.]

The basis of this book is a series of lectures delivered in Paris by the distinguished author in the months of December, 1880, and January, 1881, and it is written with all the enthusiasm of a Gallic nature as well as with a conviction based upon extensive experience and study. It is a misfortune which the translator realizes, and expresses in his introduction, that no reference should be made to the bearing of Koch's bacillus upon tuberculosis; but the lectures were given more than a year before Koch's discovery. This fact alone renders the author's ideas concerning the pathology of the disease decidedly behind the times. The outline of the work includes not only the subject of treatment, but a preliminary portion on the nature and curability of phthisis, comprising sixty pages. Treatment is discussed under the following methods: (1) The prophylactic; (2) the hygienic, including hydropathy and nërotherapy; (3) the use of drugs; (4) the use of mineral waters, including a residence at suitable watering-places; (5) the climatic. Two distinct clinical forms of the disease are recognized—the inflammatory or pneumonic form, and the chronic or ordinary one (gray granulation, miliary tubercle, etc.); but the author also agrees with Grancher, who considers that from an anatomical standpoint tubercular granulations and pneumonic infiltrations have the same structure. He also believes that tuberculosis is an infectious disease, though he admits his ignorance of the agent which causes the infection, or the exact manner by which infection occurs. He considers that malnutrition is the chief factor in producing phthisis, and that, when upon that an irritative process or actual inflammation of the lung is ingrafted, tubercle results. The division of tuberculosis into hereditary, innate, and acquired might be condensed by dropping the first of these. One of the chief points which are insisted upon is that pulmonary phthisis in all its forms is curable. The existence of cavities and the occurrence of hæmoptysis need not, of themselves, imply a prognosis of a fatal issue, the number of the former and their size, or the number and quantity of the losses of blood, being the important considerations. The principles which are laid down concerning prophylaxis, the hygienic treatment, and treatment by the use of drugs, are sound enough, but we find nothing new or original in them. In the sections upon treatment by mineral waters and a change of climate, however, the richness of the author's experience is manifest. His directions in regard to the various places which he recommends are based upon personal experience from visiting these places, and the data which he has collected concerning altitudes and barometric pressure, prevailing winds and variations of temperature, conditions of soil and moisture, together with the conveniences of the various stations, and the effects produced upon patients in the different stages of the disease, during many years of practice. All these enable him to speak with something like precision in regard to the results of a sojourn at any station which he may recommend. It is a pity that we have not an analogous work for American patients, since, unfortunately, the treatment of pulmonary phthisis under the most favorable considerations is an expensive affair, and the majority of our patients have neither the inclination to take so long a journey nor the ability to bear the expense of a protracted residence at Madeira, Davos, St. Moritz, the Engadine, Algiers, or any other of the European or African resorts. With the great variety of conditions as to soil and climate which our country affords, certainly the field is a rich one for investigation and for a book similar in its bearings to the one under consideration. The translator's work is exceedingly creditable, and we do not recall an obscure passage in the entire book.

BOOKS AND PAMPHLETS RECEIVED.

Harn-Analyse für practische Aerzte. Von S. Laache, Reservearzt an der medicinischen Abtheilung A des Reichshospitals in Kristiania. Mit 21 Holzschnitten. Leipzig: F. C. W. Vogel, 1885. Pp. viii–166.

Applied Medical Chemistry. A Manual for Students and Practitioners of Medicine. By Lawrence Wolff, M. D., Demonstrator of Chemistry, Jefferson Medical College, etc. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 174. [Price, $1.50.]

Epilepsy and other Chronic Convulsive Diseases; their Causes, Symptoms, and Treatment. By W. R. Gowers, M. D., F. R. C. P., Assistant Professor of Clinical Medicine in University College, etc. New York: William Wood & Co., 1885. Pp. xi 255. [Wood's Library of Standard Medical Authors.]

A Memorial Sketch of the Life and Character of the late Jacob Simmons Mosher, A. M., M. D., Ph. D., of Albany, N. Y. By Willis G. Tucker, M. D. [Reprinted from the "Transactions of the Medical Society of the State of New York."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, NOVEMBER 7, 1885.

THE AMERICAN ACADEMY OF MEDICINE.

THE Academy's recent annual meeting, a brief report of the proceedings of which will be found elsewhere in this issue, was one of unusual significance. This organization has not been much given to scientific work in the past, but has rather occupied itself with matters pertaining to the elevation of the standards of medical education throughout the country. In this respect the meeting held in New York was no exception, but it was notable for a proposition looking to a radical change in its by-laws—so radical, indeed, as to amount, in case of its adoption, to the complete effacement of the Academy's most striking peculiarity.

Section 2 of Article III of the present by-laws reads as follows:

"The Fellows shall be alumni of respectable institutions of learning, having received therefrom—1. The degree of Bachelor of Arts, or Master of Arts, after a systematic course of study, preparatory and collegiate. 2. The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of preceptors and professors. 3. When a candidate is an alumnus of a foreign institution not granting the degree of Bachelor of Arts or Master of Arts, a certificate or certificates, which shall be considered as equivalent by the Council and Academy, may be accepted in lieu thereof, provided he shall have subsequently received the degree of Doctor of Medicine. 4. The Fellows shall also have had an experience of three years in the Practice of Medicine, in one or more of its recognized departments, and shall have a good moral and professional character."

We have copied this section punctiliously, preserving the glory of the capital letters, the Teutonic punctuation, and the blunders of phraseology. In view of the Academy's lofty—not to say pedantic—attitude, the temptation is great to touch more pointedly upon these shortcomings, but just now we are not so much concerned with the Academy's literary achievements as with the proposed change in the substance of its by-laws to which we have alluded. The purpose of an amendment, to be acted upon at the next meeting, is to provide for the admission of graduates in medicine, who, although they may be destitute of literary degrees, "have distinguished themselves in medicine and collateral sciences." Here we can not refrain from a passing remark upon the phraseology of the proposed amendment. Why "*and* collateral sciences"? Must future candidates have distinguished themselves both in medicine and in more than one other science? However, we take it for granted that the proponent's intention is to secure eligibility for medical men who have shown a notable proficiency in either strictly medical attainments or any one of the collateral sciences.

We are convinced that the American Academy of Medicine would be taking a wise step by adopting an amendment plainly setting forth what we infer to be the purport of the proposed amendment, and we think the Academy has been fortunate in having a president who was able and willing to present the arguments in favor of such a change so forcibly as was done by Dr. Gihon in his address, our reporter's abstract of which we regret to have been compelled by the pressure upon our space to abbreviate.

Another important amendment was proposed to Section 1 of Article VIII, entitled "Discipline." The section now reads: "The Fellows of the Academy, in their relations with each other and with their fellow-men, *agree to* be governed by the principles *embodied in the present Code of Ethics of the American Medical Association*, and by the Constitution and By-laws of the Academy." We have italicized the words which it is proposed to change. In place of "agree to," the amendment reads *will;* and in place of "embodied in the present Code of Ethics of the American Medical Association," it reads *which actuate educated and upright men in every profession.* This amendment, too, we think the Academy would do well to adopt.

THE MEMORY OF WILLIAM HARVEY.

Two years ago we gave a detailed account of the pious act of the Royal College of Physicians in causing the neglected remains of Harvey to be incased in a fitting sarcophagus of its own providing. But that was only a half-measure, and a further duty yet remains to be performed. In another part of this issue of the journal it will be seen that the Harvey Chapel is still but a portion of a ruin. The parochial church of Hempstead is depicted as in a condition that ought to be remedied at whatever cost. Every consideration of propriety points to the medical profession as the fitting source of the means wherewith the restoration of this sacred edifice—sacred not only from its ecclesiastical character, but from its having been made the resting-place of the mortal remains of one of the greatest men who ever adorned medicine—is to be accomplished.

At the solicitation of the Royal College of Physicians the descendants of Harvey gracefully waived their own privilege of caring for his remains, and the parishioners of Hempstead Church, nobly recognizing the propriety of a universal tribute to Harvey's memory, now with equal grace confess their own inability, unaided, to do adequate justice to the demand, and are willing to share the honor with the medical profession at large.

The physiologists of two continents—and with them all practitioners of medicine in every nation—have daily profited by Harvey's great discovery of the circulation of the blood, to say nothing of his numerous other contributions to the advancement of medical science. That these other contributions are of no mean character is plainly shown by the interest taken in the fac-simile reproduction of their author's manuscript lectures—a work of which also mention is made elsewhere in our present issue. It is, therefore, not with any idea of doing a favor to the people of Hempstead, or even to the profession of

medicine in the mother country, that American physicians will take their proper part in providing the means for restoring the sacred edifice in which Harvey's remains were originally deposited, but with the conviction that it is nothing more than the expression of a just feeling of obligation. We trust, accordingly, to be called upon shortly to record the accession of goodly sums to the fund. Already, since our article was put into type, and before our public announcement is made, we have received a generous contribution, which we shall acknowledge in our next issue, and we do not doubt that at the same time we shall be able to acknowledge a number of others.

MINOR PARAGRAPHS.

THE METRIC SYSTEM.

Whatever may be the absolute merits of the metric system, as applied to physicians' prescriptions, in communities where it has been a part of every man's education, from childhood up, it is evident, as we have several times insisted on, that the attempt to transplant it to America is beset with some practical difficulties that are likely for many years to stand in the way of its adoption. Not the least of these difficulties lies in the fact that the use of the system adds an element of perplexity to acts which in themselves are always more or less fraught with danger—the writing and the compounding of prescriptions. This objection has lately had an illustration that well nigh proved tragical, a Jersey City apothecary having put up a certain number of grammes of a violent poison, instead of the same number of centigrammes, and having expressed the opinion that his error was in part due to the confusing effect of the metric system.

POISONOUS CAVIAR.

At a meeting of a Russian medical society, held last spring, a report of which appears in a recent issue of the "Deutsche Medizinal-Zeitung," condensed from the "St. Petersburger medicinische Wochenschrift," Dr. Knoch made some observations in regard to several poisonous varieties of fish, especially three Asiatic species of *Schistothorax* and the Japanese *Tetrodon inermis*. It seems that the roes of these fishes retain their poisonous qualities for a long period; in one of Dr. Knoch's experiments, a portion of roe that had been preserved in alcohol for six months was given to a mouse to eat, with the effect of killing the mouse within half an hour. The symptoms of the poisoning consist of vomiting, purging, syncope, tenesmus, cramps, and dilatation of the pupil, followed by collapse and death. Apparently there is no guarantee that the roes of these poisonous fishes may not find their way to the consumers of caviar in the ordinary course of trade.

HARVEY'S MANUSCRIPT LECTURES.

We learn from the "Medical Times and Gazette" that the Harvey manuscript lectures are soon to be published in the form of a photographic reproduction of the author's handwriting, interleaved with a transcript in type. It is said that the photographic work has been so successful that many of the passages are more legible in the fac simile than in the original.

THE NEW HAVEN HOSPITAL.

We regret to learn that the house staff of the hospital has had reason to make some formal complaints to the governing body of the way in which they have been treated. It is an agreeable surprise, however, to find that the Prudential Committee seems, so far as we can judge from the accounts, disposed to right any wrong that may be demonstrated. It is pleasant, too, to be able to record the forbearance and discretion of the house staff in declining to furnish the newspapers with an *ex-parte* statement.

ETHER AS A TIPPLE.

The "British Medical Journal" says that, at a recent discussion on a temperance report made to the Diocesan Synod of Armagh, in Ireland, reference was made by one of the speakers to a practice alleged to exist in various parts of the North of Ireland, that of drinking ether instead of whisky as an intoxicant. In several instances, it was stated, the excessive use of ether had caused insanity. Action was consequently taken looking to legislation to prevent the unrestricted traffic in ether.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 3, 1885:

DISEASES.	Week ending Oct. 27.		Week ending Nov. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	37	8	39	9
Scarlet fever	24	3	34	5
Cerebro-spinal meningitis	0	1	4	5
Measles	7	1	5	1
Diphtheria	46	25	51	18
Small-pox	1	0	2	0

The Health of Massachusetts.—The Secretary of the State Board of Health reports to the Secretary of the National Board of Health for the week ending October 24th: In 109 cities and towns, with a population of 1,312,471, there was a total of 363 deaths, of which number 57 were referred to the principal infectious diseases. No deaths were reported from small-pox.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, October 27th: *Montreal, Canada.*—For the week ending October 28th: 274 deaths from small-pox in the city, and 73 in adjoining municipalities. *Kingston, Canada*, October 23d, and *Toronto, Canada*, October 21st: Free from epidemic diseases. *Havana, Cuba.*—For the week ending October 22d: 25 cases and 12 deaths from yellow fever. *Matanzas, Cuba*, October 21st, *Nassau, N. P.*, October 17th, *Cape Haytien, Hayti*, October 17th, and *San Domingo*, October 15th: Free from epidemic diseases. *St. Thomas, D. W. I.*—For the week ending October 13th: 1 death from yellow fever, being that of a passenger from St. Johns. *Acapulco, Mexico.*—October 11th: Pernicious fever still prevalent, though the general health of the city is improving. *La Guayra, Venezuela.*—October 17th: City healthy. Reports from *Caracas* still unfavorable. Yellow fever prevalent. *Rio de Janeiro, Brazil.*—For the month of August: 14 deaths from yellow fever. *London, England.*—For the week ending October 10th: 3 deaths from small-pox, including one which occurred in the hospital-ship outside the registration district. The disease is steadily declining. *Paris, France.*—For the week ending October 17th: 5 deaths from small-pox. *Bordeaux, France.*—For the week ending October 10th: 2 deaths from small-pox. During the month of September there were 14 deaths from this disease. *Rheims, France.*—For the week ending October 16th: 2 deaths from small-pox. *Cadiz, Spain.*—For the week ending October 10th: 30 deaths from cholera. *Gibraltar, Spain.*—For the week end-

ing October 11th: 5 cases and 2 deaths from cholera. Communication with cholera-infected districts is unrestricted. *Genoa, Italy.*—For the week ending October 11th: 5 cases and 3 deaths from small-pox. *Venice, Italy.*—For the week ending October 3d: 10 deaths from small-pox. *Riga, Russia.*—During the month of July there were 2 deaths from small-pox. *St. Petersburg, Russia.*—For the week ending October 3d: 2 deaths from small-pox. *Warsaw, Russia.*—For the week ending October 3d: 4 deaths from small-pox. *Calcutta, India.*—For the week ending September 19th: 6 deaths from cholera. *Colombo, Ceylon.*—From August 22d to September 12th: 22 cases and 12 deaths from cholera, and 2 cases of small-pox. *Marseilles, France.*—No deaths reported since October 4th, and clean bills of health are now issued to vessels clearing from the port. In Italy, from September 23d to 27th, there were 690 cases and 382 deaths from cholera. In Spain, from March 4th to September 27th, inclusive, there were 267,689 cases and 98,929 deaths from cholera.

Cremation and the New York Health Department.—It is stated that the sanitary officials of New York do not feel authorized to issue permits for cremation until after certain necessary modifications of the provisions of the Sanitary Code have been made. In the mean time a number of bodies are said to be awaiting cremation, being now stored in vaults in various cemeteries.

The New York Medical Missionary Society.—The Training Institute and Home, at No. 118 East Forty-fifth Street, was dedicated on Wednesday evening.

The Tyndall Foundation.—In accordance with the plan which we alluded to some months since, the proceeds of Professor Tyndall's lectures in this country have been divided between Columbia College, Yale College, and the University of Pennsylvania, for the foundation of scholarships in physics. The sum allotted to Columbia College amounts to $10,800, and the Trustees guarantee that the annual income shall not be less than $648. The recipient of the income is to be appointed annually, but may be reappointed from year to year.

Cincinnati College of Medicine and Surgery.—Dr. Charles E. Caldwell has been elected to fill the vacant lectureship on general pathology.

The "Eastern Medical Journal."—We understand that Dr. C. E. Nelson, of New York, has severed his connection with the journal mentioned.

Personal Items.—Medical Director Philip Landsdale was among the passengers of the steamship Belgenland, which sailed for Antwerp last Saturday.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 25 to October 31, 1885:*

Huntington, D. L., Major and Surgeon, U. S. Army. Detailed on board to inspect Army and Navy Hospital buildings at Hot Springs, Ark. S. O. 245, A. G. O., October 24, 1885.

McElderry, Henry, Major and Surgeon. Granted leave of absence for four months from November 1, 1885. S. O. 246, A. G. O., October 26, 1885.

Patzki, J. H., Captain and Assistant Surgeon. Appointed member of board to meet at Forts Jackson and St. Philip, La., on November 5, 1885, to select a site for the new quarters for the ordnance sergeants at those posts. S. O. 230, Department of the East, October 28, 1885.

Tomey, G. H., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect after the return from leave of absence of Surgeon J. C. Baily (Major). S. O. 87, Division of the Atlantic, October 24, 1885.

Barrows, C. C., First Lieutenant and Assistant Surgeon. In addition to his other duties, to take temporary charge of office of the medical director, Department of Arizona. S. O. 102, Department of Arizona, October 17, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon (Fort Leavenworth, Kan.). To accompany congressional committee, of which Hon. W. S. Holman is chairman, in its visit and inspection through Indian Territory. S. O. 160, Department of the Missouri, October 23, 1885.

Ives, F. J., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Laramie, Wyo., and ordered to Fort D. A. Russell, Wyo. S. O. 106, Department of the Platte, October 22, 1885.

Morris, E. R., First Lieutenant and Assistant Surgeon (recently appointed). Assigned to duty at Fort Bayard, N. M. He will continue on detached service under orders of district commander. S. O. 160, Department of the Missouri, October 23, 1885.

Marine-Hospital Service.— *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended October 31, 1885.*

Austin, H. W., Surgeon. To proceed to Portland, Maine, on special duty. October 31, 1885.

Carter, H. R., Passed Assistant Surgeon. When relieved, to proceed to New Orleans, La., and assume charge of the service. October 27, 1885.

Battle, K. P., Assistant Surgeon. Granted leave of absence for thirty days. October 27, 1885.

Williams, L. L., Assistant Surgeon. To proceed to Chicago, Ill., for temporary duty. October 28, 1885.

Society Meetings for the Coming Week:

Monday, *November 9th:* New York Ophthalmological Society (private); New York Academy of Medicine (Section in Surgery); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club (annual); Norwalk, Conn., Medical Society (private).

Tuesday, *November 10th:* New York Medical Union (private); New York Surgical Society; Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations; Medical Society of Camden County, N. J. (semi-annual—Camden); Norfolk, Mass., District Medical Society (Hyde Park).

Wednesday, *November 11th:* New York Pathological Society; American Microscopical Society of the City of New York; Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational); Worcester, Mass., District Medical Society (Worcester).

Thursday, *November 12th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Physicians' Mutual Aid Association (annual, in the Hall of the New York Academy of Medicine, 12 W. Thirty-first Street, at 4 P. M.); South Boston, Mass., Medical Club (private—annual); Pathological Society of Philadelphia.

Friday, *November 13th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *November 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

PRIZE ESSAYS ON DISINFECTANTS.

Brooklyn, *October 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: Inclosed you will please find a verbatim copy of a letter from Dr. Henry B. Baker, in answer to my letter on "Prize Essays on Disinfectants," appearing in the "Journal" of October 17, 1885.

Very respectfully yours,

A. H. P. Leuf.

[*Dr. Baker to Dr. Leuf.*]

"Lansing, Mich., *October 22, 1885.*

"A. H. P. Leuf,

"*199 Dean St., Brooklyn, N. Y.*

"Dear Sir: Accept my thanks for a copy of 'New York Medical Journal,' October 17, 1885, containing your article, 'Prize Essays on Disinfectants.'

"I think you are quite right; and, if I understand the subject, I agree with you entirely.

"This is the first information I have received of the *final* action by the committee; but after I had voted on the subject I was informed that the two other members of the committee had voted as represented in your letter, so I presume you are correct. I immediately protested as vigorously as possible, and have not seen or heard anything further on the subject until I received your article to-day.

"Very respectfully,

"Henry B. Baker.

"You are at liberty to make such use of this as you choose.

"H. B. B."

DIELECTROLYSIS.

10 West Thirty-fifth Street, New York, *November 1, 1885.*

To the Editor of the New York Medical Journal:

Sir: As you correctly state in your editorial, the "dielectrolytic" method is by no means new. I gave the matter a pretty careful examination some ten or twelve years ago. In the experiments then made I used two glass tubes, closed at one end and filled with platinum wires, for conducting the current. One of the tubes was filled with solution of iodide of potassium and the other with thin starch-water. The open ends of the tubes were then closed with gold-beater's skin. If these tubes be now connected with the poles of a galvanic battery (15 to 20 cells) and applied on each side of the arm, in a few moments the starch-water will become blue, showing that a portion of the iodine has left the tube which contained it, traversed the tissues, and appeared in the starch-water tube. The starch tube should be connected with the positive pole of the battery.

Applying this clinically, I met with absolutely negative results. I know that the late Dr. Beard made some experiments of a like nature, and I fancy that Dr. Rockwell has done so likewise.

Yours respectfully,

H. G. Piffard.

COCAINE IN SEASICKNESS.

228 West Thirty-fourth Street, New York, *November 1, 1885.*

To the Editor of the New York Medical Journal:

Sir: In the "Medical Journal" of October 31st Dr. Kessler denies the ability of cocaine to palliate or cure seasickness. Well, I am able to verify the statement of Dr. Manassein *in toto*. I made this year two voyages across the Atlantic, crossed the Channel three times, and found cocaine the remedy *par excellence*; but it must be given in repeated doses of a 1-to-500 or a 1-to-1,000 solution. I even found the 1-to-500 solution in delicate persons too strong, and failure followed, whereas the latter acted well. May not Dr. Kessler's failures be ascribed to the large doses, which we still are in the habit of using in too many cases? The bromides are good for nothing, and, till something better turns up, I cling to the 1-to-1,000 solution of cocaine hydrochlorate, a teaspoonful every two hours.

Respectfully,

S. Lilienthal.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of October 28, 1885.

The President, Dr. John A. Wyeth, in the Chair.

A Cast of the Bladder.—Dr. Louis Waldstein, of the Microscopical Committee, reported that the specimen of exfoliative catarrh of the bladder, presented by Dr. H. J. Boldt at the last meeting, contained but very few, if any, muscular fibers; it consisted of a false membrane with some portions of the mucous surface; its thickness was largely due to œdematous infiltration.

Dr. Boldt remarked that the body had been exhumed some days after burial, and a physician had made an autopsy, but his report had been very incomplete; he had stated, however, that the walls of the bladder were thickened and contracted.

Ulcer of the Duodenum.—Dr. W. M. Carpenter presented specimens for two candidates. The first one showed an ulcer of the duodenum, an inch by an inch and a half in size, situated half an inch below the pyloric orifice.

General Carcinosis.—In the second case the specimens were of more than usual interest, showing extensive carcinomatous degeneration in various organs of the body in a girl thirteen years and six months old. Her father had died of phthisis. It was probable that two cousins of her grandfather had had carcinoma of the breast. The girl had always been very healthy, and a year ago was a vigorous, romping child. About the middle of August she complained of being tired, lost color, and became listless. She suffered no pain at first, but afterward cried out with pain in the region of the spleen. Her appetite was insatiable. On the 8th of September enlargement of the abdomen was first noticed, and from this time the increase in size in the region of the liver was very rapid. The patient complained of agonizing pain, which she always referred to the region of the spleen. She died in August. At the autopsy it was difficult to remove the liver, because of its great size; its weight was twenty pounds. Cancerous nodules of various sizes studded its surface. All of the organs of the body except the lungs contained nodules. The specimen was referred to the Microscopical Committee.

Dr. Waldstein presented a specimen for a candidate, consisting of a malignant or semi-malignant tumor of the great toe, following an injury.

Fibro-Myoma of the Uterus.—Dr. H. Marion-Sims presented a round tumor of the uterus, about five inches in diameter. The patient had been married eighteen years, had given birth to one child, had always been remarkably healthy, and had been regular in menstruation. Three years ago was the commencement of her illness; she complained at that time of dragging and lancinating pain in the hypogastric regions. The speaker first saw her in October, the present month, when he found the depth of the uterus to be four inches, and discovered a movable tumor in the abdomen which he diagnosticated as a

fibroid of the uterus. The patient was extremely fat, and, to remove the tumor, it was necessary to make an abdominal incision nine inches long. She rallied well from the operation, and there were no signs of inflammation about the wound. On the third and fourth days she complained of distress in the abdomen, and vomited a large amount of black fluid, some of which entered the respiratory tract and caused death by suffocation. The autopsy showed no suppuration about the abdominal wound; the organs were not examined.

Plates for the Support of Pedicle Skewers.—Dr. MARION-SIMS also exhibited some vulcanized-rubber plates with grooves for the support of the skewers, which had a tendency to cut into the abdominal wall.

Dr. J. B. HUNTER had prevented the skewers from sinking into the integument by means of flat buttons, but the plates exhibited were preferable as being larger.

AMERICAN ACADEMY OF MEDICINE.

Ninth Annual Meeting, held in New York, Wednesday and Thursday, October 28 and 29, 1885.

The President, Dr. ALBERT L. GIHON, of the Navy, in the Chair.

Wednesday's Proceedings.

The Study of Medicine as a Means of Education was the title of the first paper, read by Dr. ROBERT L. SIBBETT, of Carlisle, Pa., who first referred to the various elements in education, considering time the most important of these. The medical colleges of the United States were not institutions to be proud of. In this country two hundred and nineteen medical colleges had been chartered, of which ninety-three had become extinct, whereas in Canada only fifteen had been chartered, and twelve remained, all regular. A preliminary examination, with graded courses and frequent examinations, was heartily recommended. A protracted course of academic training was necessary for a proper study of medicine. A State medical examining board with full authority to examine all practitioners, irrespective of degrees, would do more to elevate the profession than all other means combined.

Medical Supervision in Student Life.—Dr. CHARLES MCINTIRE, of Easton, Pa., then read a paper, in which he assumed that the times had changed; that modern life made a greater demand upon the time and energies of the individual, to the detriment of his health and development. It was considered impossible to diminish tasks and give more time to rest and recreation. There was no way known to shorten the period of rest, so something should be done for recreation. The plan suggested was the usual one given by students on these subjects. A careful physical examination at the beginning of school-life and a series of graded bodily exercises under medical supervision throughout school-life were recommended. Many appeared to be ignorant of the end to be obtained by a modern gymnasium, so that in colleges the parents of the pupils were afraid that their children would be injured by the gymnasium. But, as the weaklings were the subject of special care and direction, they were the ones least apt to be harmed and most likely to be improved. The end aimed at was to give such tasks as would tend to strengthen the weaker parts.

The Climatic Treatment of Disease, with an Illustration of Western North Carolina as a Health-Resort.—Dr. HENRY O. MARCY, of Boston, read a paper on this subject. The higher Alleghanies in western North Carolina were described at considerable length as offering mountain health-resorts of a character well suited to a variety of diseases. The deductions had been based on a long tour of personal investigation made during the last summer as a sanitary study.

The President's Address: "What is Medicine?"—At the evening session the PRESIDENT read his annual address. He said that the place of the Academy was not to be sought for among the pathological, clinical, sanitary, and other national associations. It antagonized none of these, but sought to cement all into a compact unity. One of the reasons of its slow growth was the restriction of membership to graduates in medicine who had received degrees in letters. As the co-operation of every educated man interested in the objects of the Academy was desirable, the time had come when every limitation to fellowship should be removed except the solitary requirement that the candidate should be in fact, as in title, "learned in medicine," and in all else that this term implied; but he would make it impossible for any one unfit or unworthy to enter, though he came with an armful of diplomas and had subscribed to the most inflexible of codes, and no matter what faculty, society, or institution he might be delegated to represent. A second reason why the Academy had not met with more pronounced sympathy and support was its necessarily hostile attitude to institutions and individuals who defied the principles of its constitution. It encountered a third obstacle in the lukewarmness of its quasi-friends, some damning it with faint praise, others being exuberant in private but chary of public indorsement. Let us ask ourselves the question, "What is medicine?" It was the most profound and ennobling study that could engage the intellect of man. This was not the popular idea, which was that medicine was only something in a box or bottle, that was prescribed by a man or woman who had acquired more or less skill in administering the particular remedy appropriate for each disease. Medicine involved the knowledge of everything that related, however remotely, to the existence of man, his place in nature, his origin, growth, development, preservation, and continuance. The prevention and cure of those abnormal conditions which tended to his destruction were but one chapter in the volume, which, coming near the end, could not be read understandingly without the thorough comprehension and diligent study of all that preceded. Medicine was so far-reaching in its sources and so connected with every other branch of knowledge that he who would begin its study must first have drank deep of the well-spring of human knowledge. Medicine was a science of such proportions that only a well-educated man could master it. Medicine had no need to rear its superstructure on any other foundation than the broad basis of fact. It had been dragged down to the level of commonplace occupations by the dissensions incited by the dogmas of theorists. When all physicians stood on the plane of higher medicine, there would be less tendency to diverge into extremist classes. Was our estimate of medicine visionary, and had we sought the impracticable? Must we silence our voices because few cared to hear, and cease our efforts because the task was difficult? Must we tread the beaten track, lest we offend prejudices, antagonize pecuniary interests, and upset established orders? Not on this account should we hesitate, if the truth was with us. The ethics of medicine rightly denounced fraternity with charlatans and quacks. Was the dishonor less if we degraded a noble profession by admitting to its rights and honors those who were ignorant, illiterate, and incompetent?

Thursday's Proceedings.

Medical Education.—The following resolution was adopted: *Resolved*, That a committee of three be appointed by the president, to report at the next annual meeting, to prepare a statement of the best preliminary education for medical students, and also a statement of the minimum attainments which medical schools should require of students before admitting them to the study of medicine. It was also resolved to appoint a committee of two to report on the requirements for a preliminary

education of the various medical colleges in the United States and in Canada.

Officers for the Ensuing Year were elected as follows: President, Dr. R. Stansbury Sutton, of Pittsburgh, Pa.; Vice-Presidents, Dr. Lewis P. Bush, of Delaware, Dr. S. J. Jones, of Illinois, Dr. R. L. Sibbett, of Pennsylvania, and Dr. F. H. Gerish, of Maine; Secretary and Treasurer, Dr. R. J. Dunglison, of Philadelphia; Assistant Secretary, Dr. Charles McIntire, of Easton, Pa. Pittsburgh was selected as the next place of meeting. The time, the third Tuesday of September, 1886.

Medical Evidence.—Dr. Thomas J. Turner, of the navy, read a paper which had had its origin in his duty in connection with the naval retiring board. The positions of the medical member of the board were that of an ordinary witness, that of an expert witness, and that of a concurrent judge of both the facts and the law. In the first instance the medical officer made a physical diagnosis; in the second place he made a rational diagnosis based upon subjective phenomena; combining these, he arrived at a conclusion. On questions of science, skill, art, and the like, persons instructed on such subject-matters, known in ordinary language as experts, were permitted, from the necessities of the case, to give "matters of opinion" in evidence; and, as to the necessity which permitted the introduction of such opinions, each tribunal determined for itself at the time. Herein the expert differed from the ordinary witness, who testified as to "matters of fact." The boundary-line where ordinary testimony ended and expert testimony began was not always well defined. So far as related to opinions on medical questions, any one at present might be permitted to testify, the question of the special amount of knowledge being left to the jurors to determine. It followed from this that there was no testimony which varied so immensely as so-called expert testimony. It had been decided that a medical opinion might be received as evidence if it was based upon study without practice, or upon practice without study, and it had been ruled that it was not absolutely necessary that one should have either studied or practiced medicine. The term expert testimony was somewhat misleading, and the term "opinion-evidence," as used by Best, was preferable, for opinions might be admitted in evidence by those who could not be classed as experts. The test of the admissibility of opinion-evidence seemed to be this: Had the expert witness any peculiar knowledge or experience not common to the world which rendered his opinion, founded upon such knowledge or experience upon the subject-matter under inquiry, of value to the Court in determining the truth of the matters at issue? The degree of credence given to opinion-evidence should be founded upon the professional skill, the quickness of perception, the powers of discernment, the aptitude, the acquirements, and the education, as well as the experience and observation, of the expert.

A Report on Laws regulating the Practice of Medicine in the United States and Canada, by Dr. Richard J. Dunglison, of Philadelphia, and Dr. Marcy, was read by Dr. Dunglison.

From New York it was reported that the act of 1884 had not been effective in excluding from the profession grossly incompetent and uneducated men.

Health Officers, Ancient and Modern, was the title of a paper by Dr. Benjamin Lee, of Philadelphia. In regard to the organization of boards of health, the first point made was that, in selecting the material, politics, in the bad sense of the term, should be rigidly excluded. Where it was possible to avoid it, the members should not be elected by the people, especially in large cities. Secondly, boards of health should be composed chiefly of physicians, but at least one member should be a man eminent among his fellows for prudence and judgment in trade and commerce, for doctors were proverbially bad business men. Thirdly, as it was desirable that there should be harmony of action and of sentiment between the municipal government and the board of health, there should be a representative of each in the other. Fourthly, it was essential for the practical working of the board that it should employ a paid agent, who should devote as much time as was necessary to inspection and investigation of the sanitary conditions of the locality, and carry into execution the orders of the board. Finally, every member of the board should receive a fair and even generous compensation for his labors.

Micro-organisms and their Relation to Disease was the title of a paper by Dr. Samuel N. Nelson, of Cambridge, Mass.

Observations on the Relation of Bacteria to Certain Puerperal Inflammations was the title of the next paper, by Dr. Ernest W. Cushing, of Boston. He called attention to the great difference between the customs and rules governing the obstetric assistants and students in Berlin and in Vienna. In the former city, every precaution was taken to avoid not only direct infection, but also any possible carrying of germs in the hair or clothing, as if bacteria were freely present in the air. In Vienna, although the possibility was admitted in theory, yet in practice the assistants and students were allowed to be present at autopsies. Obstetric operations and laparotomies were performed before the whole class, without spray, and the chief assistants gave operative courses on the cadaver every afternoon, relying for safety on washing, bathing, and change of clothing. Practically, sepsis arising in the hospital was very rare, and the results obtained by avoiding direct infection through the fingers and instruments were regarded by the speaker as an argument in favor of the view that puerperal fever was not an entity the poison of which was carried about in the air and entered the system through the lungs, etc., but was the result of the invasion and multiplication of bacteria, arising from infection of the uterus or abraded vagina, as a rule, directly from hands, instruments, or applications.

In discussing this paper, Dr. R. Stansbury Sutton, of Pittsburgh, Pa., said that, while there was no question as to the success achieved by the use of antiseptics in general surgery, yet in abdominal surgery the best results so far had been obtained by strict attention to cleanliness without the use of any antiseptic agencies. He agreed with Dr. Cushing that, when the poison entered the abdominal cavity in laparotomy, or the vagina or uterus in puerperal cases, the germs were not carried by the atmosphere, but by the hands, forceps, ligatures, or instruments. So far as abdominal surgery was concerned, he thought that all chemical agents could be discarded, but cleanliness could not be lost sight of.

Dr. Marcy related a case bearing on the introduction of antiseptics into the peritoneal cavity. It was that of a child four years of age, whose abdomen was filled with pus, in which the streptococcus was found. The pus was evacuated and the peritoneal cavity thoroughly washed out with bichloride-of-mercury solution. The patient recovered without a bad symptom.

Medical Licenses and Medical Honors was the title of a paper read by Dr. Edward Jackson, of Philadelphia. A comparison was made between the requirements of the medical colleges of this country when first organized and the requirements of to-day, and a gradual lowering of the standard, with a corresponding decrease in the honor conferred, was noted. The speaker thought it doubtful if any system of State license to pursue any calling should be looked on with favor. If adopted, it must be removed from all possibility of lowering competition, and surrounded by every guarantee of honest enforcement which disinterested examiners and full publicity could give.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of October 1, 1885.

The President, Dr. B. F. Baer, in the Chair;

Dr. W. H. H. Githens, Secretary.

The Different Forms of Paralysis met with in Young Children.—Dr. Wharton Sinkler read a paper on this subject. He said that the form most frequently met was infantile spinal paralysis, or polio-myelitis anterior. This term indicated the pathology of the disease, which was an inflammation of the nerve-cells of the anterior horns of white matter of the spinal cord. This affection might come on at any period of life, but was generally seen in children, and usually at the age of two years. The children were generally strong and apparently healthy, and the paralysis was sudden in its onset. Fully two thirds of the cases he had seen had been attacked in the summer months, hot weather and teething seeming to be predisposing agents. Dr. Barton, of Manchester, Eng., reported that, of fifty-three cases in which he noted the time of onset, twenty-seven occurred in July and August. The attack was preceded by fever of greater or less intensity, with pain in the head and limbs, with general soreness when moved or lifted. After a few days, paralysis more or less complete occurred, but in a few days a regression of the paralysis from some of the affected parts occurred. Sensation was undisturbed. Atrophy of the muscles was soon apparent; in fact, the paralyzed portion stopped growing for a time. The temperature of the affected portion was low and the skin was blue and mottled, but there was no tendency to ulceration, and wounds or scratches healed readily. The skin and tendon reflexes were lowered or abolished in the affected limbs. At first response to the faradaic current was lost, and later on the galvanic current produced but little muscular contraction, except when a powerful current was used. When atrophy had set in the reaction of degeneration was seen. Most of the cases of club-foot were the result of infantile palsy. Deformities of the upper extremities were rare, this disease differing in this respect from cerebral palsies. The exact causes of infantile palsy were unknown. Over-fatigue often preceded an attack; sudden chilling was considered by Seguin to be a frequent cause.

The *prognosis* as to perfect recovery was only moderately good. In many cases the most faithful treatment failed to restore the paralyzed muscles, but in almost every case we could expect more or less improvement.

In the early stages of the paralysis, after the subsidence of the fever, the treatment should consist of mild stimulation to the spine; ergot and small doses of bromide of potassium should be given internally. Later in the disease, iodide of potassium should be given instead of the bromide. When the palsy was established, electricity and massage were the means to be depended upon. They must be persisted in for months or even for years. Internal treatment was of little or no value unless there was some failure in the general health of the child.

Spasmodic paralysis as seen in children was of two varieties—when of primary spinal origin, or when there was a descending degeneration of the cord from a primary cerebral lesion. Sometimes there seemed to be a congenital defect in the motor tracts of both brain and cord. In the spinal variety there was often seen, soon after birth, rigidity of the limbs; at first this was only occasional, but, as the child got older, every effort to move a limb caused muscular rigidity in it. The child did not attempt to walk until three or four years of age. Then, when it was supported under the arms and it tried to stand or to walk, the movements were very peculiar and characteristic. The feet were extended and inverted so that the child rested on the toes. The knees were strongly adducted and locked together so that the legs became entangled. By degrees the child became able to walk with the aid of apparatus or some form of crutch. The hands and arms were often affected and every effort caused muscular rigidity to come on. The mind was unaffected in these cases and the speech might be distinct, although it was often very defective. Sensation was unimpaired and the patella reflex and ankle clonus were exaggerated. There was no wasting of the muscles. By these symptoms we inferred that the disease was localized in the lateral columns; but exactly what was the nature of the lesion we did not know, for no post-mortem examinations had been made in these cases. The cause was unknown. Hamilton found three of seven cases which he had collected were premature births. Adherent and contracted prepuce had been thought by some to be the cause by reflex influence of the spasmodic paralysis, but operation had not given relief. The treatment should consist of massage, galvanism to the spine, ergot, and cod-liver oil. Fluid extract of conium might be given to allay spasm. In some cases great improvement followed this treatment.

Even when we could do no positive good to the limbs, very much could be effected by the aid of apparatus. Properly adjusted braces to the legs would enable a child to walk on crutches or in a Durrach wheel crutch.

There was a form of spasmodic spinal paralysis in which the child was imbecile. In these cases there had probably been congenital defect in cerebral development. The head was small and there was no evidence of intellect; often nystagmus was present.

Paralysis from Pott's Disease.—Paralysis of the lower extremities might result from caries of the spine. The lesion might be either a meningitis or a myelitis. If meningitis alone, there was considerable pain and contraction of the legs. Generally there was a transverse myelitis. The symptoms were numbness and pricking of the legs, with loss of sensation; gradually increasing loss of power with wasting of the muscles; incontinence of fæces with retention or incontinence of urine. Sometimes there were ulcers over the sacrum or on the limbs.

The indications for treatment were evident. An apparatus which would take the weight of the body from the spine was necessary, and was sometimes sufficient of itself. Frequently, however, the application of the actual cautery over the spine produced improvement in the symptoms when an apparatus had done no good. Massage and electricity should be used to restore the atrophied muscles.

Paralysis from rhachitis and diphtheria was seldom complete. The former was often spoken of as the pseudo-palsy of rickets. Negro children, who were very subject to rhachitis in cities, often had rhachitic paralysis. The child at three or four years was unable to walk or stand. Sometimes it had not sufficient muscular development to sit upright. It could move every limb and had no loss of sensation, but had no power. Cod-liver oil and massage brought about the most satisfactory results in these cases. Diphtheritic paralysis usually began in the muscles of the soft palate and pharynx and extended to the extremities. It was generally bilateral and incomplete, but he had seen a case in which it was hemiplegic. It was considered peripheral in character and was believed by some to be connected with the altered condition of the blood consequent on the original attack. Diphtheritic paralysis was rarely fatal and lasted in most cases only a few weeks, although it might continue for months. Strychnia and electricity were the means to be employed, and the case usually responded promptly to these remedies.

Pseudo hypertrophic paralysis was a rare affection, but was of much interest. The disease belonged almost exclusively to infancy. It was characterized by muscular paralysis with great

increase in the bulk of the muscles. This enlargement was due to fatty deposit, while the muscular tissue proper was atrophied. The affection began with weakness of the legs, a peculiar balancing of the trunk, and separation of the legs in walking. The shoulders were thrown far back in standing and walking. There was great difficulty in getting from the sitting to a standing position. Later in the disease the muscles became wasted and shrunken and the general health began to suffer. Death resulted from implication of the respiratory muscles. The skin was mottled like a piece of Castile-soap. The tendon reflexes were abolished, and electro-muscular contractility was impaired. There was often a greater or less amount of mental weakness. There was no loss of power over the bladder and rectum, and sensation was not affected. Heredity influenced the disease, which was slow in its progress, but the course was steadily downward.

Friedreich's disease was still more rare than the preceding. It was practically locomotor ataxia in childhood. There was evidenced here also a hereditary predisposition, and the female children seemed most liable.

Cerebral Palsies.—Hemiplegia might result from some injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. A child might be born hemiplegic after a perfectly natural and easy labor. Under these circumstances, we must regard the paralysis as the result of imperfect cerebral development. Hemiplegia under these circumstances was generally permanent. The side affected grew less rapidly than the other. The flexors of the arm and hand were usually contracted. The leg became rigid in the act of walking. Convulsion was almost always associated with cerebral paralysis, either immediately preceding the attack or occurring soon after. The convulsive movements were most violent on the side which was subsequently paralyzed. The child would have an idiotic expression and speak indistinctly, but its friends thought it intelligent. The convulsions were liable to return when the child was older and then assume an epileptic form. The walk was peculiar, and was called the spastic gait. The patient plodded along looking as if he were about to pitch forward. The affected limbs were smaller and shorter, the growth of both bone and muscle being affected. In the choreic variety, where the arm was in constant motion, the muscles might become hypertrophied, but the bone remained short.

Prognosis.—As a rule, the prospect of recovery was bad; even if the patient got well, the hemiplegic side remained awkward.

Treatment.—Cod-liver oil and massage, which always relaxes the contracted muscles. The affected limbs should be used as much as possible.

Dr. Harris inquired if Dr. Sinkler had ever observed any hereditary predisposition to convulsions and cerebral paralysis.

Dr. Sinkler replied that the hereditary influence was decided even when no convulsions occurred.

Oophorectomy.—Dr. E. E. Montgomery reported the following case: Mrs. L., of Columbia, Pa., aged thirty-six years, married ten years, pregnant five times; the last, four years ago, was brought to his notice by Dr. A. F. Chase. Her health had been bad since her last confinement. First menstruation at twelve years and a half, regular and very free for one year and a half, when she fell, producing pelvic distress, after which for seven years the flow was very scanty, lasting but one or two days, and accompanied by excruciating pain. She improved somewhat after marriage. Her first conception was followed by so much nausea, vomiting, and anæmia, that her physician advised and induced an abortion.

She was now regular as to time but irregular as to quantity; it was preceded by an excruciating pain for two days and continued until the flow disappeared; she also had severe pain in the head. She was very nervous at all times, but this was much intensified during the period. Pain was more marked in the left inguinal region and down the corresponding limb. Coition and vaginal examination were very painful. The uterus was enlarged and painful, tender on pressure over both ovaries. Local uterine treatment had been kept up during the entire four years with no relief. Trachelorrhaphy had been performed. Ovariotomy was advised. September 19, 1885, she entered Dr. Montgomery's private hospital, and, assisted by Dr. W. H. and Dr. C. B. Warder, and Dr. E. Eshleman, the uterine appendages were removed. The left ovary was composed of a number of cysts, the largest of which ruptured while adhesions were being separated. The right ovary was not enlarged, but it was removed to insure relief. The wound was closed with silk gut and dressed with sublimated gauze and absorbent cotton. There was no shock. The highest temperature reached was 101·6° at midnight of the 20th, and it became normal on the 22d. Sutures were removed on the eighth day and the wound redressed for the first time. It had united throughout, and there was no irritation from the suture. The effect upon her general health remained to be determined.

Supra-vaginal Removal of the Uterus and both Ovaries for Fibroid Tumor.—Dr. Montgomery also reported the following case: Ann U., aged twenty-seven, was brought to him by Dr. T. H. Boysen, of Egg Harbor City, with the following history: Her menses from the beginning occurred every three weeks, and were free an entire week. During the last four years they had occurred every two weeks, and were attended with pain in the pelvis and down the limbs, and severe pressure upon the bladder, causing frequent urination and several times rendering the use of the catheter necessary. Dr. Boysen had diagnosticated fibroid tumor, which Dr. Montgomery's subsequent examination confirmed. The tumor was the size of a child's head, filling up the pelvis and apparently arising from the anterior wall. The examination led him to believe that the bladder was adherent over the anterior surface, and would render the removal of the tumor unsafe. He suggested the removal of the ovaries. She entered his private hospital September 15, 1885, for that purpose. Dr. W. H. Warder, Dr. Boysen, and Dr. Martin assisted, Dr. C. B. Warder and Dr. Staltweather present. An incision three inches long was made, and, finding the tumor free from the bladder, with cervix sufficiently long to serve for a pedicle, the incision was extended to within an inch of the umbilicus above and symphysis below, and the tumor, with some difficulty, withdrawn. In the absence of a Tait's clamp, which had been ordered some days before, the pedicle was constricted by a wire écraseur, and the tumor, with the ovaries, was removed. The pedicle was then transfixed with two steel pins and tied in three sections with strong silk thread. The peritonæum was fastened to the pedicle below the ligatures and the wound closed with silk-gut sutures, the pins holding the stump outside. The wound was dressed with sublimated gauze and absorbent cotton. The operation was followed by some shock; temperature 97·4°, pulse 104, from which she soon rallied. She complained greatly of pain. A half-grain of morphia had been given by suppository, and three hypodermatic injections of morphia, one quarter of a grain each, were given during the afternoon, before the pain was relieved.

At 3 A. M. of the 24th he was called by the nurse, who reported bleeding from the stump. Three ounces of blood had been lost. By aid of Dr. Warder, a Wells's clamp was applied below the pins, apparently controlling the hæmorrhage; but it recurred later in the day from the angles and from beneath the clamp. By this time the Tait's clamp had arrived, and the patient was etherized, the lower three sutures removed, the pedicle drawn up, the clamp applied so as to control it completely, and the wound again closed. The wound had united throughout.

Temperature reached 100·6° at 9.30 P. M. The highest subsequently, 101·6, was in the afternoon of the 25th, and it became normal on the 28th. Upon removing the dressings on the 27th, some pus welled up about the pedicle. As the skin was irritated, the dead pedicle was cut away until the clamp slipped off. There resulted, of course, considerable retraction of the stump, but the sloughed tissue was nearly cleared away. The patient suffered no pain or discomfort; temperature normal. The tumor was situated in the anterior wall and fundus of the uterus, and projected into the uterine cavity.

Dr. PARISH remarked that removal of the ovaries had given such good results in cases of uterine fibroids, and was comparatively so free from danger, that he would like to hear from Dr. Montgomery his reason for his choice of operation.

Dr. MONTGOMERY replied that the tumor filled the pelvis and pressed upon the bladder and rectum, causing great and constant distress. As diminution of the size of the fibroid tumor was not a certain result of oöphorectomy, and as all the circumstances were in favor of the major operation, he decided upon it as the best one.

Reports on the Progress of Medicine.

OTOLOGY.

BY CHARLES STEDMAN BULL, M. D.

The Effect of Sounds upon Diseased and Healthy Ears.—Roosa ("Ztschr. f. Ohrenheilk.") draws the following conclusions from his observations: 1. Many persons, who in quiet places suffer from deafness, hear readily during or in the midst of a loud noise. 2. The disease in such cases is situated in the middle ear, and is of the chronic, non-purulent variety, though it may be an acute catarrh, and even a chronic purulent process with partial loss of the drum-head. 3. The cause of this phenomenon probably depends on an altered action of the ossicula. 4. The acuteness of hearing of laborers in a boiler-shop steadily diminishes. 5. The disease produced by this occupation lies in the labyrinth or trunk of the acoustic nerve. 6. These patients do not hear better in a noise, but their hearing is better in a quiet place, and improves by absence from the source of injury which causes the deafness. 7. The cases of hardened wax and catarrh of the middle ear occurring in boiler-makers resemble those met with among other laborers; they mask and complicate the original disease known as "boiler-makers' deafness." 8. In disease of the labyrinth or acoustic nerve the tuning-fork C is heard louder and longer by air-conduction than by bone-conduction.

The Production of Artificial Deafness, and its Relations to the Ætiology and Development of Ear Disease.—Cassels (*Ibid.*) formulates three theories as to the ætiology and development of disease of the ears: 1. A certain degree of tension of the drum-head is necessary to a perfect functional act of the drum-head. 2. The essential cause of all disturbances of hearing depends upon an alteration in the normal tension of the drum-head. 3. All pathological symptoms in ear disease are developed in regular succession. As a result of his experiments in the production of artificial deafness, he considers that when three of the ordinary symptoms of a disease of the ears may be produced by an experiment within a few minutes, and in the order of succession in which they appear in the natural way in disease, the assumption is justified that, if this experiment were continued for hours or days, these symptoms would be further developed and might produce complicated tissue changes.

Caries of the Petrous Bone, with Paralysis of the Facial Nerve and Fatal Hæmorrhage from the Carotid.—Moos and Steinbrügge (*Ibid.*), in a report of such a case, call attention to the rapid development of the caries, within a period of four months. There was total destruction of the cells of the mastoid process. They regard it as doubtful if such an extensive sclerosis could develop in so short a time along with the carious process, and think it probably began a year earlier—at the time of an attack of typhus fever from which the patient had suffered.

Perforation of the Mastoid Process.—Hartmann (*Ibid.*) gives the results of this operation in fourteen cases, and lays down rules for its performance. 1. The incision in the skin and the opening in the bone should be made in the line of attachment of the auricle to the bone or immediately behind it. 2. The wound should not be made farther upward than the level of the upper wall of the auditory canal. 3. The wound should be sufficiently large to admit of perfectly seeing the bone and carefully treating it. 4. The wound must be kept open until the bottom has become filled by concentric granulations. 5. All secretions or cholesteatomatous masses must be carefully and thoroughly removed, and the walls of the wound and bony canal must be filled with powdered iodoform.

Pyæmia in Acute Suppurative Inflammation of the Middle Ear.—Hessler ("Arch. f. Ohrenheilk.") here gives the results of five autopsies of cases of suppuration of the middle ear, which he had taken from published reports of cases. In the first case there was acute caries of the walls of the tympanic cavity, but the left transverse sinus was empty. In the second case the transverse sinus contained a pulpy, degenerated, and completely decolorized thrombus, which extended into the bulb of the jugular vein. In the third case there was caries of the walls of the tympanic cavity, with pus between the dura mater and tegmen tympani, but no thrombi in the lateral sinuses. In the fourth case the brain substance and ventricles were normal, and there was no sign of caries in the petrous bone *in situ:* In the fifth case there was no change in the brain and sinuses, but the middle ear was filled with thick, offensive pus. In all these cases the patients had suffered from symptoms of pyæmia. He cites in detail a case of his own, occurring in a boy, aged twelve, in whom the pyæmic symptoms were pronounced, but the boy subsequently recovered. From the results of the autopsies, it seems probable that the pyæmic poison in the blood in affections of the ear may reach the circulation not only by means of the sinuses, but also by phlebitis of the small veins in the bony walls of the tympanum and mastoid antrum.

Gumma of the Auricle.—Hessler (*Ibid.*) reports a very interesting case of this rare disease in a man aged twenty-four. There was partial necrosis of the cartilage of the auricle resulting from an ulcerating gumma, which had existed for several weeks. This suppurated for several days at a time, and then the discharge ceased. The right auricle was very much swollen, bluish in color, and stood out straight from the head. The tissues over the mastoid were markedly swollen. Upon the anti-helix was an ulcer, 3 mm. in diameter, with yellow margin and base, and a dirty serous discharge. The external auditory canal was narrowed, but the glimpse of the drum-membrane that could be obtained through the lumen showed it to be normal. The hearing power was undiminished. The initial lesion had probably occurred four years previously. The case was at first treated by cauterizations with silver nitrate and simple lead-washes, and each application of the caustic was followed by enormous swelling of the auricle. At a later visit, the whole substance of the auricle round the ulcer was found undermined, and the cartilage found necrosed throughout a considerable extent. Large doses of potassium iodide brought about a complete cure in less than two months.

The Temporal Bones of Two Deaf-Mutes.—Moos and Steinbrügge ("Ztschr. f. Ohrenheilk.") here gives the results of a very careful macroscopic and microscopic examination of four temporal bones removed from the bodies of two deaf-mutes. The following conditions were common to the labyrinths of all four bones: 1. The absence of nerves in the lamina spiralis ossea of the first whorl of the cochlea; in the upper whorls of both cochleæ of the second case there were still some nerve-fibers present. 2. The arrest of development and atrophy of the ganglion-cells within the canal of Rosenthal. 3. The defective development and fatty metamorphosis of the organ of Corti. 4. The filling of the ductus cochlearis in one case, and of the scala vestibuli in the other case, with a caseous mass of material intimately by coagulated lymph. 5. The occurrence of hyaline masses in various parts of the membranous labyrinth. In the left labyrinth of the second case there was also found a membranous and osseous coalescence of the tissues of the first portion of the first whorl of the cochlea in the scala tym-

pani; and in the first case the nerve-epithelium and nerves in the left sacculus were wanting.

The Employment of Calomel in the Treatment of Otorrhœa.—Gottstein (*Ibid.*) speaks highly of the local employment of calomel in chronic suppuration of the middle ear; when combined with the mercuric bichloride, he regards it as more valuable and prompt in its action than boric acid. He assumes that when calomel comes in contact with fluids which contain sodium chloride, such as pus, the mercuric bichloride is formed; this has a powerful antiseptic action in itself, and in a state of nascent production this action is probably more energetic. He has employed calomel in a large number of cases; has found it absolutely non-irritating to the mucous membrane of the middle ear; it never forms any deposits upon or in the mucous membrane which are difficult of removal, and the results of its action are sometimes surprising. He recommends that the ear should be washed out with a weak sublimate solution (0·1 per cent.); then the ear should be inflated by Politzer's method, so as to drive all secretions into the external auditory canal, and these should be removed by another injection. The canal is to be thoroughly dried with cotton and filled with powdered calomel by means of a powder-blower, and stopped with cotton. This method of treatment may be employed even in the beginning of acute inflammation of the middle ear. By reason of its marked insolubility, it always remains finely pulverized and does not clog the powder-blower. Gottstein regards calomel as a much surer and more powerful antiseptic agent than boric acid. The secretion in these purulent cases diminishes within a few days after the commencement of the calomel treatment, and no adverse symptom has ever been noticed from its employment. In some cases Gottstein has employed a mixture of powdered calomel and common salt, and discovered that this mixture was mildly corrosive. He employed this powder in cases of otorrhœa with extensive perforations and swelling of the mucous membrane of the middle ear. The powder causes a slight pain for a few minutes, and the secretion is temporarily increased. The next day there may be seen a thin, grayish-white slough upon the mucous membrane. When this slough comes away the powder is insufflated again.

The Diagnostic Value of the Relation between Air-conduction and Bone-conduction.—Brunner's investigations upon this subject (*Ibid.*) are of considerable interest and importance, and are given as follows: 1. Under normal conditions the air-conduction overbalances bone-conduction, so that the vibrations of a tuning-fork are heard longer and louder through the air than through the medium of the mastoid process. 2. In pure diseases of the external and middle ear, where the deafness has reached a certain degree, the reverse is the case as regards air- and bone-conduction. 3. Neither theoretical speculation nor clinical observation makes it probable that bone-conductibility may be strengthened or increased by pathological processes in the labyrinth or acoustic nerve. 4. Hence it is proper to infer, from the distinct overbalance of the latter, the existence of a constant disturbance in the sound-conducting apparatus, which, by resonance or hindered sound-exit, favors bone-conduction over air-conduction. It must be remembered, however, that the aurist has often to deal with mixed diseases, in which it is necessary to clearly understand the relations of air-conduction to bone-conduction. One of the questions to determine is whether in nervous deafness the expected overbalance of air-conduction might, by simultaneous anomalies in the sound-conduction (such as impacted cerumen), be changed into an overbalance of bone-conduction, and *vice versa*. Another point for consideration is the possibility that in an affection of the sound-conducting apparatus (such as middle ear catarrh) the expected overbalance of the bone-conduction might be weakened or entirely abolished by a simultaneous complication in the labyrinth. The leads to the question whether the overbalance of bone-conduction always presupposes a more or less intact perception. In these mixed cases two factors are to be considered: 1, the factor which increases bone-conduction by resonance, which is by no means of equal importance in all affections of the sound-conducting apparatus; and 2, the factor which diminishes the bone-conduction caused by an affection of the nervous apparatus. One source of error which must be remembered and avoided is that the relation between bone-conduction and air-conduction even in the normal ear is not the same for all tuning-forks; most low-toned forks are more strongly and readily perceived through bones than the high-toned forks. Brunner thinks that there is no doubt that at the entrance of the cochlea in the lowest whorl the actual or innate power of irritation of the terminal nerve-apparatus is much greater than in the upper whorls.

Miscellany.

Surgical Meteorology.—According to Dr. B. W. Richardson ("Asclepiad"), the time is favorable for operation: *a.* When the barometer is steadily rising. *b.* When the barometer is steadily high. *c.* When the wet-bulb thermometer shows a reading of five degrees lower than the dry-bulb. *d.* When, with a high barometer and a difference of five degrees in the two thermometers, there is a mean temperature at or above 55° F. The time is unfavorable for operation: *a.* When the barometer is steadily falling. *b.* When the barometer is steadily low. *c.* When the wet-bulb thermometer approaches the dry-bulb within two or three degrees. *d.* When, with a low barometrical pressure and approach to unity of reading of the two thermometers, there is a mean temperature above 45° and under 55° F.

The University of Pennsylvania.—The Medical Faculty has issued the following circular:

"The passage of the law of 1881, entitled 'An Act to provide for the registration of all practitioners,' etc., placed the Medical Faculty of the University of Pennsylvania in a very embarrassing position. It had no knowledge that the act was before the Legislature, so that no opportunity was afforded of considering it. Hitherto, with great hesitation, the Faculty has issued certificates as to the genuineness of the diplomas possessed by applicants, and these certificates have been acknowledged by officers of registration. It is, however, evident that, in doing this, the Faculty has not complied with the law which requires it to be 'satisfied as to the qualifications of the applicant,' and it is very doubtful whether the certificates which have been given legally entitle their recipients to registration. During the last few months it has become more and more apparent that the University of Pennsylvania, if it continues to grant certificates as to the genuineness of diplomas, must issue such certificates for the diplomas of all sorts of colleges. The genuineness of the diploma is in no way dependent upon the scientific character of the body issuing it. A diploma is genuine if the body from which it emanates has a legal right to issue such diploma, and, if the law is to be interpreted by the University as requiring its faculty simply to testify as to the genuineness of a diploma, it can make no difference whether such diploma is issued by a regular or irregular college. Further, the gradations between colleges in this country are so close as to make the drawing of lines a task of great difficulty, and the Medical Faculty can not set itself up as a judge between colleges, and say that the diploma of this suffices and that does not. A very serious matter is the fact that these certificates issued by the University are looked upon by persons ignorant of the circumstances—*i. e.*, by the general community—as indorsements of the medical qualifications of their possessor, and as being in some measure tantamount to the diploma of the University. When the ease with which genuine diplomas are obtained in America and the little significance which so many of them have are remembered, it becomes evident that the issue of these certificates by the University is an injustice to its own graduates. The Medical Faculty also feels that the qualifications of applicants can only be determined by examination, and that it is not legally justified in issuing any certificates whatever, unless 'satisfied as to the qualifications of the applicant.' It, of course, believes that no one is qualified to enter upon the practice of medicine who can not pass the examinations required from students of the University. It therefore proposes hereafter to exact such examinations from applicants. In the future, all persons desiring from the University of Pennsylvania the indorsement on the diploma demanded by Section 4, of the Act of 1881, will be required to pass an examination on chemistry, anatomy, physiology, materia medica and therapeutics, pathology and morbid anatomy, practice of medicine, surgery, and on obstetrics; failure in any branch will cause rejection. To compensate for the labor of such examinations, a fee of $30 will be charged."

The Remains of Harvey.—In our issue for November 10, 1883, we published a letter from London, describing the ceremonies connected with the transfer of the remains of William Harvey from the dilapidated leaden envelope in which they had lain for more than two centuries to a sarcophagus provided by the Royal College of Physicians. At the same time, October 18, 1883, the remains were transferred from the vault of the church to the Harvey Chapel above. All was done that was then possible toward providing the remains with a proper resting-place.



HEMPSTEAD CHURCH BEFORE THE ACCIDENT.

There is still left, however, the restoration of the church itself to be accomplished. The church is situated in Hempstead, a small and obscure village in North Essex, where the Harvey family settled. About three years ago the tower fell and reduced the building to a ruin. Its former appearance and its present ruined state are shown in the accompanying views, which are reproduced from the London "Graphic."

It appears that the parishioners are too poor to provide the entire funds needed for the restoration of the church, and a committee of our professional brethren in England have very properly taken in hand the task of raising the necessary amount. Sir Henry Pitman, M. D., Royal College of Physicians, Pall Mall East, London, S. W., who is the treasurer of the committee, has issued a circular briefly setting forth the facts, and stating that "*any* contribution will be thankfully acknowledged."

It is for the purpose of bringing the matter to the attention of American physicians that we have written this notice, and we believe that many of them will be glad to contribute something toward the performance of a duty that the medical profession of the whole world owes to the memory of the discoverer of the circulation. The publishers of this journal will take pleasure in forwarding any contributions that may be sent them to the treasurer of the London committee, and all sums received will be acknowledged in these columns.



THE RUINS OF HEMPSTEAD CHURCH

The Scope of Laws regulating the Practice of Medicine.—Dr. C. N. Metcalf, the secretary of the Indiana State Board of Health, having addressed a number of queries to the Attorney-General, Mr. Francis T. Hord, in regard to the interpretation which should be put upon some of the provisions of the Medical Act, those queries, together with the Attorney-General's replies, have been printed, and we are indebted to Dr. James Bradwell, of Indianapolis, for a copy of the document, from which we quote as follows:

"Q. 4.—'Does the statute apply to a person who undertakes to cure diseases by manipulating the patient's body, by rubbing, kneading, and pressure?'

"A.—The statute applies to persons desiring to practice medicine, surgery, and obstetrics only, and it ought not to be so construed as to cover persons not substantially within its terms. (Smith *vs.* Lane, 24 Hun., 632. Wert *vs.* Clutter, 37 Ohio St., 347–352.) In Wert *vs.* Clutter, *supra*, the Court says: 'This statute was not intended to create a right in any one to practice medicine. It was simply intended to prohibit the exercise of the right (which before was universal) by unqualified persons. The right remains in all persons, except those from whom it is taken away by the statute.' In Bibber *vs.* Simpson (59 Me., 181) suit was instituted for $51 for services rendered the defendant's intestate, at his special request, by the plaintiff as a clairvoyant. It appeared from the plaintiff's testimony that she professed to be a clairvoyant; that when asked to examine the patient she saw the disease and felt as the patient did; that sittings or séances were of different durations, from one quarter to one half of an hour each; that she did not pretend to understand medicine or anatomy; that she was requested by the intestate to visit him and render him professional services, and did so as by the account; that she helped him, but he died from taking cold; acquainted him with the prices, and he agreed to pay them, but never did. Appleton, C. J., in deciding the case, says: 'The services rendered are medical in their character. True, the plaintiff does not call herself a physician, but she visits her sick patients, examines their condition, determines the nature of the disease, and prescribes the remedies deemed by her most appropriate. Whether the plaintiff calls herself a medical clairvoyant, or a clairvoyant physician, or a clear-seeing physician, matters little, assuredly, such services as the plaintiff claims to have rendered purport to be, and are to be deemed, medical, and are within the clear and obvious meaning of R. S., 1871, c. 15, sec. 5, which provides that "no person, except a physician or surgeon, who commenced prior to February 16, 1851, or has received a medical degree at a public medical institution in the United States, or a license from the Maine Medical Association, shall recover any compensation for medical or surgical services, unless previous to such services he had obtained a certificate of good moral character from the municipal officers of the town where he then resided." The plaintiff has not brought

herself within the provisions of this section, and can not maintain this action.' In Smith *vs.* Lane (24 Hun., 632), Daniels, J., says: 'The action was brought to recover the price which it was alleged the defendant agreed to pay the plaintiff for the treatment of himself and wife for certain bodily disabilities. It consisted entirely of manipulations with the hands. It was performed by rubbing, kneading, and pressure. The evidence given by the plaintiff was to the effect that he was employed by the defendant to perform these services for a specific compensation, and that he had performed them until the amount due him was the sum of $149. Upon the close of the case on his part, the referee dismissed the complaint because it appeared that the plaintiff was not a graduate of any medical school, and had no license permitting him to practice either medicine or surgery. The direction was given because of the prohibition contained in Chapter 436 of the laws of 1874, and, as no other reason appeared in the case, or the evidence which was given that would prevent the plaintiff from recovering, and whether this act contains anything subjecting him to such disability, is the only substantial point which requires to be considered in the case. The statute in terms merely declared it to be a misdemeanor for any person to practice medicine or surgery who is not authorized to do so by a license or diploma from some chartered school, State board of medical examiners or medical society, or who shall practice under cover of a medical diploma illegally obtained, and for the purpose of qualifying a person neither licensed nor possessing a diploma of the nature of that mentioned to practice medicine or surgery, it was provided that he should obtain a certificate from the censors of a medical society either in the county, district, or State, in which it should be set forth that he had been found qualified to practice all the branches of the medical art mentioned in it. It appears to be quite manifest that the object of the Legislature in the enactment of this chapter was only for regulating the practice of medicine or surgery, as those terms are usually or generally understood, and, confining them to such significance, it is evident that they would not include the occupation of the plaintiff. The practice of medicine is a pursuit very generally known and understood, and so also is that of surgery. The former includes the application and use of medicines and drugs for the purpose of curing, mitigating, or alleviating bodily disease, while the functions of the latter are limited to manual operations usually performed by surgical instruments or appliances. It was entirely proper for the Legislature by means of this chapter to prescribe the qualifications of the person who might be intrusted with the performance of these very important duties. The health and safety of society could be maintained and protected in no other manner. To allow incompetent or unqualified persons to administer or apply medical agents, or to perform surgical operations, would be highly dangerous to the health as well as the lives of the persons who might be operated upon, and there is reason to believe that lasting and serious injuries as well as the loss of life have been produced by the improper use of medical agents and surgical implements and appliances. It was the purpose and object of the Legislature by this act to prevent a continuance of deleterious practices of this nature, and to confine the uses of medicine and the operations of surgery to a class of persons who, upon examination, should be found competent and qualified to follow their professional pursuits. No such danger could possibly arise from the treatment to which the plaintiff's occupation was confined. While it might be no benefit, it could hardly be possible that it could result in harm or injury, and for that reason no necessity existed for interfering with this pursuit by any action on the part of the Legislature. His system of practice was rather that of nursing than of either medicine or surgery. No bodily disability or diseases could either result from or be aggravated by the applications made by him, and what he did in no just sense either constituted the practice of medicine or surgery. He neither gave nor applied drugs or medicine, nor used surgical instruments.'

"It is my opinion that our statute is susceptible of the same construction expressed in said case of Smith *vs.* Lane, and that our statute does not cover the person embraced by your question, and that he is not required to procure a license."

The Health of the State of New York.—The State Board of Health's "Monthly Bulletin" for September gives the total reported mortality as 6,251, the percentage of infant mortality being 37. In each 1,000 deaths there were 134·22 from diarrhœal diseases, 23·20 from typhoid fever, 141·74 from consumption, and 76 from acute respiratory diseases.

The New York Physicians' Mutual Aid Association will hold its annual meeting on Thursday, the 12th inst., at 4 o'clock P. M., at the hall of the Academy of Medicine. A revision of the by-laws will be proposed by the Board of Trustees, and a full attendance of the members is desired.

THERAPEUTICAL NOTES.

Dover's Powder and its Modifications.—Dr. B. W. Richardson ("Asclepiad"), after giving in brief the history of a case of "septinous pneumonia" (a term which he applies to pneumonia "induced by inhaling some toxic product from a cesspool"), says that in cases of that sort there is no such anodyne, no such soporific febrifuge, as Dover's powder. If he could envy any one as a therapeutist, he says, it would be the old physician who originally had the happy thought of blending astringent opium with relaxant ipecac, and both with a diuretic and laxative. He thinks it is often very good practice to modify Dover's powder by combining the one grain of opium and the one grain of ipecac with other salines than sulphate of potassium. True Dover's powder, he continues, contains the nitrate as well as the sulphate of potassium—four grains of each in ten grains of the compound—and it often seems to him reasonable to revert to this form, nitrate of potassium, in small doses, being a good diuretic. He also often ventures upon other modifications: in acute rheumatic fever he usually substitutes sodium salicylate for the potassium salt; in gout, bicarbonate of sodium; in remittent febrile cases, two grains of quinine with five of sodium salicylate; and in quinsy and other febrile throat affections, chlorate of potassium.

The Therapeutic Value of Chloride of Calcium.—Dr. R. W. Crighton ("Practitioner") considers this salt of special value in the treatment of scrofulous affections of the glands, and thinks it has an alterative action in all forms of the strumous diathesis. He uses the crystallized chloride, as the anhydrous salt forms a turbid solution and has an unpleasant taste. He gives one, two, or three grains at a dose to young children, and rarely over twelve or fifteen to adults. The dose of Coghill's solution (five ounces of the crystallized salt to twelve fluidounces of syrup) varies from five to forty minims, according to age and other circumstances. He always gives it in milk, after meals.

Nitrite of Sodium in Gouty Epilepsy.—Dr. J. M. Granville ("Brit. Med. Jour.") thinks that epilepsy is often of gouty origin, especially in female members of gouty families, and in such cases he has produced highly satisfactory results with the following formula:

Sodium nitrite	36 grains;
Sodium hippurate	3 drachms;
Infusion of serpentaria	to 12 ounces.

Two tablespoonfuls to be taken three times a day, before meals. The author says that the dose of sodium nitrite may be increased by one grain after each fit that occurs after the treatment is begun, until the dose of fifteen grains is reached. The mixture should be taken for three or four months.

The Action of Quinine on the Fœtus.—Vadenuke ("Thèse inaug. de St. Pétersb."; "Arch. de tocol.") arrives at the following conclusions: 1. Quinine taken by the mother passes into the system of the fœtus in the proportion of about one ninth of the whole amount. 2. The largest amount is contained in the fœtus at the end of two hours. 3. The fœtus eliminates it in a little more than forty-eight hours, and the neonatus in seventy-two hours. 4. Large therapeutic doses, given to the mother, do no harm to the fœtus. 5. The same is true of large doses repeated every forty-eight hours. 6. Quinine is not an abortifacient. 7. It may ward off abortion or premature labor when the mother is under the influence of fever, especially of malarial origin.

A Mercurial Soap, made by triturating equal weights of mercury and a perfectly neutral olive-oil-and-potash soap, is highly recommended by Dr. P. Spillmann, of Nancy ("Ann. de dermat. et de syphil."), as a substitute for mercurial ointment. It keeps well, is not irritating, and can be washed off from the skin with simple water.

Lectures and Addresses.

MODERN METHODS OF TREATMENT OF PULMONARY PHTHISIS.

BEING A CLINICAL LECTURE

DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE, OCTOBER 27, 1885.

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GENTLEMEN: The subject of my lecture before you today is to me a most interesting one. It is especially attractive because I believe, by the general adoption among practitioners of medicine of the means to be referred to, a positive and great benefit may be afforded to a vast number of individuals who are now sufferers from an otherwise almost hopeless disease. Let me say to you at the beginning of my remarks, so as to avoid any possible misapprehension, that I am of the opinion at the present time, just as much as ever before, that all usual means of treatment in pulmonary phthisis which have been proved to be practically useful are none the less advantageous because something newer and further can be added. By all means advise your phthisical patients to observe strictly well-determined hygienic rules, to breathe, habitually, if possible, a high, dry, pure, equable atmosphere; give them cod-liver oil, as much as they can properly digest and assimilate; let all undue mental and physical fatigue be eliminated, if it may be, from their daily existence; locate them in large, sunny, well-ventilated apartments; see to it that their food and drink are nutritious and suitable—in short, do whatever you can to retard the march of disease in the lungs, or to promote and obtain absolute cure. Admitted, then, that this plain duty is set before us; admitted that what our classical text-books teach is sound doctrine and should be unerringly followed, still may we not go beyond their teachings and try new methods which reason encourages and clinical observation and experience obviously support?

The answer is evident. The three methods, then, to which I call your attention, taken in the rank of what I believe to be their relative importance, are:

1. Increased alimentation.
2. Continuous antiseptic inhalations.
3. Intra-pulmonary injections.

One of the symptoms most to be dreaded in the course of pulmonary phthisis is anorexia. When this condition is insurmountable, the patient's future is well-nigh hopeless. Food must be taken, so as to preserve life. But at times the repugnance to food is so great among phthisical patients that they turn from it in sheer disgust. No matter how temptingly the dish is prepared, there still remains the inability to swallow it. Now, then, how can the appetite be awakened, especially when its complete absence is already feared at an early stage of pulmonary phthisis? Of course, we may and should first try the different vegetable bitters, combined, or not, with an acid or an alkali; but if these fail, and very often they will, despite our best-directed endeavor, what then shall we do?

Under these circumstances, and in view of what my reading and personal experience show me, I now recommend washing out the stomach by means of a soft-rubber tube connected with a funnel. After a very short period—sometimes within a few days from the time daily washing is begun—the patient will gladly say that his appetite is already much improved. Take another instance—that, for example, of a patient whose appetite is not good, it is true, but who, nevertheless, forces himself to eat, and who, within a few minutes or hours after food is taken voluntarily, vomits it up. How are such patients to be treated? As I have said in regard to my first example, by washing out the stomach daily until stomachal tolerance is, at least, acquired for easily assimilable food. Further, there is a class of cases in which the anorexia is only moderate and the power of digestion for food not completely lost. Of course, it is an effort to eat, and there is certainly no desire for food. Besides, soon after food is swallowed the patient suffers from weight or pain in the stomach, acid eructations, or extreme flatulence, which are about equally unpleasant and render the patient unwilling to eat unless forced to do so by his own convictions or the urgent appeals of friends. Manifestly in these instances the patients do not take sufficient food, or do not assimilate it well enough to hold their own, far less to repair the daily damages that are effected by the wasting disease of which they are victims. Here again I counsel daily washing of the stomach. In the beginning I do not advise so-called forced feeding by means of the soft-rubber tube. I believe it is wiser in many instances to wait some days before commencing alimentation in this manner; still there are exceptions. In certain cases, even after repeated washing of the stomach, the patient will be unable to retain food after swallowing it. He may feel that he needs food, and he may be perfectly willing to take it, and yet every time he attempts to swallow even a few mouthfuls the food is almost immediately rejected by an effort of retching or vomiting.

Singular to say, the mere act of swallowing appears sometimes to occasion the subsequent feeling of nausea and vomiting. If we introduce food into the stomach with the stomach-tube, even in tolerably large quantities, the food is retained. And not only is it retained, but it is digested and assimilated, and the patient soon feels better and stronger. And with the repeated administration of food in this manner the appetite returns by degrees and in a relatively short time, and the stomachal digestion continues daily to improve. After the lapse of several weeks, a month or two, or perhaps longer, daily washings of the stomach are no longer necessary. These may be repeated at longer intervals, finally to be stopped altogether. In regard to the forced feeding it is somewhat different. The rule is to super-aliment if possible—to give the patient more than he can possibly crave or desire, to make him digest and assimilate more food than he would be willing to, or indeed could, swallow. Now, this may be accomplished by pouring into his stomach once, twice, or even three times a day milk; milk and eggs; milk, eggs, and beef peptonoids, in smaller or larger quantity. The main indi-

cation is, after all, to *stuff* the patient to his or her utmost capacity, short of causing actual distress or incompetence on the part of the digestive organs. It is, again, a remarkable fact that, within an hour or two after the time when a pint or more of milk, two or three eggs, half to an ounce of beef peptonoids have been poured into the stomach of a phthisical patient, he or she will have quite as good appetite as, if not better than, there would have been if no nutriment had been taken. When this forced alimentation, together with the regular daily meals, has been continued for some days, the patient's weight will commence slowly to increase. And, so far as his general condition is concerned, it will be manifestly improved. While this is true, and although flesh and muscular vigor are both obviously on the increase, the intra-pulmonary condition will remain absolutely stationary. It may also progress slowly or rapidly. It may, fortunately, become retrogressive and markedly improved. An instance of the former kind was fully reported by me last June at a meeting of the American Laryngological Association, and I do not wish at the present time to repeat this history. I have not been able to bring before you today a case of pulmonary phthisis in which washing the stomach and forced alimentation are being carried out, although I have two such cases (in women) under my care *now* at St. Luke's Hospital. In place of *cases of phthisis* being thus treated, and in order to show you the ease and effectiveness of the plan of forced alimentation, allow me to present to you this man. The patient, J. P., is forty years old, single, and a cigar-maker. He has suffered for a long while from asthma, that followed a bronchial attack which occurred during the war of the Rebellion. He has had dyspepsia during three years, which has frequently been accompanied by vomiting of very offensive liquids. Occasionally he has felt much depressed, and even ill, from the repetition and severity of these paroxysms. All the food he ate lay like a dead weight on his stomach, or gave him intense pain. His power of digestion seemed completely gone, and he suffered continued misery unless he recurred almost daily to the use of purgative pills. In this case the stomach-tube was first used on October 22, 1885, and the stomach washed out thoroughly with warm water slightly alkalinized by means of borax. After the first washing, twenty-two ounces of milk were poured into the stomach and easily retained. The operation of washing and feeding with the tube has been repeated twice since until to-day (October 27th), and to the milk two or three eggs have been added. Already the patient affirms, as you hear, that he has now no pain in his stomach after eating, that food does not lie as a load in his epigastrium, and his appetite has improved. Yesterday he ate and digested some meat without difficulty, which is the first experience of this kind he has had during several months.

Now, then, what this man states I have heard repeatedly before, and had several like cases under my care at different times. For your benefit I will now show you how easily my patient swallows his tube, how easily his stomach is washed out, and how acceptable milk received into his stomach through the tube appears to be. A word or two before I leave this subject in regard, 1, to the apparatus employed; 2, to the best manner of using it. Simple instruments are often the best, and so it is in this instance. The instrument I show you is, in my opinion, the best one for combined washing and feeding with which I am acquainted. There are several others, invented or modified by different physicians, each one having its special advantage, perhaps, but each somewhat complicated; at all events, none quite so simple as the one here shown, which to all intents is little more than a long rubber flexible tube with a vulcanite funnel at one end. To be more particular, I would add that the stomach-tube is similar, except for *increased caliber* and *length*, to those made by Tiemann or Ford for catheterization of the urethra. This one is twenty-eight inches long and about one third of an inch in diameter. It is connected at its proximal extremity by means of two inches of *glass* tubing with a soft rubber tubing of similar size five feet in length. This latter piece of tubing is terminated by a funnel. The stomach-tube may be dipped into warm water before passing it in order to lubricate its surface, or make its passage easier. It is then introduced in the median line beyond the base of the tongue, and the patient is told to swallow. At each repeated effort of deglutition the catheter is pushed farther on until from eighteen to twenty-one inches are introduced. We are then quite sure the tube has penetrated into the stomach beyond the "eyes" by which the food pours into the stomach. So soon as this is accomplished, we raise the funnel to a suitable height—usually the level of the patient's head is sufficient—and pour into it slowly water of about blood-heat, or a little warmer, with the addition of borax. The proportion of the latter may be one drachm to two quarts of water. When we have poured about a pint of fluid into the stomach, or when the patient himself makes *a sign*, or says that his stomach feels distended, we quickly lower the funnel near the floor while *pinching* the soft tube near the funnel with the index-finger and thumb of the right hand so as to retain fluid in the entire length of the tube. So soon as the funnel is lowered into an empty receiving-vessel on the ground, pressure on the tube is relaxed and the water containing the washings from the stomach is siphoned off. After repeated washings, or until the stomach is quite clean and the water comes away clear, we pour in the alimentary substances in the same manner we did the hot water for washing. In withdrawing the stomach-tube we should do it quite rapidly, in order to avoid possible rejection of the food. We should also pinch the tube near its proximal extremity in withdrawing it so that none of its contents will fall upon the carpet or floor. Of course it is understood that the daily *washing* of the *stomach* should take place in the early morning, or at a time when it is comparatively or entirely free from food; otherwise the tube is liable to be choked up by bits of undigested food. Besides, such pieces may be rejected alongside the tube, and possibly become impacted in the larynx or trachea, causing symptoms of asphyxia. Whenever it is inconvenient to perform the washing at a very early hour in the morning, the patient may be allowed some peptonized milk, and the washing may then be delayed for an hour or two. After a certain number of washings the patient himself may be able to

accomplish this little feat quite as well as the doctor. As regards the *mere* passage of the tube, he frequently learns how to introduce it with greater ease to himself than the physician can command, and, while introducing the tube, is perfectly able to make a passing intelligible remark or two.

We now come to the second part of our lecture, viz., the subject of *Continuous Antiseptic Inhalations.* This, gentlemen, has been a subject which I have studied very attentively during the past two or three years. I have examined many different kinds of oro-nasal inhalers, but I know of none so simple, so cheap, and so effective as the one I have in my hand. These inhalers were originally made in London, and sold by Squire. I imported a large number of them for use at the New York Hospital in the out-patient department, and, within a brief period, finding them so useful, I have requested Mr. Ford, of Caswell, Hazard & Co., to manufacture a lot for sale to the public generally. The inhaler itself is nothing but a simple sheet of light zinc perforated with numerous small holes and bent into a somewhat pyramidal shape of suitable size to cover the nose and mouth. The apex of the pyramid—which is the part of the inhaler farthest separated from the mouth and nares—contains a small sponge, held in place by thread, upon which the inhalant is poured. The inhaler is held fixed before the nose and mouth by two light elastics which go around the ears. I have employed at different times a large number of inhaling fluids and many different combinations. The fluid and combination to which I now give the preference is creasote and alcohol, equal parts, to which I also frequently add a like proportion of spirits of chloroform. This combination is certainly very useful in allaying cough and modifying the quantity and quality of the sputa in pulmonary phthisis. I therefore recommend it very warmly. The alcohol is added to the creasote for the double purpose of diluting it and making it more volatile; the spirits of chloroform are added, in view of the experience of Dr. Cohen, of Philadelphia, to diminish local irritation and excessive cough. The inhaler must not be worn too long at first, nor should too much fluid be poured on the sponge at any single time. In either event, instead of giving relief, disturbance is caused; the throat is rendered more irritable, and the patient complains of increased soreness and tightness in the chest. Properly and judiciously employed, the creasote inhalant relieves symptoms notably, and in the beginning, at least, of pulmonary phthisis is, I believe, a means of decided utility so far as the possible arrest of the disease is concerned. It is important that beechwood creasote be employed. At first the inhaler should be worn ten to fifteen minutes every two or three hours; afterward, it may be worn half an hour or an hour at a time, or even longer. When the length of time is gradually increased, only positive benefit will result. From ten to twenty drops of fluid should be added to the sponge at any one time. If more is added, it will cause undue irritation. The fluid should not be poured on the sponge more than two or three times in twenty four hours. Precisely the way in which creasote is most useful is perhaps difficult to state. By its antiseptic action it is possibly destructive of bacilli; by its local action and general effect it is certainly of value in combating catarrhal conditions. Where purulent cavities exist it tends to destroy or neutralize putridity. These are certainly sufficiently good reasons for its use without pursuing the inquiry further. At all events, these inhalations do good. The physician notices it and the patient affirms it. In many instances they allay cough better than any cough-mixture, and they are certainly free from the great objection of destroying appetite, as opium and morphine so frequently do.

We now come to the third and last topic of to-day's lecture, and that is, *The Utility of Intra-pulmonary Injections in Pulmonary Phthisis.* I for one, gentlemen, believe they do good. I also believe they rarely do any harm. They may occasion localized pleuritis, slight hæmoptysis, or cutaneous emphysema—but that is about all. They certainly allay cough, diminish the quantity and change the character of the sputa, and, in some remarkable manner, have at times manifest power in lessening the distressing symptom *dyspnœa.* This method of treating lung-cavities was first employed in this country by Professor Pepper in 1874; since that time, and except by Dr. Pepper himself, I am not aware that any one but myself has practiced these injections any considerable number of times. I have now made between forty and fifty intra-pulmonary injections, and am disposed to continue them in favorable cases. Of course it is often a difficult thing to follow up any particular line of treatment in private or hospital practice, on account of the prejudices or fears of patients. Thus it is with intra-pulmonary injections, and in a similar degree, perhaps, with forced alimentation, already fully described. Whenever this little operation can be performed, it is, in reality, a very simple matter.

The point of a fine cannulated needle should be inserted in the first, second, or third intercostal spaces anteriorly, or in the axillary region. While there is no risk in making injections upon or outside of a vertical line passing through the nipple on either side, there is danger in injecting at any measurable distance within this line for fear lest we penetrate the pericardium, or one of the great thoracic vessels. The needle should be inserted from two and a half to three inches. Of course, if considered necessary, the slight pain of the puncture may be annulled by the use of local anæsthesia. I have made use of iodine usually in my injections, and am now employing a solution of the compound tincture of the strength of one part to four parts of distilled water. From ten to twenty minims may be injected upon each occasion, and the injection may be advantageously repeated in four or five days. Previous to the introduction of the needle of the Pravaz syringe the patient fully expands his lungs, and retains the air in them during the few moments it takes to make the injection. Slight or moderate cough, some expectoration, streaked or not with blood, may follow the injection, and for a day or two there may be slight localized pain in the region where the injection was made. Further than these symptoms, little or no reaction accompanies or follows the injections. In many cases, as in that of the man whose chest I have just injected for the *third* time within ten days, there is no reaction whatsoever at the time

of the injection, inasmuch as he does not even cough. I I have told you this patient has a cavity at the right apex.

One of the gentlemen wishes to know how I am assured that the point of my needle has penetrated the cavity. The answer is very simple; by giving a slight movement in different directions to the body of the syringe we can readily appreciate whether or not the point of the needle encounters any resistance, or is perfectly movable in an empty space, or one only partially filled with semi-fluid material. But, presuming for a moment that I can not be always confident that I have struck the cavity, does it matter? Practically, and according to me, no. That is to say, if you fear any bad results simply because the injection has been made into solidified tissue about the cavity. Indeed, I am more and more convinced that the best indication for these injections is in cases where the apices are *solidified* and not *softened*. I am borne out in this belief by my own experience. I have already injected in nearly as many cases of phthisical infiltration at its first stage as at a later period, and I have ordinarily seen apparent benefit result. As to the slight accidents that do occur, they can be easily allayed by an anodyne, external irritation of the chest, or rest in bed for a day or two. Of course, when we inject a cavity we have distinct objects in view, and, if we do not reach the cavity, we fall short of doing what we purposed to do. These objects are mainly to disinfect the sputa and to modify the walls of the cavity so that it will, little by little, tend to close up and cicatrize, and, in producing this result, we shall also expect the amount and character of the secretions from the lung-cavity to be sensibly changed for the better. When we inject solidified lung-tissue, we expect something very different. If there is an underlying inflammatory cause in very many cases of phthisis, and I still believe there is, we shall modify this inflammatory exudation considerably. We shall, perhaps, produce such changes in it as to render it fluid and easier of resorption or expectoration. As to the influence of iodine or other injections on the growth or vitality of bacilli, I have yet no very positive and determined views—any more, indeed, at this moment, than I feel perfectly sure in regard to the real, active rôle of the bacillus itself. Only a few months ago the chorus of the supporters of Koch was somewhat after this fashion:

"What is consumption? The bacillus.
What is the bacillus? Consumption.
But what causes consumption? Why, the bacillus.
But what causes the bacillus? Consumption."

And now I ask, in the words of Professor Loomis, "whether they [these microbes] are the *cause* or the *scavengers* of disease?"

Clinically, of one thing I am quite confident, viz., intrapulmonary injections of iodine benefit phthisical sufferers. Why not, therefore, give them the opportunity of the treatment, and await patiently the auspicious day when even changing theory may be wholly favorable to their use.

In conclusion, let me urge upon you all to earnestly consider the facts brought to your attention in this lecture. It is a subject pregnant with the most vital interest. Our hospital and dispensaries show a fearful death-rate from phthisis. Ordinary methods of treatment are confessedly disheartening by reason of their very slight influence in arresting the march of a dread disease, when, moreover, the *odds* are, for other and manifest reasons, many against the *poor* sufferers.

I have studied with you a series of topics which makes me more hopeful of what I may be able to do for the arrest or cure of pulmonary phthisis. In this line of research may all of you find renewed courage and conviction. Perhaps some one among my hearers may yet discover the "arcana" of science in its conflict with this destroyer of our fellows.

Original Communications.

PARALYSIS OF THE LARYNX; WITH REPORTS OF THIRTY-TWO CASES.*

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The following cases are presented with the thought that they may be useful in future studies. Only what seemed to be the essential facts have been transcribed from my notebooks. I have no theories to suggest, but leave the record for the interpretation of those who may be interested in this class of derangements of the larynx. I have not included cases in which the derangements depended upon tumors, ulceration, and other structural alterations of the organ.

DISTURBANCES DEPENDING UPON HYSTERICAL CONDITIONS.

Case I.—H. B., female, single, aged twenty-four. No change in the form or structure of the larynx. The vocal bands in the cadaveric position. Health in other respects fair, menstruation normal, appetite good. Was put upon iron, strychnine, etc., and advised to live as much as possible in the open air. I also applied the faradaic and galvanic currents, the latter interrupted. None of these measures produced any change in the function of the organ. After several months she went East, and finally to Europe, where she consulted a great number of laryngologists, with always the same suggestion of strychnine, electricity, and tonics.

These were tried with the thought that possibly under new conditions and in more expert hands they might be successful. After visiting California and the southern portions of our own country, she went to Europe again, spending a winter in Egypt. On her return she was under the care of Dr. Hughlings Jackson, of London, who had the good fortune to hear her speak after about five years of silence. During three years of this time she did not even whisper. The cords remained as described till her return from Dr. Jackson. At that time she occasionally spoke aloud, but only a part of the time. Upon examination, I then found that in the effort to phonate the vocal processes were brought together, but there was a triangular opening back of their points—in other words, there was a paralysis of the arytænoids, leaving a space through which the air escaped, making phonation laborious and at times producing complete aphonia. From that time to the present, now several years, there have been periods, for several days and occasion-

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ally for a week or more, that she could not speak above a whisper. She is and has always been fairly nourished, but of a lymphatic temperament, and is easily fatigued. I have repeatedly examined the larynx during the last few years, and have never found any changes except as above stated.

That this was a case of hysterical aphonia I presume no one will for a moment doubt. The interest consists in the fact that the trouble continued so long and resisted all treatment till seen by Dr. Jackson.

Dr. Jackson's treatment did not in any essential respects differ from that which had already been tried. There could be found no evidence of those perturbations of the uterine or other organs which generally accompany these cases. I have said that I presumed this would be admitted to be a case of hysteria. I use the word not in the strict sense of uterine irritation, but for that class of neuroses generally grouped under this name.

Case II.—Mrs. F., aged thirty, married, has had for the last eighteen months some difficulty in speaking, and for the last four months she has been completely aphonic. There has been occasionally dyspnœa, but this has seemed to be asthmatic rather than due to laryngeal stenosis. She has also been under treatment for some uterine trouble. Examination of the lungs reveals some vesicular emphysema; heart weak, but no murmurs; larynx normal in form and color; vocal cords immovable in the cadaveric position. There were no evidences of central trouble nor of any lesion along the course of the nervous trunks. The patient was sent to me by a gynæcologist with the query as to the reflex nature of the laryngeal difficulty.

Case III.—T. H., aged twenty-three, female, single. Nine months ago she took cold; is now aphonic; is short of breath upon exercise; emaciated. Physical examination of chest reveals no evidence of disease of the lungs or heart. She is emotionally depressed. Menses have not appeared for the last five months. No fever or other derangements to suggest organic troubles elsewhere. Tops of the arytænoid cartilages slightly swollen; no loss of motion of abductors; right cord does not come quite to the median line in the effort to phonate; it is lax, sagging, and hanging away from its fellow. This case seems to me to be a paresis of the right thyro-arytenoid and probably also of the right crico-thyroid, hysterical in origin.

Case IV.—M. C., aged seventeen, female, single. Was never strong. Has always been subject to colds and throat trouble. Had diphtheria four years and a half ago; had suppuration of the lymphatic glands of the neck seven or eight years ago; is now in school, but devoting herself mainly to instrumental music; is fairly nourished, but has dysmenorrhœa and signs of ovarian irritation; no lung or heart trouble.

Upon effort at phonation, the cartilaginous glottis is open; in other respects movement of the parts is normal. Says that she formerly was in the habit of singing, but was obliged to abandon all efforts to sing because, as she expressed it, her "voice rattled." There may be a doubt as to the ætiology of this case. The patient had diphtheria four years and a half before the consultation.

Case V.—A. P., aged twenty-five, female, married. Has been aphonic for the last five months. Was referred to me by a gynæcologist. Has laceration of the cervix; has now an acute inflammation of the pharynx and larynx; the vocal cords are in abduction and immovable. No evidence of any central or local laryngeal lesion to account for the paralysis.

Catarrhal.

Case VI.—E. B., aged sixteen, single. Has several times during the last eighteen months lost her voice, being able to whisper only. This has usually been treated by her physician by local applications of argent. nit., thirty grains to the ounce, and in a few days she has recovered. I find thickening of the mucous membranes above the glottic chink, and in normal efforts at phonation the false vocal bands approximate so as to come in contact, shutting out the view of the true cords. In easy respiration the vocal processes are nearly in contact. There must be some paresis of the abductors. The patient was under the care of a physician in a neighboring city, and I learned that she entirely recovered with no other treatment than that mentioned. The health was in every other respect good. The impairment seemed to be the result of acute catarrh.

Case VII.—J. G., aged thirty-eight, male. Three months ago was taken suddenly with hoarseness after getting wet. Very soon afterward the voice became extinct. This condition has continued to the present time. General health in every other respects good. No history of specific disease.

Vessels of the larynx large. Secretions excessive. Left vocal band in efforts at phonation remains midway between adduction and abduction. Motions of right band normal. The interrupted galvanic current was applied with an immediate improvement. The patient soon passed from my observation. The only cause that seemed probable was a catarrh from the cold.

TYPHOID FEVER.

Case VIII.—M. A., aged twenty-nine, female. Had inflammation of the lungs when a child. At the age of twenty had typhoid fever. Soon afterward the voice began to fail. Was unable to sing. Two years ago became very much frightened by an accident, and for two weeks was completely aphonic. Has been hoarse the most of the time since, except when aphonic for ten weeks about a year ago. For the last few weeks has had pain in the larynx and the left side of the chest, running through to the back. No chest trouble. No uterine or ovarian difficulty.

In efforts at phonation the vocal bands remained lax, allowing the air to be expelled between them without the production of sound. The muscles involved seemed to be the crico-thyroids. A marked improvement took place under treatment by the faradaic current.

Case IX.—B. B. B., male, aged fifty-five. Thirty years ago had typhoid fever. After convalescence, became suddenly hoarse and then aphonic.

This condition continued eighteen months, when he recovered the use of the voice. Since then has had, when fatigued, and especially after speaking for a while, a sense of fatigue, which he locates in the supra-sternal region. When eight years old commenced the use of tobacco. Much of the time for forty years he smoked twenty-five cigars daily. Stopped on account of a heart difficulty. Has now post-nasal catarrh. There is also dysphagia, apparently from want of action of the constrictors. The surfaces of the pharynx are very tolerant to mechanical interference. The patient is well nourished, weighing 180 pounds. The action of the kidneys normal. No lung trouble. No organic heart trouble.

Chronic catarrhal inflammation of the larynx. At time of examination, no derangement of motion.

The case is presented for the reason that the patient had just recovered from typhoid fever when the aphonia occurred, lasting eighteen months. The excessive use of tobacco for so long a time in connection with anæsthesia of the pharynx gives additional interest to the history.

SYPHILIS.

Case X.—M. L., aged forty-two, female, married. Has had for eight years some difficulty in swallowing solid food. Says that six months ago "something broke in the throat." Says

that the matter discharged from the throat at that time was not pus, but a "glairy, transparent fluid; it was like the white of an egg." Since then she has been able to swallow better, but there is now constant dyspnœa. This is especially marked when asleep, or when fatigued, or excited during the day. The difficulty is mainly in inspiration. Expiration is easy. General health is not good. Has a family history of cancer and consumption. There was no evidence of thoracic trouble and no history of specific disease.

Examination revealed paralysis of the abductors of both vocal cords. There were no evidences of disease along the course of the nerve-trunks, so far as I could find. I suggested tracheotomy as a measure of prudence, and ordered pot. iod., with the thought that there might have been a specific intoxication. The subsequent history is unknown to the reporter.

Case XI.—D. M., aged forty-seven, male. Had syphilis eight years ago. Six months ago began to have some trouble with the throat. Voice hoarse, but not lost. Secretions of pharynx and larynx increased. Health in other respects fair.

Chronic inflammation of the mucous surfaces of the larynx. Top of left arytenoid cartilage swollen. Left vocal band near the median line, and does not move upon deep inspiration. Right band normal in movement.

I am not quite sure that this is a case of paralysis; it may be an ankylosis of the cartilage.

Case XII.—E. G., aged forty-six, male. Had syphilis in early life. Has had cough and difficulty of breathing for several years. This difficulty came on gradually. It was more marked when asleep than when awake. The appetite is good. No lung trouble. Heart sounds normal. No disease along the pneumogastrics or recurrents. So far as I can ascertain, there are no secondary or tertiary symptoms of syphilis, unless this laryngeal disorder be of that character.

Examination reveals a bilateral paralysis of the abductors of the vocal bands. During phonation the bands become normally tense, separating slightly at the cessation of the act of speaking. There did not appear to be any mechanical fixation of the arytænoids. The quality of the voice is little, if at all, affected. Soon after the first consultation tracheotomy was performed for the relief of a dangerous dyspnœa which occurred during the night. The patient was put upon constitutional treatment, with the thought that it might be syphilitic in origin. No benefit resulted from these measures, and he has worn a cannula now about four years. I am still inclined to think that the case is specific.

Case XIII.—D. M., aged forty-seven, male; had syphilis eight years ago. Six months ago began to be hoarse. The voice is now rough, but not lost. Health in other respects good.

Secretions of the pharyngeal and laryngeal mucous membranes excessive in quantity. Top of left arytænoid cartilage swollen. Left vocal band near the median line, and does not move upon efforts at phonation or deep inspiration. Right band normal in movements.

It is possible that this is a case of ankylosis of the cartilage. The patient was put upon the use of iodide of potassium.

DISEASE OF CENTRAL ORIGIN.

Case XIV.—M. L. P., aged forty-two, male. Never sick till four months before consultation. While on the plains in western Kansas or eastern Colorado he suddenly became aphonic. There was no cause to which he attributed the loss of the power of speech. After a few weeks he partly, but not entirely, recovered, and this improvement was followed by complete aphonia, which has continued to the time of consultation. General health good. No evidence of any thoracic trouble.

Epiglottis pendulous, omega-shaped. Right vocal band normal in movement. The left is drawn close to lateral wall of larynx, so as to be seen with difficulty as a line in the mucous tissues. Upon efforts at phonation there is not the slightest movement of the band. Under the influence of the interrupted current there was a slight change of position. Surface of larynx hyperæsthetic. Subsequent history of case unknown.

Case XV.—P. D., aged sixty-five, male. Five years ago had an injury from a fall, striking upon the right shoulder. Ten days afterward began to have difficulty in speaking. For three weeks could not make himself understood. Has not been able to speak easily since. Now there is something like stammering. There has never at any time been loss of consciousness, nor is there now any impairment of the intellectual functions. The arm and leg of the right side are weaker than those of the left. No deformity of the face or want of co-ordination. Bowels regular. The urine passes slowly. Has been treated during the last five years by various methods, including the use of electricity. Thinks nothing has done him any good. The appetite is now fair; sleep not good. Has headache every day.

Mucous membrane of the larynx slightly injected; otherwise normal. Movements of the left side of the organ very slight. In efforts to phonate, the right arytænoid cartilage is carried beyond the median line, its apex drawn forward of the apex of the left. The edge of the right band is higher than that of the left, and is also carried beyond the median line.

What is the explanation of the paresis of the right side of the trunk and extremities, and the left side of the larynx?

Case XVI.—V. P., aged thirty-six, male. During the last two years has had at times a dull post-sternal pain. This has not been constant in character. Has never been sick since childhood till the commencement of the present trouble. There is no pain in the throat, nor is there constant dyspnœa, but within the last three months there has been shortness of breath upon taking exercise. Speaks now with difficulty; the voice is rough. Of late there has been slight dysphagia. Within the last few weeks there has been some numbness of the left leg. No perversion of the special senses and no ataxia. In other respects the patient seems well. Physical examination of the chest reveals no lung trouble, and I can find no evidence of aneurysm.

Left vocal cord nearly immovable in the cadaveric position. No other alteration of the organ. At a subsequent examination there was the same condition so far as the motions of the parts were concerned. But there was in addition a marked anæsthesia of the mucous surfaces. The dysphagia was increased, and the laryngeal muscles on the left side did not respond to the faradaic current.

Case XVII.—R. W., aged forty-eight, male. Not strong as a child. Had "brain fever" when twenty-one years old. Never had syphilis. About one year ago began to have dysphagia. It came on suddenly, and gradually increased during the year. Five weeks ago attacked with dysphonia. This also came on suddenly, and has remained without change to the present time. Was subject to headache for several years before the commencement of the present troubles. Not so much since the advent of the dysphagia a year ago. Has, however, frequent attacks of neuralgia of the right side of face and head. No evidence of lung or heart trouble.

Right vocal band immovable near the median line. In other respects the organ is normal. Can see no evidence of any dis-

ease along the course of the nerves. The headache, neuralgia, difficulty of swallowing, with the "brain fever," all point to some central lesion.

Case XVIII.—E. N., aged fifty-four, male. Has had for the last ten years some discomfort in the throat. At times dyspnœa. During the last year the difficulty of breathing has been worse, especially upon taking exercise. Seven months ago had a slight hemiplegia of the right side. Is now able to use the right arm to some extent. The throat trouble is worse since the paralysis. Never had any specific trouble. Had typhoid fever twenty years ago. No thoracic trouble, lungs or heart.

Larynx normal in appearance. Upon effort at deep inspiration there is only a narrow opening between the bands. There is only a very slight movement of the bands in phonation. The paralysis of the abductors is not complete, but nearly so.

COMPRESSION OF THE RECURRENT NERVE.

Case XIX.—O. A., aged twenty-four, male. Has had some cough for last six months. A slight hæmorrhage occurred about two weeks before consultation. Evidently deposits in apex of left lung. There has been for some time impairment of voice. Upon inspection, the left band is restricted in the range of movement. No other signs of laryngeal trouble. No swelling of the cartilages or thickening of the mucous membranes.

The interest of the case consists in the fact of paresis of the left side of the larynx in connection with tubercular deposits in the corresponding lung. It is stated by some authorities that such deposits do, by their pressure upon the recurrent, produce paralysis. I think it must be very rare; but this case seems to justify the proposition.

Case XX.—X. S., aged forty-nine, female. Has been hoarse for two years. In that time has lost twenty pounds in weight. Six months ago had rheumatism. No cough. No fever. Examination of the chest reveals a soft bruit at the outlet of the left ventricle with the first sound. This is propagated into the aorta, and heard with great distinctness in the supra-sternal notch. No evidence of any lung trouble.

Color and appearance of the larynx normal, except that the left band moves only very slightly. It is very near the median line, both in inspiration and in phonation. The right in phonation passes beyond the median line to meet its fellow. There must, I think, be a dilatation of the arch of the aorta, producing pressure upon the left recurrent. Saw the patient several months afterward. Found no material change.

Case XXI.—E. B., male, aged thirty-seven. Has been hoarse for the last five months. Recently has been troubled with cough. General health till commencement of this trouble good. Upon examination of the chest, find aneurysm of the aorta at the superior and left portion of the arch. No lung trouble. Paralysis of the abductors of the left vocal band, which remains in the position of adduction in the median line. Motions of right side perfect.

Query.—Why is not the left band in the cadaveric position?

Case XXII.—H. S., male, aged fifty-one. Had, four years ago, a kick from a horse, producing an injury to the back of the head and the right side of the neck. The wound of the neck was on a level with the fourth ring of the trachea. The cicatrix is well marked, and is close to the trachea. Since the injury he has been hoarse; speaks with difficulty. General health good.

Epiglottis large, wide, erect. Complete paralysis of the right side of the larynx. Left side normal.

Case XXIII.—G. T. L., male, aged forty-eight. In early life was not in good health. Twenty years ago spit blood. For the last three years has had some difficulty in speaking when fatigued. This sometimes produced vertigo. Fourteen months ago had a severe strain of the muscles of the right side of the neck; said at the time that he "had broken his neck." Eight months ago began to experience pain in throat, and more decided difficulty in speaking. The voice is now low in pitch and feeble. No lung or heart disease.

Paralysis of laryngeal abductors of the right side, *the cord remaining in the median line.* Left side normal. Why is the cord not in the cadaveric position? Was there an injury to the pneumogastric or recurrent at the time of the "strain"? There had been some difficulty in speaking before that injury.

Case XXIV.—J. C., male, aged sixty-two. Has had hacking cough for twenty-five years. Became hoarse ten months ago. For the last six months has been aphonic. There is now difficulty in swallowing liquids. They pass into the larynx and produce cough and spasm. Appetite good, bowels regular. Kidneys normal. Emotionally despondent. Percussion note normal. Breath sounds harsh; rude over both apices; more marked in front than in back. Heart sounds normal.

Right vocal band immovable in the cadaveric position. Motions of left normal.

Case XXV.—T. B. K., male, aged forty. Has always enjoyed good health till nine months ago, when he fell upon the right shoulder, upon which, for ten or twelve days, the head was drawn down. He rapidly recovered, however, and was as well as ever, except that when he took cold he had a stiffness of the right shoulder. About five months ago he took a severe cold, and had a hard cough with expectoration of white mucus. He recovered from this, and about six weeks ago was suddenly seized with a violent fit of coughing, and immediately the voice became rough and hoarse. There was difficult inspiration. The difficulty was greater while sleeping than when awake. At times there was spasm, making inspiration very difficult. Never had syphilis. Upon physical examination, the lung and heart sounds were found to be normal.

Complete immobility of the right vocal band in the cadaveric position. Left side normal.

UNCLASSIFIED.

Case XXVI.—L. L., male, aged forty-seven. Ten years ago, while pitching hay on a very hot day, he took cold. Cough was severe at the time, and since then he has frequently had hoarseness and shortness of breath. Now the hoarseness is constant. He attributes it to the "cold" ten years ago. Never had any injury along the course of the laryngeal nerves. No specific history. Is well in every other respect. No lung or heart disease. Slight anæsthesia of the pharynx and larynx.

Left vocal band immobile in the cadaveric position. In efforts at phonation, the top of the right arytænoid cartilage passes in front of the left, and the right band is carried beyond the median line to meet its fellow of the opposite side.

Case XXVII.—M. W., female, aged thirty-two. Has a uterine fibroma. Is now taking ergot. During the last three months has had a cough. Has now some dyspnœa. Is hoarse. Speaks with difficulty. No lung or heart derangement. Slight enlargement of the cervical glands, especially back of the left clavicle.

Paresis of the abductors and adductors of the left vocal band. In deep inspiration and efforts at phonation there is only a very slight movement of the vocal band.

Subsequent history unknown. I am not certain that this is not reflex in its origin, but the enlargement of the

post-clavicular glands on the same side with the affected cord leaves a reasonable doubt.

Case XXVIII.—E. W., male, aged five years. Well till eight months ago, when he had an attack of diarrhœa. Soon after began to be hoarse. About four months before consultation, became completely aphonic. No dyspnœa or cough; now well nourished; complains of no pain nor of any discomfort. Laryngoscopic examination reveals paralysis of the adductors of both sides. Electricity was used, interrupted current, with benefit, before a cure was effected. The case passed out of the knowledge of the writer.

Query.—What was the nature of the affection? There was no cerebral trouble, and I could find no cause of interference with the function of the recurrents. There was nothing except the diarrhœa as an antecedent.

Case XXIX.—A. D. B., male, aged twenty-seven. Phonation has been difficult for the last four years. Health in other respects good. Previous to this, had been in the habit of singing, and had used the voice a great deal. Upon inspection, there was seen, in the act of phonation, a wide space between the vocal cords throughout their entire length, including the vocal processes. No other departure from the normal condition.

Query, Was the trouble the result of the over-straining of the tensors and adductors? The subsequent history is not known.

Case XXX.—F. R. C., male, aged twenty-five. Always well until within the last year, during which he has noticed that he becomes easily fatigued by speaking. It is for this that he asks for advice. Says that he is in every other respect well. No specific history. No lung or heart disease.

A triangular opening in the cartilaginous glottis during phonation. Can find no cause for the difficulty.

Case XXXI.—E. F. D., female, aged thirty-eight. In general good health. Ill two years ago, when she had pneumonia. Since then has been subject to cough. Is now hoarse, and has dyspnœa upon taking exercise. Complains of post-sternal pain. No history of any pelvic trouble. Lung and heart sounds normal.

Upon efforts at phonation there is left a wide triangular opening in the cartilaginous glottis. Membranous glottis normal. No thickening of the inter-cartilaginous tissue. Left ventricular band slightly larger than the right.

Case XXXII.—X. M., female, aged twenty-nine. For the last two years has had cough, with expectoration of moderate quantity of mucus. No hæmorrhage. Appetite fair. Bowels regular. Menses normal. No emaciation. Slight dullness at the left top. Breath sounds rude over the same region. Heart sounds normal in character, but heard with unusual distinctness over the left apex.

Membranes and cartilages of the larynx normal. No impairment of sensation. Upon efforts at phonation, a long elliptical opening is seen between the bands and including the cartilaginous glottis. Both vocal bands are in the same position. Could find no history or evidence of any trouble along the track of superior laryngeal nerve.

DISCUSSION.

Dr. Cohen: There is a point in connection with the first case which is interesting, and that is the difficulty of whispering, or the inability to whisper. This condition, to which I have ventured to give the term aphthyria (lack of whisper), corresponds with the word aphonia or lack of voice. This patient I saw some two years ago. She was under the care of a neurologist, who consulted me on account of her inability to speak and to whisper. She communicated with others entirely by pencil and paper. But she used to whistle, and had adopted a peculiar habit of expressing Yes by one whistle and No by two whistles, and so on. This showed that the paralysis of the muscles of articulation was not complete. As it was evidently a case of functional aphonia, I suggested the use of the electric current to the muscles of articulation, with the result of curing her whisper. She was exceedingly emotional, and the gentleman under whose care she was put her to bed for some intercurrent complaint, and sent her abroad, and I never had anything professional to do with her after that time. I saw her eight or nine years afterward; she was well, married, and the mother of a fine child. She told me she had never lost her whisper. I have met with a few other cases in which there was inability to whisper as well as inability to speak. I do not think there is a real paralysis in these cases—paralysis either of the voice or of speech. I think we have that condition in which these patients can not "will" to speak or can not "will" to whisper—the condition described by Sir James Paget, of London, in connection with diseases of the urinary organs. If you can control these patients, and get them to will to do what they ought to do, you can cure them. Some cases you have of inability to swallow. The patients can swallow, but they can not or will not will to swallow, and you have to manage them by having a skilled nurse to stand over them, give them confidence, and force them to swallow. I am very glad to see the author has been able to include in his cases one of extreme abduction of the vocal band. This will add two more to the cases on record.

Dr. Glasgow: When Dr. Cohen commenced to speak I thought his case was due to a loss of will-power and not to an absence of muscular power. We often see these cases, and we can not always determine whether these persons can speak or not. It recalls an instance which occurred to me last year of a patient who was unable to speak, but was able to whisper; but this also was imperfect. Most of the conversation was carried on in writing. There was absolutely no change in the muscular powers of the larynx. Everything seemed to be perfect, so far as we could see by examination. I dismissed her by saying she could whisper if she wished to. A cure of this case was effected by prayer. It was on Thanksgiving Day. I first saw her in August. The minister prayed that the afflictions of the family should be taken away, that this daughter should be relieved from her infirmity, and at the end of the prayer she spoke. Now, there was a deficiency of will-power, I really believe, in this case. This case was the sequel of a prolonged typhoid fever. I should think that weakness of the muscles followed, and she found a sort of difficulty in speech, and, as it worked upon her mind, she thought she could not speak. I had assured her she could speak if she would; and after this I think she was waiting for nothing but an opportunity. This prayer produced the opportunity. After the prayer she spoke well. I do not think it was deficient will-power, but perverted will-power. I think we see many cases in young women. I think this explains a good many cases of aphonia without organic muscular change or action.

Dr. Hooper: I have always thought so-called hysterical aphonia purely functional. Although the patient is voiceless, the vocal bands are freely movable, as may be seen by asking the patient to laugh while being examined with the mirror. The statistics of the Throat Department at the Massachusetts General Hospital show that unilateral paralysis of the vocal bands occurs about once in two hundred and fifty cases. In the cases of paralysis which I have seen, I have never yet heard a patient with one vocal band immovable who was able to speak in a clear, natural voice, no matter what position the paralyzed band might be in. I can imagine, however, that in certain rare in-

stances, as in one case of Dr. Johnson's, the voice may be good. I agree with Dr. Johnson in the difficulty of determining the ætiological factor of many of these cases.

Dr. Rice: In a number of cases of hysterical aphonia seen lately I have been impressed with the frequency of the inaction of the transverse or arytænoidæus muscle. I think this muscle is more frequently affected than any other in hysteria. This is frequently seen, too, in acute inflammatory troubles of the larynx, it being the first muscle affected, and the sole cause of dysphonia and temporary disability of the voice. There is one case of hysterical aphonia I will mention, since the cure was so remarkable. It was the case of a young woman twenty years of age. She had no constitutional trouble that I remember, and her general health was apparently good. She had been unable to speak for five or six months, and I found the loss of voice was caused by a paralysis of the transverse muscle. She had been treated by a physician, who used electricity and strychnine. I was unable to benefit her. I received a letter from her three or four months after my treatment, in which she stated she had met with a runaway accident, had been thrown from a wagon, and since then had spoken perfectly. I saw her a short time after, and there was no paralysis. Another interesting case to me was that of a man who had a syphilitic history, and who was, in addition, phthisical. One of the vocal bands was ulcerated all along its free border; the other much swollen. Both arytænoids were in a state of ankylosis, the vocal bands being in the cadaveric position. The remarkable point about the case was this: when attempts at phonation were made, there was apparent a tremendous muscular exertion in the larynx, endeavoring to compensate for the non-movement of the vocal cords. The patient was able to produce a fair voice, husky in character. This was produced entirely by the approximation of the larynx above the level of the vocal bands—that is, by the action of the false cords.

A REPORT ON THE ORIGIN AND GEOGRAPHICAL DISTRIBUTION OF PHTHISIS PULMONALIS FOR THE STATE OF MICHIGAN.*

By E. L. SHURLY, M. D.,
DETROIT.

Mr. President and Gentlemen: The object of the investigation upon which this imperfect report is based is to ascertain, if possible, what, if any, influence is exerted by strictly telluric environment upon the causation of phthisis pulmonalis. The aërial and social factors of its ætiology have been for a long time freely and widely discussed, but the telluric aspect and geographical distribution, according to my observation, have received much less consideration, and perhaps deservedly, although it seems to me that we have too little knowledge on this point to warrant such a decision.

Circulars were sent out to the profession of the State of Michigan asking for data relating to the number of cases of phthisis pulmonalis which had *originated* only in the township or county where the practitioner resided, together with a statement of the number of such patients who were known to have hereditary predisposition, and whether primary or secondary. Although a large number of replies were received, I regret to say the number was somewhat less than I had hoped for.

As the number of physicians who keep notes of cases is small in the aggregate, I endeavored to shape the queries as concisely as possible, and to ask for so little that almost any practitioner could fill out the answer from memory and with the consumption of very little time. To those who were good enough to reply I feel greatly indebted, and I believe all who are interested in this subject will also share in this feeling.

I thought it advisable, even at the risk of wearying you, to precede the tables with a few extracts from the reports of Professor Winchell and Dr. Rominger, showing the topography of the State.

I am greatly indebted to Dr. A. W. Nicholson, lately of our State Board of Health, for the general and census tables, and to Dr. Erwin Wright for the preparation of the other data in the form presented.

Topography, Hydrography, and Geology.

"The two natural divisions of the State are distinguished by marked physical characteristics. They are completely cut off from one another by the Straits of Mackinac. The northern is rugged, with numerous rocky exposures; the southern consists of plains, plateaus, gentle undulations, and moderate hills, with very few outcrops of rocky strata. The northern peninsula is a mineral region; the southern, agricultural. The climates of the two peninsulas are as distinct as their location and topography."

"The climate of Michigan, both in summer and winter, is well adapted to the interests of agriculture and horticulture. Its marked peculiarity is attributable to the influence of the great lakes by which the State is nearly surrounded. It has long been known that considerable bodies of water exert a local influence in modifying climate, and especially in averting frosts; but it has never before been suspected that Lake Michigan, for instance, impressed on the climatic character of a broad region an influence comparable with that exerted by the great oceans."

"The influence of the sea in equalizing temperatures has long been understood. The immunity from unseasonable frosts secured by bodies of fresh water to localities in their immediate neighborhood has also been universally observed; but the fact that inland lakes of the size of Lake Michigan exert an ameliorating agency quite comparable with that of the Atlantic Ocean is something which has only been brought to light by recent thorough discussion of a wide range of meteorological data."

Distribution of Precipitation Through the Seasons in Percentages of Total Precipitation.

	Spring.	Summer.	Autumn.	Winter.
Upper Peninsula	19·0	27·0	28·8	25
Lower Peninsula	25·8	28·7	27·2	19
Whole State	22·8	28·2	27·7	20

It appears that the northern localities experience a somewhat greater liability to dryness in all seasons. It must be

* Read before the American Climatological Association, May 28, 1885.

borne in mind, however, that the percentages given are percentages of the seasonable means.

"A general glance at the superficial configuration of the lower peninsula reveals a surface swelling gently from the shore toward the interior regions."

"Generally the lake shores are depressed."

"The rise of the peninsula from the level of the lakes is generally gradual, and in a few places only is it abrupt. The surface is of an undulating, hilly character; the hills are rounded, and never attain a very great height above the surrounding country. The southern peninsula is lower than the northern. The swell of the land forming the water-shed of this southern division coincides with a line drawn in a southwest direction from Port Austin, at the entrance of Saginaw Bay, to the southwest corner of Hillsdale County, where it enters the boundaries of the State of Ohio. Within the limits of Tuscola and Sanilac Counties the known surface elevation of this water-shed is about four hundred feet, while in Hillsdale, not far from the southern State line, some points with an elevation of six hundred feet are recorded; but the water-shed is probably not over five hundred feet high."

"This, which may be called the southeastern water-shed, is not broken through by any of the streams, though deeply excavated by the Huron River in Washtenaw County."

"The descent from the height of the water-shed to the lake shore is so gradual that a traveler in crossing the peninsula from either lake to the other, if he follows the river valleys, can scarcely perceive it. The northern division of the peninsula rises to nearly double the height of the southern part; its surface is more broken and diversified by steeper ascents from lake to terrace. Its highest points in the vicinity of Otsego Lake are, according to the records of the railroad surveys, eleven hundred feet from the lake level. Otsego Lake lies directly west of Thunder Bay, and not far from the northern terminus of an extensive high plateau with undulating surface, and an average elevation of from seven hundred to eight hundred feet."

"All the rivers of the northern part of the peninsula have their source within this plateau, which is dotted with a number of inland lakes, some of which, like Lakes Higgins, Houghton, and St. Helen's, are of large size. The terraces by which the descent from the plateau is made form a succession of broad belts; their sides are moderately steep and finely timbered; the lowest are wider, gradually slanting toward the shore, or overlooking it in bluffs of from forty to sixty feet."

In some places on the west side the bluffs are from one hundred to two hundred feet high, and Sleeping Bear Point, a promontory facing Lake Michigan west of Big Traverse Bay, is said to have an elevation of five hundred feet. Opposite this point, twelve miles out in the lake, the Manitou Islands rise abruptly to a height of two hundred feet above the water. South of the second correction-line the plateau rapidly declines toward Saginaw Bay. Between the north and south parts of the peninsula a depressed strip of land extends from Saginaw Bay to the mouth of the Grand River on Lake Michigan, having rarely more than one hundred feet elevation.

An astonishing number of smaller and larger inland lakes are found in every part of the peninsula; all have crystal-clear water, and the principal supply of the head branches of our rivers comes from them. The more important rivers collecting the waters of the western slope of the peninsula are the St. Joseph's, Kalamazoo, Grand, Muskegon, and Manistee. The three first named have their sources in close proximity to the elevated lands of Hillsdale and Jackson Counties.

From the same swell of land the River Raisin emanates, flowing outward into Lake Erie. The Raisin River enters the lake near Monroe; it drains the southern part of Washtenaw County, and draws its branches from a number of small lakes in the southeast corner of Jackson County through its main north branch. The south branches have the drainage of Lenawee County.

The St. Joseph's, Kalamazoo, and Grand Rivers almost touch each other within the small area of a few square miles in the County of Hillsdale. The St. Joseph's River originates in a number of small lakes and marshes in Hillsdale County, and enters Lake Michigan at the village of St. Joseph.

The streams which form the head-waters of the Kalamazoo River rise in Hillsdale County. The river runs north, west, and northwest, and falls into Lake Michigan near Saugatuck.

Grand River springs from a few lakes in Jackson County; it runs north and opens into Lake Michigan near Grand Haven.

Huron River collects its waters from innumerable lakes and marshes in Livingston and Oakland Counties, flows southwest, and at Dexter turns southeast and retains this direction until it enters the Detroit River in the northeastern corner of Monroe County.

Clinton River drains the eastern part of Oakland County and all of Macomb County, entering Lake St. Clair near Mount Clemens.

Black River is remarkable for its southern course for nearly fifty miles parallel with Lake Huron, at a distance of only five or six miles from it. It begins in the northern part of Sanilac County, and enters St. Clair River near Port Huron.

Saginaw River is the receptacle of a whole system of rivers. By the Tittibawassee River the waters of the north and west are led into it. The Shiawassee collects from the south, the Flint River from the south and southeast, and finally the Cass River brings its waters from the northeast and east.

The river system of the northern part of the peninsula consists of the following rivers: Commencing at the southeast side, we first find the Rifle and Aux Grès Rivers, which drain the southeastern shore-belt surrounding the before-mentioned high plateau. Au Sable River is the next largest river north of them. It draws its branches right from the high plateau, and drains Otsego in the north end of it.

Thunder Bay River, opening into Thunder Bay, spreads its arms north, west, and south, reaching the foot of the high plateau. The Cheboygan River on the north of the

peninsula forms the outlet of three large lakes—Black, Mullet, and Burt. These lakes are fed by rivers of good size. On the west side of the peninsula two large rivers deserve to be mentioned.

Manistee River originates very near the head-waters of the Au Sable River on the east side. Its mouth is at Manistee.

Muskegon River is larger than Manistee; its branches extend to the top of the central high plateau, and are fed by Higgins and Houghton Lakes. Of all the rivers mentioned, none are navigable. The water-power afforded by these rivers is ample, and those the branches of which flow through timbered lands are of vital importance to the lumber business as mediums for the transportation of felled timber from otherwise almost inaccessible parts of the interior to ports or railroad stations.

RELIEF FEATURES IN THE LOWER PENINSULA.

SOUTHERN LOBE.

Northwestern slope.	Livingston Summit	350 feet.
	Ingham Summit	391 "
	Grand Ledge Summit	250 "
	Barry Summit	250 "
	Kent Summit	213 "
	Cass Summit. Oshtemo culmination	349 "
	Cass Summit. Cassopolis culmination	384 "
Southeastern water-shed.	Oakland Summit	539 "
	Washtenaw Summit	394 "
	Francis County Summit	411 "
	Hillsdale Summit. Somerset culmination	600 "
	Hillsdale Summit. Cambria culmination	613 "
	Hillsdale Summit. California culmination	546 "

NORTHERN LOBE.

Roscommon Summit	820 feet.
Clare Summit (central water-shed)	750 "
Ogemaw Summit	850 "

Southern Division.

Crawford Summit	700 "
Wexford Summit	700 "
Osceola Summit	700 "

Northern Division.

Oscoda Summit	800 "
Otsego Summit	1,200 "

The rivers have all eroded their valleys into the loose drift masses which almost universally cover the surface of the peninsula in great thickness. Only in rare instances have they been deep enough to touch the solid rock ledges below the drift, or, if such deep cuts did exist, they have filled them up with *débris*, and the beds of the present streams lie high above those of former times. The peninsula was, in its original condition, heavily timbered, with the exception of a few marshy flats. Climate and quality of the soil determine the character of the vegetation. In the southern part of the peninsula deciduous trees, particularly hard-wood timber, prevail. Pine is only sporadically intermingled. The mildness of the climate favors the growth of the oak, hickory, walnut, poplar, etc., which abound here, but become rarer farther north, where beech, maple, and birch take their place. The sandy soil of the central high plateau is most congenial for the growth of pine forests, which have taken possession of nearly the entire district. The marshy condition of some other places adapts them for the tamarack, elm, asp, and willow trees, or for the growth of the cedar, while a few parts of the high plateau, proving too sterile even for the pine, afford sustenance to nothing more than a stunted scrubby growth of *Pinus banksiana*, and a few creeping herbs which attempt to hide the barrenness of the scene. Such barrenness has, in some instances, been caused by fires which annihilated forests of large area, totally denuding the surface, and leaving it exposed to the burning rays of the sun and to the exsiccating winds, and unable for a long time, if not for ever, to recover its former well-timbered condition.

"The entire surface of the peninsula is covered by heavy drift deposits, with the exception of a few limited localities in which the drift, subsequent to its deposit, has been washed off by the floods, or by rivers curving their course deep enough to touch the rock-beds of older formation. These drift masses are almost the same as those of the upper peninsula. The material has been changed somewhat, by the admixture of rock-*débris*, from the formations encountered by the moving glaciers in their southern course. The glacier-drift spreads itself in a compact body over the entire surface of the lower peninsula, in evidence of which fact the rock-beds, wherever they are found denuded and the nature of the rock has been capable of preserving the marks, bear the traces of its motion on their scratched surface. Not all the drift material found on the lower peninsula has been transported there by glaciers; a large portion of it must have been carried southward by water, partly in suspension—as mud and sand—partly frozen with floating ice—as the coarser material, the gravel and the bowlder.

"The glaciers deposited moraines—heaps of rubbish composed of all kinds of rock-*débris* in every degree of comminution, from the large bowlder down to the impalpably fine clay.

"Much of the drift is not found in this orderless form of moraines, but is disposed in well-stratified layers, assorted, according to the weight of its particles, by water-currents."

A long time of submergence of the land must have followed the glaciers. The surface of the highest points of the peninsula, 1,100 feet above the level of the lakes, is formed by stratified drift-sand, mixed with pebbles.

"The older glacier-drift and the later deposit of floods and icebergs are materially of the same composition; both are made up of clay, sand, gravel, and bowlders of detritus from crystalline and metamorphic rocks, mixed with *débris* of younger sedimentary strata."

The coarse bowlder-drift all through the southern part of the peninsula appears not to occupy the lowest position, in which most frequently a hard, dark blue, sandy clay, with pebbles and some bowlders intermingled, is found in layers of considerable thickness. It is known among laborers by the popular name of hard-pan.

"Bog-iron occurs very frequently in small patches of marsh lands in all parts of the State."

"As another surface-deposit, peat has been mentioned. Innumerable larger and smaller patches cover the swampy surface depressions throughout the whole State."

The soil of the lower peninsula, being a drift-soil, is generally very deep, and contains all the chemical constituents of a good soil.

The assortment of the drift-soil into clay, sand, and gravel determines its character as the layers happen to occupy the surface positions, while by intermixture a great variety of intermediate shadings in the quality of the soils is locally produced under atmospheric influences. The distribution of soils over the State is sometimes very unequal and changeable, so that within limited areas, and often within single farms, a number of variations in the character of the soil are represented. But with the differences seen in the surface configuration of certain districts is also usually found a corresponding contrast in the quality of their soil. The high plateau in the northern part of the peninsula has its peculiar soil, a thick, uniform mass of fine sand, containing few pebbles and a small proportion of argillaceous constituents. In accordance with it is its vegetation; the pine-tree finds a congenial home in these sandy hill-lands, and their surface is overgrown with splendid forests of this tree, to the exclusion of almost every other kind.

"Other districts—represented by lowlands adjoining the lakes, and, to all appearances, within comparatively recent times parts of the lakes' bottoms—are covered by a stiff clay soil overgrown with elm, ash, and kindred trees, as, for instance, the lower part of Saginaw Valley and a strip of land bordering Detroit River, from Monroe up to Lake St. Clair.

"The climate of the peninsula, which is the other principal factor in its productiveness, is over the whole extent temperate, extremes of heat or cold being prevented by the surrounding lakes. From the northern to the southern end all the cereals can be planted with little risk of failure. The northern part is somewhat cold, its vegetation coming out two weeks later than in the south, and the winter setting in that much earlier, which affects somewhat the raising of the more tender fruit crops, as grapes, peaches, etc.

"The grape and the peach do well in the southern part of the State, and particularly near the shores of the great lakes, where the foggy, humid air prevents late frosts, the greatest enemy of these fruits. The west shore up as far as Muskegon has become famous for its peaches and other small fruits."

"Beneath the drift the peninsula is underlaid by regularly stratified rock-beds, in undisturbed horizontal position, which represent the upper part of the palæozoic strata."

In the following report it will be seen that under the heading of County is given the name of each county; under the heading of Population is given the population by counties in 1870 and 1880, and under the heading of Number of Deaths by Phthisis is given the total number of deaths from phthisis from 1869 to 1882, inclusive. The column marked Number of Cases originating in County gives the cases reported to me from various physicians as having originated in their county, with the year of their appearance. Of these, the remaining columns, marked Primary and Secondary, will show the number of cases as far as known which were primary, and those which arose secondarily to some other malady:

Deaths by Phthisis Pulmonalis in the State of Michigan.

Record by Counties.

COUNTY.	Population in 1870 and 1880.	No. of deaths from phthisis from 1869 to 1882.	No. originating in county.	Primary	Secondary.
Alcona	766 & 3,107	155	11	2	
Allegan	32,093 " 37,815	506	5	3	2, '83-'84
Alpena	2,756 " 8,780	58			
Antrim	1,985 " 5,237	37			
Baraga	1,804	17			
Barry	22,204 & 25,317	332			
Bay	15,820 " 38,081	415			
Benzie	2,148 " 3,433	45	4	..	'81-'84
Berrien	35,119 " 36,785	602	4	3	1, 82'-'84
Branch	26,229 " 27,941	467	15	13	2, '80-'84
Calhoun	36,571 " 38,452	653	23	12	4, '80-'85
Cass	21,097 " 22,009	308	9	..	'78-'84
Charlevoix	1,724 " 5,115	63	3	2	'82-'84
Cheboygan	2,197 " 6,524	30			
Chippewa	1,690 " 5,248	63			
Clare	266 " 4,187	22	3	1	'82-'84
Clinton	22,852 " 28,100	348			
Crawford	1,159	2			
Delta	2,441 & 6,812	43	6	6	'60-'70
Eaton	25,164 " 31,225	450	29	18	5, '70-'85
Emmet	1,211 " 6,639	84			
Genesee	33,965 " 39,222	515	32	2	'81-'84
Gladwin	1,127	3			
Grand Traverse	4,443 & 8,422	65	3		'80-'84
Gratiot	11,809 " 21,936	180	13	63	'70-'84
Hillsdale	31,691 " 32,723	577	19	10	9, '79-'85
Huron	9,049 " 20,489	135			
Ingham	25,270 " 33,676	424	2	1	'82-'84
Ionia	27,676 " 33,872	469	100	16	1, '57-'84
Iosco	3,175 " 6,873	56	5	2	3, '75-'84
Isabella	4,113 " 12,159	172			
Isle Royal	55				
Jackson	36,042 & 42,031	550			
Kalamazoo	32,063 " 34,342	618	15	12	3, '70-'84
Kalkaska	424 " 2,937	12			
Kent	50,410 " 73,253	1,114	28	16	2, '69-'84
Keweenaw	4,209 " 4,270	27			
Lake	548 " 3,232	22			
Lapeer	21,345 " 30,138	314			
Leelenau	4,577 " 6,253	81			
Livingston	19,417 " 22,251	324	98	68	15,'56-'84
Lenawee	45,503 " 48,343	693	35	9	17,'70-'85
Michilimackinac	1,716 " 2,992	44			
Macomb	28,050 " 31,627	544	8	4	3, '68-'85
Manistee	6,074 " 12,532	109	30	13	17,'72-'84
Manitou	891 " 1,334	11			
Marquette	15,077 " 25,394	258	10	10	'81-'85
Mason	3,266 " 10,065	87			
Mecosta	5,645 " 13,973	122	21	9	5, '82-'84
Menominee	1,894 " 11,987	25	1	1	'80-'84
Midland	3,383 " 6,893	80	13	4	1, '80-'84
Missaukee	1,553	5	4	2	'64-'80
Monroe	27,534 & 33,624	470	30	19	11,'82-'84
Montcalm	13,642 " 33,148	295	36	14	20,'71-'84
Montmorency					
Muskegon	14,895 " 26,586	251	49	39	10,'74-'84
Newago	7,292 " 14,688	107	10	4	6, '80-'84
Oakland	40,906 " 41,537	618	65	35	13,'74-'84
Oceana	7,222 " 11,699	160	5	2	3, '80-'84
Ogemaw	1,914	6			
Ontonagon	2,846 & 2,565	34	2	..	2, '77-'84
Osceola	2,104 " 10,777	62	15	14	1, '72-'84
Oscoda	467	1			
Otsego	1,974	2			
Ottawa	26,665 & 33,126	455	6	..	2, '83-'84
Presque Isle	3,113	14			
Roscommon	355 & 1,459				
Saginaw	39,078 " 59,095	915	62	25	30,'78-'84
Sanilac	14,566 " 26,341	250	14	9	2, '72 '84
Schoolcraft	1,575	9			
Shiawassee	20,864 & 27,159	307	15	5	10,'81-'84
St. Clair	36,087 " 46,197	572	29	18	11,'66 '84
St. Joseph	26,274 " 26,626	430			
Tuscola	13,721 " 25,738	247			
Van Buren	28,755 " 30,807	478	9	6	3, '79-'84
Washtenaw	44,442 " 44,848	683	13	7	6, '78 '84
Wayne	149,054 " 166,444	4,237	396	237	85,'75-'84
Wexford	650 " 6,815	45			

It will be seen by these tables that the whole number of deaths from phthisis pulmonalis, as reported to the State Board of Health, from 1869 to 1882 (thirteen years) is 22,103, or an average of 1,700 a year. Of these, 1,241 were reported in 1869 and 1,979 in 1882.

During 1882 rain fell 179 out of the 365 days, with a total fall of 30·31 inches, which was about the average fall for the preceding ten years. The mean temperature for 1882 was 51·2, which was slightly higher than the average for the preceding ten years.

The whole number of cases reported to me as having originated in the State between the years 1857 and 1885 is 1,370, and of these, 673, or nearly one half, were reported as primary, while 205 were reported as having been secondary to some other disease.

Of the total number of original cases (1,370) from 1857 to 1885, 602, or a little less than one half, occurred between the years 1879 and 1885, or during a period of six years.

The total population of the State, according to the census, in 1870 was 1,184,059, and in 1880 was 1,856,100, showing an increase of 672,041; so that proximately, so far as learned, the percentage of deaths from original cases to population would be about $\frac{7}{100}$ per cent., which no doubt is somewhat below the truth; but, as before remarked, these statistics are necessarily inaccurate (as are all United States vital statistics). However, if enough has been elicited to awaken an interest in the further investigation in this line, the work may not prove entirely valueless.

Note.—A very full and able account of the climate and topography of Michigan, illustrated by numerous maps, by Dr. H. F. Lyster, of Detroit, may be found in the "Report of the Michigan State Board of Health," for 1878.

HOW TO TREAT HÆMORRHOIDS BY INJECTIONS OF CARBOLIC ACID.

By CHARLES B. KELSEY, M. D.

The many requests which I have received from members of the profession for an exact description of this method of treatment have decided me to write the following communication, even at the risk of repeating what I supposed I had already made sufficiently clear.

The injection of hæmorrhoids with carbolic acid, though apparently a simple and trivial affair, is to be regarded in the light of a surgical operation, and should not be undertaken by the practitioner until he has surrounded himself and the patients with all the safeguards at his command.

There are two accidents which may happen in these cases, and for which the operator must be on his guard. One is undue ulceration, the other is abscess. Ulceration is the result of using a strong solution, which causes a distinct slough of the tumor injected. The resulting ulcer is seldom larger than a silver quarter, and I have never known it to give rise to serious trouble or to refuse to heal kindly with proper local treatment. When it occurs it is well to cease further injections and to deal exclusively with this condition until it is healed. Applications of nitrate of silver, iodoform, calomel in powder, etc., are usually sufficient to induce cicatrization. The ulcer is not generally painful, the discharge is about the only symptom of which the patient complains, and the complication is not therefore to be considered as a serious one.

It will at once be asked what strength of solution is capable of producing a slough? I can not say. The worst one I ever produced came from an injection of a fifteen-per-cent. solution, and I have deliberately tried to produce one in a large hæmorrhoid by the use of undiluted carbolic acid, and failed to get anything more than a hard tumor of the size of the end of the thumb around the injection. The individuality of the patient seems to exert a decided influence, and, given a certain standard strength of solution—say thirty-three per cent.—it is impossible to predict beforehand in how many patients it will produce a slough and in how many it will produce a simple induration. Of course, as a general rule, it can be stated that weak solutions are less apt to produce sloughs than the stronger ones, but beyond this my experience does not yet enable me to go, and I do not consider the question as one of very great importance; for these ulcers which result from a slough heal fully as well as the wounds which follow either the ligature or the clamp, and it is with these two methods of operating that I wish the treatment by carbolic acid to be compared. I hold it to be a surgical procedure, comparable in its results with either of these, and to be judged on its merits as compared with them. I believe that it possesses many advantages over either of them.

The second complication is abscess, and these are of two kinds—one trivial, the other serious. In two or three cases I have seen the following chain of events: An injection of medium strength being made, the patient has returned after a few days complaining of a painful swelling. An examination has revealed a tumor of the size of the end of the thumb situated just at the margin of the anus, covered with skin on the outside and mucous membrane on the inside and containing pus. If left to itself, such an abscess will often discharge on both the mucous and cutaneous aspects, the two openings being free and close to each other, and the cavity will close spontaneously. An incision on the cutaneous surface, though it will relieve pain and evacuate pus, may yet not prevent a spontaneous opening on the mucous surface. When the two openings have formed, the result is a subcutaneous fistula at the verge of the anus, but one which in its results is a very trivial affair, and which, if it does not heal spontaneously, can easily be laid open in the surgeon's office, and dressed with lint from the bottom.

The other abscess is a much more serious matter, and I have no doubt that it can be produced, and in some cases has been, by an improper use of the acid. I refer to a deep abscess of the cellular tissue in the ischio-rectal fossa. Such cases have been described and are quoted as the chief objection to this method of treatment. They are due to the injection of too strong a solution, or of the undiluted acid, either into a small tumor or into the cellular tissue entirely beneath the tumor. The pure acid may be inserted *into* a large hæmorrhoid and cause a limited slough which will result in a perfect cure. The same injection given *below* a small tumor is pretty likely to cause a considerable cellulitis. It is in this way that I explain this unfortunate accident, which is rare at the most, is a result of the im

proper employment of the means at the operator's command, and ought not to be considered a valid objection to the plan of treatment.

I have said that the injection of hæmorrhoids reached the dignity of a surgical operation, and should be judged in comparison with other operations for accomplishing the same end. This will almost certainly be found to be the case in any extended experience. The suffering is not always trifling; the nervous strain of submitting to any plan of treatment is not inconsiderable; the affection itself is sometimes a serious one, and, as I have already said, the operator should surround himself with all the safeguards within his reach. During the past summer I was called upon to treat an old gentleman, the mayor of a small town in Ohio, living in a high, cool, country region, but much depressed with business losses and worry. He came to New York in the middle of the hot season and submitted to treatment. The hæmorrhoids were the worst which up to that time I had ever treated by this method. The sphincter was much relaxed; the tumors had been down for twenty-five years without being replaced, and were very large and vascular. There were three distinct masses, each of about the size of a hen's egg. The case was not an attractive one, considering the age and condition of the patient and the hot weather, but I undertook it. Into the largest of the three tumors I injected five drops of a fifty-per-cent. solution. It was followed by a good deal of pain and loss of sleep for two nights, with some constitutional disturbance. On the third day, the pain of the first injection having somewhat subsided, I injected five drops of pure acid into the second tumor, and had much less trouble than with the fifty-per-cent. solution in the former case. After three days more I again injected the same amount of pure acid into the third tumor. Both of these last applications caused a distinct slough with resulting ulcerated surface and free discharge of bloody matter. After a few days more I returned to the first tumor, which had not sloughed but simply become indurated, and injected five drops of pure acid into that. The applications were all made within the space of two weeks. During this period the patient allowed his bowels to become constipated, and I had to clean them out with repeated copious enemata. There was at one time some vesical irritation and decrease in the amount of urine, whether from direct absorption of carbolic acid or from reflex irritation I do not know, and at the end of the treatment the patient was considerably reduced in strength—so much so that I put him upon the most nourishing regimen with bark and whisky. Just as he seemed on the point of rallying I discovered a small abscess in the perinæum, which was opened, and healed kindly, having no connection with the rectum. After recovering from this and gaining a considerable degree of health he went to his home in Ohio, and was immediately brought to bed with a second, larger abscess on the buttock. From this he also made a good recovery, and has ever since been perfectly well, the hæmorrhoids causing no disturbance whatever.

This was a bad case, and for that reason I am willing to consider it as a test one. The hæmorrhoids were the largest I have ever seen operated upon by this or any other operation. The patient was seventy years old, and, though free from organic disease, was not in good general condition. The piles were cured by four injections of carbolic acid. It is true he suffered pain, he had some vesical irritation, and he had two abscesses due to his general enfeebled condition, but having no connection with the rectum. Taking the case as it stands, the operation will compare very favorably with either Allingham's or Smith's. The man was not confined to his bed at any time, and, moreover, would not submit to either of the other operations under any circumstances. Being one of the *worst* cases I have ever had with carbolic acid, I am still willing to place it in comparison with the *average* case of operation by the ligature, looking at both in the light of surgical procedures of considerable magnitude and importance.

The objections to and possible complications of this method of treatment are, therefore, easily enumerated. They are, 1, pain; 2, vesical irritation where strong solutions are used; 3, marginal abscess; 4, deep cellulitis. *In the majority of cases the patient will escape them all.* Deep cellulitis I should suppose to be about as frequent after this operation as pyæmia after the ligature. Marginal abscesses may occur at any time, but are easily treated. The vesical symptoms never follow any but the more powerful injections, and the pain is very variable and can not be predicted from the strength of the solution used. I have injected five minims of pure acid into a large tumor without the patient either knowing when it was done or appreciating the slightest sensation afterward. I have injected a fifteen-per-cent. solution into a small tumor and caused considerable suffering. Speaking in a general way, I do not expect much pain from a weak solution, but, nevertheless, it is sometimes met with, and I have ceased to predict its presence or absence. If it comes with any solution I am not surprised, and if it does not come I am pleased. It is, however, an exception to meet with it to any marked degree.

As far as I have been able to reduce this treatment to a matter of rule the results are as follows:

1. Use only the purest crystallized carbolic acid, the purest glycerin, and distilled water in the preparation of the solutions. Each, when prepared, should be perfectly colorless and clear, the acid being in perfect solution. The glycerin is added to the solution of carbolic acid in water in just sufficient quantity to make a clear fluid, and the amount is not important. As soon as a solution begins to assume a yellowish tint it should be replaced by a fresh one.

2. Use only the finest and most perfect hypodermic needles and a perfectly working, clean syringe with side-handles. After each injection when the syringe is put away, clean it thoroughly, to be ready for the next time.

3. The treatment may be applied to every variety of internal hæmorrhoids, no matter what their size. It is not applicable to external hæmorrhoids, either of the cutaneous or the vascular variety, both of which may be treated by better means.

4. Before making an application give an enema of hot water, and let the patient strain the tumors as much into

view as possible. Then select the largest and deposit five drops of the solution as near the center of the tumor as possible, taking care not to go too deep so as to perforate the wall of the rectum and inject the surrounding cellular tissue. The needle should be entered at the most prominent point of the tumor. If the hæmorrhoid does not protrude from the anus, a tenaculum may be used to draw it into view. After the injection has been made the parts should be replaced, and the patient kept under observation for a few minutes to see that there is no unusual pain. The injection will cause some immediate smarting if it is made near the verge of the anus; if made above the external sphincter, the patient may not feel the puncture or the injection for several minutes, when a sense of pressure and smarting will be appreciated. In some cases no pain will be felt for half an hour, but then there will be considerable soreness, subsiding after a few hours. If it increases, instead of disappearing, and on the following day there is considerable suffering, which may not perhaps be sufficient to keep the patient on his back, but is still enough to make him decidedly uncomfortable, it is a pretty good indication that a slough is about to form. For the reason that it is impossible to tell absolutely what the effect of an injection is to be until at least twenty-four hours have passed, it is better to make but one at a visit and to wait till the full effect of each one is seen before making another. If on the second day there is no pain or soreness, another tumor may be attacked, and this will often be the case.

5. The strength of the solution must be regulated by the nature of the case, and in my own practice varies from five per cent. to pure crystallized acid. In a large, vascular, prolapsing tumor, which is well defined and somewhat pedunculated, five drops of pure acid may be used with the expectation of producing a circumscribed slough which will result in a radical cure. A thirty-three-per-cent. solution under the same conditions will probably produce consolidation and shrinkage without a slough, but the injections will have to be repeated several times. A small tumor which protrudes but slightly, is not pedunculated, and can be seen and felt as a mere prominence on the mucous membrane, may be cured by a single injection of a five-per-cent. solution, which will cause it to become hard and decidedly reduce its size, while an injection of a fifty-per-cent. solution might make considerable trouble, the remedy being too powerful for the disease. Guided by this principle, some experience will soon determine the choice of the solution. There is no arbitrary rule which can be applied to every case. As in any other surgical operation, some cases will be more satisfactory than others, and an occasional accident must be expected; but, on the whole, it seems to be the best method of treatment yet devised.

25 Madison Avenue.

The New York Academy of Medicine.—The Section in Practice of Medicine will hold a meeting on Tuesday evening of next week, in the Academy's parlors. Dr. R. C. M. Page will read a paper on "Bright's Disease," and the discussion of the subject will be participated in by Dr. E. G. Janeway and Dr. Francis Delafield. A discussion on the question "Is Croupous Pneumonia an Inflammation or a Fever?" will be opened by Dr. William H. Draper.

Clinical Reports.

ROOSEVELT HOSPITAL.

Clinical Remarks by Dr. Henry B. Sands.

Abscess of the Knee.—Osteitis of the Tibia.—Excision of the Knee Joint.

We have before us, gentlemen, two cases of strumous disease of the knee:

Case I.—The first patient is a man, twenty-three years old, who has had disease of the left knee joint for four years. I will postpone giving you a complete history of his case until some future occasion, when he will probably undergo the operation of excision of the joint. To-day I intend simply to evacuate a large abscess which has formed since the patient entered the hospital five weeks ago. At that time the character of the disease was evident. The knee joint was semiflexed, painful, and swollen, its circumference being two inches and a half greater than that of the sound one. The swelling was fusiform, and did not fluctuate. The patella was in contact with the femur, and was not adherent. Pain was felt on pressing together the articular surfaces, and also on making flexion or rotation, which was accompanied with the crepitus characteristic of erosion of the articular cartilages. Further evidence of disorganization was found in the existence of a fistulous opening on the outer side of the knee, and in a partial luxation backward of the tibia.

I considered the case a proper one for excision; but, in consequence of the recent development of an abscess of considerable size on the inner aspect of the joint, I have decided to defer this operation until the abscess has been opened and its walls have been allowed to contract. It is doubtful whether the abscess communicates with the cavity of the joint, because the latter is not at all distended, and because firm pressure upon the abscess fails to displace its fluid contents. In any case, however, incision is the proper remedy.

Having now opened the abscess, and permitted the discharge of several ounces of well-formed pus, I am unable to discover any communication with the joint cavity. A probe introduced through the sinus on the outer side of the knee also fails to enter the joint. I will conclude the operation by irrigating the abscess with a solution of mercuric bichloride, 1 to 1,000, inserting a drainage-tube dusted with iodoform, and applying a wood-wool dressing.

Case II.—C. R., twenty-four years of age, was sent into the wards from the Out-door Department, March 2d. Family history good. The patient is a healthy-looking woman, who denies syphilis. She states that eleven years ago there occurred spontaneously a painful swelling of the right tibia near its middle and upon its inner surface. This swelling has never disappeared, and has usually been painful. She has taken iodide of potassium at various times, and is now recovering from the effects of mercurial treatment, which has failed to afford relief.

On examination, there is found a painful, hard swelling over the right tibia at the junction of its lower and middle thirds on its inner surface. The swelling is apparently connected with the bone and periosteum. It is quite firm, and shows no point of fluctuation.

The prominent features of the case are the long duration of the disease and the mildness of the symptoms, which are those of chronic osteitis or periostitis. Occasionally, as has happened in the present instance, internal remedies prove to be useless, and in these circumstances relief may often be afforded by freely incising the periosteum. I shall resort to this expedient now,

and shall, perhaps, also trephine the thickened bone, so that I may be able to explore the medullary canal and liberate any inflammatory products that may be found there.

Having divided the soft parts down to the bone, and removed a disc of the latter by means of a trephine, I can discover nothing besides an inflammatory thickening and condensation of the affected parts, no signs existing of caries, necrosis, or abscess. An iodoform dressing will be applied, and the wound allowed to heal by granulation. Some benefit to the patient may be anticipated from the operation.*

Case III.—This is one that requires excision of the knee. The patient is a German, twenty-nine years old, whose mother died of pulmonary consumption, and who, fourteen years ago, had symptoms of phthisis, which, however, were of short duration. In 1875 the distal phalanx of his right index-finger was amputated for what seems to have been a tuberculous affection of the neighboring joint, accompanied with cheesy abscesses near the elbow and in the axilla, which remained open for eight months. About the same time a cold abscess formed below his right knee. This was incised, and healed three months afterward. Two years ago the knee joint began to swell and became somewhat painful. Gradually the disease grew worse, and the patient found it difficult to walk, chiefly on account of flexion of the knee, for which, he says, he was treated last winter by tenotomy of the hamstrings. When he entered the hospital, December 10, 1883, his right knee was swollen, partly in consequence of a moderate effusion of fluid in the joint cavity, and also on account of a thickening of the capsule and other deep soft tissues. The circumference of the knee over the patella was sixteen inches, that of the sound knee being fourteen. The patella was movable. Flexion could be made to nearly a right angle, and extension to nearly a right line, without causing pain or crepitus. Deep fluctuation could be felt across the joint above the patella. In addition to the joint-disease, a large cold abscess occupied the upper third of the leg on its inner and posterior aspects, fluctuation being distinguishable as high as the flexure of the knee. This was freely opened, on December 15th, by my house surgeon, who made two incisions at opposite points, evacuated the abscess as thoroughly as possible, washed it out with a solution of mercuric bichloride, inserted rubber drains, and applied a peat dressing. On January 15, 1884, three weeks ago, I opened and drained the knee joint, making an incision about one inch in length on each side above the patella. During this operation I discovered that the articular cartilages were extensively destroyed, leaving the bone exposed, and I should have performed excision at once had I obtained the man's consent. At present, however, his condition is very favorable for the operation, and it is doubtful whether anything has been lost by the delay. The knee may be said to be neither better nor worse; it is slightly reduced in size, yet we shall find abundant evidence of disorganization when the joint is exposed to view. But, meanwhile, the large cold abscess referred to has undergone a remarkable change, having shrunk to the dimensions of a narrow sinus, which will not interfere with the success of excision.

Regarding the propriety of undertaking an operation I think there can be no doubt. The diagnosis of tubercular or strumous arthritis is made sufficiently evident by the clinical history, and has been corroborated by the discovery of tubercle bacilli in the fluid obtained from the joint, which was examined microscopically by Dr. Hall. The duration of the disease and the existence of suppuration render recovery, even by ankylosis, extremely improbable, and the only point to be decided is whether to perform excision or amputation. The patient's own preference for the former operation, the fact that he is an adult, his good general health, the absence of extensive sinuses communicating with the joint, the slow progress of the disease, the probability that the bony tissue has not been extensively destroyed, the increased chances of success afforded nowadays by antiseptic methods of operation—these are mainly the circumstances which induce me to make an attempt to save the limb by resorting to excision.

Having now completed the operation, I will briefly remind you of its principal points of interest. A broad antero-lateral flap, the lower margin of which corresponded with the level of the tubercle of the tibia, was reflected upward, and the joint exposed by cutting through the ligamentum patellæ. Many other forms of incision have been adopted, but this one I prefer as being convenient and as affording ample space for the removal of the diseased parts. After dividing the lateral, capsular, and crucial ligaments, the interior of the joint was thoroughly exposed to view, and it was then discovered that, as we had anticipated, the degenerative changes were most striking in the soft parts, the synovial membrane being everywhere greatly thickened and covered with exuberant, pulpy granulation tissue. Partly by the use of a sharp spoon, but chiefly with the aid of scissors, the diseased synovial membrane was completely removed. This step of the operation is tedious, but important, as there is reason to believe that failure often results from neglecting to perform it thoroughly. The synovial pouch, or *cul-de-sac*, which lies behind the quadriceps extensor, is somewhat difficult of access, as well as the synovial membrane at the back part of the joint, which can be efficiently dealt with only after removal of the articular extremities of the femur and tibia. The cartilages were extensively diseased, and at some points had disappeared, leaving the bone bare and soft. A thin slice of bone was sawed from the tibia and an inch removed from the femur. The patella was extirpated, and a small carious cavity in the head of the tibia scraped out with a gouge. The sinus in the leg was also explored and well scraped with a sharp spoon. It did not seem to communicate with the joint. To secure accurate contact of the sawed bony surfaces, three steel nails were driven into the femur and tibia, two from above downward through the condyles into the head of the tibia, and one from below upward in the median line. These nails perforated the skin, beyond which they were allowed to project about an inch. Bone-drains were inserted into the wound at four different points, and a rubber drain was introduced into the sinus of the leg. The wound was closed with a continuous catgut suture, and covered with bichloride gauze and a bag of wood-wool. Finally, the limb was firmly secured in a long posterior metal splint provided with a foot-piece. Such a splint gives adequate support to the limb, and is preferable, in my judgment, to the more complicated kinds of apparatus which have been invented for the same purpose. One object of the operation being to cause a fusion of the sawed bony surfaces, motion of the limb will be carefully avoided, and the dressings changed as seldom as possible.

* Pain ceased immediately after the operation, and disappeared entirely on the fifth day. It had not returned when the patient left the hospital, on the seventeenth day, the wound at that time being nearly healed.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Medical Student's Essentials of Physics. By Coudict W. Cutler, M. D., late House Physician, Bellevue Hospital, etc. New York: J. H. Vail & Co., 1884. Pp. 102.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D

NEW YORK, SATURDAY, NOVEMBER 14, 1885.

THE BOARD OF HEALTH'S ESTIMATE.

MR. JAMES GALLATIN has written a letter to the Board of Estimate and Apportionment, in which he protests against certain items in the Health Department's estimate of the funds it will require for the year 1886. In the first place, as to the allowance of $12,200 for the attorney's and counsel's office, he thinks that a young attorney, at $1,200 a year, would be fully competent to write "lawyer's letters" for the board, and that any other further legal assistance required in carrying out the present policy of the board could be readily obtained by an occasional detail from the Corporation Counsel's office. As to the allowance of $24,000 for twenty additional sanitary inspectors, Mr. Gallatin says that, if these additional inspectors are needed, it is only because the time and the energies of the present inspectors are wasted in repeated inspections of nuisances, the board having failed to secure the prompt abatement of these nuisances by inflicting the penalties prescribed by the law. The expenditure of the $2,000 allowed for marshal's fees is, he thinks, in great part a scandalous waste of the city's funds; and, to substantiate this criticism, he remarks that, instead of compelling unsuccessful defendants in civil suits to pay the fees, the board very obligingly pays the fees for them. Finally, he protests in general terms against any increase of the appropriation for the department, on the grounds of wastefulness in its expenditures and inefficiency in its management; and he expresses the opinion that a considerable reduction of the appropriation would not be accompanied with any injury to the public interests.

This is a scathing arraignment of the Board of Health, but it must be confessed that, in the pamphlet issued by Mr. Gallatin, he accompanies his letter with sundry citations, including that of the recent action taken by the Grand Jury, that go far to show that a strict and prompt enforcement of the penalties which the board is empowered by law to impose would result in a great saving of funds, and do away with the assumed need of additional sanitary inspectors. On the other hand, it should not be forgotten that much is left to the board's discretion in this matter, and that, inasmuch as sanitary requirements are almost always fraught with hardship, and are very generally regarded as odious, the board's leniency should not be too harshly criticised so long as it can be shown to be impartial. The truth seems to be that penalties should be prescribed for infractions of a sanitary code to be made by the Legislature itself, and not by the Board of Health, and that the enforcement of these penalties should then be made mandatory upon the board—the code, of course, to include only the minimum of requirements. We should then be in favor of the most ample appropriation, the remuneration of the present inspectors to be increased, however, rather than their number to be added to. As regards the legal expenses estimated by the board, they do seem unnecessarily large.

LIFE INSURANCE AND THE FAMILY PHYSICIAN.

THE question of the value of the family physician's certificate as to the condition and health-history of any given individual whose life is proposed to be insured is one that has often been discussed more or less fully, and one that is doubtless correctly appreciated in the main by the life insurance companies. It has lately been made the subject of public consideration in some of the German journals, particularly the "Deutsche Medizinal-Zeitung" and the "Allgemeine Versicherungs-Presse." From what we have seen in those journals, we fail to perceive that any particularly new light has been shed upon the matter, but it is one that will bear consideration from time to time.

From the family physician's standpoint, it is no doubt a nuisance to be required to furnish a sworn statement in which for a trifling fee, if indeed for any at all, he is expected by the "risk" (who in many cases has never really been his patient) to furnish a clean bill of health, without any ifs or ands, and by the company to communicate without reserve anything that he may know, or infer, or surmise, bearing in the contrary direction. On the other hand, the company's medical officer naturally gets to have an overweening confidence in his own powers of physical exploration, and in his capabilities for making a retrospective diagnosis; and is, hence, apt to chafe under the implied obligation to take a *tertium quid* into consideration. In view of these two embarrassing circumstances, it may well be doubted if the family physician's certificate often throws much light on the real state of the case. Nevertheless, life insurance is in some sense the right of anybody who can pay for it, and who can not be shown beyond reasonable doubt to be a proper subject for it. It is undeniable that in certain cases the family physician can conscientiously add information which will put a new color to the facts and statements elicited in the company's examination—sometimes to the applicant's just advantage, and sometimes in furtherance of the company's safety. Hence, the family physician's certificate can scarcely be denied to be occasionally an important factor in leading to an equitable decision.

APOTHECARIES' WEIGHT AND MEASURE.

ON more than one occasion we have pointed out the shortcomings of the metric system as applied to prescription-writing. Its peculiarities satisfy little else than a sentiment, while one of them—the decimal point—is so much of a stumbling-block in actual practice that probably in not a few instances mistakes involving loss of life have been due to it. Only last week we alluded to a dispenser's error that was attributed by him in part to the confusion into which he was thrown by a prescription written according to the metric system. We have nothing to say against the use of the system in strictly laboratory work, even of a pharmaceutical nature, but we can not conjure up a

valid argument against dropping it once for all in the matter of prescriptions. It is, therefore, with the greatest satisfaction that we have read an article in the current number of the "Pharmacist," contributed by Mr. Oscar Oldberg, whose name deservedly carries with it great weight in regard to such questions. As Mr. Oldberg states, he has for several years been an earnest advocate of the adoption of the metric system in this country for medical and pharmaceutical purposes, and it is very much to his credit that he now frankly abandons his former position, especially as he gives the most cogent reasons for so doing.

While he rejects the metric system, Mr. Oldberg thinks it desirable to connect our system with it, and he shows how this could be done by modifications of our apothecaries' weight and measure that would be so trifling as scarcely to affect their present value in prescription-writing. There is no reason, he says, why we should not modify a system that has come down to us from colonial times, especially as it is no longer adhered to in Great Britain. The minim has shown itself to be a most useful unit of measure, its great practical advantage being its approximation to the drop of most liquids at ordinary temperatures. For convenience in dividing the fluidrachm, he proposes that it should consist of sixty-four minims instead of sixty, in which case we should be able to write one half, one quarter, one eighth, one sixteenth, and one thirty-second of a fluidrachm, each of which quantities would represent a certain number of whole minims. The new fluidounce, which would contain eight of these fluidrachms, might be made equal to thirty-two cubic centimetres, and therein would be found a convenient point of connection between the proposed system and the metric system. As the present fluidounce is equal to 29·573 cubic centimetres, it will be seen that the change required would be practically unimportant as concerns doses, the strength of solutions, and the like. For the details proposed by Mr. Oldberg we would refer our readers to his article in the "Pharmacist," a careful reading of which we would commend to them.

MINOR PARAGRAPHS.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The volume of "Transactions" for the current year has reached us, and we find that it includes many papers and discussions of more than transitory interest. The volume bears a Syracuse imprint, and the typography seems to us an improvement on that of most of the volumes of the series. The appendix, although brief, is particularly valuable, since it gives, either in full or in abstract, such of the Acts of the Legislature of 1885 as are of interest to the medical profession. The lists of the members of the society, and of the medical societies of the counties, are published in a separate volume. The secretary, Dr. William Manlius Smith, of Syracuse, is to be congratulated upon the creditable appearance of the volume.

It appears that the delegations from eighteen constituencies will become vacant February 1, 1886, and should be filled in time for the delegates to attend the next annual meeting. These constituencies are the medical societies of the counties of Chenango, Clinton, Columbia, Cortlandt, Erie, Hamilton, Herkimer, Kings, Madison, St. Lawrence, Suffolk, Ulster, Washington, Wayne, and Westchester, the medical department of the University of the City of New York, the New York Academy of Medicine, and Bellevue Hospital Medical College.

THE SMALL-POX IN MONTREAL.

Neither the small-pox itself nor the unpleasant incidents of its outbreak can be said to have shown any amelioration in Montreal. The Mayor of the city, having been intemperately accused in one of the newspapers of barbarous and inhuman conduct in enforcing the ordinance under which a certain child was forcibly taken from its home, in spite of its father's resistance, and carried to the hospital, that officer has brought suit for libel against the newspaper. While it may conscientiously be questioned how far, in the absence of a criminal charge, the sanitary interests of a community justify a forcible violation of the sanctity of the household, it is certainly unfair to hold an official up to abuse, and virtually egg on popular vengeance upon him, for simply executing the law. The sympathy of every right-minded person, therefore, whatever he may think of the abstract right of the matter, will certainly be with Mayor Beaugrand in this affair.

"THE DOCTOR'S LOST WATCH."

Under this heading one of the New York newspapers—one, too, that is generally careful not to offend against decency—publishes what purports to be a detective's story of his having tracked a thief who stole a watch from a well-known New York surgeon. Although no names are mentioned, hundreds of New Yorkers must have had no difficulty in recognizing the personality of the doctor, who, we may well believe, must resent this sort of notoriety. But, worse than that, the story plainly indicates to almost as many people who the culprit was, and thus, without the formality of a judicial investigation, consigns him to disgrace, and wantonly exposes the family affairs of his father, a most worthy citizen.

PUBLIC VACCINATION IN NEW HAVEN.

The Selectmen of New Haven, having taken in charge the business of providing for public vaccination, are reported to have determined upon doing so on what they term "business principles," *i. e.*, buying the cheapest vaccine and hiring the cheapest doctors to use it. The physicians of the city very properly resent this sort of action, and certainly nothing but downright luck can prevent its proving disastrous. It is well to remember that anything that is worth doing at all is worth doing well.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 10, 1885:

DISEASES.	Week ending Nov. 3.		Week ending Nov. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	39	9	23	6
Scarlet fever	34	5	20	5
Cerebro-spinal meningitis	4	5	1	1
Measles	5	1	5	1
Diphtheria	51	18	56	25
Small-pox	2	0	8	2

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, November 4th: *Montreal, Canada.*

—For the week ending November 4th: 233 deaths from small-pox in the city, and 89 in adjoining municipalities. *Kingston, Canada*, October 30th: Free from epidemic diseases. *Toronto, Canada.*—For the week ending October 28th: 1 death from small-pox; the first that has occurred in the city. *Havana, Cuba.*—For the week ending October 31st: 25 cases and 12 deaths from yellow fever. *Matanzas, Cuba*, October 28th: Free from epidemic diseases. *Acapulco, Mexico.*—For the week ending October 18th: No deaths from contagious diseases reported. *Callao, Peru.*—For the week ending September 19th: 1 case and 1 death from yellow fever and 1 death from small-pox. *London, England.*—For the week ending October 17th: No deaths from small-pox, it being the first week since November, 1883, in which no deaths from the disease were reported. At the end of the week 111 cases remained in hospital. *Glasgow, Scotland.*—For the week ending October 17th: 1 death from small-pox. *Edinburgh, Scotland.*—For the week ending October 3d: 1 case of small-pox reported. *Paris, France.*—For the week ending October 17th: 5 deaths from small-pox; 40 cases under treatment in hospital. *Bordeaux, France.*—For the week ending October 17th: No deaths reported from contagious diseases. *Antwerp, Belgium.*—For the week ending October 17th: 3 cases and 3 deaths from small-pox. *Cadiz, Spain*, October 17th: No cases of cholera reported since October 14th. During the week new cases were reported at *St. Mary's* and *Seville. Barcelona, Spain.*—For the week ending October 10th: 340 cases and 126 deaths from cholera. The disease is abating and becoming milder in form. *Tarragona* and *Valencia* reported free from cholera since October 1st, and it is expected that these ports will be declared clean at an early date. *Genoa, Italy.*—For the week ending October 18th: 1 case and 1 death from small-pox. *Venice, Italy.*—From October 13th to 17th: 16 deaths from small-pox. *Prague, Bohemia.*—For the week ending October 22d: 1 death from small-pox. *Trieste, Austria.*—For the week ending October 10th: 8 cases and 2 deaths from small-pox. *Riga, Russia.*—For the month of August: 1 death from small-pox. *Bombay, India.*—From July 28th to August 18th: 35 deaths from cholera. *Shanghai, China.*—From September 4th to 18th: 7 cases and 4 deaths from cholera among the floating population. It is reported that hundreds of deaths are occurring weekly among the Chinese. *Colombo, Ceylon.*—2 cases of cholera reported since September 12th. In Italy, from September 27th to October 6th, there were 1,643 cases and 754 deaths from cholera. Of these, 1,270 cases and 58 deaths occurred in the city of Palermo. In Spain, from March 4th to October 8th, there were 271,223 cases and 100,370 deaths from cholera.

The New York County Medical Association.—At the next meeting, to be held at the Murray Hill Hotel on Monday evening, the 16th inst., Dr. Austin Flint will read a paper on "The Elements of Prognosis in Bright's Disease," Dr. J. W. S. Gouley will show photographs of pathological specimens taken while the specimens were immersed in water, and Dr. E. G. Janeway will present pathological specimens.

Medical Association of Central New York.—The eighteenth semi-annual meeting will be held in Syracuse on Tuesday, November 24th. The following papers are expected to be read:

"Remedial Gymnastics," by Dr. L. A. Weigel, of Rochester; "The Rhythm of Fever," by Dr. P. D. Carpenter, of Pittsford; "Packing in Uterine Displacements," by Dr. Streeter, of Rochester; "Pneumonia," by Dr. J. H. Jewett, of Canandaigua; "The Principle of Classification of the Chronic Insane," by Dr. E. H. Howard, Superintendent of the Monroe County Insane Asylum; "Alteration of Nutrition Due to Disease of the Spinal Cord," by Dr. Edward B. Angel, of Rochester; "An Improved Self-retaining Sims's Speculum," by Dr. C. E. Darrow, of Rochester; "Report of Several Typical Cases of Pernicious Anæmia," by Dr. J. E. Smith, of Clyde; "Pessaries, their Uses and their Abuses," by Dr. A. Dann, of Rochester; "Graves's Disease," by Dr. William C. Bailey, of Albion.

By a standing resolution, all members of the county societies in the jurisdiction of the association are invited to be present and participate in the work.

The Society of Medical Jurisprudence and State Medicine held a meeting on Thursday evening. The order of business included a paper on "Compulsory Vaccination," by Dr. J. Henry Fruitnight.

The late Dr. Armor.—On Friday evening of last week a meeting was held at the Long Island College Hospital, in memory of the late Dr. Samuel G. Armor. Addresses were made by Dr. A. J. C. Skene, Dr. Jarvis S. Wight, and Dr. Francis H. Stuart, and a memorial hymn was sung by a quartet of students of the college.

The Manhattan Hospital.—A fair in aid of this institution was opened at the University Club Theatre on Monday evening. From the large attendance it is fair to infer that this deserving institution has profited handsomely by the undertaking.

The Brooklyn Training School for Nurses.—On Monday evening a class of ten young women took their diplomas. Remarks were made by Mayor Low, the Rev. Dr. McLeod, and Dr. J. C. Hutchison.

Bequests to Charitable Institutions.—The following are mentioned as among the legatees under the will of the late Mr. John P. Howard, of Burlington, Vt.: the Association for the Relief of Respectable Aged Indigent Females, in New York; the Home for Destitute Children, in Burlington; the New York Society for the Relief of the Ruptured and Crippled; St. Luke's Hospital, New York; the New York Juvenile Asylum; the New York Children's Aid Society; and the New York Orphan Asylum. It is said that about two hundred and fifty thousand dollars are to be divided between these institutions.

The Hempstead Church Restoration Fund.—We have to acknowledge a contribution of $20.00 from Dr. W. T. Lusk, and one of $1.00 from Dr. J. Leonard Corning.

The Death of Professor William B. Carpenter, of London, is announced as having taken place on Tuesday, as the result of burns caused by the upsetting of a lamp while he was taking a vapor bath for rheumatism. Dr. Carpenter was in the seventy-third year of his age. As a physiologist he was probably better known to English-speaking people than any of his contemporaries, as his writings, which were models of clearness, were largely read by the laity. Three years ago he delivered the Lowell Institute lectures on "Human Automatism," in Boston, all but one of which were published in full in this journal. By his death, although in the fullness of years, biology loses one of its brightest ornaments, and society a noble man.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 7, 1885.*

KINDLEBERGER, DAVID, Medical Director. Granted leave of absence to June 30, 1886, with permission to leave the United States.

WARREN, F. W. F., Assistant Surgeon. To remain on Receiving Ship Vermont until May 15, 1886.

Society Meetings for the Coming Week:

Monday, *November 16th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *November 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association; New York State Medical Association (first day—New York).

Wednesday, *November 18th:* Northwestern Medical and Surgical Society of New York (private); New York State Medical Association (second day); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *November 19th:* New York Academy of Medicine; New York State Medical Association (third day); Roman Medical Society, New York (private); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *November 20th:* New York State Medical Association (fourth day); Chicago Gynæcological Society.

Saturday, *November 21st:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of November 5, 1885.

The President, Dr. A. Jacobi, in the Chair.

A Sketch of the late Dr. James Lawrence Little was read by Dr. D. B. St. John Roosa. (See the Journal for November 7th, page 505.)

Electricity as a Therapeutic Agent in Gynæcology.—Dr. P. F. Mundé read a paper on this subject, pointing out the scarcity of the literature relating to electricity in gynæcology and the extensive use to which it might be put with benefit in various affections, many of which yielded better to this mode of treatment than to any other. One reason why he had been led to write the paper was the fact that in electricity we had an agent which could be employed by any physician with a moderate amount of skill, and which consequently offered relief to a much greater number of suffering women than methods which could be carried out only by the specialist. His experience in this manner of treating the diseases of women was based to a large extent on empiricism, as indeed was treatment by electricity in almost all affections in which it was employed. In general he had found the galvanic current of far more benefit than the faradaic. The latter had a much more restricted field of usefulness. With regard to the galvanic current, if mild it answered every therapeutic purpose, and was preferable to the powerful current which caused pain. A pleasant sensation of the skin was usually the only sensation which followed its use. The faradaic current, on the other hand, was usually beneficial in proportion to its strength. It might be taken as a rule that when the electrical current increased the pain it was doing harm, and it should be reduced in strength or discontinued. He had been unable to decide whether it made any difference, in the therapeutic results in most cases, whether the negative or the positive pole was applied externally. He had covered the pole introduced into the vagina with leather, but an electrician had told him that that made no difference; it did not offer any protection to the tissues. He usually employed the negative pole to produce an absorbent or alterative effect, using a mild current. It was well to begin with a mild galvanic current, from four to six cells, and with the faradaic current as strong as the patient could bear without discomfort, increasing the current gradually. It was well always to introduce the electrode before closing the circuit, and to diminish the strength of the current before withdrawing it, thus avoiding producing an eschar or pain. It should be borne in mind that in many cases the benefit derived from electrical treatment could only be determined after some time. An exception was where the faradaic current was employed to bring on the menstrual flow. Sittings should not take place less frequently than twice a week, and each was to be continued from fifteen to thirty minutes; it was not likely that an average of more than two patients could be treated within an hour. He could say little favorable of this means of restoring a relaxed condition of the uterine ligaments. In amenorrhœa, if there was not total absence of molimina, electricity might be found an efficient mode of treatment, and in several instances he had employed the faradaic and galvanic currents alternately with advantage. In girls, temporary absence of the menstrual flow did not necessarily call for treatment. In women who had frequently borne children, who had become plethoric, had a sluggish circulation, took little exercise, and suffered from amenorrhœa, he had found faradism, alone or alternated with galvanism, a reliable emmenagogue. Frequently several sittings were required to bring on the flow. In subinvolution and menorrhagia the faradaic current was especially indicated. In hyperplasia uteri he relied upon the galvanic current, frequently repeated and long continued, for diminishing the size and hardness of the uterus, and for relieving reflex neuroses. In "superinvolution" of the uterus, of which he saw but little, the electrical treatment would be the same as in amenorrhœa, the object being to restore the uterus and ovaries to their normal activity and growth. In pachysalpingitis electricity and other palliative methods should first be resorted to, as they would give temporary relief, and time would be given in which to decide as to the necessity for extirpation of the ovaries and tubes. In pelvic lymphangitis, chronic pelvic cellulitis, and pelvic neuralgias, local or reflex, the electrical treatment should be by the galvanic current. When these conditions were acute or subacute, electricity should not be employed, as it would be liable to excite fresh exudation. In neuralgic dysmenorrhœa, without great obstruction to the menstrual flow, he had produced benefit, after trying other means in vain, by intra-uterine galvanization, employing the negative pole internally. In uterine displacements, greater improvement would probably follow the faradaic current in flexions than in versions, for electricity exerted little influence upon the elongated uterine ligaments. In fibroid tumors of the uterus electricity had a future, but, as to ovarian tumors, laparotomy was safe and reliable.

The following were some of the author's conclusions: 1. Electricity locally applied was a valuable agent in gynæcological practice, and should be more widely used. 2. It did not require great experience to be able to use it efficiently in gynæcology. 3. Correctly used, on proper occasions, it could do no harm. 4. It should be used only in chronic conditions; the galvanic current should not cause pain. 5. The faradaic current was indicated where there was deficient development or want of tone in the genital organs. The object of the faradaic current was to stimulate the organs to increased growth and activity. 6. The galvanic current was employed to promote absorption, to allay pain, to excite retarded action, and occasionally as a caustic. The use of the galvanic cautery, however, was not discussed in the paper. 7. Perseverance with the treatment was necessary to success. 8. Subacute and acute affections generally contra-indicated the employment of elec-

tricity. 9. This treatment was often successful when other forms of treatment could not be borne by the patient. Finally, in some conditions in which we could hardly hope for a cure, electricity would give great relief from pain and temporary improvement without causing danger or discomfort to the patient.

Dr. FREEMAN, of Brooklyn, said his experience coincided in nearly every particular with that of the author. He had employed electricity in gynæcological practice for twenty years, first using the faradaic current, then the galvanic, and during the past four years static electricity. Static electricity was much more conveniently applied, especially as it did not involve the necessity for disrobing. One of the greatest advantages of electricity was its power to allay pain; in many cases it could be substituted for opiates. In many instances patients who were suffering from pain were relieved almost immediately after occupying the insulated chair. With regard to fibroid tumors of the uterus, the author had mentioned one of his cases. In another the tumor was in front of the uterus, the needle connected with the electrode was driven into it through the abdominal wall while the patient was anæsthetized, and a current from thirty-two cells was passed during little more than half an hour. There was no severe reaction, but, owing to the delicate condition of the patient, a second application was postponed a month or longer, when the tumor was found greatly softened. There were three applications altogether, and four months after the first one the patient was able to attend to her household duties, the tumor having almost entirely disappeared. The speaker also related another case of fibroid tumor treated successfully in this manner, and said he had several others under progress at present.

Dr. A. D. ROCKWELL could confirm in very great part the statements made by Dr. Mundé. While electricity was not a panacea, it had a wide range of usefulness. But it needed to be employed with care. He supposed that in subinvolution of the uterus the galvanic current would be more serviceable than the faradaic. He could not see how any gynæcologist could get along without electricity in the treatment of pelvic cellulitis.

Dr. H. J. GARRIGUES could not speak from great personal experience, but he had employed electricity to a limited extent during the past thirteen years, particularly in amenorrhœa. But even here, and in cases of a functional nature only, it did not always fulfill his expectations; something which acted in merely a mechanical way would probably do as well. He had found that the galvanic current was liable to cauterize the vagina, even where no more than six cells were employed.

Dr. W. R. BIRDSALL, speaking from a general rather than a gynæcological experience, thought that what was said with regard to this therapeutic agent in most books was unsatisfactory, if not mystifying. Much better results would be obtained if more exact methods were employed. For instance, it was important to know the exact strength of the current passed. While most physicians might be able to employ it with advantage, it was still true that, the greater the skill and experience, the more likely would be the success. Among the contra indications to the use of electricity were acute and subacute forms of disease. The effects of electricity, particularly of the faradaic current, were transient, and the applications should be repeated frequently.

Dr. MALCOLM MCLEAN thought electricity should be tried more thoroughly in cases supposed to call for Tait's operation. He laid stress upon this point because probably at least fifty per cent. of the so-called cures after Tait's operation were only temporary.

Dr. H. J. BOLDT had effected a permanent cure by the alternate use of faradaic and galvanic electricity in two cases of metrorrhagia and subinvolution of the uterus in which trachelorrhaphy had failed.

The PRESIDENT remarked that the importance of a paper upon this subject was evident from the fact that the three latest works in German on diseases pertaining to women failed to mention the word electricity.

The discussion was closed by Dr. MUNDÉ, who said that several of the points raised in the discussion had been dwelt upon in the paper, but the lateness of the hour had induced him to pass them by.

The PRESIDENT announced that, owing to illness, Dr. Janeway would be unable to read the anniversary address at the second meeting in November, and that Dr. H. D. Noyes had kindly consented to act as orator on that occasion.

NEW YORK SURGICAL SOCIETY.

Meeting of October 27, 1885.

The President, Dr. ROBERT F. WEIR, in the Chair.

A Simple Fracture of the Patella treated by Wiring the Fragments; a Second Fracture treated by Suturing the Fragments with Catgut.—Dr. L. A. STIMSON presented a man, twenty-one years of age, in whom he had had the opportunity of observing the condition of the knee joint two months and a half after the patella had been wired for a simple fracture. The patient came to Bellevue Hospital last June with simple fracture of the patella, and was treated by one of Dr. Stimson's colleagues by making a transverse incision and wiring the bone with silver wire, two sutures being inserted. The case did perfectly well, and the patient recovered without any elevation of temperature or manifestation of trouble in the joint. When Dr. Stimson first saw him, two months and a half after the operation, the fragments were closely united, without independent mobility, and the patient was walking about the wards with a condition of the knee which allowed the joint to move through the arc of a circle of about 20°. About one week afterward, while descending the stairs without falling, stepping down with the sound leg forward, he fractured the patella which had been broken. Previous to the accident Dr. Stimson had noticed what seemed to be one of the wire sutures which could be felt under the skin, and the patient had felt a slight pricking pain at that point throughout the progress of the case. In the second fracture the old cicatrix was torn open. Dr. Stimson enlarged the wound, and found that the second fracture had taken place exactly in the line of the first; one wire was entirely, the other almost entirely, loose in the wound, and the site of each was marked by small cavities in the fragments. The surfaces of fracture were not so rough as usual, and Dr. Stimson thought that union had taken place, in part at least, by a very thin intermediate layer of fibrous tissue. On the inner corner of the upper fragment, where in the first fracture there had been a small loss of tissue, there was a distinct fibrous band, as large as his little finger. On wiping out the blood he saw a membrane of new formation underlying the patella, and entirely separating the fracture from the cavity of the joint, except at one point, where it was torn for half an inch; through this opening he was able to see false membranes within the joint connecting the condyles of the femur with the tibial head. He cleansed the wound, brought the fragments together with catgut and closed the wound, and the patient was now well. The fragments had again united, and there was some mobility in the joint. It was now two months since the second fracture. The reason Dr. Stimson reported the case was because he had seen not long ago the statement that there was no case known where any membranes of new formation had formed in the joint after wiring of the patella for simple fracture. But this joint was full of them, and they had formed without any inflammatory reaction or any symptoms indicating their formation. Again, it has been stated

that a patient with a fracture of the patella treated by wiring could be dismissed cured at the end of four weeks. Dr. Stimson did not know of any other similar fracture which was perfectly sound at the end of so short a period of time, but here was a case in which two months and a half had elapsed since the fracture, which had done well, and which, if reported two or three months ago, at the stage at which most cases had been reported, would probably have been cited as another example of the safety and value of the method of treating by wiring, and yet the union proved not to be strong enough to bear the weight of the body in descending stairs, and the joint did not allow of more than 20° or 30° of flexion.

Dr. C. K. Briddon asked if catgut had been used for this purpose before.

Dr. Stimson said he had used it several times in operations upon joints. He thought it would last probably three weeks.

Dr. W. T. Bull asked what the ultimate prospect was, so far as motion was concerned in this joint.

Dr. Stimson answered that it was poor.

Dr. Bull asked if that was not generally true in cases in which the patella was wired.

Dr. Stimson had not seen good motion in any case, but it had been reported that the operation gave good motion.

Dr. A. C. Post asked whether, if the choice was between a stiff and a weak joint, the stiff joint was not to be selected.

Dr. Bull thought it was.

The President asked if it was not true also that, after fracture treated by the ordinary method, better results were obtained than in the joint of the patient presented.

Dr. Stimson replied that a good deal better results were obtained.

Tubercular Disease of the Tarsus; Resection of the Astragalus and Scaphoid Bone.—Dr. Bull presented a young woman in order to show the result of an operation which had been performed eighteen months before. She presented herself at the New York Hospital on the 17th of March, 1884, with the history that she had been in somewhat delicate health, having had cough but no hæmoptysis. Seven weeks before admission she complained of lameness in the right foot and inability to walk without considerable pain. The motions of the ankle were nearly perfect. The only evidences of disease of the bones of the tarsus were a decided tenderness over the scaphoid and a slight swelling below the ankle, and, besides, there was atrophy of the calf upon that side, which was one inch smaller than its fellow. For seven weeks the foot was treated with a plaster-of-Paris splint and applications of oleate of mercury, Paquelin's cautery, belladonna liniment, etc., without improvement. Dr. Bull then made an incision upon either side of the ankle and removed the astragalus and the scaphoid bone. He did not detect any indications of tubercular disease of the synovial membrane, but the bones were softened. They were removed entirely with knife and scissors. The wounds healed promptly, with the exception of the sinuses left by the drainage-tubes, which were somewhat slow in closing. In about a month she was able to walk about and bear some weight upon the foot, but with considerable pain. Two months later he discovered a good deal of tenderness over the os calcis and suspected similar disease of that bone, and, although the motions at the ankle joint were quite good, he introduced a drill by means of the dental engine into both malleoli, and also into the os calcis. In the former he found no evidence of disease, but in the latter he found a soft spot, which he drilled out and treated with iodoform, and it healed promptly. This operation was performed eight months after the first one, and since that time the pain in the ankle and foot had gradually disappeared. Now the functions of the foot seemed to be perfectly performed, and the only deformity was a shortening of the foot by about one inch. The calf of the leg had increased in size until it was only half an inch smaller than the other. Unfortunately, as regarded a positive diagnosis, the bones were lost and therefore not examined for micro-organisms, but, although they did not present to the naked eye any of the characteristic appearances of tubercular lesion, Dr. Bull felt warranted in believing that the disease was of that nature. It might be remembered that at a meeting of the society last spring he had presented a patient, an Italian, from whom he had removed the entire tarsus for tubercular osteitis. The result had not seemed to be satisfactory, as the man experienced some pain in walking. His condition had improved materially since that time, and he was able to do all sorts of active work without discomfort.

Dr. H. B. Sands thought that the results in cases of excision of the tarsal bones were usually better than might be anticipated; and the observation made by Dr. Bull, that the patients continued to improve for a considerable period after the operation, accorded with his own experience. In cases of tubercular disease of the joints in which operations for the removal of a diseased bone were performed by means of a sharp spoon he supposed that frequently a sufficient amount of periosteum was left to reproduce, to a considerable extent, the bone removed, and in this manner to contribute to the stability of the foot. He had repeatedly noticed, after thus dealing with the tarsal bones, and also after removal of the carpal bones, that, although a large portion of osseous tissue was removed, after the lapse of six months or a year the parts became so firm that one could hardly believe that such an amount of bone had been taken away.

Dr. C. T. Poore said that, in cases occurring in children where he had endeavored to remove the os calcis and leave a portion of the bone with the periosteum, he had subsequently been obliged to remove the entire bone because of non-closure of the wound, and because the disease was extending to other bones. In one case he had been certain that he left the anterior portion of the bone undisturbed. Eight or nine months after the first operation he found the cavity, as it were, of the os calcis filled with dense fibrous tissue. In children he had not been able to save any of the bone, but had removed everything, and the results had been very good.

Stricture of the Œsophagus; Internal Œsophagotomy.—Dr. Sands presented a woman, twenty-one years of age, who had come under his observation one year ago last June. She was sent by Dr. Paddock, of Dalton, Mass., on account of a stricture of the œsophagus, which was the result of the accidental swallowing of a solution of caustic potash when she was two years old. Dr. Paddock stated that he had been called to see the patient on account of dysphagia, and that she was unable to swallow solid food, and was badly nourished. He detected a close stricture through which he could pass only the smallest bougies. When she came to Dr. Sands he was able to confirm the diagnosis made by Dr. Paddock, and found a stricture situated seven inches from the incisor teeth, through which he could introduce a French catheter, No. 12. He endeavored to dilate the stricture, and succeeded in carrying the dilatation up to No. 23 French, but was unable to accomplish more. Therefore, on the 9th of July, 1884, he introduced the œsophagotome which he had already shown to the society, passed the bulb beyond the stricture, projected the blade 2·5 mm., and then withdrew it, making an incision in the posterior median line of the œsophagus. Immediately after the operation, which was performed without an anæsthetic and was attended by no hæmorrhage, he passed a No. 29 (French) bougie. Subsequently he carried the dilatation up to No. 34 (French). After the cutting operation, instruments were at first passed every second or third day, and during the summer and autumn at in-

tervals of three weeks. In December the interval between the introductions of the bougies was increased to one month, after the 1st of January to two months, and now there had been an interval of three months, without any diminution in the caliber of the œsophagus at the point where it had been divided. Soon after the operation, exploration of the œsophagus revealed the presence of another stricture, ten inches from the incisor teeth, which admitted a No. 24 (French). Dr. Sands dilated this stricture, and carried the dilatation up to No. 29, but beyond this he had been unable to dilate it. He then demonstrated the lower stricture, and showed that the upper stricture allowed a bougie No. 34 to pass, while the lower one arrested instruments larger than No. 29.

The reason why he presented the patient was because he thought it desirable to correct the common impression that all strictures of the œsophagus exhibited an invincible tendency to recontraction, and that the operation of internal division was unsatisfactory because it was not likely to produce any permanent good result. It so happened that he had received this evening a communication from the friends of a child upon whom he had performed several operations of internal œsophagotomy two years ago, for the relief of a stricture of the œsophagus, and whose case he had already reported to the society. In that instance dilatation was carried up to No. 29. The child improved in health, was able to eat solid food, and had remained well ever since. At the present time she swallowed as well as other children, yet no bougie had been passed since last May. Dr. Sands cited these facts in order to prove that internal œsophagotomy might sometimes produce results which were permanent; and that, although the œsophagus might not be restored to its normal dimensions, it did not necessarily tend to contract below such dimensions as would permit of easy deglutition. He had been led to desist from doing more in the case of the patient exhibited this evening, because she was in good health, had increased in weight from ninety-six to one hundred and nine pounds, and was able to swallow liquids without difficulty, and, with care, to swallow solids when well masticated.

Strictures of the œsophagus closely resembled strictures of the urethra, in which there were found every grade of constriction and also a vast difference in the amount of tissue which caused it. He had seen a case of stricture of the œsophagus in which the entire tube was converted into a rigid canal. Under those circumstances no operation whatever could succeed in restoring a fair amount of dilatability of the œsophagus; but he believed that, in many cases, strictures were limited to a very short part of the canal, and in those cases he imagined that internal œsophagotomy would be likely to be followed by the greatest relief with a minimum amount of risk.

Dr. Stimson asked why a further operation was not done upon the lower stricture in the patient presented.

Dr. Sands replied, only because it seemed already large enough to allow of the easy deglutition of masticated food, and also because it had not shown any tendency to contract below the caliber of No. 29. He was, moreover, inclined to refrain from cutting the lower stricture, for the reason that it was related to more important parts than the upper one; therefore any accident in the operation might be more serious in its results. He imagined that the caliber of the œsophagus might be restored to its normal size, but he did not feel warranted in doing more than seemed absolutely necessary to render deglutition easy.

Dr. Bull had had occasion to treat one patient, a lady, who entered the New York Hospital two years ago. The stricture was about ten inches from the incisor teeth, and depended, so far as could be determined, upon a severe sore throat, possibly diphtheria. It was only with great difficulty that the patient could swallow anything except water. The stricture admitted only a No. 8, possibly No. 10, French. By persistent gradual dilatation the stricture was stretched until, at the end of four months, it admitted No. 32 or No. 34, French. Dr. Bull saw the patient up to one year afterward. The bougie was passed at short intervals during four months, and at intervals of a month during the remainder of the year, at the end of which time the condition of the œsophagus was perfectly satisfactory, as the patient could eat anything which she chose.

Congenital Angioma.—Dr. Charles McBurney presented a man who had a congenital angioma of unusual size upon the right side. The tumor was five inches in breadth and four in depth, and extended from the median line in front to within three inches of the median line behind. The patient stated that during early youth and until within the last seven or eight years the tumor had bled regularly, and that he had lost large quantities of blood, sometimes as much as a quart at a time. During the last seven or eight years he had been very comfortable, with firm compression of the growth, and had had no hæmorrhages. Dr. McBurney felt inclined to advise him to continue with this treatment, and not to have any operation whatever performed. The tumor was not pulsating at any part, was venous, and was of the cutaneous and subcutaneous variety, chiefly the latter.

Epithelioma of the Tongue; Removal by Kocher's Method.—Dr. Stimson presented a specimen of epithelioma of the tongue, for which he had removed almost the entire organ by Kocher's lateral supra-hyoid method. The patient was a man sixty-eight years old; the disease extended as far back as the finger could reach through the mouth, and involved the floor of the mouth and the gum on the right side from the median line two inches backward. On the dorsum of the tongue there was a very large irregular ulcer. Tracheotomy was done, and the etherization was continued through the tube. The incision was made on the right side, and the right lingual and facial arteries were tied in the wound before their division; the left lingual was tied through the wound after its division, and this was the only ligature that was made necessary by the removal of the tongue. The entire organ, except a strip of mucous membrane at its base, was removed, as was also a portion of the submental muscles which had become involved in the disease. The area of raw surface created by the removal was diminished by drawing the adjoining mucous membrane over it so far as possible and stitching it fast. The wound was packed with iodoform gauze, and the mouth frequently cleansed with a solution of salicylic acid and borax, and the patient had been regularly fed through an œsophageal tube. The tracheotomy-tube was removed on the sixth day. The patient was now, on the sixteenth day, doing well.

Dr. Sands had within the last ten days had occasion to remove the lateral half of the tongue on account of a cancerous swelling situated on the left side of the organ, extending toward the root but not to the median line. He adopted the method known as Whitehead's. He etherized the patient, introduced Wood's mouth-gag, passed a stout ligature through the tongue upon the right side, drew it forward, divided with a pair of straight scissors its attachments to the lower jaw and to the floor of the mouth, split the tongue in the median line toward the root, then made a transverse cut, dividing the tongue and the anterior pillar of the soft palate, and completed the operation with the loss of only about eight ounces of blood. He had but little difficulty in applying a ligature to the lingual artery. He packed the wound with gauze, and used a small stomach tube for feeding the patient during the first week. The progress of the case had been entirely satisfactory, the man was now

able to swallow, and was convalescent. Dr. Sands was very much impressed with the excellence of the method in those cases in which the disease was strictly limited to the tongue. He was sure that the operation could be safely done if the entire organ required to be removed, and he should prefer to perform this operation rather than that which included a preliminary ligation of one or both lingual arteries.

Dr. Briddon asked if the difficulty in securing the arteries would not be greater in Whitehead's operation.

Dr. Sands replied that the operation did not consist in cutting off the tongue at once, but in making short strokes and tying the arteries as they were divided. Of course the cases should be selected in which the operation was especially applicable.

The President remarked, with regard to Kocher's operation for removal of the tongue well back, that it had pleased him most on account of the thoroughness with which all diseased tissue could be removed.

Necrosis of the Os Brachii without the Formation of an Involucrum.—Dr. Post presented a specimen of necrosis of the os brachii without any attempt at the formation of an involucrum. It was removed from a boy twelve years of age, with the history that between one and two years ago he was bitten by a spider, and that the bite was followed by very severe inflammation. A number of months afterward extensive suppuration occurred about the joint, and Dr. Post performed excision of the elbow. Subsequently he found that the wound at the joint had healed, but that there was suppuration higher up, with loss of continuity in the bone of the arm nearly as high as the middle. Recently he cut down upon the bone and found that its lower extremity was necrosed to the extent of 65 mm. on one side and 35 mm. on the other. The dead bone was lying loose in the midst of granulations. The inferior extremity of the living bone above presented a jagged extremity, but was not bare to any considerable extent. He did not remember any other instance in which necrosis of a long bone of an extremity had occurred without the formation of an involucrum, except in a case of necrosis of the fibula, also in a boy, in which the tibia was not involved. In that case the fibula, for its whole length except the two articular extremities, was in a state of necrosis, and there was no involucrum. The tibia formed a support for the limb, so that there was no false point of motion.

Dr. Stimson thought that something besides simple necrosis had occurred in the bone presented, as it was filled with bony deposit, and that the shell had disappeared by absorption.

Dr. Post remarked that the whole process was different from the ordinary process of necrosis, but the bone was evidently dead.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of October 6, 1885.

The President, Dr. W. R. Birdsall, in the Chair;

Dr. G. W. Jacoby, Secretary.

Dr. M. A. Starr, Dr. I. Adler, Dr. J. B. Emerson, Dr. R. M. Cramer, and Dr. R. G. Wiener were elected to membership.

A Contribution to the Pathology of Hemianopsia of Central Origin. Dr. E. C. Seguin read a paper with this title. He first gave a brief synopsis of views, anatomical and pathological, of hemianopsia of basal or peripheral origin, recognizing the following types: 1. Horizontal hemianopsia, superior or inferior, usually due to lesions within the eye, and hence of comparatively little interest to the neurologist. 2. Vertical hemianopsia, always caused by a lesion of the basal visual apparatus or by disease in a certain limited part of the cerebrum. Its varieties were: *a*. Temporal hemianopsia, in which the temporal half of both visual fields was dark. *b*. Nasal hemianopsia, in which the nasal half of both visual fields was obscured. *c*. Lateral hemianopsia. This was often designated homonymous hemianopsia. In this variety the nasal half of one visual field and the temporal half of the other were dark, so that, with one or both eyes open, the patient saw the same half of any object placed in front of him. This variety was the one which resulted from a truly central lesion, and formed the subject of study in the paper. Varieties *a* and *b* were caused by lesions variously placed in or around the chiasm of the optic nerves.

The author proceeded to analyze the recorded observations of hemianopsia due to cerebral lesion, forty-two in number, including his own case. Of these, thirty-seven were medical and accompanied by autopsies; five surgical, followed by survival of the patient. These relatively numerous observations were classified as follows: A. Cases of lateral hemianopsia, indefinite or irrelevant, and useless for localization study, fifty-four in number; observed by Charcot and Pitres, Linnell, Wiethe, and Petrina. B. Cases of lateral hemianopsia from lesions of parts of brain not directly related to the optic apparatus, three cases; by Hirschberg, Huguenin (obs. of 1876), and Pflüger. C. Cases of lateral hemianopsia from lesions involving chiefly the thalamus opticus or corpus geniculatum laterale, six in number; by Jackson and Gowers, Pooley, Dreschfeld (three cases), and Rosenbach. D. Cases of lateral hemianopsia from lesions chiefly or exclusively involving the white substance of the occipital lobe, eleven cases; by Levick, Hosch, Baumgarten, Dmitrowsky and Lebeden, Westphal (1881), Senator, Sturger (Case vii), Wernicke and Hahn, Jany, Richter, and Schmalz. E. Cases of lateral hemianopsia of external or traumatic origin, five cases; by Keen and Thomson (re-examined by Dr. Seguin), Hughes, Schmidt-Rimpler, Heuse, and Nieden. F. Cases of lateral hemianopsia due to lesions involving the cortex of the brain and subjacent white substance, thirteen cases; by Westphal (1882), Stenger (Case viii), Förster and Wernicke, Jastrowitz (two cases), Curschmann, Nothnagel, Marchand, Chaillou, Haab, Huguenin (1882), Féré, and the author.

This last category being by far the most important for the study of the localization of the visual center in man, Dr. Seguin gave full abstracts of all these cases. The lesions in all were so placed as to cumulate toward the mesal aspect of the occipital lobe. This result was shown by means of a shaded chart, consisting of a diagram of the mesal and lateral views of the brain, upon which the lesions of the thirteen cases were reproduced and with one layer of India-ink. The result was striking, visible in the greatest blackness of an area upon the mesal aspect of the cerebrum, including the lower part of the cuneus and the fifth temporal gyrus (Ecker). To this locality also was limited the lesion found in the following cases: Haab's, Huguenin's, Féré's, and Seguin's. These were single lesions, and no paralysis or anæsthesia had been observed during the patient's life—only hemianopsia.

Dr. Seguin's own case was as follows: A man, aged forty-six, affected with malignant endocarditis (mitral vegetations) which proved fatal in sixteen months from first observation, in January, 1884, through repeated visceral embolisms. This patient also exhibited for many weeks an exquisite intermittent form of fever, closely imitating malarial intermittent. About December 5, 1884, Mr. D. suddenly complained of "blindness of the left eye," and slight numbness (through the whole left side of the body. He strongly insisted then, and frequently thereafter, that his left eye was alone affected, because he could not see to his left. Examination showed well defined left lateral hemianopsia, the vertical line passing a little to the left of the point of fixation. In a short time the numbness passed away, but the hemianopsia persisted until death. For many months before death Mr. D. was able to read

and write easily and attend to business outside, in spite of the hemianopsia. The lesion found at the autopsy was a large old patch of yellow softening, involving the greater part of the right cuneus (almost reaching the apex of the occipital lobe) and the fifth and fourth temporal gyri, extending also frontad into the gyrus hippocampi. This lesion was found to be due to a blockade of the occipital branch of the posterior cerebral. The white matter was involved to a depth of several millimetres. No sections were made in the fresh state of the specimen, in order to prepare it for more careful examination when hardened. Unfortunately, this process was unsuccessful in part, and only the occipital end of the brain became hard. The absence of decided motor and sensory symptoms during life, however, made it quite certain that there were no other gross lesions in the brain.

From these four cases, supported by the cumulative evidence of all the others, Dr. Seguin considered it well proved that the visual center (receiving impressions from one corresponding half of each retina) in man was in the cuneus and adjacent gray matter below it. A destruction of this part of the hemisphere inevitably produced lateral hemianopsia of the field on the opposite side of the body. As regarded those few cases in which the lesion causing lateral hemianopsia was situated upon the lateral aspect of the hemisphere, in the inferior parietal lobule and the gyrus angularis, Dr. Seguin called attention to the fact that the optic fasciculus of Gratiolet and Wernicke on its way from the primary optic centers, laterad of the posterior horn of the lateral ventricle, to the cuneus, passed close under these gyri, and a lesion which penetrated at all beneath the gray matter of their cortex must intercept the optic fibers, by pressure or by destruction. These were lesions intercepting communication between the eyes and the visual center, while lesions of the mesal aspect of the occipital lobe destroyed the center itself.

Dr. T. R. Pooley, without knowing at all the direction which Dr. Seguin's paper would take, had hastily looked over his records before coming to the meeting, and briefly abstracted five cases of hemianopsia of which he had notes. One of these cases had been referred to in the paper. The speaker felt quite incompetent to discuss the physiological and theoretical question as to the location of the lesion, and the importance of different symptoms in helping to exactly locate the lesion in the brain. He had intended to relate clinical histories somewhat in detail, but would content himself with speaking only of one case, which had recently come under his observation and in which the patient was now under treatment. It was one that he had seen a week before—that of a gentleman, aged thirty-five years, who had been under his care in 1879 for comparative blindness of his left eye, which had been found to be due to circumscribed choroidal exudation situated near the macula lutea. From his former observation of such cases, the speaker had always believed them to be due to syphilitic infection, and careful inquiry into the history of this case showed it to be due also to this poison. The patient remained for a time under treatment for this inflammatory exudation, from which he recovered with a scotoma, and enjoyed comparatively good health and freedom from all further syphilitic manifestations until a week ago, when he consulted the speaker again. On this occasion he was driving with his wife in the country when he suddenly became completely blind. This blindness lasted only a few moments. Upon recovering, he ascertained that there was dimness of vision upon the left side, which continued when he came to see the speaker. Examination showed left homonymous hemianopsia, the blind area extending almost to the point of fixation in each eye. Examination of the acuteness of vision showed that of the left eye (and this was interesting because of the previous condition of that eye) to be $\frac{2}{200}$, that of the right eye being $\frac{20}{20}$, or perfect. The optic discs were quite normal, the blood vessels were of full size, and there was no indication of atrophy of the optic nerve by neuritis. The interesting and remarkable fact in this case was the improvement which took place within a week from the commencement of treatment. On account of the previous history of the case, the patient was given large doses of iodide of potassium. The first day after treatment had been begun the visual fields had increased in extent, and this increase had steadily continued until the present date. Unfortunately, there had been no opportunity to make measurements with the perimeter, the patient being treated at his home, but the speaker estimated that the field of vision had extended from near the point of fixation to one third the normal limits, the increase being apparently symmetrical. He would like very much to have Dr. Seguin's opinion as to whether in a case of this kind, in which there had been such marked improvement within a week, we might hope for permanent benefit.

Dr. M. A. Starr thought that the list Dr. Seguin had presented was a complete one with perhaps a single exception, that of a case reported by Demange, in the "Revue de médecine" for May, 1883. That case was referred to by Dr. Gowers in his last work on diseases of the brain in a way to lead one to suppose that it supported the assertion of Ferrier that the angular gyrus was the center for vision. The speaker had found, however, on looking up the case, that the lesion was one which coincided very largely with that of Westphal's first case, and it was very well represented by the diagram of that case shown by Dr. Seguin. It was a very large lesion, involving both parietal lobules and the occipital lobe. Gowers referred to that case as proving that a lesion upon one side of the brain might produce blindness of the opposite eye, and said it supported Ferrier's assertion of amblyopia being due to lesion of one angular gyrus. In the original report, however, it had only been stated that the patient could not see well with the left eye, and not that there had been any careful measurement of the field of vision. Therefore in all probability the patient had hemianopsia, and, as in a number of cases reported by Dr. Seguin and in a number which the speaker had collected, from lack of careful observation, the examining physician had failed to elicit the symptom which was undoubtedly present. The necessity for careful examination in all these cases had been dwelt upon by Dr. Seguin, and it ought to be emphasized, because it was evident from the histories of these cases that a patient with hemianopsia did not notice the exact field of vision, but only noticed that he was blind in one eye, and referred it to the eye of which the field of vision was the more largely implicated. The necessity for such an examination was shown in the fact that Dr. Seguin had been able to collect eight cases in addition to those which the speaker had collected, so that eight new cases had occurred since January, 1884. This great increase in the number of cases of hemianopsia was only apparent, few cases having been recorded previously because of imperfect examinations of the visual field. He would not anticipate Dr. Seguin in answering the question asked by Dr. Pooley, but he had in hand a case, published by Baer in Volkmann's "Sammlung klinischer Vorträge," which was almost identical with that related by Dr. Pooley this evening—a case of hemianopsia coming on suddenly in a syphilitic individual. A series of diagrams was given, showing the progressive improvement of the patient and his final complete recovery. The speaker's attention had first been called to this subject three years ago by seeing a case of hemianopsia in Charcot's wards, and in his lecture on that case Charcot virtually retracted his own diagram and adopted one like that shown by Dr Seguin. So that we should cease to copy the old diagram made by Charcot, as it had been abandoned in France and Germany. The absolute necessity for such a collection of cases as Dr. Seguin had made, for settling any disputed question of localization, was perfectly evident. It was the only way in which this question

of localization could be really determined. To draw conclusions from physiological experiments was no longer warranted. We must go to carefully-made autopsies. It might be interesting to know that in October, 1858, the Pathological Society of Philadelphia discussed the subject of abscess of the brain, and that at that meeting Dr. Weir Mitchell presented a case, with the records, in which a large abscess at the posterior part of the brain, involving both occipital lobes, was attended with blindness, and the blindness seemed to be the chief *local* symptom (as we should say now) of the disease. The Pathological Society was at a loss to explain the occurrence of blindness with this lesion in the occipital lobes. It was encouraging to the general cause of clinical diagnosis that now, after the lapse of these years, we were able to explain perfectly the case which then so puzzled that society.

Dr. Seguin closed the discussion with reference to Dr. Pooley's question. He could not answer it, for want of experience. He had never seen a case of hemianopsia which was not embolic, or possibly due to a tumor, in which there was no indication for treatment.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of October 19, 1885.

The President, Dr. Charles A. Leale, in the Chair.

Fracture of the Patella.—Dr. Frederic S. Dennis read a paper in which he weighed the arguments for and against wiring of the separated parts of the fractured patella. Surgeons were divided in opinion with regard to the merits of this method of treatment, some maintaining that it was perfectly justifiable, and, under strict antiseptic precautions, free from danger. On the other hand, it had been said that, previous to 1883, two cases had terminated in death and several in ankylosis. But a study of the statistics since 1883 showed a great diminution in what was then a small mortality, and a great decrease in the number of cases which had resulted in suppuration and ankylosis. Dr. Dennis had collected about twenty-three cases since 1883, exclusive of those which had occurred in Bellevue Hospital. According to a general estimate there were as many as fifty cases, and in none, so far as could be ascertained, had death occurred after this mode of treatment if but a simple fracture existed. In three of the fifty cases suppuration occurred, but one of the three was a case of compound fracture. In this, as in all other important operations, failure would occur now and then, even in the hands of the most skilled and circumspect surgeons. Those who opposed the operation based their opposition on a supposed risk of opening the knee joint and on the assumed fact that equally good effects could be obtained by less heroic means. As to the good results alleged by those who advocated older methods of treatment, careful analysis of a large series of cases proved that, as regarded the condition of the joint and the character of the union, they were unsatisfactory; that they were much inferior to the excellent results obtained by the use of the metallic suture. During the last five years Dr. Dennis had treated sixty cases of fracture of the patella, and until recently had used old appliances, particularly plaster of Paris as it was employed by the late Dr. Little. The results in the great majority of cases had been unsatisfactory, particularly as contrasted with those obtained by wiring the fragments. That bony union was possible, however, without the suture, was evident from a specimen presented. When Sir Joseph Lister was asked why he wired the fractured patella, he said his first reason for doing the operation was that it relieved muscular spasm in the quadriceps, and the second that it permitted the escape of blood from the joint. In the debate it was asserted that tenotomy would accomplish the first object, and aspiration the second. Sir Joseph then replied that it was because he had such faith in his antiseptics. A more substantial and cogent reason would be that the operation was comparatively free from danger, and, while it relaxed muscular spasm and permitted of the escape of blood from the interior of the joint, insured in every case osseous union of the fragments, and, as a natural consequence, unrestrained movement in the joint. The reason why osseous union was not obtained when the wire was not employed was, that the aponeurotic fascia falling between the fragments prevented union. Until this fascia was removed from between the fragments, which could only be done by opening the joint, osseous union was not likely to occur. There were three arguments in favor of this operation as against other methods of treatment, which the author thought could be substantiated: 1, The absence of danger to life and limb; 2, superior results as regarded function of the limb and joint; 3, greater rapidity of repair. The mortality prior to 1883 was attributed to the fact that the operation was in its infancy. Since then improved methods of performing it had enabled the operator to conclude the operation in not more than thirty minutes. Formerly two hours were often consumed, principally in drilling the holes and passing the wire; now, with the Archimedean drill, the holes could be made in four seconds. No one questioned the superiority of the method over all others in cases of compound fracture. A patient was presented who had had compound fracture; no constitutional symptoms developed, and he was enabled to walk well within eight weeks; he could run up stairs and dance as well as before the injury. A specimen was presented which was removed from the body of a patient dead of delirium tremens and Bright's disease six days after a fractured patella had been wired. The joint was aseptic, there were no indications of suppuration, and bony union was sufficiently strong to have enabled the patient to walk without separating the fragments. Union did not take place by callus, but by primary intention, as it would in the soft parts. As regarded superiority of the results over those of other methods, there was no separation of the fragments, but bony union; no ankylosis, no pain, no crutches, no knee-cap, no posterior splint, no liability to refracture unless by direct violence, no fear of falling, no difficulty of locomotion, no synovitis, no œdema of the limb—none of the chapter of mishaps which were likely to happen under the older method of treatment. As to the greater rapidity of repair, by the older method nearly three months were consumed in the repair of the fracture, and two years in restoration of the functions of the joint and limb. After wiring of the fragments the patient had complete use of his limb within eight weeks, and could safely move about within three weeks. Wiring of the fragments should not be performed immediately after a simple fracture, as inflammation would be liable to result. It was better to wait a few days. After compound fracture the operation should be performed right away. Strict antiseptic precautions should be observed; Dr. Dennis employed a solution of bichloride of mercury, 1 to 3,000, and kept up irrigation during the operation. The operation should not be performed by the ordinary practitioner, nor by a surgeon who had little faith in the germ theory.

Dr. Fowler, of Brooklyn, to whose cases the author had alluded, presented some patients upon whom he had wired the patella in simple and compound fractures. In one case the separation between the fragments could not be reduced to less than an inch and a quarter until after he had resorted to the method advocated by Macewen of cutting a V-shaped piece out of the quadriceps muscle, when they were approximated with ease. Regarding the ends of the twisted wires, instead of hammering them down, he bent them between the fragments. It was better, however, to use the bridge suture and remove them

when union had been completed. He had made the holes in the fragments with a shoemaker's awl, and inserted the wire through a cannula.

Cultivations of the Micro-organisms of Osteo-myelitis were demonstrated by Dr. H. M. Biggs, who showed the *Staphylococcus cereus albus* and the *Staphylococcus pyogenes aureus*.

Dr. J. Faure, lately of the French navy, was introduced to the society, and presented a *serre nœud* which he had invented.

Nummulites from the pedestal of Cleopatra's needle were presented by the President.

Miscellany.

The International Congress.—In its November issue, the "Pacific Medical and Surgical Journal," of San Francisco, says:

"The only important events regarding the Congress that have transpired since our last issue are the publication, in the 'American Medical Journal' ['Journal of the American Medical Association'] of a historical account of all that has been done by the American Medical Association in this matter since the meeting in Washington, in May, 1884, and the declaration of independence by the Executive Committee appointed by the Committee of Arrangements at its session two months ago. In his historical account, the editor of the 'American Medical Journal' ['Journal of the American Medical Association'] argues that, as the Committee of Invitation had been appointed by the American Medical Association, therefore the association was accountable for all acts of the said committee. If we could only agree with him in this one particular point, and be convinced of the validity of the association's claim to supremacy, he would receive our most hearty co-operation in upholding the action of that body against its assailants. Unfortunately we can not acknowledge this authority.

"The invitation was presented at Copenhagen in the name of the 'profession in the United States.' We grant it must have been known in Europe that the idea originated in the American Medical Association, and that the initial steps were taken by that body; but this information only reached them indirectly, as the name of the association was not included in the invitation, and should not therefore appear on the official records of the Congress, which constitute the only laws governing that assembly. If the association never extended an invitation, we can not see what right it has to claim the position of host on this occasion; and if the crime of being a 'first cause' is to decide the matter, then the whole responsibility for the shame and disgrace which have accrued to the American medical profession in connection with this subject must be laid at the door of that unfortunate being who first agitated it among his medical brethren. Further: According to the custom of the Congress, the gentlemen presenting the invitation for the next place of meeting have been regarded as their committee for making the necessary arrangements, and hence Dr. Billings and his *confrères*, so soon as their invitation was accepted, ceased to be the ambassadors of the 'profession in the United States'; they even, in the eyes of the Congress, laid aside their character as national representatives, and became the servants of that body, intrusted with the duty of making the necessary arrangements for the meeting of 1887, and selected for this purpose only because they were resident in the country where that meeting is (or was) to be held. We have already given the testimony of Sir James Paget and other prominent members of the Congress in support of these statements, which prove beyond a doubt that Dr. Billings's committee, after discharging their duty of presenting the invitation intrusted to them by the profession in the United States, became responsible to the Congress alone for their future actions in the matter.

"It may be objected that the duties of the committee did not end with presenting the invitation, because they had full powers *from the association* to make all preliminary arrangements. This is just the point where the American Medical Association overstepped its own authority, and interfered in a matter with which it had no business. The Congress has its own committee for making its arrangements, and the fact that the association, either through ignorance or presumption, endeavored to control this committee, does not by any means transfer the power from one to the other. This is of much importance, for the point at issue is: Has the Congress the power of making arrangements for its own meetings, or does that power lie in the hands of the American Medical Association? The Arrangement Committee is answerable to either one of these bodies, but not to both; and the one to which it is answerable has full power to approve or disapprove of its action. We have shown that hitherto this power remained in the hands of the Congress. We hoped that the committee would have recognized this fact at its meeting in September last, and courteously retired from the false position which they now hold. It is no disgrace for any one to admit that he has made a mistake, and this certainly would have brought 'peace with honor.'

"We have given this historical account of the working of the Congress to show our readers that this triennial medical convention antedates the meeting of the American Medical Association at New Orleans in 1884, and has, therefore, some laws and precedents to regulate its actions. Probably the most startling event in the whole history of this miserably-bungled affair is the following resolution, passed by the Executive Committee appointed by the Committee of Arrangements two months ago: '*Resolved*, That this Executive Committee enters upon the management of the affairs of the Ninth International Congress with the understanding that, in accordance with Rule No. 10, its powers are not restricted, except by the rules and regulations adopted September 3, 1885, by the Committee of Arrangements appointed by the American Medical Association, in April, 1885; and that the actions of this Executive Committee are final, not being subject to revision, amendment, or alteration, by either the Committee of Arrangements or the American Medical Association.' We certainly admire this bold piece of policy on the part of the Executive Committee, but hardly find it consistent with the opinion which the American Medical Association obtained from Ex-Speaker Randall, and with which they sought to justify their action at New Orleans: '. . . The theory that a select committee, created by a body with certain defined powers and duties, gives any *vested rights*, so to speak, which place it above or beyond the power of the creating body to review or regulate, is one not only without precedent in parliamentary law, but is untenable on any ground of parliamentary principle.'

"We have always been in accord with the sentiments expressed in Mr. Randall's opinion, and never imagined that Dr. Billings and his associates constituted an irresponsible committee; we only held that they were answerable to the Congress, and not to the national association, and that any instructions regarding the arrangements issued by the association were invalid, as the Congress has always made its arrangements through its own committee. But here we have a committee declaring itself to be irresponsible, a servant without a master. This combination calmly asserts that it is going to do the work, and that the Congress and profession generally will accept and approve of that work, whether they like it or not. Out in California we have had some experience of vigilance committees in troublous times, who were invested by the citizens with full powers to use all means to quell the disturbance, and this is the only irresponsible committee known in this State. Possibly this Executive Committee is of that nature, and has been appointed to carry out the purposes of Dr. King, of Missouri, who, when Dr. Billings's report was up for discussion at New Orleans, so eloquently advocated that 'the specialists of the new-code persuasion should be taken by the top of the head, and their throats cut at once.' We write in the greatest trepidation, lest from New York the wail of widows and orphans confirm our worst suspicions."

The "Medical Times and Gazette" says:

"Those of our English readers who have followed with painful interest the course of the struggle now in process in America with regard to the Washington Medical Congress of 1887, will be amused to hear that the new Executive Committee of the Congress have resolved that their actions '*are final, not being subject to revision, amendment, or alteration by either the Committee of Arrangements or the American Medical Association*.' The astuteness of that resolution is as remarkable as the irony of it is delicious. If the original committee had only been wise enough, before the event, to have adopted such a decision,

there would have been none of the dissensions which have so terribly distracted the American profession. The resolution is at once a slap in the face to the American Medical Association and a sneer at the original committee of eight, as if to say, 'Why, what idiots you were, not to have thought of this!' And yet it is at the same time a score to the original committee and its supporters in that it is a justification of their action in resenting the interference of the association with their decisions. Meanwhile we hear affairs are *in statu quo*. The resignation of Dr. Dalton, the chairman of the physiological section, which has happened since we last wrote on the subject, leaves the organization of the Congress without a single really scientific representative if we except the Flints and Dr. N. S. Davis. If the meeting is held, the sections of anatomy, physiology, and pathology will not be attended by any of the American workers in those fields. There is, we fear, little hope now of an arrangement. All the prominent American men of science have withdrawn, and will not return unless very considerable concessions are made, of which there appears no hope. The 'Berliner klinische Wochenschrift' this week roundly states that hardly a single 'medical personage' will be found to undertake the voyage from Germany for the privilege of sitting under the presidency of Dr. Shoemaker. It makes, however, a strong appeal to the American Medical Association to approach the subject in a more wise and generous spirit when its next spring assembly takes place, and to re-arrange its propositions in such a manner that the services of the leaders who were nominated in the first instance may still be made available. In the absence of such a re-arrangement, our Berlin contemporary expresses a decided opinion, which we can heartily indorse, that the Congress of 1887 will be foredoomed to dismal failure. The whole thing is a bad business. It is an awkward position, for it must be remembered that the Washington Congress will have to make arrangements for the succeeding meeting. Suppose Dr. Shoemaker and his friends decide that the Congress of 1890 shall be held in Texas!"

The Charity Organization Society.—Mr. Kellogg, the organizing secretary of the society, asks us to give notice that, in compliance with many requests from officers in charge of medical institutions, the society invites the medical staffs and the boards of managers of the several hospitals and dispensaries of New York to meet at the Hall of the Academy of Medicine on Friday evening, November 20th, at 8 o'clock, to confer together concerning the existing abuses and misapplication of medical charity, and to consider how these abuses may be remedied through the registration system and other facilities of the Charity Organization Society.

The Health of Michigan.—It appears by a summary for the four weeks ending October 31st, issued by Dr. Henry B. Baker, the secretary of the State Board of Health, that diphtheria was reported from fifty-nine places, scarlet fever from forty-one, typhoid fever from thirty-six, and measles from three.

THERAPEUTICAL NOTES.

The Treatment of Expulsive Gingivitis and Osteo-periostitis.—The frequency with which physicians practicing in small communities, where the services of a dentist are not always to be had, are called upon to treat recession of the gums, and the accompanying osteo-periostitis, has led a French journal styled "L'Odontalgie" (quoted in the "Gaz. hebdom. de méd. et de chir.") to summarize the treatment recommended by Dr. Mailhol, of the Argentine Republic. That gentleman employs treatment preparatory to medication with iodine, after having freed the teeth from tartar, especially by means of a collutory made after the following formula:

Boric acid in fine powder	75 grains;
saturated chloroform-water	3 ounces.

Dissolve the boric acid, and add:

Distilled anise-water	3 ounces;
Distilled water	6 "

Shake and filter.

For the treatment of alveolo-dental osteo-periostitis, the author formerly used chromic acid, as advised by M. Magitot, but now he agrees with Dr. Harlan ("Dental Cosmos") in preferring iodide of zinc. The cavities are first washed out with the collutory, by means of a syringe, and then filled with cotton medicated with chloral, glycerin, and a solution of iodoform in its own weight of chloroform. The pain having been allayed, and the swelling having disappeared, the affected alveolar border is removed, and an injection is thrown into the cavity of a few drops of a solution of iodide of zinc in distilled water (1 to 40 at first, gradually increased in strength to 3 to 40).

An Ointment for Syphilitic Psoriasis.—The "Union médicale" attributes the following formula to Mauriac:

Oil of cade, Mercurial ointment, each	1 part;
Vaseline	15 parts.

To be used by inunction, morning and evening, for syphilitic psoriasis of the palms and soles.

The Treatment of Rheumatic Purulent Conjunctivitis.—In cases which show the clinical features and the gravity of gonorrhœal conjunctivitis, but in which the articular manifestations, the history, hereditary influence, and the absence of any urethral discharge have established the diagnosis, M. Perrin (*Ibid.*) advises, in addition to cauterizations with a fifty-per-cent. solution of nitrate of silver, the frequent use of a mixture of one part of alcohol to three parts of water, either as a lotion or in the form of spray. At the same time, antirheumatic medicines should be given internally, especially salicylate of sodium.

Huchard's Hæmostatic Pills.—The same journal gives the following formula:

Ergotin, Sulphate of quinine, each	30 grains;
Powdered digitalis, Extract of hyoscyamus, each	3 "

Divide into twenty pills. Five, eight, or ten are to be given daily, for various forms of hæmorrhage, such as metrorrhagia, epistaxis, and hæmoptysis.

Copaiba in the Treatment of Elytritis.—For various forms of inflammation of the vagina, whether due to a specific virus, to local irritation, or to a constitutional condition, M. Baratier ("Thèse de Paris"; "Bull. gén. de thérap.") recommends the following treatment, which he has often seen Professor Ball employ: Every second day a suppository made after the following formula is placed in the vagina, where it is allowed to remain for twelve hours:

Solidified copaiba, Cocoa butter, each	75 grains;
Extract of opium	¾ grain.

This mode of using copaiba is said not to produce unpleasant results. The cure is complete in about twenty days.

The Treatment of Contraction of the Palmar Fascia without Operation.—M. Costilhes ("Jour de méd. et de chir. prat."; "Lyon méd.") has collected many instances of the success of Vulpian's treatment, which consists in the prolonged use of this ointment:

Lard or vaseline	20 parts;
Iodide of potassium	10 "
Tincture of iodine	2 "

The ointment should be applied abundantly to the whole surface of the palm, and the hand should be covered with a thick layer of cotton, over which several turns of a bandage are applied. The dressing should be renewed every day until complete desquamation of the palm is produced. Sometimes the results are very rapid, great improvement being manifested at the end of a fortnight. Iodide of potassium may be given internally at the same time, and massage employed.

Lactic Acid in the Treatment of Laryngeal Tuberculosis.—In view of the general failure of other therapeutical measures, Dr. H. Krause (Berlin. klin. Wchnschr."; "Crlbl. f. klin. Med.") has taken a hint from von Mosetig-Moorhof's use of lactic acid for lupus, fungous caries, etc., and treated laryngeal phthisis with this agent, using solutions of from twenty-five to eighty per cent. He reports a decrease of the swelling and infiltration, the formation of healthy granulations on the ulcerated surfaces, the disappearance of the papillary excrescences, the contraction and gradual cicatrization of the ulcers, and an improvement in the subjective condition of the patients.

Original Communications.

MEMBRANOUS DYSMENORRHŒA.*

BY ALEXANDER J. C. SKENE, M. D., BROOKLYN,
PROFESSOR OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN IN THE LONG ISLAND COLLEGE HOSPITAL.

MEMBRANOUS DYSMENORRHŒA is an affection which, although rather rare, commands very urgently the attention of the gynæcologist, because of the dreadful suffering which it gives rise to, and the obstinacy with which it has heretofore resisted treatment. There is a marked uniformity about this disease. In its pathology and clinical history it varies but little in different cases. A number of affections resemble this one to a limited extent, but it stands out well defined, and is easily detected by the experienced diagnostician.

Membranous dysmenorrhœa is an exfoliation in mass of the mucous membrane of the cavity of the body of the uterus at the menstrual period. Microscopically, the mass presents all the histological elements of the true mucous membrane of the uterus, including the utricular glands, unchanged by any new or abnormal elements. When it is expelled entire, it represents a complete cast of the cavity of the uterus, and is triangular, with an irregular opening at each of the angles, the one representing the internal os uteri, and the other corresponding to the ostia of the Fallopian tubes. This membrane is rather ragged on the outer surface, but smooth on the inner, and looks exactly as the lining membrane of the uterus does when in position. The size is usually about an inch long and less than that in width, and is generally somewhat larger than the normal proportions of the cavity of the uterus; but this is not always the case. In this respect it is apparently like the decidua of pregnancy; in fact, in general appearance it closely resembles the decidua vera, but there is a decided difference in its microscopic elements, sufficient at least to differentiate. This similarity of the two membranes has led to their being called the decidua gravida and the decidua menstrualis, the former being the mucous membrane as seen in abortion at a very early stage of gestation, the other the membrane as thrown off at menstruation in this morbid form.

Comparing the behavior of the mucous membrane in membranous dysmenorrhœa with its changes in normal menstruation, the difference is as follows: In normal menstruation, if we accept the views of Dr. Williams, of London, the whole mucous membrane undergoes fatty degeneration, disintegration, and elimination, whereas in membranous dysmenorrhœa the mucous membrane becomes separated from the walls of the uterus without being changed or disintegrated; exfoliation and expulsion simply occur. The way in which the separation of the mucous membrane takes place is not positively known. It is presumed, however, that fatty degeneration in the deeper structures of the membrane takes place, and thereby it becomes detached from the uterus. It is possible, also, that the capillary hæmorrhage, instead of occurring on the free surface of the membrane, takes place in the deeper structures, and in that way dissects off the membrane. This, however, is hypothetical, and needs confirmation. Sometimes the membrane is expelled in shreds, which suggests that the exfoliation either occurs in spots or sections, or else that the membrane is completely separated from the uterus, but becomes broken up either during expulsion or in handling it afterward. It is much more probable that it is completely exfoliated and broken up subsequently than that it is separated in circumscribed patches. All these facts lead to the conclusion that the affection is a perversion of nutrition and function rather than an organic disease, inflammatory or otherwise, which gives rise to this peculiar behavior of the mucous membrane at menstruation. It is clearly evident that there is nothing pathological in the condition of the mucous membrane itself, but that the whole morbid process consists in the separation of the membrane in mass, in place of disintegration, which is the normal behavior of the mucous membrane in menstruation. There are other views regarding the pathology of this affection: one, that it is the result of gestation, which is arrested at a very early stage, and the membrane thrown off is really a decidua vera. That this theory is fallacious will be seen when we come to discuss the physical signs of this affection.

The idea that it is an inflammatory affection can not be sustained. No such product or result of inflammation is found elsewhere in the mucous membrane of the body, nor is it necessary that inflammation of any part of the uterus should be present in order to produce membranous dysmenorrhœa.

Associated with this membranous dysmenorrhœa we occasionally find inflammatory conditions, but not of the mucous membrane of the cavity of the body. There may be, and often is, a general hyperæmia of the uterus and vagina, but usually it is not greater than that which is seen in normal menstruation.

There is occasionally, in cases of long standing, cervical endometritis, but this does not extend to the body of the uterus. In fact, I believe that a well-defined endometritis can not occur at the same time as membranous dysmenorrhœa. This affection, then, is certainly *sui generis*, and is not the result of inflammation in any form or any stage of the inflammatory process; neither is it a utero-gestation ending in abortion at a very early stage of pregnancy, as some have maintained; neither does the membrane partake of the nature of any of the morbid neoplasms which occur in mucous membranes elsewhere in the body.

The mucous membrane in this affection is developed in the natural way after each menstruation, and the gross appearances and histological composition of this structure show that it is normal, and differs in no way from the mucous membrane of the uterus up to the time when the menstrual flow is about to begin. Perhaps there is, in some cases, an increase in the quantity of the membrane, but only to a very limited extent, if at all. In short, the only pathological lesion in this affection is in the manner in which the membrane is thrown off.

* Read before the Medical Society of the County of Kings, September 15, 1885.

Symptoms.—This affection occurs in single and married women—about as often in one class as the other, perhaps. It also occurs in those who have borne children, but in most of the cases that I have seen in married women the patients have been sterile. The recurrence of the menstruation is generally regular; sometimes it is delayed, and sometimes there is a sense of pelvic discomfort before the menstrual flow, but not always. The chief symptom is the pain which comes on usually during the first day, sometimes later, and increases in severity and is somewhat intermittent in character until the membrane is expelled, when it rather abruptly subsides.

The flow sometimes is scanty previous to the expulsion of the membrane, and after that it is generally quite free; at times abnormally so, and occasionally small clots are passed.

Sometimes there is a leucorrhœal discharge succeeding the menstrual flow, the discharge being occasionally tinged with blood. In other cases the menstrual flow subsides after the expulsion of the membrane, and no leucorrhœa of any account occurs afterward.

There is really nothing in the clinical history of this affection by which it can be positively distinguished from dysmenorrhœa due to other causes. Hence the diagnosis must always depend upon the physical signs.

Physical Signs.—In order to make a diagnosis, it is absolutely necessary that the membrane expelled should be preserved and examined. The gross appearances of the specimen are usually all that is necessary to satisfy the diagnostician regarding the nature of the affection, but in cases where there is a doubt the microscope must be called in to aid in the diagnosis.

The morbid materials expelled from the uterus which simulate the membrane produced in this affection are the decidua expelled in abortion in the earliest stages of pregnancy; the masses of fibrin which have formed in the uterus in menorrhagia; very dense masses of secretion from the cervix; and the membranous-looking shreds expelled from the cervix and vagina after astringent or caustic applications.

The decidua in early abortion is most difficult to distinguish from the menstrual membrane. In the early abortion the membrane expelled is usually larger and more ovoid or round, and not so markedly triangular as the decidua of menstruation, and is also thicker, and usually is accompanied with villi of the chorion. If there is still a doubt, the microscope reveals that the menstrual membrane shows only small cells, while those of the decidua-vera membrane are so great as to be easily distinguished. There is a decided microscopic difference in the epithelium, the tubes, and the inter-glandular tissue. This difference between the two membranes is not only in the decidua of early abortion, but also in the decidua of extra-uterine pregnancy. In being thus able to distinguish between the decidua of pregnancy and the membrane of menstruation, the only great difficulty in the diagnosis is overcome.

The shreds of fibrin expelled from the uterus sometimes look membranous in form, but have none of the structure of the mucous membrane, and hence can be detected on cursory examination. The same may be said of the masses of unusually dense secretion of the cervix. The membranous shreds that come from the cervix and the vagina as the result of astringent and caustic applications resemble at first sight the menstrual membrane. The most perfect of these exfoliations from the vagina I have seen after the use of the persulphate of iron; these specimens, however, are much thinner and differ entirely in structure, being made up mostly of epithelium, and therefore need not be mistaken for the menstrual membrane.

With due attention to the membrane expelled, the diagnosis can be made with great certainty.

Causation.—Discarding the current views regarding membranous dysmenorrhœa—that is, that it is due to inflammation, or else the result of gestation—one is left without any very rational views to offer regarding the causation of this disease. While it is not, perhaps, the part of wisdom to discredit the accepted views on any question in medicine until one has something more reliable to offer, still, if the causes assigned can be readily shown to be incorrect, it is infinitely better and safer to be entirely in ignorance of the causes of things than to attribute them to the wrong causes. Fortunately, however, while I find myself at variance with most of the recent authorities regarding the cause of this affection, I am in perfect harmony with the views of Dr. Oldham, who was the first to discover dysmenorrhœa membranacea.

Dr. Oldham distinctly pointed out the characteristics of this affection and stated that the membrane was formed under the ovarian stimulus, and I am fully satisfied that he was not only the discoverer of the disease, but also conceived the true idea regarding the cause of it—viz., some undue or abnormal ovarian influence or sexual excitation. In other words, it would appear to be some derangement of innervation and nutrition.

Taking this view of the causation, I expect to find myself in harmony with the neurologists at least. This class of specialists manifest a willingness to trace many diseases originally to some derangement of the nervous system, when they find anything like good reasons for so doing. Hence, I expect their support in choosing, as I do, to believe that the starting-point in the pathology of this affection must be some derangement of innervation produced by disease of some associated organs like the ovaries. We might find confirmation of this view regarding the cause of membranous dysmenorrhœa in studying the agencies which give rise to other morbid states of the uterus, like the fibroid growth for example, which in its anatomical elements does not differ especially from the tissues of the uterus from which it springs; and, if we could find the cause of this deviation from healthy nutrition, it might be applicable to the disease under discussion. But, unfortunately, the causes of fibroid tumors given in our literature are unsatisfactory and by no means well sustained.

From the fact that uterine fibroids are more common in sterile women than in others, it would appear that sterility predisposes to their development, and perhaps no better explanation of the cause of these growths has ever been given than that of my somewhat humorous friend, who said that

"the uterus, being prepared for normal work and not finding it to do, took up the development of fibroids as a sort of outlet to its formative powers." May it not, then, be that a well-defined predisposition to reproduction, uncalled for by gestation, excites this morbid action on the part of the uterus which leads to this abnormal exfoliation of its mucous membrane? This view might at least be entertained, because in other cases, when we are unable to detect the cause of a disease in something that is tangible, we usually attribute it to deranged innervation and consequent malnutrition. This view of the causation is, to some extent, sustained by the effects of medicines upon the lesions. This affection has always been recognized as one that is often difficult to cure, many times incurable, in the hands of the most competent physicians and surgeons. This possibly may have been due to misapprehension of the nature and cause of the disease, and hence fallacious therapeutics, rather than to the incurable character of the disease.

In favor of this line of thought I may state that the patients whom I have treated in years past, on the theory that the cause was inflammatory, have derived little benefit, while those who were treated for deranged innervation, malnutrition, and undue ovarian excitation, have made very much better progress. I am inclined to attribute most of the trouble to ovarian influence, the condition of the ovaries being that of an undue nerve excitation and possible congestion. I have been led to this belief by two facts: that the majority of the patients that I have seen have been subjects of a highly nervous organization, and in most of them there has been tenderness of the ovaries, and pain at times in them, without there being any evidence of their having ovaritis.

The rheumatic diathesis is said to favor this affection, and it is possible that that may be so, although I am unable to recall any of my patients as being rheumatic; neither have I been able to trace this to the tubercular or strumous diathesis, nor to syphilis. It is certain, however, that, if either of those conditions existed, they would have their influence in helping to keep up the uterine trouble, and every effort should be made to relieve them by treatment.

Treatment.—The treatment of this affection is necessarily both palliative and curative. While the patient is suffering during the expulsion of the membrane, it is very necessary to relieve the pain as far as possible. This, of course, can be most promptly done by the use of opium, which should be avoided if possible, however, because of its after-effects.

Chloral hydrate answers fairly well in some cases. I was induced to try this agent by the accounts given of its effects in relieving the pains of the first stage of labor. I am not sure that it has any advantages over chloroform, camphor and belladonna, or conium and *Cannabis indica;* in fact, in the majority of cases, one has an opportunity to try several agents, and, of course, the patient will decide which gives most relief. Indications for general treatment are to quiet all nervous disturbance and to improve the general nutrition of the mucous membrane. It so happens that when the first part is attended to the latter will follow in due order.

To quiet the nervous irritation and disturbance there is nothing that equals the bromide of sodium. This should be given in twenty- or thirty-grain doses three times a day for ten days or two weeks before the menstrual period. And, if the pain is not severe enough to require the addition of some of the remedies already named to relieve pain, it may be continued throughout the menstrual period and several days after. From this it would appear that the bromide is to be used continuously; but one or two weeks in each month it can be omitted. When the bromide has been employed for some time, and it seems desirable to give it up, conium may be given in moderate doses combined with camphor, if the patient is weak. If there is any evidence of the rheumatic diathesis, the bromide of lithium should be given. Next to quieting the nervous system, any debility that may exist should be overcome by nerve tonics. Undue nervous excitation so often goes hand in hand with nervous depression that in many cases it is necessary to combine the tonic and sedative treatment. All the remedies which may be used need not be here mentioned. In regard to the modification of nutrition, it need only be said here that any accompanying derangements of the digestive organs that may be found should receive careful attention; but this hardly need be mentioned in this connection.

My rule of treatment has been, after subduing all nervous disturbances, to put the patient upon the iodide of sodium in case she is in fair strength and inclined to flesh. If there is anæmia, I prefer the iodide of iron. If these did not accomplish the object, I have employed mercury, giving it in small doses, never continued long enough to produce salivation, carefully watching to avoid this. In cases of anæmia, where I have feared the debilitating effect of this alterative, I have given the bichloride of mercury with iron. After keeping them upon this treatment until I could see some evidence of its effects, I have then put them upon iodine and arsenic.

In regard to local treatment, I have been entirely guided by the views of pathology expressed above, and have therefore employed alteratives and sedatives almost exclusively. Of these I have found iodoform most effectual. I have also used iodine and mercury with advantage. In cases where I have found any complications I have carefully attended to them, restoring displacements and correcting flexions, and so on. When the canal of the cervix has been at all constricted I have enlarged it by incision and dilatation.

When the congestion which occurs at the menstrual period does not subside in a few days, I have employed the warm-water douche. After this, I have applied to the cavity of the uterus small bougies of cocoa-butter with as much iodoform as it would take up. Three or four grains of iodoform mixed with vaseline that has been liquefied by heat, and introduced through the pipette, is perhaps the best method of applying it. These have been introduced once a week or once every five days. When there has been much tenderness, and the use of the pencils has caused pain, I formerly used aconite and opium and iodine; this I have introduced into the cavity of the uterus. I am now trying cocaine to subdue the tenderness as a preparatory

means to the use of the iodoform. But so far this new remedy has not been a perfect success.

In cases where this has failed and the uterus was not especially sensitive to intra-uterine medication, I have instilled into the uterine cavity a few drops of a five-per-cent. solution of carbolic acid, making one application a few days after the menstrual flow and not repeating it until the next period. In the interval I have used the iodoform. I have also used the fluid extract of conium and *Hydrastis canadensis;* but this I have found gives more pain than any of the other applications that I have used; and so of late I have used an infusion of the hydrastis alone, which appears to answer as well and gives less pain.

Case I.—*Membranous Dysmenorrhœa in a Married Lady who was never Pregnant.*—This patient was forty-one years of age, of good constitution, and had been married eight years. She began to menstruate at thirteen, and continued to do so regularly and normally until she was twenty-one; then she began to have occasional pain, about the menstrual period, in the region of the ovaries. About a year after this she began to have severe uterine pains during the menses, and states that she occasionally passed masses that looked like membrane from the uterus; they were small, however, and did not occur at each period.

After her marriage the pain at the menstrual periods became worse, and almost every month she passed a membranous cast of the uterus. The usual history of each menstruation is that the flow begins not very free, and, after continuing for about five hours, the pain becomes very intense and lasts from three to eight hours, when she expels the membrane and the pain subsides, the flow continuing for a day or a day and a half after the membrane has been expelled.

The flow, taken altogether, is not profuse, and only lasts from two to two and a half days, while formerly—that is, before her dysmenorrhœa began—it used to continue from four to five days. When first seen, her general health was good, but she was rather hysterical and nervous, and was somewhat depressed and disappointed because she had not had children.

She described her suffering at her menstrual periods as something unbearable, although it did not last more than a few hours at a time. She was first examined midway between the menstrual periods. The uterus was then found to be normal in size and in good position. The internal os was rather sensitive and appeared to be slightly contracted; there was also an extended Nabothian gland in the middle third of the cervical canal, but the uterus presented a normal appearance in every other respect. There was no congestion; in fact, at this time the mucous membrane appeared rather anæmic.

The diagnosis was left an open question until the next menstrual period, when I obtained the membrane expelled and had it examined by my friend, Professor Frank Ferguson. His report stated that the specimen was uterine mucous membrane unchanged in its histological composition. This settled the question of diagnosis.

Careful inquiry elicited the fact that she had never been pregnant, so far as I could rely upon her testimony, which I believe to be accurate because of her great desire to have children. I also learned that on several occasions she had lived apart from her husband, who was of necessity absent on business for several months at a time, and that she suffered just the same, and at each month there was an expulsion of membrane, showing conclusively that there was no possibility of mistaking this affection for pregnancy and abortion.

The treatment consisted, first, in placing her upon the following mixture: Half a grain of the bichloride of mercury, one drachm of the solution of the chloride of arsenic, three drachms of the tincture of iron in a three-ounce mixture of syrup and water. A teaspoonful of this was given, well diluted, after each meal. At the same time the internal os was incised superficially in three places, dividing equally the circumference of the canal, and the distended Nabothian follicle was punctured and evacuated.

A week after this a sound was introduced of full size, and there was less tenderness; the tincture of iodine was then applied from just within the internal os downward. At the next menstrual period she had less pain, but it lasted just as long, and she passed a membrane unchanged, except it did not appear so thick as formerly.

From this onward the local treatment consisted in passing a full sized sound just beyond the internal os right after the menstrual period, and again in two weeks, and in nearly every six days about two grains of iodoform mixed with vaseline was passed into the cavity of the uterus, well up toward the fundus. This local treatment was continued without interruption for three months, and the first prescription, after it had been taken for two weeks, was followed by the iodide of iron, a grain and a half three times a day.

After the second month, and at her third menstrual period from the time that treatment began, she had no pain and passed no membrane. At the next period she passed several shreds, but nothing like a complete cast of the uterus.

The constitutional treatment, that is, alternating between the first prescription of mercury and arsenic and the iodide of iron, giving the first one for two weeks, and then the other, was continued for two months longer. The application of the iodoform was continued for one month longer, once every week, and once after her menstruation, at the end of the fourth month of the treatment. Since that time she has had no further trouble; her menses are regular, lasting about three days and entirely without pain or any discharge of membrane.

That was her record at least one year after she gave up treatment, since which time I have not heard from her.

Case II.—*Membranous Dysmenorrhœa occurring after Treatment for Anteflexion and One Miscarriage.*—A lady of very high culture and over-refinement, of a well-marked nervous temperament, but otherwise of good constitution, came under my observation when twenty-eight years of age; she had then been married a year and a half. She menstruated first at fourteen years, and continued to do so regularly, but with pain from the very beginning. The pain usually began a day or so before the flow and gradually diminished after. Her suffering at each period gradually increased until her marriage, when it became more severe. This, and the fact that she remained sterile, induced her to seek advice. I found her suffering from anteflexion of the body of the uterus and cervical endometritis; there was also tenderness of the left ovary on pressure. She was treated for the flexion and completely recovered. The dysmenorrhœa was entirely relieved and she became pregnant. During her pregnancy she suffered very much from morning sickness, and at the end of the third month began to show some signs of septicæmia; she then miscarried, and the ovum was found to be macerated, and probably had been dead *in utero* for two weeks. She recovered from this and was quite well for about a year, when her dysmenorrhœa returned; she then returned to be treated for what she supposed to be a recurrence of her former trouble, but I found no evidence of the former flexion. But, on inquiry, I found that she passed at each period a membranous cast of the uterus. The patient thought little of this, because, in former years while suffering from the dysmenorrhœa caused by flexion, she occasionally passed small clots which looked some-

what membranous in character, but no doubt were simply blood-clots.

She was placed upon treatment similar to that employed in the first case reported, except that there was no necessity for enlarging the internal os as in the former case, the only difference in the local treatment being that I used iodine in place of iodoform during the last two months of the treatment; and once, immediately after her menstrual period, I applied a mild solution of carbolic acid to the uterine cavity.

She did not again pass any membrane after the third month of treatment, and her pain from menstruation entirely disappeared.

She was dismissed at the end of four months, and two months afterward reported that she was pregnant. Three months after that time she was examined and found to be so, and was progressing well. Since that time I have not seen her, but heard that she gave birth to a healthy child.

CASE III.—*Membranous Dysmenorrhœa treated by Dr. Fordyce Barker, of New York; Complete Recovery.*—I give the history of the following case for two reasons: First, to show that iodoform was employed in the local treatment, and that the patient's recovery was complete; and also to take the opportunity of stating that I believe that Dr. Barker was the first to employ this agent.

The history is not altogether complete, because I obtained it from the patient herself, who was unable to tell all that was done for her; but I know positively that she suffered from dysmenorrhœa, and that she entirely recovered under the care of Dr. Barker, and has remained well for a number of years.

This was an educated lady of a well-marked nervous temperament; she began to menstruate at thirteen, and continued to do so normally until she was twenty-six years of age. At that time she was said to have had an acute attack of ovaritis, and after recovering from that she had dysmenorrhœa.

The character of the pain at her menstrual periods then appeared to be ovarian. After suffering in this manner for about four or five years she noticed the expulsion of membranous casts of the uterus at the menstrual periods. During this time and for a year afterward she was regularly treated by her family physician, but without relief. She then consulted Dr. Barker for her general ill-health, but did not call his attention to her derangement of the menstrual function. She improved in her general condition under his care, but found no relief from the membranous menstruation. She consulted him again and called his attention to the uterine trouble, and he immediately placed her under treatment.

The constitutional remedies employed I do not know, but the local treatment consisted in dilatation of the cervical canal and the application of iodoform to the uterine cavity.

She continued to pass membrane for several months; then the trouble ceased and has not returned. She now menstruates regularly and naturally, and has done so for over two years.

Several other cases might be added, some showing failure of treatment, and others where the patients were really made worse by being treated for inflammation of the uterus which was supposed to be the cause of the trouble, but undoubtedly was not. Other cases might be given, also, in which recovery took place, and after several months or years the trouble returned, but they would add nothing to the views already given regarding the pathology and treatment of this affection.

The Charcow Ophthalmological Clinic, according to the "St. Petersburger medicinische Wochenschrift," has lately received a legacy of 12,000 roubles, the interest of which is to be applied to the maintenance of additional free beds.

NOTES ON HOSPITAL OBSTETRICS.*

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ONE hundred consecutive confinements at the Long Island College Hospital furnish the material for the greater part of these rambling observations. Seven cases of abortion, however, scattered through the same period, are of some interest, and, before entering upon the study of the term labors, I will state in brief detail the treatment pursued in abortions. All fell in the second or third month. All were treated by immediate removal of the secundines. Of the seven patients, three had high temperatures on admission, with putrid secundines. Another was extremely anæmic from hæmorrhage, and her condition was further complicated with delirium tremens. In all the uterus was immediately evacuated substantially as follows:

The patient was placed in the latero-prone position and the cervix exposed by means of Sims's speculum, and steadied with a volsella. First the vagina and then the uterus were thoroughly cleansed with a douche of the bichloride solution, 1 to 1,000. The secundines, if separated, were then removed with a uterine dressing forceps, and the cavity was curetted with the small dull curette. If the ovum was still partially adherent, it was first detached with the curette. The cavity of the uterus was finally irrigated a second time with bichloride solution and a soft iodoform pencil deposited therein. In the febrile cases the temperature promptly declined, and all pursued a favorable course, the patients being discharged in from five to ten days.

Sims's speculum has few more important uses than in the treatment of abortion. The detached ovum is extracted by the above-described method with almost as much ease as it could be picked up from the floor. The facility of removal is in striking contrast with the painful and awkward digital method of extraction.

The immediate evacuation of the uterus is demanded in the event of sepsis or much hæmorrhage. Even in the absence of these conditions I have generally preferred the immediate operation, including separation with the curette, when the ovum had clearly become a foreign body. I have seen no evil results from this course, while delay may expose the patient to a sepsis which later evacuation is powerless to arrest, to say nothing of the evils of hæmorrhage. The ordinary small dull curette answers the purpose, and has the advantage that but little dilatation is required. I have rarely used any other. The important point, when interference is practiced, is to operate if possible while the tissues of the ovum are still fresh, and to leave the uterus completely empty and aseptic. The radical treatment of abortion and the use of the Sims speculum were advocated several years ago by Dr. Skene.

The one hundred term-confinements were conducted in surroundings involving more or less septic exposure. The obstetric wards were in the oldest portion of the building and in immediate proximity with the surgical wards of the hospital. The obstetric interne was also on general medi-

* Read before the Medical Society of the County of Kings, September 15, 1885.

cal duty, and a certain number of students and nurses were admitted to witness the labors. Despite the unfavorable circumstances, no epidemic of fever prevailed. No two consecutive confinements were followed with serious fever, and the total number of cases that could be classed as uncomplicated puerperal septicæmia were only seven. In this number there were three deaths.

In several cases circumstances pointed clearly to the belief that the poison was conveyed by the attendants on the labor, and not by the atmosphere. Atmospheric infection, I am disposed to think, is the exception and not the rule. In the majority of cases puerperal sepsis must be attributed to the physician or nurse in attendance during the labor. Cleanly surroundings, however, are of course indispensable to the cleanly conduct of the labor.

Our antiseptic practices of the last year have been somewhat simplified. They consist mainly of measures addressed to the scrupulous cleanliness of everything that is brought in contact or proximity with the passages, particularly during labor. Antiseptics are often indispensable to this end, especially to the aseptic cleanliness of hands and instruments. Vaginal injections are not used in puerperal patients for prophylactic purposes, except when specially indicated. The usual lochial guard, however, is kept wet with the bichloride solution for the purpose of promoting an aseptic condition of the external genitals.

The lying-in department has within a few weeks been transferred to new quarters in the wing recently erected. It is wholly cut off from direct communication with other portions of the hospital buildings. It is accessible therefrom only through the open air. The wards are ranged on either side of a central corridor, and are provided with ample ventilation. In the convalescent wards and waiting-room pure air is admitted by a double system of flues, one for heated and one for cold air. The foul air is removed by flues communicating with a central upcast shaft, in which a strong draft is maintained the year round by means of a steam stack. Transom-windows add still further to the ventilating appliances, and all the incoming currents are regulated with reference to proper distribution so as to break up the entire volume of air in the room. A room for the isolation of fever patients is located in a remote portion of the wing.

All the wards have been constructed with a view to make them proof against the accumulation of hospital miasm. The walls and ceilings are finished with Keen's cement, and the floors are of concrete, painted. The woodwork is of the plainest kind, and the grain well filled. Since the walls and floors are like stone, in addition to the usual means of disinfection the wards may be flushed with a hose. A steam cylinder, which can be charged from the engine-boiler, is provided for disinfecting the bedding by high temperature.

Passing now to the analysis of the term confinements, the nationalities of the mothers were chiefly Irish, Swedish, and Americans of foreign extraction. The number of single women was forty. Fifty-six women were confined for the first time, forty-four were multiparæ. The youngest mother was seventeen years old. Of aged primiparæ there were six of ages ranging from twenty-nine to thirty-eight. All were delivered without artificial interference, and the average duration of their labors was a little below the average in the younger primiparæ. These cases prove only that dystocia does not always befall this class of parturients.

An unusually large proportion of maternal abnormities was encountered. There was one case of simple flattened pelvis, one of funnel-shaped or male pelvis, one kyphotic pelvis, and two cases of cancer of the cervix.

As there was one twin birth, one hundred and one children were born. Of this number, ninety-three presented by the vertex. There were four breech cases, two cross births, one head and hand, one head, hand, and funis presentation.

The proportion of vertex presentations conforms nearly to the usual average, which is generally stated at about ninety-six per cent. Only fourteen per cent. of the vertex cases are recorded as occipito-posterior positions. Since nearly one half of the patients, however, were more or less advanced in labor on admission, the records of position are inexact.

Seventy-seven labors were accomplished solely by the natural powers. There were thirteen forceps deliveries, three manual extractions in breech births, three cases of podalic version, one delivery with the blunt hook (a breech case, the child dead), one by craniotomy (child dead, deformed pelvis), one Cæsarean section, one laparo-elytrotomy. (The laparotomies will be found elsewhere reported.) The average weight of the children in the forceps cases was nearly eight pounds. Thus the child was an element in the dystocia.

In forceps operations the aim has been to deliver with a minimum amount of force. Probably in none of the above-mentioned cases did the traction force exceed fifty pounds. To deliver with the least possible force, three things are necessary:

1. Time. It is often possible to coax the head along very slowly with moderate traction when a rapid delivery would involve a great expenditure of strength and much violence to the mother. It is a law of mechanics that the resistance which a moving body meets with increases as the square of the velocity. This law is not wholly inapplicable in the forceps operation.

2. The previous correction, when possible, of malpositions of the head. This is not always possible.

3. Axis traction—in other words, the application of the force in the axis of the passages. Misdirection not only wastes force, but, worse than this, the waste force is expended in doing harm. The axis-traction forceps of Tarnier and its modifications offer great advantage in many cases of high operation. In these instruments the extracting force is applied in the axis of the forceps blades, and the axis of the blades lies constantly parallel with the axis of the passages as the head descends. The ordinary forceps should do the same thing. This can not be accomplished by mere traction upon the handles, certainly not with forceps having a marked pelvic curve. It may be done by conjoining with traction, applied at the handles by

one hand, a downward pressure with the other hand upon the shanks near the lock.

The operator is often in doubt as to the precise direction of the pelvic axis. I am not sure to whom I am indebted for the following useful hints for solving this difficulty and guiding the line of traction. The symphysis pubis is substantially parallel with the axis of the brim. The direction of the symphysis may be readily determined by laying the finger along its internal surface or by placing the finger-tips externally over the extremities of the symphysis. This affords a guide to the line of traction, which deviates but little from the axis of the inlet till the occipital pole approaches the pelvic floor. As the head glides along on the floor of the pelvis the forceps handles should sweep forward rapidly enough to make the anterior margins of the blades hug the ischio-pubic rami as closely as possible without crushing the intervening soft parts. These rules serve for general guidance in the use of forceps, but may of course require modification in individual cases.

In connection with this subject I submit a forceps which has been made for me by the Messrs. Tiemann & Co. It is designed to meet the requirements of modern obstetrics in the matter of cleanliness. The only important new feature is the construction of the handles. The handles are of hard rubber, smoothly polished, and they wholly envelop the metal. As the rubber is vulcanized upon the metal, there are no crevices for the lodgment of filth. With the exception of the handles, the general model of the instrument is similar to the Elliot forceps, but the shanks are stronger and the lock is a half Smellie.



In the seven breech extractions none of the children were lost except one, which was dead for two or three days before the admission of the mother. The method followed in breech deliveries is as follows: A forceps is always within reach of the hand. An assistant stands ready to apply pressure over the fundus at the critical moment—the delivery of the head. Anæsthetics are generally withheld to secure the full use of the expelling forces of the mother. In order to the full dilatation of the passages preparatory to the delivery of the after-coming head, the pelvic extremity of the fœtal ovoid is left intact—in other words, the extremities are, if practicable, allowed to remain flexed upon the abdomen, and the descent of the breech is not usually hastened by traction. Another reason for avoiding traction is the fact that the head and arms are liable to become extended if the trunk is dragged down. When traction becomes necessary in case of delayed or impacted breech, the attempt is made to maintain the flexion of the head by means of external pressure applied over the abdomen by the assistant. In the expulsion of the trunk much depends on the prompt delivery of the arms. If manual extraction of the after-coming head is not readily accomplished with moderate force, the trunk of the child is carried up over the abdomen of the mother and the forceps applied to the head. Great reliance is placed on the forceps in difficult delivery of the after-coming head. The application is easy, and, once applied, failure is practically impossible where a living child is possible by any method of extraction. On the other hand, manual methods in difficult cases frequently fail, and, when successful, are liable to inflict fatal injury upon the spinal cord.

Episiotomy was done in one case. In rare instances this procedure is believed to be good practice in rigid perinæum where extensive rupture of the perineal muscles would otherwise be inevitable. At the moment when the equator of the head is about to escape from the vagina, a narrow-bladed, blunt-pointed knife is laid flatwise between the head and the cord-like constricting ring just within the vaginal outlet. The incisions are made an inch or more from the median line, and should not much exceed half an inch in length and an eighth to a quarter of an inch in depth. I prefer to make the incisions during a pain, since they can be more readily managed while the ring is tense.

The compress and T-bandage suggested by Dr. Skene for support of the pelvic floor after labor, in certain perineal injuries, will be found useful after episiotomy. It should be understood that this operation is not advisable except where other measures are inadequate.

With the use of Credé's method the placenta was in the majority of cases expelled in from fifteen to twenty minutes after the birth of the child. The longest placental stage recorded was forty-five minutes. In delayed third stage, injection of the placenta through the cord has been found a useful measure, though by no means invariably successful. This practice is not new, having been advocated by various writers since the early part of the present century. I use a small hard-rubber cannula attached to the syringe, though a common quill toothpick will answer the purpose. Cold water is injected through the umbilical vein, care being used to avoid injection of air. The effect of the cold water, when successful, is to provoke a vigorous contraction, usually attended with prompt expulsion of the placenta. Manual extraction in retained placenta is avoided if possible, though little danger is to be apprehended if the hand is aseptic.

Lacerations at the vaginal orifice of some grade occurred in thirty-six cases. This number includes wounds of every degree beyond mere nicking of the hymeneal orifice or of the fourchette that could be detected on critical examination. All but three occurred in first labors. Eleven of this number were not of sufficient extent to involve the muscular structures of the perinæum; none extended through the sphincter ani. The proportion of perineal injuries may seem large, yet I am disposed to think it is little larger than would be found in general practice were the same opportunity afforded for careful examination. The number was no doubt increased by the fact that in a certain proportion of emergency cases brought on the ambulance the head was rapidly expelled before aid could be rendered. The methods practiced for the protection of the perinæum are chiefly preliminary dilatation, delay, and delivery of the head by its smallest circumference.

All except the most superficial rents were immediately closed with sutures. The single suture of Alloway was tried in two or three cases, but was unsatisfactory and was abandoned. No method can meet the indications which does not hold the sundered muscular structures in apposition throughout.

One perineal laceration extending into the sphincter ani united without sutures, forming a thick and firm muscular body. This patient was delivered fourteen hours before admission. On examination after she entered the hospital, the torn surfaces of the perinæum were found cemented together, and therefore no sutures were applied. The case is of interest because very exceptional, and is not referred to as affording a guide for the management of perineal ruptures.

Of fifteen multiparæ submitted to critical examination before labor, old perineal injuries sufficient to impair the function of the pelvic floor in some degree were found in nine. In four the damage to the muscular structures was out of proportion to the apparent injury, the mucous membrane and skin having remained nearly or quite intact, while the muscles had been more or less extensively sundered.

In twenty-eight primiparæ in whom the condition of the cervix at the date of discharge was recorded, lacerations were found in eighteen. All but seven of this number were of slight extent. These examinations, however, were made about ten days after labor, and probably all but the deepest fissures became insignificant by the time involution was complete.

In the one hundred mothers there were six deaths. One woman died of peritonitis and exhaustion three or four hours after delivery. She had been brought in after four days' labor with epithelioma of the cervix and a laceration opening into Douglas's pouch. The child was dead, and the breech, which presented, was fixed in the grip of the unyielding cervix. Another patient with cancer of the cervix died of peritonitis after Cæsarean section. This case has been elsewhere reported.

One death occurred from prolonged labor with deformed pelvis. This woman was admitted in a state of collapse, with a pulse of 180, after being about four days in labor, the head arrested at the pelvic outlet. The child was dead and putrid. Delivery was accomplished by craniotomy. The thorax and abdomen required to be punctured before the trunk could be delivered, owing to distension from putrefactive gases. The right vaginal wall was the seat of an extensive slough from long-continued pressure of the fœtal head. The woman died soon after delivery. The remaining three deaths were due to puerperal fever.

In fifty-six patients the temperature did not reach 100° during the post-partum week. There were four with moderate septic fever who recovered. The recoveries were due in large measure to antiseptic irrigation of the passages, a sharp decline of the temperature invariably following the douche. Also in the three fatal cases of fever the douche made no impression on the temperature.

The morning vaginal temperatures were due in some cases to preexisting disease, as rheumatism, phthisis, etc.; in others to mental poisoning, to metritis; in several in stances to emotional disturbance, and doubtless in a number of cases to slight transient absorption of decomposing lochia.

A case of labor in a diabetic subject is worthy of special mention. The woman was single and pregnant for the first time. She was delivered by the high forceps operation after twenty-six hours of ineffectual labor, the child weighing eight pounds and eight ounces. Chloroform was badly borne. She went into partial collapse after delivery, and was rallied with difficulty.

This patient had more or less fever for two weeks after labor, the temperature several times mounting to 103°. A partial laceration of the perinæum, which had been closed with sutures, failed of union, sloughs occurring on both sides of the rent. She had phlebitis of the superficial veins of the lower extremities. The seat of the punctures on the thigh, where fluid extract of ergot and dilute ammonia-water had been injected hypodermically, formed phlegmons, in two or three of which sloughs separated, exposing the muscular structures.

Dr. Dickinson, suspecting diabetes from the appearance of the wounds, confirmed the diagnosis on examining the urine for sugar. This case affords a good example of the dangers to which a diabetic woman is exposed in parturition. Sugar occurs physiologically in the urine of most women during the latter weeks of pregnancy and during lactation. Blot found it in half the cases examined during pregnancy. Dr. Angus Macdonald ("Ed. Med. Journal," August, 1881) examined the urine for sugar in thirty-four puerperal women and found from one to eight per cent. in all. This physiological glycosuria is intimately associated with lactation.

De Sinéty showed that the amount of sugar in the urine of puerperal women could be increased at will by abruptly suppressing the flow of milk. Barnes says the sugar disappears from the urine when the production and yield of milk are evenly balanced.

Diabetes as a complication of pregnancy and labor is rarely mentioned in the text-books. Dr. Matthews Duncan ("Obs. Trans.," London, 1882, p. 256), in a paper cited by Playfair, relates several cases. A large proportion of the children die before birth. Hydramnios is more frequent than in other gravidæ. But the principal dangers to this class of parturients are those of collapse after labor and their inability to bear well the traumatism of parturition.

Of the children, all but one were single births. Of the one hundred and one children, forty-five were females and fifty-six males. The relation of the fœtal pulse-rate to the sex was by no means constant, but in a large proportion of cases where the fœtal pulse before birth was much above 140, the child was a girl or a feeble male; where much below 140, the sex was generally male.

Ninety-four children were believed to be strictly full-time births. Of these, the average weight was seven pounds and one third, excluding the twins. The largest child weighed eleven pounds. The average length of the full-time children was a fraction less than nineteen inches. The length of the new-born child affords a convenient means for estimating the stage of development. The measurement may be roughly determined, even *in utero*, as a ready meth-

od of estimating the stage of gestation. The length of the fœtal ovoid can generally be readily measured. Double this measurement gives very nearly the total length of the fœtus.

A limited number of observations were made upon the temperature of the new-born child. The average rectal temperature in twenty infants at birth was 96·4°. On the second day the average was 98·5°, on the third 98·7°. The lowest temperatures occurred in puny and in partially asphyxiated children. The lowest noted at birth was 94°.

Four children were still-born, all dead before the admission of the mothers. One died from prolonged labor obstructed by cancer of the cervix, one from prolapsus funis, one from ante-partum hæmorrhage, and one child was dead and putrid from prolonged labor with narrow pelvis.

But one fœtal abnormity occurred. This was a case of atresia ani. The obstruction was a membranous septum which was punctured and the opening dilated by tearing. Subsequent dilatation was maintained by the mother's finger used as a bougie. The child was thriving when it left the hospital. A small glass speculum was found of great service in determining the extent of the occlusion and in puncturing the membrane without injury to surrounding structures. The speculum was improvised by cutting off an inch from the open end of a test-tube and rounding the cut edges in the flame of a spirit lamp.

A modified Credé's treatment has been for some time in use for the prevention of ophthalmia of the new-born infant. A few drops of a five-grain solution of nitrate of silver are instilled into the eyes of every child immediately after birth. No cases of ophthalmia have occurred since the adoption of this practice, while they were not wanting before.

In conclusion, my acknowledgments are due the house staff for intelligent and untiring interest in the clinic, and to Dr. R. L. Dickinson, clinical assistant to the chair of obstetrics, for valuable aid in securing accurate observations and for rare skill and judgment in directing the service.

THE GENERAL PATHOLOGY OF FEVER.*

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Before entering upon the subject of my paper I may be allowed to make a few remarks on the physiological aspect and those modifications of temperature which we are accustomed to consider as normal.

Heat is the result of molecular motion, and temperature the expression of the velocity of this motion. The three factors on which the action of the relatively constant temperature of the human body is dependent are: the production of heat, the loss of heat, and the regulation of heat. Lavoisier was the first to pronounce the production of heat a process of oxidation—viz., a combination of oxygen in the air with the carbonic acid of the blood. All the later researches in this direction go to show that the greater part of the heat produced in the human body is brought about by this process, and that this process takes place in the tissues themselves and not in the lungs, as was believed by older physiologists. But where the amount of heat comes from not accounted for by oxidation has as yet not been determined.

This production of heat is counterbalanced by the constant loss of heat. Heat is lost by the introduction of air and food of a lower temperature than that of the body, by the evaporation of water from the surface of the lungs and skin, and by conduction and radiation of heat from the skin, as long as the temperature of the skin is higher than that of the surrounding atmosphere. Of these three agents, the skin is by far the most important, giving off eighty per cent. of the whole amount of heat produced in twenty-four hours; the lungs dispose of about eighteen per cent., while the remaining two per cent. is required for the heating of food.

This paramount position of the skin among the heat-losing organs, and its relation to the temperature of the surrounding atmosphere, ought not be lost sight of in the treatment of febrile disorders. I am very much inclined to ascribe the favorable results of out-door treatment in fevers more to the lower temperature and greater motion of the air, by which the skin is enabled to give off steadily quite a considerable amount of heat, than to the better quality of the atmosphere, although, as a matter of course, I am not prepared to deny the beneficial effect of the latter agent.

After having thus briefly touched upon the subject of production of heat and loss of heat, the question naturally arises: What is the arrangement by which the organism is enabled, even under very considerable variations of the surrounding temperature, to almost constantly maintain its own heat? There are several contrivances by which this object is accomplished, the most evident of which is probably the skin and the regulation taking place by the elasticity of the cutaneous capillaries. If the surrounding atmosphere is cold, the vessels contract, the difference between the temperature of the skin and atmosphere is lessened, and, consequently, the loss of heat is diminished. When the skin comes in contact with warm air, the cutaneous capillaries expand, the difference between the surrounding and internal temperature increases, and the loss of heat becomes greater. It must also be taken into consideration that in the first case the amount of blood exposed to the cooling influence of the air, and the action of the perspiratory glands, is less, while in the latter case it is greater, the supposition being in both cases that the temperature of the atmosphere is below that of the body.

By change of clothing the human being contributes toward regulation from the skin.

Another agent of regulation is the spontaneous increase or decrease of heat-production by change of food; the influence of this agent can not be proved for short spaces of time. In regard to longer periods, we find, as a matter of fact, that the inhabitants of colder climates not only take a larger amount of food than those of warmer regions, but also that they favor such articles of food as are likely to produce more heat. That the respiratory activity varies in

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different temperatures is generally conceded, while the share of the nervous system in the regulation of heat is still subject to much discussion. It is a matter of course that the nervous system, by its influence on the blood-vessels, must contribute toward regulating heat; but whether it has a more direct action is the question. The direct action undoubtedly takes place in muscles and glands; in these heat is generated on exciting their nerves, even after circulation in them is entirely stopped. But for all the other tissues of the body the influence of the nervous system could not be proved.

The existence of special caloric centers has not been experimentally demonstrated. All the experiments necessary for the removal of the nerve-centers so deeply affect the organism that the resulting changes in temperature may just as well be ascribed to the influence of the operation as to the absence of the nerve-centers. And yet there are clinical facts which, without the admission of such caloric centers, are difficult, if not impossible, of explanation. I have at present a man under observation who, four months ago, had an apoplectic stroke. The most annoying symptoms which remained therefrom till now are the following: A defect of vision on one side, slightly diminished memory, and cold feet. The symptom last mentioned can not be explained by a lesser degree of mental or muscular activity, because the man is just as energetic and active as before. It also can not be traced to a lesser amount of food, because his nourishment is of the same quantity and quality as formerly. It therefore seems rational to suppose, in this case at least, that the cerebral injury has involved special caloric centers.

After thus having called your attention to the three factors essential to the maintenance of the relatively constant temperature of the human body, let me briefly review some of the conditions which normally modify its constancy. Age produces variations in this way: that the temperature, which immediately after birth is 99·5° to 100°, falls after the first bath to 98·6°, to rise again to about 99°. It then gradually falls one per cent. up to the age of fifty. Between fifty and sixty it remains constant, to rise again, so that at the age of eighty the temperature equals that of the new-born.

Sex has no perceptible influence.

The diurnal deviations are from 97·2°, at 5 to 6 o'clock, to 98·9° between 5 and 7 o'clock P. M.

The influence of food is not considerable enough to attract our special attention. It may be said, though, that the fall of temperature as the result of cold drinks is somewhat more considerable than the rise produced by hot ingesta. Alcohol, even in moderate doses, reduces temperature, probably as the result of a greater loss of heat through changed circulation.

Muscular exercise may cause a rise of from .5° to nearly 2°. The abnormally high temperature of tetanus is certainly not due alone to muscular work, but also to the underlying pathological condition, and possibly to a narrowing of the capillaries, by which the loss of heat is diminished.

Mental work influences temperature but slightly, at least in our climate; in tropical countries a rise of 2° has been observed. In modification of this statement I must remark that the president of this society, Dr. B. F. Westbrook, succeeded, by great mental concentration, in producing a rise of 2°; I myself was not able to increase my temperature by mental work more than 0·4°.

The surrounding atmosphere has no remarkable influence as long as the mode of living, food, and clothing are appropriate; these being defective, very low temperatures may produce a fall of heat sufficient to cause death. Very high temperatures can be borne to a remarkable degree in a dry atmosphere. The danger of sunstroke is greater, of course, in a saturated atmosphere and with muscular exertion.

Normal menstruation and pregnancy do not influence the bodily heat; the higher temperature of the pregnant uterus is partly due to the fœtal production of heat, partly to the great muscular development of the organ. After delivery, the temperature rises almost invariably, and we all know how difficult it is to fix a boundary between normal and abnormal; and it will always be necessary for the formation of a correct judgment not to rely upon the thermometer alone, but to take all the concomitant circumstances into consideration. The influence of refrigeration on the temperature of the body, in the present state of therapeutics in fever, requires mentioning. The first effect of cold applications—and an effect more marked in proportion to the extent and intensity of the application—is a slight rise of the axillary with a fall of peripheral and rectal temperature, while the continuance will change the axillary increase into a decrease, and will force still lower down the peripheral and rectal temperature. The difference of behavior between the axillary temperature and that of other regions has been explained by Liebermeister through a relation between heat-production and loss of heat. He holds, and seemingly proved by calorimetric researches, that the production of heat increases in proportion to the loss, and that, as long as the loss of heat does not take on an extent which can not be antagonized by increased heat-production, the internal temperature will be higher in proportion to the lowering of peripheral heat. This explanation was based on experiments which with other observers did not by any means yield identical results; and besides that it does not agree with the fact that the temperature in the rectum, and even in the vena cava inferior (Ackermann), declines at once as the result of refrigeration. The axillary rise has so far not found a satisfactory explanation; the most plausible theory is that the only vaso-motor nerves not subject to the irritating influence of refrigeration are those governing the muscular blood-supply, and that these, instead of producing contraction, allow their blood-vessels to expand under the increased blood-pressure; therefore the temperature of the muscular tissues which is found in the axilla rises, while the peripheral and internal temperatures decline. Whichever theory may be right, there is a general agreement about the clinical fact (and this is of paramount importance to us) that the general temperature of the body declines after a more or less continued application of external cold.

Great reduction of temperature is also brought about by considerable losses of blood and the injection of gases

into the abdominal cavity. I need not go into the *modus operandi* thereof, as the subject of my paper gives me more interest in the exploration of the causes which produce high temperature. Elevation of temperature is the only symptom which is common to all fevers, and we may therefore define fever as a general disturbance of the system, the pathognomonic sign of which is an increased temperature. Hence the Latin "febris," from "ferveo," I am warm, and the Greek "pyrexia," from πῦρ, πυρός, the fire. All the other symptoms—as dryness of the skin, increased action of the heart, change of secretions, chills, nausea, and thirst—may be absent. On the other hand, headache, pains in the back, and a feeling of fatigue, which we so commonly find in fevers, may be present in other conditions of the system which lack an elevation of temperature. Therefore I think we are justified in designating the elevation of temperature as the only sign by which we are always enabled to make the diagnosis of fever.

The pathogeny of fever has always eminently occupied the minds of medical men, as may be expected from the importance of its position among diseases; and the history of theories on fevers, like that of other diseases, teaches "the imperfection of one pathological view for the explanation of all the symptoms of a given disturbance. According to the prevailing theory of the times, fever has been explained by physical and by chemical processes—by changes in the vascular system, by derangement of the nervous system, by increase or decrease of tissue-irritability," etc.

Even philosophy and religion have been made use of for the explanation of the morbid phenomena of fever; thus I may mention, for the sake of curiosity, that Stahl, according to whom all vital processes were controlled by a single principle—the soul—defined fever as "an almost conscious motor, secretory, and excretory act for the removal of noxious matters." To discuss all the theories mentioned, to give all the arguments in favor of and against every one of them, would lead me too far. I may therefore be allowed to proceed at once to the modern views on the pathology of fever.

That there is at the root of every fever something foreign to the normal blood is generally accepted; it may come from without, as in infectious diseases, or it may be formed within the organism, as in septic processes. About the nature and character of the disturbing element there are just at present numerous theories. Bacilli, fungi, bacteria, and micrococci are discovered one day, to be mercilessly murdered the next. We may safely say that, with very few exceptions, the microscope thus far has failed to demonstrate the entity and the differential character of the modern microphytes so as to insure their general acknowledgment. We are therefore compelled to leave this question, and we now ask in what way does the disturbing element affect the system?

Is the blood but the carrier of these little organisms, which, upon their arrival in the tissues, modify metamorphosis? Or does the presence of these elements cause an intermediate product in the blood which irritates the tissues? Furthermore, does the disturbing element act on the tissues directly or by the intervention of the nervous system? And, if the nervous system is responsible, is the central nervous system directly irritated by the foreign element carried to it by the blood? Or has the disturbance primarily acted on peripheral nerves, whence the irritation is communicated to the central nervous system?

All the attempts to answer these questions have so far been resultless, and all the theories which take for their foundation either blood, or tissues, or peripheral nerves, or the central nervous system, have been refuted, notwithstanding the able advocates they found. It seems highly probable, therefore, that all these organs have their share in the primary causation of fever, and that the greater or lesser extent to which their share in a special case is limited depends on the nature and character of the disturbing element. In other words, I do believe that every attempt at the pathological generalization of fevers will be futile, and that, for the explanation of all the symptoms of a given case, it will be necessary to determine more accurately the special and differential character of the disturbing cause.

For an explanation of the most prominent phenomena we must go back to our three great factors in animal heat—viz., heat-production, loss of heat, and regulation of heat.

That heat-production is increased in fever may be admitted as generally conceded; also that the process of combustion extends more to nitrogenous than non-nitrogenous substances. Of course, this factor alone can not be held responsible for the causation of an increased temperature, because then we should have elevation of temperature in all conditions of the system where combustion is increased—for instance, after meals. That this is not the case was shown in my remarks on the normal modifications of heat. Traube's theory, by which he explained the phenomena of fever by diminished loss of heat, is opposed by the following considerations: It has not been proved that the contraction of the small arteries precedes the other phenomena of fever; it can not, therefore, be asserted that this contraction maintains a causal relation to the rise of temperature. Secondly, were the pyrexia due only to the diminished loss of heat, temperature should under all circumstances fall when the loss of heat is increased. This does not take place in acute rheumatism, puerperal, septic, and hectic fevers.

The theories which place the starting-point of the febrile phenomena in the nervous system alone—whether this be the central nervous system according to Virchow, or the sympathetic system of Claude Bernard, or the trophic nerves of Schiff—have neither been supported by clinical facts nor by experimental physiology. Mr. Teale's remarkable case, in which an injury about the upper part of the spine was followed by a temperature ranging for nine weeks from 109° to 122°, and even to 125°, with recovery, can not be taken as a proof that in all cases of fever the nervous system is at the root of the disturbance. And though I may omit the question of local myelitic inflammation as an agent in causing the febrile movement, this case, in my opinion, proves possibly just the opposite. In no other fever is there such a tolerance of an enormously high temperature, and, if in the great majority of cases even

much lower temperatures become fatal after a shorter time, this shows that there must be other factors in play.

No one of these factors, therefore, sufficiently explains by itself the pathogeny and semeiology of fever; it remains to be supposed that either two or all three of these factors are combined. The facts only justify us in the assumption that during fever heat-production is moderately and constantly increased, while there is an impaired action of the skin by which the loss of heat is diminished. The share of the nervous system has to be stated as being obscure till experimental physiology sheds a more satisfactory light on the relation between the phenomena of normal animal heat and the nervous system.

There are certain symptoms pretty constant in all fevers which require our attention. Of course, the chill is one of the most interesting of them, but, like so many other interesting phenomena in medicine, difficult of explanation. It consists of a diminution of the peripheral temperature, with a rise of the internal temperature, which occasionally attains its maximum at the termination of the chill, more frequently in the subsequent hot stage.

The fluctuations of temperature are, as is well known, of a different type in different fevers, and therefore can not be subject to general laws. The different types—as intermittent, remittent, continuous, and ephemeral, and the reasons for this nomenclature—are so well known that their enumeration may be sufficient. The division into febricula, pyrexia, and hyperpyrexia is useless, because of the difference in the subjective view of the observer.

The influence of fever on the pulse will not only vary with the degree of temperature and the time the organism is exposed to the influence of a high temperature, but also with the cause producing the fever. The pulse will nearly always be accelerated; in the beginning it is hard and full, and becomes smaller and softer in proportion to the intensity and the duration of the disease.

The blood is not altered so much during the fever as was formerly believed. The relative proportion of hæmoglobin and red blood-corpuscles to the mass of blood is only slightly diminished. In the lytic or epicritic period this diminution is considerable.

The carbonic acid given off by the lungs is increased in the proportion of eight to seven of the normal evolution. That the respirations are increased in fever is well known; in attempting to explain this fact we again meet the dilemma, Is this due only to the increased temperature, or also to nervous influence?

The urine is, during pyrexia, most frequently smaller in quantity, dark colored, and shows the following chemical changes:

The relative amount of phosphoric acid is diminished; we know that in certain conditions of chronic irritation the brain is relatively richer in mineral substances than normally; it is possible that the acutely irritated condition during fever depends on the same cause. Chlorate of potassium is present in moderate quantities, and chlorate of sodium in small amount. In opposition to former opinions, more recent researches have shown that urea is not increased to a great extent, while the uric acid and ammonia are present in greater quantities than normally. While this shows that the combustion of albuminous substances is increased, it also demonstrates that the process of disintegration is of such a nature as to prevent the formation of the normal terminal product. Albumin we only find in very intense fever, and the albuminuria may be due partly to altered conditions of the blood-pressure, partly to the parenchymatous degeneration of the kidneys, partly to an altered diffusion of albuminoids, and possibly to nervous influences.

Of other secretions, that of the salivary glands has been examined. It is diminished in quantity, sometimes absent altogether; its reaction is acid, although a free acid has not been determined as yet. In connection with the parotid gland, the suggestion of Mosler, to introduce a cannula into Stenson's duct for the removal of obstructions, is well worth mentioning, because in this way the post-febrile inflammation of the parotid may be prevented or its occurrence diminished.

There is a marked degree of dryness of the buccal and pharyngeal glands, and in almost all fevers we find a buccal and pharyngeal catarrh, by which the excessive thirst is better explained than by the so-called febrile desiccation. That there is a most intimate connection between the dryness of the buccal and pharyngeal mucous membranes and high temperature is shown by the moist state of the tongue after severe hæmorrhages and subsequent collapse in typhoid fever. The increase in thirst and consumption of water, with the diminution of the secretions, naturally lead to the question, What becomes of the water? It has been claimed that it becomes latent in the body during the fever, to be removed from it by the critical discharges. In support of this view, it has been said that the face of the patient during pyrexia looks turgid, while during the period of convalescence the countenance looks most emaciated; besides, that the blood of the fever patient was supposed to be richer in water than that of the normal system. The last point has not been demonstrated with sufficient exactness and conclusiveness to be taken as a proof. In order to settle the question satisfactorily, it will be necessary, in comparing healthy individuals with fever patients, to measure, besides the water in liquid form, the exact amount of liquid the normal individual takes in in the shape of solid food—as vegetables, etc.; furthermore, the increase in the amount of insensible perspiration and exhalation from lung and skin has to be calculated more accurately than has been done hitherto.

The anatomical changes which embrace the liver, kidney, spleen, pancreas, the heart muscle, blood-vessels, and the voluntary muscles, are only to be found after some duration of a high temperature. The parenchymatous degenerations of the liver and kidneys are easily explained by the high temperature and perverted innervation; in the kidneys the irritating character of the substances to be secreted may be of influence.

The heart muscle becomes very soft and pigmented, being filled with fat granules and brown pigment granules. The walls of the smaller blood-vessels often undergo fatty degeneration (thence tendency to capillary hæmorrhages); in the larger vessels the intima is swollen. In the voluntary

muscles we find two kinds of degeneration: the fatty and amyloid. It need hardly be mentioned that the latter does not allow of restitution. The spleen is enlarged; in the beginning it is hard and tense, while in the further course of fever it becomes softer and more friable; whether the general anæmia corresponding with the enlargement of the spleen is due to the circumstances that this organ deprives the other tissues of a great amount of blood, or whether it is due to a specific action of the spleen in the formation of blood-corpuscles, can not in the present state of physiology be decided.

The symptoms connected with the digestive tract are not always due to a gastro-enteritis, which, with some pathologists, plays such an important part. The anorexia, constipation, nausea, etc., can easily be explained by a lesser activity of the glands and by faulty innervation. Inflammation would not be so quickly removed as to allow appetite and digestive power to come back to their normal standard immediately after the cessation of the high temperature. I do not wish to assert that the influence of high temperature, unduly prolonged, may not be capable of producing inflammatory lesions of the stomach and intestines, but I do not believe in their constant presence in fever.

The functional derangements consist of a disturbance of general sensation and of psychical and motory functions. The ways in which these disturbances manifest themselves to the observer are so well known that they do not require special enumeration.

This completes the symptoms and phenomena which are more or less constant in all fevers; special lesions and their modifying influence on the course of the fever, as the intestinal lesion in typhoid fever or the skin lesion of variola, must be left to the consideration of special pathology.

COCAINE IN MINOR OPERATIONS.

By HENRY A. DU BOIS, Ph. B., M. D.,
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The following cases, in which this agent was used, may possess some slight interest:

A boy, aged twelve, had a flap of skin eight inches in length torn diagonally across the leg, just below the knee, by a kick from a horse. The wound was free from dirt, as the pantaloons were not torn. It was well washed with a 1 to 2,000 corrosive-sublimate solution, and a two-per-cent. cocaine solution in glycerin painted on the edges through which stitches were required. The cocaine solution was exhausted before the entire border of the wound had been coated. Twelve stitches were then taken, ten without any pain while conversing with the patient, but the last two caused great pain. The line of union was covered with subnitrate of bismuth, and a pad of absorbent cotton applied and retained by a bandage. Stitches removed on the fourth day. The wound united, except along the skin-border, which showed no union. Adhesive straps retained the flaps in position, and I saw the patient no more, but was told that the wound was fully united in less than a week.

A man, aged sixty-five, who had been partly paralyzed, asked for removal of small growth from the skin of the forearm. I had removed a similar growth several years before. The new growth was non-malignant, but started from the old one. I injected a four per cent. solution of cocaine under the bone by four punctures with a hypodermic syringe, and removed a piece of skin, one and a half by one inch, going down well upon the muscles. This was done during conversation, and without any sign of pain on the part of the patient. The wound was drawn together by sutures, as in the previous case, of silkworm-gut carbolized, and a bismuth and absorbent dressing applied, but the forearm was not put in a splint. The movements of the hand apparently tore out some of the stitches and more or less suppuration ensued, the wound gradually closing by granulation, but the time was upward of a month; at no time was there any pain.

I believe in both these cases the cocaine prevented union by first intention. In the first case I should have expected union of the greater portion of the skin-border in four days; in the latter, more or less adhesion between skin and subjacent tissue, although, doubtless, movements of the wrist interfered somewhat with perfect apposition—had I not used the cocaine, but simply contented myself with washing the wound with corrosive-sublimate solution and with dry bismuth dressing. In the latter case, too, the healing power was also probably deficient. In a small fistula of the anus the cocaine enabled me to lay it open and apply nitric acid without pain, and I noticed no postponement of healthy granulation.

In a case of chronic eczema of the face of fourteen years' standing, in which it became necessary to remove the beard on one side of the face, an injection of a four-per-cent. solution over the trifacial nerve, as it comes out in front of the ear, enabled me to remove every hair at two sittings and without pain. Applied to the inflamed base, or to the pustules after matter had been let out, I could detect no relief experienced from the interminable itching, which almost drove the patient wild; while a constant current of galvanism, passed from the front of the ear to the cheek and chin for ten minutes, would relieve the itching almost entirely for some eight hours.

In a case of severe neuralgia of the trifacial nerve involving the branches to the upper and lower jaw I injected one fifth of a grain of cocaine twice in front of the ear quite deep into the tissues. After each operation the woman became excited for five minutes or so, but there seemed no relief from pain, which was only afforded by opium and chloroform. In a severe case of rheumatic sciatica a hypodermic injection of one fifth of a grain afforded no relief, while the same quantity of morphine relieved pain, and a daily application of the constant current effected a permanent cure.

An application to the gum of a few drops of the two-per-cent. solution enabled a tooth to be extracted with hardly perceptible pain, while its introduction into a cavity where the nerve was supposed to be exposed seemed to afford no relief to pain. Cocaine seems to me to act through the mucous membrane and through the cellular tissue, but so far I have seen no action from a direct application to a nerve or to the skin. Even when the latter is excoriated, and when cocaine is injected into the cellular tissue or applied to the edges of a wound, it certainly seems to interfere with prompt union. I have so far made no experiments with this agent on blistered surfaces or burns. The cocaine used was procured from Dr. Squibb.

Book Notices.

The Use of the Microscope in Clinical and Pathological Examinations. By Dr. Carl Friedlaender, Privat-Docent in Pathological Anatomy at Berlin. Second Edition, Enlarged and Improved, with a Chromo-lithograph. Translated, with the permission of the Author, by Henry C. Coe, M. D., M. R. C. S., L. R. C. P. (London), Pathologist to the Woman's Hospital in the State of New York. New York: D. Appleton & Co., 1885. Pp. x–195. [Price, $1.50.]

This book is one of the most concise and comprehensive guides in *technique* which the student can obtain who undertakes microscopical examinations for clinical and pathological ends. It is divided into seven chapters, in which are described, in a plain, practical manner, the microscope and its accessories, reagents, micro-chemistry, methods of preparing specimens for examination, both of living and of dead tissues, the examination of fluids, the examination of tumors, etc.

Some beginners in microscopy are very apt to think that the work is essentially mechanical, and that if the mechanical process is perfect the desired pathological knowledge can be obtained readily; but this source of error is pointed out distinctly by the author. Another fundamental truth has also been mentioned, and that is that there are a number of minds which either never attain to a capacity for the more delicate histological examinations, or succeed only after long and painful training, and, it may be added, especially painful to the teacher. If these two ideas can become wide-spread, Dr. Coe, by his excellent translation, will have conferred a lasting benfit upon those who are interested in this department of scientific work.

The chromo-lithograph is an agreeable addition; but as one looks at the illustrations he may be led to wonder why pictures of the same objects are made to appear so different in different standard books.

A Guide to American Medical Students in Europe. By Henry Hun, M. D., Lecturer on Diseases of the Nervous System in the Albany Medical College. New York: William Wood & Co., 1883. Pp. vi–151.

This little book was received some months ago, and deserved an earlier notice. We commend it most heartily to the careful consideration of the class of readers for whom it is intended. We have no hesitation in saying that the author is a real benefactor to his younger medical brethren, in that he removes one of the most serious obstacles to the enjoyment and profit of a foreign trip. To know how, where, and what to study is half of the battle, and we congratulate Dr. Hun upon having so clearly and thoroughly discussed these questions. The author's introductory remarks are sensible and to the point. He discourages the student from going abroad to study until he has served his time in a hospital. Moreover, he deprecates too long a stay in foreign parts. "All of the time," he says, "that he (i. e. the student) spends in Europe beyond two years is very apt to be to his disadvantage." This is an important and, as regards the average medical student, a true remark.

The statement regarding finances is judicious. We are glad to see that no attempt is made to impress the reader with the false notion that his expenses in Europe will fall far below his home expenditure. Men are frequently sadly disappointed at the unexpected demands upon their resources when they have been led to think that they could live abroad for "about one half" of what it costs in America.

We call particular attention to the advice as to learning German for it is sound. The caution to students not to travel about too much from place to place, but to spend all of their time at two or three of the best medical centers, will commend itself to all who have had a practical acquaintance with foreign study. The general hints as to methods of study are worth a careful perusal.

In giving details about the different German cities, the author dwells with special care upon Vienna, Berlin, and Leipsic. Except in the matter of unimportant facts, such as vary from year to year, the information is clear and accurate. Medical study in France is not very strongly advised by the author, but he presents quite fairly the advantages which Paris offers.

In treating of the London medical schools, we can not help saying, a good deal of irrelevant matter might well have been omitted.

We are glad to read the short section upon the Dublin Rotunda Hospital, since there is a lingering feeling among some American teachers of obstetrics that the Rotunda is the *only* place in which to learn careful midwifery. We believe that this idea will be exploded, and meantime Dr. Hun is to be commended for coming boldly forward with the statement that "this hospital offers no advantages for study over those of Vienna, Prague, or Dresden, except that the English language is spoken in it."

On the whole, we believe that the "Guide" is an original book, the material is judiciously selected and arranged, and such errors as exist are not vital. It would be hardly fair to criticise too closely the literary style of a work which aims principally at clearness, rather than elegance, of expression; yet we trust that the author in his second edition (which we hope to see soon) will correct some of his awkward sentences, substitute the word "for" instead of "to" in the title, and add an index. With these slight emendations, and a condensation of the chapter on England, the little volume will challenge comparison with far more ambitious works.

System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume II. General Diseases (continued) and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co., 1885. Pp. 3–19 to 1312, inclusive.

The general characteristics of this volume are analogous to those of its predecessor in the series, which it has followed with commendable punctuality. It even surpasses Volume I in size, and therein is open to criticism, for its bulk and weight are such as make it impossible to hold the book with comfort even in both hands. Another striking feature is the extent and minuteness of the index, rivaling in this respect the clinical index, so called, to Bartholow's "Materia Medica and Therapeutics," although it does not present the peculiar character which gives the special name to the latter. An index which bears to the text to which it refers the proportion of one page to ten (actually 117 to 1195) should be a remarkably good one to justify its presence in a volume already so large.

Passing to an enumeration of the individual articles, we find the opening one, on rheumatism, by Dr. R. Palmer Howard. The second is by Dr. W. H. Draper, on gout, and is an example of clear and excellent English. While the discussion of the subject is full, he frankly confesses the limitations of our knowledge as to etiology and the action of the most potent remedies. Dr. Jacobi, with an abundant citation of authorities, writes on rhachitis. Philip S. Wales, M. D., contributes two articles, the

one on scurvy, namely, and in the second part that on pseudo-membranous enteritis. In like manner Dr. I. Edmonson Atkinson writes on purpura, and on cancer and lardaceous degeneration of the intestines.

Diabetes is very satisfactorily discussed, in an article of moderate length, by Dr. Tyson, treatment, including the dietetic, hygienic, and medicinal, occupying much more space than pathology and pathogenesis. Dr. John S. Lynch writes on scrofula, and Dr. J. William White extensively on hereditary syphilis. This last author writes with the clearness of conviction so noticeable in the best American authorities on this subject, going fully and with plentiful references into the knotty question of the respective shares of father, mother, and fœtus in the transmission of the disease, including the curious theory of its latency in the maternal organism.

Under the subdivision of Diseases of the Digestive System we find a series of articles by Dr. J. Solis-Cohen on diseases of the mouth and tongue, of the tonsils, of the pharynx, and of the œsophagus, organs and regions in connection with which his name is a guarantee of thoroughness and familiarity. The functional and inflammatory diseases of the stomach are treated of by Dr. Samuel G. Armor, and his title is found to include gastralgia. Other gastric affections form the subjects of five articles by Dr. W. H. Welch, viz.: Simple Ulcer of the Stomach, Cancer of the Stomach, Hæmorrhage from the Stomach, Dilatation, and Minor Organic Affections. These articles are scholarly and enriched by copious references to literature and citations from it, while it is very gratifying to find in the matter of treatment especially so much attention given to the details and chemistry of alimentation, a remark which also applies to Dr. Tyson's article on diabetes.

Dr. W. W. Johnston writes on various affections of the intestines in six consecutive essays.

Dr. J. Lewis Smith contributes an article on the intestinal affections of children in hot weather. His views are well known, and it is particularly interesting to know his experience with the peptonized preparations which have formed such a feature of the recent management of children's diseases.

Of the remaining articles in the volume, those which will attract most attention are Dr. Hunter McGuire's on intestinal obstruction, Dr. Bartholow's treatise on diseases of the liver, and Dr. Alonzo Clark's on peritonitis. Dr. McGuire's article is much condensed, and he is forced to relegate much that is germane to his subject to surgical treatises, since it would be outside of the scope of this work.

All graduates of the College of Physicians and Surgeons will be glad to see the views of the venerable Prof. Clark thus authoritatively presented on a subject in which he felt so keen an interest. They will recognize the features which used to charm them in his lectures, the solid, slightly old-fashioned, personally characteristic style, with the quaint illustration drawn from his own experience.

Here is, then, a volume of interesting and valuable essays, which must still for the present stand chiefly upon their individual merits, for the work can not yet be looked upon as a finished whole, and its claims as a system fairly weighed. As it stands, it is very attractive, free from disfiguring pages of advertisements, and with illustrations which, if not numerous, are apposite.

Minor Surgical Gynæcology. A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynæcological Practice, including General Rules for Gynæcological Operations and the Operations for Lacerated Cervix and Perinæum and Prolapsus of Uterus and Vagina, for the Use of the Advanced Student and General Practitioner. By Paul F. Mundé, M. D., Professor of Gynæcology at the New York Polyclinic and at Dartmouth College, Gynæcologist to Mount Sinai Hospital, etc. Second Edition, Revised and Enlarged, with three hundred and twenty-one illustrations. New York: William Wood & Co., 1885. Pp. xxii–552.

(*Second Notice.*)

We hope to see the question of the "cicatricial plug" cleared up some day. If it is, it will be by the aid of the pathologist. It can not be allowed to rest entirely upon the dictum of the clinician. But it is in vain to argue upon a subject the pathology of which has been so much neglected. In the section upon the significance of cervical laceration the author summarizes his views as follows: "It thus appears that I consider only one half of all the lacerations of the cervix which occur as producing (symptoms?) and requiring treatment of any kind, and of these but one quarter, or one eighth of *all* lacerations, as absolutely requiring Emmet's operation. Surely I can not be reproached with being an advocate either of too universal pathological significance or of unconditional operative treatment of this lesion." The latter, it must be added, is rather an awkward sentence. The description of the operation leaves little to be desired. It gives the reader as clear a picture of the technique as could be drawn with the pen. Not a single practical hint or useful device is omitted. We see the operator at his work, describing each step as he goes along, beginning with an enumeration of the instruments and ending when the patient is removed to her bed. The possible dangers and complications of trachelorrhaphy are fully and squarely stated. Whatever faults Dr. Mundé's book may possess, want of frankness is not one of them. In this respect it is the true child of its author.

The subject of perinæorrhaphy receives the attention which its importance deserves. In his pathology the author leans perhaps more decidedly toward the "keystone" theory than some of his *confrères*. His recommendation of the primary operation will carry weight, and the description of its performance (page 487) is a very clever and graphic sketch, which furnishes a good example of the writer's rapid, nervous style. The details of the operation, both in partial and in complete lacerations, are exceedingly well given. It is in these practical directions that the author excels as a teacher and writer. Dissertations upon pathology are not his *forte*, but in describing gynæcological manipulations, as he has practiced them himself, he is perfectly at home. The operation proposed by Dr. Emmet, which, as Dr. Mundé remarks, is properly designed for the cure of proctocele, is duly described and figured. The author seems to have formed as clear an idea of the operation as any one has done, but we question most emphatically the statement that in passing the sutures they "are carried deep into the furrow and entirely under the raw surface, so as to pick up the separated fibers of the pelvic fascia." Even granting that the pelvic fascia has become detached (which is not by any means certain), how can the operator be sure that he is "picking it up" when he does not know where the torn fibers are? Dr. Mundé concludes that the new operation will "not supersede the old, except in comparatively slight external lacerations, where the redundancy and prolapse of the posterior wall predominates."

The various operations for the cure of cystocele, proctocele, and prolapsus are briefly described and figured. Reference is made to Emmet's "button hole"; but it should be mentioned that urethrocele is only one of several conditions for the relief of which an artificial urethro-vaginal fistula is made by the proposer of the operation. We are glad to see that prominence has been given to De Leet's operation for the cure of complete procidentia, for it deserves a more thorough trial in this country than it has had hitherto.

The latter part of Dr. Mundé's work bears evidences of hasty composition. After devoting ample space to trachelorrhaphy and perinæorrhaphy, he dismisses some of the other operations in a few words. The impression which the reader receives is that the author found that his book was assuming too great proportions, and resolved to condense it, even at the risk of giving it an appearance of unevenness and want of symmetry.

We have already referred to the chief excellence of the book—its practical character and the sound common sense which pervades it. The style is not always the most pleasing. While it is frequently clear and concise, it is sometimes rather involved. The author excels in descriptions; the purely didactic portions are occasionally marred by complicated sentences. The work is the product of years of experience and observation, and may be safely relied upon as being the outgrowth of the writer's own practice. He makes few statements which have not stood the test of his own judgment. Although there is much that might have been omitted without detriment either to the book or to its author's reputation as a careful writer, as it stands it will long continue a standard text-book.

Diseases of the Urinary and Male Sexual Organs. By William T. Belfield, M. D., author of "Relations of Micro-organisms to Disease"; Pathologist to the Cook County Hospital, etc. New York: William Wood & Co., 1884. Pp. vii–351.

The author states in his preface that the present work was prepared hastily and without sufficient time being allowed for revision. There are certainly but few signs of such haste, except in the last four chapters. The matter is well arranged, and prominence is given to several topics which have hitherto received but scanty notice in American treatises on urinary surgery. Following the German school, Dr. Belfield enters minutely into the anatomy of the subject, and devotes several chapters to the examination of the patient, one of which includes an admirable *résumé* of endoscopy. The physiology and pathology of the urine are as thoroughly discussed as is possible in a few pages. Chapters XVIII and XIX, on diseases of the kidney and bladder, are brief but satisfactory. We may add, with reference to that portion of the volume which is devoted to the diseases of the urinary organs, that it is excellent throughout, and the only regret in the reader's mind when he has finished it is that the book does not conclude here. The last forty pages, which treat of sexual disorders, are by no means so creditable to the author, since they bear evident marks of rapid composition and an apparent haste to finish as soon as possible.

Dr. Belfield has no reason to feel dissatisfied with his work. It is largely German in its tone, but it is in no sense either a compilation or an imitation. The author shows a personal knowledge of his subject, and many of his statements are founded upon the results of his own experiments.

It is hardly necessary to say that the reader will find in this book all of the latest ideas concerning urethral fever, as well as a clear and intelligible description of the methods of using Grünfeld's instruments, catheterizing the ureters, exploring the bladder through a perineal incision, etc. Nearly all of the woodcuts illustrate urinary sediments.

Medical German. A Manual designed to aid Physicians in their Intercourse with German Patients, and in reading Medical Works and Publications in the German Language. By Solomon Dresser, A. M., Ph. D. New York: J. H. Vail & Co., 1884. Pp. 1–136.

Dr. Dresser has issued a most useful little book, especially for students who are contemplating a trip abroad. Written after the style of Ollendorf (though more dignified in its form), it contains just such dialogues as occur so often at the bedside and in the clinic. The first half of the volume contains a list of nearly six thousand words, such as are apt to occur in German medical works or lectures. The criticism to be made here is that the different parts of speech are bundled without regard to their relative importance or alphabetical arrangement. This fault is partly atoned for by the addition of a full English and German index at the back of the book.

The form of the dialogues is briefly this: A patient enters with bronchitis. "Where do you feel pain?" asks the physician. "I have soreness behind the breast-bone, and pain in my limbs," replies the patient, and so on.

When we remember how Americans of old were obliged to learn their medical German without special lexicons and other helps, such as the present manual, we can not be surprised at the fact that "studying abroad" was a far more formidable undertaking than it is now.

BOOKS AND PAMPHLETS RECEIVED.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. Assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume III. Diseases of the Respiratory, Circulatory, and Hæmatopoietic Systems. Philadelphia: Lea Brothers & Co., 1885. Pp. 9–19 to 1032, inclusive.

Tratado Práctico de las Enfermedades de las Mujeres. Por el Doctor Gaillard Thomas, Profesor de Obstetricia y de Enfermedades de las Mujeres y de los Niños del "College of Physicians and Surgeons" de Nueva York, etc. Segunda Edicion Española, Corregida y Aumentada con Seis Capítulos, Ciento un Grabados Nuevos, Multitud de Notas de la Ultima Edicion Inglesa, un Prólogo, y un Apendice Terapeutico, por el Doctor Juan García Puron, Ex-Médico-Cirujano del Ejército Mexicano, etc. Nueva York: D. Appleton y Ca., 1885. Pp. xxvi–888.

Epitome of Diseases of the Skin. Being an Abstract of a Course of Lectures delivered in the University of Pennsylvania during the Session of 1883 and 1884. By Louis A. Duhring, M. D., Professor of Skin Diseases. Reported by Henry Wile, M. D., Clinical Assistant in the Department of Skin Diseases in the University Hospital. Philadelphia: J. B. Lippincott Co., 1886. Pp. iii–13 to 130, inclusive. [Price, 60 cents.]

A Guide to the New Pharmacopœia (1885). Comprising an Epitome of the Changes, and an Account of the New Preparations, their Characters, Uses, Doses, and Modes of Administration; together with a Therapeutical Commentary. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital, etc. London: J. & A. Churchill, 1885. Pp. viii–108.

The External Therapeutics of Pulmonary Consumption. Third Paper. By Thomas J. Mays, M. D., Philadelphia. [Reprinted from the "Medical News."]

A Case of Traumatic Aneurysm of the Axillary Artery, etc. By L. S. McMurtry, A. M., M. D., Danville, Ky. [Reprinted from the "Journal of the American Medical Association."]

Report on the Chemical Examination of the Waters of the Public Wells of Albany, N. Y. By Willis G. Tucker, Ph. D. Transmitted to the Board of Health, July 20, 1885.

Suggestions on Some Symptoms of Renal Disease and their Management. By Charles W. Purdy, M. D., Chicago. [Reprinted from the "Journal of the American Medical Association."]

Annual Announcement of the New York Polyclinic. 1885–1886.

THE
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A Weekly Review of Medicine.
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PASTEUR'S PREVENTIVE INOCULATION OF HYDROPHOBIA.

In another part of this issue we reproduce from the "Medical Times and Gazette," of London, a brief but very satisfactory account of M. Pasteur's system of protective inoculation of rabies. Under any circumstances, the results which M. Pasteur has been enabled to report to the *Académie de médecine* could not fail to prove of surpassing interest, but just at the present time they seem to come most opportunely, for hydrophobia is so prevalent in England as to be termed epidemic, and many cases have lately been reported in Paris.

It would be premature to settle down to the conviction, on the strength of Joseph Meister's case, that an infallible preventive had at last been found of a disease which, although, fortunately, of comparatively rare occurrence, is undoubtedly the most horrible in all our nosology, whether we regard the torturing uncertainties of its variable and often extremely protracted period of incubation, the uniformity with which it destroys life, or the terrible suffering that attends its course. But, while we would not hastily accept this comforting conclusion, on the other hand we have little patience with the pertinacious objectors who seem bent on belittling every step in Pasteur's course of investigation, and ready to attribute Meister's escape thus far to anything but the inoculations. Almost every innovation in medicine has to encounter a hand-to-hand resistance. Tantalizing as the process is, it is not wholly a disadvantage, for it guards against our falling lazily into a blind acceptance of what happens to be at the same time plausible and agreeable. In our estimate of such a matter as the Pasteur system of inoculation, we should divest ourselves alike of credulous enthusiasm and of over-skepticism.

The main considerations to be taken into account are, briefly, these: The dog that bit young Meister was not absolutely proved to have been mad. As is too often the case, it was killed before the clinical features had declared themselves unmistakably. Nevertheless, so long as it was permitted to live it showed the symptoms common to dogs in the early stage of the disease, and at the post-mortem its stomach was found stuffed with the refuse that competent observers have declared to be a conclusive sign of the depraved appetite characteristic of hydrophobia. The boy was terribly bitten, not in one place, but in many, and in portions of the body where the probability of inoculation is at its highest. The cauterization was not done until twelve hours after the bites had been inflicted; it was then done, not with a hot iron, but with carbolic acid, and we are told that some of the wounds were not cauterized at all. But, even if we admit that the cauterization protected the boy against hydrophobia as the result of the bites, we can not for a moment entertain the idea that it also rendered him proof against the fatal result that would, almost to a dead certainty, have followed M. Pasteur's inoculation of the intensified virus, except for the protective effect of the preparatory inoculations. Even the theoretical objection that the rabies of rabbits is not communicable to other than herbivorous animals fails to break the force of this last statement, for Pasteur himself has shown that it can be communicated to the *Carnivora*. Unless, as the "Gazette hebdomadaire de médecine et de chirurgie" suggests, we are content to rest our last doubt on the insufficient time that has elapsed since Meister was bitten, we must conclude, then, either that he has been saved from hydrophobia by M. Pasteur, or that he was born into the world with a most remarkable immunity. It is true that the period of incubation is sometimes very long, and that but little more than three months have elapsed since Meister was last inoculated; but in most cases the disease declares itself within that length of time, especially in the young. In view of all these considerations, we must admit that the probabilities are gratifyingly in favor of the belief that M. Pasteur has at last succeeded in furnishing us with a means of preventing this terrible disease, but, of course, time alone can confirm or overturn our expectations.

THE PROPOSED REGULATION OF MEDICAL PRACTICE IN THE STATE OF NEW YORK.

THE president of the New York State Medical Association, in his address delivered before that body last Tuesday, took decided ground against State legislation intended to affect medical education. It is well known that for two or three years past the Medical Society of the State of New York—and our distant readers should bear in mind the distinction between the two societies—has been trying to obtain such legislation as would make the right to practice depend upon a State license. The prevailing idea has been that this license should be granted only after a State examination, regardless of candidates' diplomas. Legislation of this sort would, of course, have an effect upon the teaching in the medical colleges of the State, but the effect would be an indirect one, bearing scarcely more upon the New York colleges than upon others, and that it would be wholesome there can be no doubt. It certainly need not involve any interference with the curriculum of a college or with its methods of teaching.

There is no lack of honest and capable men who are opposed to such legislation, or at least distrustful of it, and it must be confessed that the questions involved in the project are by no means easy of solution, but it is somewhat disheartening to find such an issue raised in connection with it as one of those which were raised in the address alluded to—both because we think the issue irrelevant and because we think that the implied appeal to the material interests of the New York colleges is one that they themselves would scarcely feel comfortable in urging upon the attention of the Legislature.

Dr. Gray expressed his apprehension that the legislation proposed would "transfer students who came to the medical colleges of New York from all parts of the country, and from

foreign countries, to the schools of Boston, Philadelphia, and other cities." We have before heard this fear expressed in private, but never before, so far as we are aware, has it been put forward in public. We do not believe that the profession of the State would attach much weight to an argument of this sort, even if it were well founded, which it certainly is not, in our opinion; for it plainly puts self-interest above all other motives, and it is in no such temper that the Medical Society of the State of New York has taken up the question. We can not, indeed, think that the colleges are willing to put themselves publicly in the position of trying to obstruct legislation in the interest of progress simply because they think they may lose a few students.

Unless Dr. Gray's understanding of the proposed legislation differs radically from ours, he can only have had in mind the regulation of the right to practice by the State, and not any interference with the college requirements for graduation. As we view the matter, there is not the slightest danger that such legislation will work the least injury to the colleges. The question will be as to the means of obtaining a license to practice in this State, and the graduate of a New York college will not be at any disadvantage. Students who intend to practice in this State will not be enabled to slip through any more easily by having taken their college courses or their diplomas elsewhere, and those who intend to practice in some other State will in no wise be affected by the New York law. We do not believe, therefore, that the legislation in question will lead a single student away from New York.

MINOR PARAGRAPHS.

THE NEW YORK STATE MEDICAL ASSOCIATION.

As we go to press, the second annual meeting of the association is in progress at the Murray Hill Hotel, and we give a portion of the proceedings in this issue of the Journal. The necessity of holding evening sessions testifies to the amount of work that is being done, and, judging from the reports of the proceedings thus far received at this office, we feel safe in saying that the quality of the papers read is in general quite up to what was expected of this new and energetic body. A particularly commendable feature of the programme is the grouping of papers dealing with the same subject from different points of view. The attendance is large and representative of the various sections of the State, and the meeting must be said to be decidedly successful.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 17, 1885:

DISEASES.	Week ending Nov. 7.		Week ending Nov. 14.	
	Cases.	Deaths.	Cases.	Deaths.
[illegible]	0	0	4	0
[illegible]	4	0	5	8
[illegible]	20	2	21	0
Cerebro-spinal meningitis...	1	1	4	4
[illegible]	5	1	13	4
[illegible]	50	50	50	28
[illegible]	2	2	2	2

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, November 11th: *Montreal, Canada.*—For the week ending November 11th: 143 deaths from small-pox in the city, and 93 in adjoining municipalities as compared with 233 and 89, respectively, during the week ending November 4th. Reports received at this office indicate that the number of deaths occurring in the city from the disease is steadily declining, while the area of the infected district beyond the city limits is as steadily increasing. Twenty-nine places were reported infected November 7th. The City Auditor of Montreal reports, under date of November 5th, an expenditure of $40,799.79 in connection with the epidemic, and states that he believes the total expense to that date will reach $100,000. *Kingston, Canada*, November 13th: Free from small-pox. *Toronto, Canada*, November 7th: Free from small-pox. *Matanzas, Cuba*, November 4th: Free from epidemic diseases. *Nassau, N. P.*, October 24th: Free from epidemic diseases. *Acapulco, Mexico*, October 25th: Health of city improving. *Guaymas, Mexico.*—For the month of October: 6 deaths from yellow fever. No cases of fever have been reported at other towns in the consular district. *Buenos Ayres.*—For the month of May: 92 deaths from small-pox. *London, England.*—For the week ending October 31st: 9 deaths from small-pox. Cases in hospital, 88; admissions during the week 14, as against 11 in the preceding week. *Paris, France.*—For the week ending October 31st: 8 deaths from small-pox. *Bordeaux, France.*—From October 17th to 31st: 5 deaths from small-pox. *Antwerp, Belgium.*—From October 17th to 31st: 3 cases and 2 deaths from small-pox. *Copenhagen, Denmark.*—For the month of September: 45 deaths from small-pox. *Zurich, Switzerland.*—For the week ending October 21st: 2 deaths from small-pox. *Prague, Bohemia.*—For the week ending October 29th: 7 deaths from small-pox. *Trieste, Austria.*—From October 10th to 24th: 15 cases and 4 deaths from small-pox. *Barcelona, Spain.*—From October 10th to 20th: 169 cases and 78 deaths from cholera. October 18th to 20th, no new cases or deaths reported. *Cadiz, Spain.*—For the week ending October 31st: Cholera has disappeared, and clean bills of health are to be issued after November 1st, *Gibraltar, Spain.*—For the week ending October 25th: No new cases of cholera since October 13th. Sporadic cases still reported in neighboring Spanish villages. Dengue prevalent. *Genoa, Italy.*—From October 18th to November 1st: 20 cases and 1 death from small-pox. *Leghorn, Italy.*—For the week ending October 25th: 1 death from small-pox. *Venice, Italy.*—From October 3d to 17th: 16 cases of small-pox. *St. Petersburg, Russia.*—For the week ending October 24th: 1 death from small-pox. *Warsaw, Russia.*—From October 3d to 17th: 3 deaths from small-pox. *Calcutta, India.*—From September 19th to October 3d: 13 deaths from cholera and 1 from small-pox. *Hioga, Japan.*—For the week ending October 10th: 22 cases and 21 deaths from cholera.

Scarlet Fever in Boston.—It is reported that the disease is increasing in certain portions of the city.

The Sanitary Inspection on the Canadian Frontier.—Under date of November 10th, Surgeon H. W. Austin, of the Marine-Hospital Service, reports to Surgeon General Hamilton as follows:

"I have the honor to report that I completed the inspection of all Vermont stations November 6th, and then returned to Burlington, Vt. Awaiting my return was a large amount of mail requiring immediate attention, and, having no clerk, it consumed considerable time to dispose of it, hence the delay in re-

porting the result of my inspection. Considerable complaint was heard that only a part of Montreal baggage was disinfected at our stations, and that it must be done at the points of destination. To satisfy local and State health officers, and in order that every possible precaution might be taken, I issued an order to all Vermont inspectors, and to the inspectors on duty at Rouse's Point, to thoroughly disinfect all Montreal baggage, and this is now being carried out. Each station has a well-equipped fumigation building, where the baggage is opened and hung up on hooks, and allowed to remain in sulphurous-acid gas for four to twelve hours, according to the nature of the articles to be disinfected. Three pounds of sulphur are burned in one thousand cubic feet of space. The baggage is then carefully put back into the trunks, which are then checked and sent on to their destination. Very few certificates of vaccination are at present accepted by our inspectors, but the arm is examined instead, and all are vaccinated when considered necessary. Large quantities of freight, consisting of household goods, are disinfected at each station. This is generally done in a freight-car which is suitable for the purpose. To illustrate the faithfulness or thoroughness with which the work is done aboard the trains, and the various ways resorted to by certain emigrants, I will cite a few incidents. At Ogdensburg, N. Y., an Indian of some Canadian tribe was met on the ferry by our inspector, and he was asked the question whether he had been vaccinated. He replied, 'Indian had not been vaccinated and not propose to be.' He was informed that he would have to return unless he allowed the inspector to vaccinate him. He reluctantly consented, and when the vessel arrived at port it was found that he had baggage that required disinfection. To this he strongly objected, but, rather than have it returned, gave it over to the inspector, who put it in the fumigation building. He waited and watched the process with great interest, and, as soon as the door was opened, plunged into the room where the smoke was so dense that nothing could be seen, but returned in a second (well fumigated), but nearly suffocated. He finally received his baggage and started. He immediately got drunk, was put in the lock-up by the city authorities, and was returned to Canada the next morning, he being without means of support.

"On one of the trains a woman slipped by the inspector and entered the water-closet. She was allowed to remain there two hours, and then a brakeman rapped for her to come out. She refused to do so, and had to be taken out by force. She was vaccinated and allowed to pass. Passengers will mutilate their own arms and produce the wound as evidence of vaccination. They have been detected in doing this, but it does not often succeed. They frequently wipe off the virus after they have been vaccinated, and always, when they are discovered, must submit to revaccination. It will be seen that over certain railroads twenty per cent. of all passengers are vaccinated. The fumigation of baggage is performed by the baggage-masters of the different roads, as they requested that they be permitted to do the work, as they were responsible for the baggage and would be obliged to oversee the work and look after checks and reshipping. This, of course, is done under the direction of the sanitary inspectors; but we are obliged to pay the men for the work, and they are subject to our orders. In this connection I would like to inform you that the railroad authorities of the Central Vermont, the Grand Trunk, the South Eastern, and the Passumpsic have given us every facility to inspect passengers, baggage, and freight, and have assisted and supported our inspectors by every means in their power, and deserve the thanks of the service and the community generally.

"The inspection of trains is a difficult work, but it is being done as thoroughly as it is possible to do it. The inspectors are doing their work well, as I believe the result will prove. I have been with each inspector in making his trip to Canada and return, and am satisfied that all understand their duties, and are doing them well and satisfactorily to all intelligent and unprejudiced persons."

The Suffolk District Medical Society.—At the regular meeting of the Gynæcological Section, held in Boston, on Wednesday, November 18th, the following papers were read: "An Unusual Case of Hydatids complicating Labor," by Dr. W. A. Dunn; a translated account of "A Successful Case of Cæsarean Section," performed on a Japanese woman by a young woman recently graduated from an American medical college, and who went to Japan as a missionary, by Dr. E. W. Cushing; "The Use of Ether during Labor," by Dr. J. P. Reynolds, who reported seven cases of difficult labor in which ether had not only relieved the suffering, but had prevented a recurrence of complications which had occurred in previous labors—notably, post-partum hæmorrhage in three of the cases. He favored the general use of ether during labor, as did the gentlemen who took part in the discussion of the paper.

The Hempstead Church Restoration Fund.—Since our last issue we have received $10 for the fund from Dr. Fordyce Barker. The total sum now subscribed amounts to $31.

The Vacant Chair at the Long Island College Hospital.—We have assurances, if any were needed, that the greatest care will be exercised in choosing a successor to the late Dr. Armor. Indeed, the charter of the institution provides safeguards in this direction such as we should be glad to see imposed upon all our medical colleges.

Death from Football having been alleged in the case of a member of the freshman class at Yale College, who lately died suddenly of cerebral hæmorrhage, Dr. W. O. Ayres and Dr. W. W. Hawkes, who made the post-mortem examination, have furnished statements which seem to set the suspicion at rest.

The New York Society for the Relief of the Ruptured and Crippled held its twenty-second annual meeting on Thursday of last week. Eight thousand three hundred and seventeen new patients were reported to have been treated during the year.

The New York State Board of Health held a meeting in New York on Monday, at which the satisfactory character of the frontier inspection, under the direction of the Marine-Hospital Service, was clearly established.

The late Dr. Alonzo T. Keyt, of Cincinnati.—Dr. Keyt died suddenly, of cardiac disease, on Monday, the 9th inst., in his fifty-eighth year. He was a native of Ohio, and had been a practitioner in Cincinnati for upward of thirty-five years, his career having been honorable and successful. He was best known for the invention of a remarkably ingenious cardiosphygmograph. At a meeting of prominent members of the Cincinnati profession, held on the Wednesday following his death, appropriate resolutions, drawn by Dr. A. E. Jones, Dr. William Carson, and Dr. W. H. Wilder, were passed, and remarks eulogistic of the deceased were made by Dr. C. G. Comegys, the chairman of the meeting, and by Dr. Carson, Dr. Dunn, Dr. Jones, and Dr. Kemper.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, since November 16, November 21, 1885:*

McCULLAN, Ely, Major and Surgeon. Leave of absence granted in orders, Cavalry Depot, Jefferson Barracks, Missouri, Octo-

ber 30th, is extended seven days. S. O. 254, A. G. O., November 4, 1885.

Ebert, R. G., Captain and Assistant Surgeon. Ordered from Camp Grant, Riverside Park, New York city, to Fort Hamilton, New York Harbor, for duty. S. O. 237, Department of the East, November 5, 1885.

Bushnell, G. E., First Lieutenant and Assistant Surgeon. Assigned to duty at Camp Grant, Riverside Park, New York city. S. O. 237, Department of the East, November 5, 1885.

Baily, E. I., Colonel and Surgeon. Relieved from duty as Attending Surgeon, San Francisco, Cal., and ordered for duty as Medical Director, Division of the Pacific and Department of California. S. O. 260, A. G. O., November 11, 1885.

Norris, Basil, Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of the Columbia. S. O. 260, A. G. O., November 11, 1885.

McKee, J. C., Major and Surgeon. Ordered for duty as Attending Surgeon and Examiner of Recruits, Boston, Mass. S. O. 260, A. G. O., November 11, 1885.

Vollum, E. P., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of Texas. S. O. 260, A. G. O., November 11, 1885.

Smith, J. R., Lieutenant-Colonel and Surgeon. Ordered for duty as Attending Surgeon, New York city. S. O. 260, A. G. O., November 11, 1885.

Alexander, R. H., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of Arizona. S. O. 260, A. G. O., November 11, 1885.

Kane, John J., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort Ringgold, Texas. S. O. 141, Department of Texas, November 4, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 14, 1885.*

Sayre, J. S., Assistant Surgeon. Detached from Naval Hospital, Mare Island, and ordered to the Omaha.

Dixon, W. S., Surgeon. Detached from Coast Survey Steamer Hassler upon reporting of his relief, Past Assistant Surgeon D. O. Lewis, and to wait orders.

Lewis, D. O., Past Assistant Surgeon. Detached from naval rendezvous, San Francisco, and ordered to relieve W. S. Dixon, Steamer Hassler.

Dungan, J. S., Medical Director. Ordered to naval rendezvous, San Francisco, to relieve Past Assistant Surgeon D. O. Lewis.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended November 14, 1885.*

Wheeler, W. A., Passed Assistant Surgeon. To proceed to Ontario, Canada, on special duty. November 11, 1885.

Loughhead, E. M., Passed Assistant Surgeon. To proceed to Baltimore, Md., with steamer Manhattan, and then rejoin station. November 12, 1885.

Society Meetings for the Coming Week:

Monday, *November 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *November 24th:* New York Dermatological Society; New York Surgical Society; Medical Association of Central New York (annual—Syracuse); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

Wednesday, *November 25th:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational); Auburn City, N. Y., Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *November 26th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Brooklyn Pathological Society; Pathological Society of Philadelphia; Roxbury, Mass., Society for Medical Improvement (private); Cumberland County, Me., Medical Society (annual—Portland).

Friday, *November 27th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *November 28th:* New York Medical and Surgical Society.

Letters to the Editor.

THE PROPOSED NEW NATIONAL MEDICAL SOCIETY.

——, Minnesota, *November 5, 1885.*

To the Editor of the New York Medical Journal:

Sir: Regarding the discussion relating to the formation of a National Medical Academy I desire to add my mite. My suggestion is that (*a*) each subscriber of a medical journal in the United States send to the editor of his journal a list containing one hundred names who he desires shall constitute the Academy; (*b*) the editors of the medical journals in the United States vote for three deans of medical colleges, who shall constitute a canvassing board to count the votes sent in by the subscribers, announce the result, and name a date and place for a meeting and organization for the successful one hundred.

Each editor sends a ballot, on which appear the names of three college deans, to the surgeon-general of the army, who canvasses the vote, and the three receiving the highest number of votes constitute the canvassing board. The surgeon-general then names a date and place of meeting for this board to canvass the general election of the subscribers. Each editor sends the lists received from his subscribers to any member of the board, who are to meet at the place designated by the surgeon-general, and count the votes; and the one hundred receiving the highest number are to constitute the members of the Academy.

When a physician subscribes for more than one journal and sends more than one ballot, the canvassing board is to decide, by lot or otherwise, which ballot shall be counted. Each ballot is to be signed by the voter; the subscribers to vote in one month and the editors in the next month.

This plan I submit to the readers of your journal for consideration. It appears to me more simple than the one suggested by your correspondent in No. 361, and would give every member of the medical profession a voice in the formation of a body to which he will ever after point with pride. This is offered "as a labor of love" by one of those who "have no hope of becoming members of the Academy themselves."

I am, fraternally, W. H.

Proceedings of Societies.

NEW YORK STATE MEDICAL ASSOCIATION.

Second Annual Meeting, held in New York, Tuesday, Wednesday, Thursday, and Friday, November 17, 18, 19, and 20, 1885.

The President, Dr. JOHN P. GRAY, of Utica, in the Chair.

Tuesday's Proceedings.

The Report of the Council recommended that papers which were to appear in the volume of "Transactions" of the association be not published in the medical journals previously.

The Treasurer's Report showed the total receipts for the year to have been $2,461; balance in the treasury from last year, $683. Deducting disbursements for the year, there remained a balance of $193. For the library fund, the surplus from anniversary subscriptions last year was $630, $315 of which had been placed to the account of the building fund. Excluding disbursements, there remained in the library fund $31; $80 had been subscribed for a binding fund.

Dr. FERGUSON offered some amendments to the by-laws, to be acted upon at the next annual meeting. They referred chiefly to abolishing the office of corresponding and statistical secretary, the appointment of a librarian by the Council, and the striking out of certain words as to the qualifications of new members.

The President's Address: The Relations of the State to Medical Science.—The PRESIDENT then read his address, in which he reviewed the educational policy of the State of New York, which was confined principally to supervision of the common schools and of the normal schools in which teachers for the common schools were trained. The duties of the Board of Regents were briefly referred to. Law schools, medical schools, scientific schools, etc., were corporations sustained by private contributions or their earnings, and were individual enterprises, receiving no grants from the State. He then asked the question, what legislative interference was proper with this class of institutions which represented scientific education and research. Whether the State itself should undertake such education as a public measure constituted a serious question in political economy, and for this State, for the present at least, that question had been answered adversely. Legislative control over the medical schools of this State was not demanded by public interest. It was not intended to dispute the power of the Legislature to regulate medical education and declare what should constitute a doctor in medicine; but the fact was that the Legislature exercised its power only in the way of fostering, protecting, and advancing the interests of medical science up to giving the best opportunities to schools for attaining this end, and at the same time as far as possible allowing the individual entire freedom of special study and of the means for acquiring a knowledge of medical science. The State had not adopted, and could not adopt, any particular school or system of medicine as against others. It was the part of wisdom to give the widest latitude to discussion wherever matters of opinion seemed to be in conflict. The giving to the physician certain powers which the State had conferred upon him was the highest indorsement which the State could give the profession. The State had left the cultivation and development of medical science to the medical profession alone, and had granted the right to incorporate societies and associations in order to maintain its unity of work, and for its elevation and progress. With regard to the services of the medical profession to the public, little need be said. The physician's services were sought for by the people in the same way that the services of the lawyer or any other member of the community were sought for. As to the matter of granting diplomas, and the control of this power by the State, the speaker's views were adverse to any such proposed change. The State did not even attempt to regulate the compounding and sale of drugs and nostrums. As the State had nothing to do with the teaching in the schools, so it should have nothing to do with the examinations. What possible efficiency such a board of examiners as had been proposed could have in benefiting medical science, the profession, and the people, did not appear. Such a change would transfer students who came to the medical colleges of New York from all parts of the country, and from foreign countries, to the schools of Boston, Philadelphia, and other cities. The schools had done excellent work in elevating the standard of medical study, and, while there was room for further improvement, to seek it in the guardianship of the State was an error. It was true also that the preliminary education should be better, and this demand also promised to be met as soon as the advance of the times would permit.

Reports of the Different Branches of the association were then read, in which it appeared that a large number of papers on different subjects connected with medical science had been read, and other work had been performed. The president of the New York County Medical Association, Dr. C. A. Leale, also read the report of the year's work of that society.

The Address in State Medicine.—Dr. ALFRED L. CARROLL, president of the Section in State Medicine, then read his address. He briefly reviewed state medicine, or sanitary medicine, as it had existed in ancient times, and said that many excellent rules were in force among the Israelites which would be of practical utility if adopted at present. State medicine, in its comprehensive sense, included all the medical interests of the State, but, in the popular estimation, the term had a narrow significance, being applied more especially to the practical administration of sanitary science for the protection of the public health. Even with this limited definition, preventive medicine had presented its claims with greater vigor than other specialties. Modern sanitation might be defined as applied physiology. The sanitarian should be primarily an accomplished physician, but he should add to his medical knowledge some theoretical if not practical knowledge of architecture and engineering. He should know how to detect defects therein and suggest the remedies. Dr. Carroll then pointed out some of the conflicting opinions of sanitary men regarding what constituted sanitary conditions. The superstructure of public sanitation had to be built upon the laws of personal hygiene. It followed that enlightenment in this direction must originate with physicians. As was the seed sown by medical schools so would be the harvest of public health. How had these schools fulfilled this condition? He would grant that many of them furnished the opportunities, for a pupil having means and ambition to make use of them, to gain the necessary education, but what was needed was an enforced education in all important branches, not leaving their study optional with the student. He named the studies and time required for study in England, and said that, while the work seemed formidable, it would also be seen that the knowledge to be acquired was not more than every physician should have when he came to discharge his duties to the public and to private patients. In his official relations Dr. Carroll had had an opportunity of learning what were the acquirements of persons who sought positions on boards of health, and the answers by men graduated from regular medical schools had often been absurdly erroneous. Now and then there were marked exceptions, even in remote country districts. He thought a weakness in the State and local boards of New York existed in the short term of office, and in the time spent in inducting new men into strange duties. The need of a preliminary education and of a higher

and more thoroughly enforced medical education was pointed out.

Tubercular Consumption; Is it ever Hereditary?—Dr. Henry D. Didama, of Syracuse, read a paper on this subject, in which he quoted the opinions of different authors on the subject of hereditary tendency, hereditary diathesis, etc., and also the results of post-mortem examinations by various pathologists, and said that in the examinations of the bodies of hundreds and thousands of fœtuses none had been found to have tubercle, which weighed very heavily against the heredity theory. He also quoted the statistics furnished by insurance companies, by which it appeared that the majority of cases of phthisis occurred in persons whose parents had not suffered from the disease. The following were the conclusions which the author reached: 1. That tuberculous disease was not inherited. 2. That, if a special tendency to the disease was transmitted, the term liability better expressed the idea than the term tendency. 3. That many conditions, such as poor and insufficient food, damp and impure air, stinted sunlight, and certain occupations, favored the development of the disease. 4. That two conditions were almost indispensable; abundance of bacilli and an inviting asylum for their development, whether the susceptibility was inherited or acquired. An important indication was to place the newly born child of a phthisical mother under the charge of a healthy wet-nurse, who should occupy a room entirely secluded from that of the consumptive members of the family. This gave an opportunity to strengthen the feeble constitution and to eradicate a liability to the development of consumption. If a syphilitic taint existed or was suspected, the author advised antisyphilitic treatment, not only with a view to cure the syphilis, but also with a view to strengthen the constitution and guard against the development of phthisis.

Dr. Thomas F. Rochester, of Buffalo, said that some years ago he made an autopsy on an infant which died three weeks old. He found one lung crammed with miliary tubercles, and in the other there was a cavity of the size of a hickory-nut. The mother was healthy; the father had died before the baby was born. In another case, in which the father died before the birth of the child, and the mother was a healthy woman, having no tuberculosis, the child died at eighteen months of age, having had for a long time before death every indication of pulmonary phthisis, and for a short time of tuberculosis of the vertebræ. In the light of these cases he could not help believing that, sometimes at least, phthisis was hereditary. He would admit, however, that many people had phthisis whose parents had been free from the disease. The paper was further discussed by Dr. Colvin, Dr. Pomeroy, and others.

Psoitis and Peripsoitis; their Pathology and Differential Diagnosis.—Dr. Simeon T. Clark, of Niagara County, read a paper with this title, in which he first referred to the paucity of the literature of the subject, and the difficulties attending a differential diagnosis, and then proceeded to give the clinical histories of three cases which had come under his observation. In all the cases there had been a history of traumatism. In the first case the patient, a woman without children, aged forty-three, had received a blow on the abdomen, which was followed by severe pain in the supra-pubic region, two inches from the median line. A hard lump was recognized by the physician who examined her, from which the pain seemed to proceed. Nothing was discovered by a vaginal examination. Dr. Clark saw the patient afterward, and became convinced that there was suppuration or inflammation of the psoas. Pus was removed and thirty-one aspirations were made before a cure was finally effected. The pus did not contain a trace of phosphate of lime.

The second case was in a young man, whose condition originated in strains during roller-skating. When he consulted his physician, Dr. Gould, he complained of pain in the region of the hip, and had a rapid, bounding pulse, and a temperature of 105° F. Afterward copious perspiration of an acid odor, etc., led to the diagnosis of rheumatism, but finally a boggy tumor appeared in the supra-pubic region. An exploratory puncture gave exit to foul gases, followed by pus. An opportunity to make an autopsy was afforded in this case, and a psoas abscess was found, which had led to denudation of the bone beneath. There was also some softening of the vertebræ, but it was evident that the disease had originated in the muscle, and not in the vertebræ.

The third case was that of a man who first attributed his difficulty to rheumatism, from which he had been a frequent sufferer, but it was learned that he had injured himself in the region of the psoas while throwing filled sacks upon a wagon. He complained much of pain in the neighborhood of the thigh. The pain was relieved by a local anæsthetic. A supra-pubic tumor developed, which, at a time when Dr. Clark had intended to open it, burst spontaneously into the bladder, and a quart of healthy pus was evacuated *per urethram*. Another opening for the escape of pus was afterward made above Poupart's ligament. Pus then ceased to escape through the bladder, and finally through the artificial opening, and the patient went on to complete recovery.

In regard to the differential diagnosis, stress was laid on the history of traumatism, on pain in the thigh and leg, on the posture of the patient, who avoided extending and rotating the leg, on the supra-pubic tumor, and on aspiration letting out laudable pus. In each of his cases the syringing of the pus cavity had been followed by washing out with a solution of carbolic acid.

Dr. Frederick E. Hyde believed that many cases of supposed vertebral disease were really cases of the kind related by Dr. Clark, and he urged with great earnestness the importance of making a careful search in suspected cases for a history of traumatism, for a pelvic tumor, and for pus, by the repeated use of the aspirator if necessary; for the train of evils following a change of the laudable pus which was first present into unhealthy pus was too long and serious to permit of postponement, with the idea that eventually the symptoms would demonstrate the case to be one of Pott's disease. If taken in the early stage, a cure could be effected and the bones would escape implication.

Dr. J. Cronin, of Buffalo, had seen two or three cases of psoitis, and said that in diagnosis valuable aid would be found in putting the patient under the influence of chloroform, flexing the thigh, and searching for fluctuation over the region of the psoas muscle. A history of traumatism was important in diagnosticating psoitis. Let the pus escape, he said, then keep the leg in the extended position, bringing the walls of the sac together, and union would rapidly take place.

Dr. E. M. Moore, of Rochester, thought that, where it could be shown that the disease had begun with a traumatism, it was unnecessary to try to explain its occurrence on the supposition of a tubercular inflammation; an acute disease might become chronic, and, of course, when this occurred there was a good opportunity for tuberculosis to develop. But the commencement might have been in fibrous tissue, and extension have taken place thence to the bone.

Note on Two Peculiar Conditions of the Mammary Gland was the title of a paper, by Dr. S. T. Clark, read by title.

Shock and the Effects of Injuries upon the Nervous System.—Dr. Charles W. Brown opened a discussion on this subject with a short paper, in which he described the symptoms

present in shock, and referred briefly to the explanations which had been suggested of its nature. He had seen a few cases of what had been termed "insidious" shock, in which the patients did not suffer pain in proportion to the seriousness of the injury, and were of a cheerful state of mind, although there was almost a diagnostic melancholy expression upon the face, which seemed to foretell death. He also referred to individual susceptibility, and said that some persons of fleshy habit and apparent health would succumb to a minor injury to which some others of delicate habit and nervous temperament would give way less readily. Shock was less marked in persons suffering from chronic disease, but such persons were less likely to regain strength and make a complete recovery afterward than those of previous good health who might be able to withstand the first influence of the injury upon the nervous system. There were two indications in treatment: the first, to modify the effects of the shock, and the second, to control excessive inflammation. The use of heat and stimulants received some attention.

Dr. Frank H. Hamilton, of New York, continued the discussion with a short paper, read for him by Dr. Bermingham. His remarks were limited to surgical shock, which might be defined as a general paresis of the nervous system induced by external violence. One point which received his attention was what was called railroad shock. Many of the symptoms which had been described as belonging to railroad shock were seen in certain cases of shock which occurred before railroads had come into existence. But, if we admitted that the introduction of railroads had brought into existence a particular kind of shock, he thought it was due to that sort of injury to the spinal column which was likely to occur in railroad accidents, resembling the cracking of the leash of a whip. In these cases he believed that the injury was not primarily of the nature of a shock resulting from commotion of either peripheral or central nerves, but that those structures which lay external to the spinal marrow and contributed more or less to its support and protection, of which the ligaments were the chief, were those which suffered direct injury, and from which inflammation subsequently progressed to the spinal marrow itself. As to the treatment of shock, reaction should be brought about by rest; in some cases by warmth, stimulants.

Dr. Edmund S. Arnold continued the discussion with a brief paper, in which he took the view that shock was due to an impression produced upon the sympathetic nervous system, tending to stop its function, and, in doing so, stopping nutrition of vital parts over which that system of nerves presided. Sudden death would occur if such influence was sufficient to entirely destroy the function of this system of nerves or ganglia, as in case of lightning stroke. Another illustration, he thought, was in death by hydrocyanic acid. If there was an influence upon the heart in this case, he thought it was directly due to suppressed function of the sympathetic system, which presided over its action.

Some general discussion took place, Dr. Kneeland, Dr. French, Dr. Moore, Dr. Arnold, Dr. Van de Warker, and Dr. Hendricks participating.

Insanity following an Injury of the Head; Cerebral Cyst; Operation; Recovery.—Dr. Carlos F. McDonald read a paper with this title, the case being that of a man who received a pistol shot in the frontal region, inflicted by his own hand. The man was sent to prison, where he developed symptoms of insanity, and had to be confined in a cell. For a considerable period of time, however, he had been required, and was able, to do prison duty, but manifested a passionate temper. It was decided to trephine at the seat of the wound, which was half an inch in diameter, a fourth of an inch in depth, located over the right first frontal gyrus, corresponding to the junction of the anterior and middle third, three eighths of an inch to the right of the median line. The patient was etherized, the wound was found traversed by dense fibrous tissue, and no bone covered the dura mater. A fine hypodermic needle was introduced, and nothing was withdrawn until the fourth puncture was made, when about two drachms of serum were withdrawn. The fluid contained a few blood-corpuscles, which were accidental. Nothing more was done than to close the wound with suture and dress it antiseptically. The patient, on coming from under the influence of the anæsthetic, was in his natural mind, and was greatly pleased with the relief from pain at the seat of the injury, and shortly afterward gave a satisfactory account of his case from the beginning, excepting for a period when he was unconscious. He went on to complete recovery, with permanent relief from cerebral symptoms except for a part of a day. It was learned that the physician who saw him after the shooting had removed the pistol-ball; he found no fracture of the bone and no spiculæ.

Discussion on Pneumonia.—Dr. Austin Flint opened the discussion with a paper in which he propounded the following questions:

1. Was acute lobar pneumonia a primary local inflammatory disease, or was it an essential fever, the pulmonary affection being secondary thereto and constituting its anatomical characteristic?

Since 1877, when he read a paper in support of the doctrine that acute lobar pneumonia was not a local affection, but an essential fever, that doctrine had been gaining ground. The view was supported by the following facts: 1. Acute lobar pneumonia was characterized by an enormous exudation into the pulmonary alveoli, and this exudation might be rapidly absorbed, leaving the tissues intact. This anatomical fact, he said, had no analogy in local disease. 2. Acute lobar pneumonia never persisted and became a chronic affection. 3. It was never referable to any appreciable local condition, nor was it possible by any form of traumatic injury to produce the affection. 4. Ordinary causes of local disease were not capable of producing acute lobar pneumonia. The traditional belief that the affection might be produced by cold was without foundation, and was being abandoned even by the Germans. 5. That a special or specific influence was invariably the cause of acute lobar pneumonia was rendered probable by its occurrence at certain seasons, its greater frequency in certain climates, and its occurrence at times as an endemic disease. 6. It differed from acute primary local inflammation in that at the outset there was a pronounced chill. 7. In the course of the disease the temperature and associated febrile phenomena bore no constant relation to the local affection. 8. Experience showed that acute lobar pneumonia responded better to treatment addressed to the fever than to the local affection.

2. What facts and rational grounds, with our present knowledge, could be cited in support of the doctrine that acute lobar pneumonia depended on the presence of a specific micro-organism?

Dr. Flint left this question for discussion to Dr. Janeway, but expressed his belief in a specific micro-organism as the cause of the disease.

3. What conditions or circumstances incident to acute lobar pneumonia tended to render the disease fatal?

The present or previous existence of certain other diseases rendered the prognosis more unfavorable, and certain conditions, as empyema, pulmonary gangrene, malarial miasm, etc., were more likely to develop in one who had been reduced by pneumonia. But of special conditions, rendering danger of a fatal issue in the course of the disease greatest, the author mentioned heart-clot and heart-failure.

4. Were there known remedies or therapeutic measures capable of arresting this disease, or of exerting a curative influence by either shortening its duration or conducing in any way to a favorable termination?

Dr. Flint had reason to believe that quinine had been of benefit in shortening or exerting a favorable influence upon acute lobar pneumonia. But he could not enter fully into a discussion of the treatment.

5. Was blood-letting ever indicated in this disease, and, if so, what were the circumstances indicating and contra-indicating this measure of treatment?

Acute lobar pneumonia tended intrinsically toward recovery. Treatment in general should be for special indications. He believed there were circumstances in which blood-letting would prove of benefit, and that benefit would be most likely to manifest itself in relief of oppressed heart-action. Contra-indications to blood-letting were, previous existence of enfeebling affections and the anæmic state. A plethoric condition and a bounding pulse were among indications for this measure. The collection of cases made some years ago by Lewes, in which there were twenty-eight deaths out of a total of seventy-eight cases in which blood-letting was resorted to, showed a high mortality; but the cases were not selected.

6. Was alcohol useful in the treatment of cases of acute lobar pneumonia, and, if so, what were the indications for its use, and how was its use to be regulated as regards the quantity given, etc.?

The author regarded alcohol as indicated wherever the supporting plan of treatment was required, wherever there was a tendency to asthenia. It should be begun tentatively.

7. To what extent was it safe and useful to employ antipyretic measures of treatment in cases of acute lobar pneumonia, inclusive of the cold bath, sponging of the body, or the wet sheet?

Dr. Flint spoke specially as to his experience with the wet sheet, which he had employed in three cases, with favorable results.

8. Did relapses of acute lobar pneumonia ever occur during or shortly after convalescence, and did this disease involve any special liability to other diseases or sequels?

The first part of the question the author answered in the negative, and said this fact was in favor of the view that the disease was an essential fever, for local diseases had relapses. But one attack did not exempt against subsequent attacks.

The first question propounded was discussed in brief papers by Dr. Didama and Dr. Ross; the second by Dr. Janeway, who expressed regret at having been unable, on account of sickness, to make further personal investigations regarding the influence of a micro-organism in the causation of pneumonia. He gave a synopsis of the literature of the subject. The third question was discussed by Dr. W. H. Robb and Dr. H. M. Biggs; the fourth by Dr. T. F. Rochester and Dr. E. Van de Warker; the fifth by Dr. S. T. Clark and Dr. C. S. Wood; the sixth by Dr. John Shrady and Dr. E. D. Ferguson; the seventh by Dr. G. Griswold, Dr. C. G. Stockton, and Dr. W. S. Fuller; the eighth by Dr. J. C. Orton.

(To be concluded.)

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of September 15, 1885.

The President, Dr. J. A. McCorkle, in the Chair;

Dr. Z. T. Emery, Secretary.

Hospital Obstetrics. Dr. Charles Jewett read a paper with this title. (See page 565.)

Dr. Stuart remarked that there were several points of special interest in the paper, first as to the very excellent remarks upon the application of the forceps, and the particular reference as to slow delivery. He had been in the habit, as some of the members of the society probably remembered, of using the forceps very frequently, and he had read a paper some years ago advocating the use of the forceps in delayed labor. He had modified his views somewhat in that respect, but he had grown more and more to see the value of what Dr. Jewett had said in regard to slow delivery when it was compatible with the safety of the patient. He was glad to know that there was not prevailing at the Long Island Hospital one form of fever which had prevailed all over the country, and which raged somewhat fiercely in New York for some time, namely, the fever of douching the vagina with antiseptic solutions, thus alarming the patient to a greater or less extent for fear there might be some germs of disease lurking about to cause her death by puerperal septicæmia. He was glad to know that the staff of the hospital did not insist upon that method of treatment. But it was important to have the forceps always ready, in case delivery by that means was found to be necessary. Referring to the treatment of abortion, he thought the reader might have made more of it. There was no procedure of more importance to the obstetrician than the clearing of the uterine cavity thoroughly under such circumstances. Midwives might attend cases of *labor* and no harm result therefrom; but they could not attend cases of abortion with impunity, and the very best physician was often at a loss how to proceed. It would be remembered that, during the first three months of utero-gestation, the union between the membranes and the uterine wall was very intimate. That was necessarily the case from the anatomical and physiological conditions existing at that time. It was for that reason, it seemed to him, that the treatment of abortion was so little understood by so many of the profession; and those who were in the habit of seeing cases of neglected abortion were those who were most aware of the fact that they were not properly treated. On account of this intimate union between the uterus and the fœtal appendages there was danger of hæmorrhage. The physician in attendance was sent for, perhaps, to find that the ovum had escaped. He found it entire in the bed, or in the vessel under the bed. He made a hasty examination of it and its appendages, and concluded that everything was satisfactory. There was no marked hæmorrhage at the time, and he went away feeling that the patient was not losing more blood than was normal under the circumstances. He came back day after day, inquired upon that point, and found that there was more or less hæmorrhage. The general practice of those who attended such cases was to go away and come again and keep on coming! There were physicians present who had had cases come to them from the hands of other physicians that had been going on for weeks after the ovum had escaped, the patients having become thoroughly bleached—losing arterial blood all the time. The only way to treat an abortion was that mentioned in the paper—by making a thorough and complete evacuation of the uterine cavity at the time the abortion occurred and by the use of the means specified. The profession was indebted to Dr. Skene, he believed, for the suggestion of the use of Sims's speculum in the performance of operations in the lying-in room. The use of Sims's speculum by Dr. Jewett showed its great advantage.

Dr. Palmer had noticed in every case, with the exception of two or three, that he had attended in his own private practice and in that of others, that there had been an elevation of temperature on the second, third, or fourth day, sometimes accompanied with a cessation of the lochial discharge, douches having been abstained from. He attributed this to retrograde metamorphosis taking place in the uterus, and an absorption of

the effete material. Again, on the third day, about the time of the establishment of the secretion of milk, he had noticed this same elevation of temperature, which subsided upon the full flow of the secretion. In the cases attended by him the douche had not been used in any way. When there had been a total disappearance of the lochia, he had simply used hot-water compresses over the vulva. In every case there had been a good recovery. He had seen no septicæmia.

In reply to a question by Dr. Thallon, Dr. JEWETT stated that the strength of the nitrate-of-silver solution used by Credé was two per cent.

Dr. CHASE asked Dr. Jewett's opinion regarding variations of temperature after labor as evidence of complications. What was the normal range of temperature in childbed?

Dr. JEWETT referred to certain observations upon this point by Dr. Napier and by Dr. Macdonald, which had appeared in the "Edinburgh Medical Journal" within a few years. He believed, with Napier, that 99·5° F. should be regarded as the physiological limit during the first four days following labor, and 99° thereafter. Higher temperatures, while they were more frequently due to trivial causes, rather than to sepsis, always demanded investigation. The thermometer afforded the most important evidence of the patient's condition.

A member asked whether it was Dr. Jewett's practice to use chloroform in normal parturition. The question had been suggested by the large percentage of lacerations. The use of chloroform he thought helped to prevent perineal injuries.

Dr. JEWETT replied that he gave chloroform as a routine practice during the second stage. He believed humanity demanded it, and that there was no scientific objection to it. Indeed, there were scientific considerations in its favor. Many physicians did not agree with him. They saw bad effects from chloroform; inertia during labor and relaxed uterus after labor. He thought the disadvantages of chloroform insignificant if it was not given too freely. His method was to allow a few whiffs during the acme of the pain, often pushing the anæsthesia nearly or quite to the surgical degree for a few moments as the head passed the vulva.

Membranous Dysmenorrhœa was the title of a paper read by Dr. ALEXANDER J. C. SKENE. [See page 561.]

Dr. ROCHESTER asked whether Dr. Skene felt as if he really had seen appreciable benefit from any mode of treatment, or whether it was a matter of some doubt if the treatment had had anything to do with it.

Dr. SKENE replied that he thought his histories of cases covered that ground, but he could answer that question more fully by stating that for a long time he had been positive that he did some harm and not much good by local or general treatment or both, employed on the theory that the trouble was inflammatory, and was sure of that point; and the next was that he did not remember a patient who got well without treatment, or in spite of treatment. When left alone they generally went on from bad to worse. There were those that recovered apparently for a time, but there was a recurrence again and again. Sometimes by a change of location or of circumstances the general health would improve and the patient would recover, and some might remain well. Since he had adopted the treatment given in his paper a large percentage recovered. Take the case treated by Dr. Barker, which was only one of a number that showed the value of the treatment. In conversation he (Dr. Barker) had told the speaker that he produced much benefit with the method of treatment which had been advocated in the paper. He had been using it for years. The speaker believed that by a mode of treatment based on true pathology much had been accomplished and many cures effected, not alone by him, but first by Dr. Barker.

Dr. ROCHESTER had had one patient suffering with membranous dysmenorrhœa whom he had treated constitutionally only, in March last, without applying local treatment. She afterward married, and had had no dysmenorrhœa since. That was the reason for his having asked the question.

Dr. SKENE asked if the patient had borne children.

Dr. ROCHESTER said she had.

Dr. SKENE would say, then, that the doctor did not cure the patient, but that she was cured by pregnancy.

Dr. ROCHESTER said that that was what he meant to imply.

Dr. SKENE did not wish to pass that point so lightly, but would like to add that patients might recover after having become pregnant.

Dr. STUART said there was a little confusion in his mind as to the point of there being ovarian irritation, and the use of local applications to the uterine cavity. If the trouble was, as the reader would hold, due to ovarian irritation, he could hardly understand the philosophy of the local applications to the uterus except for a diseased condition of the uterus that might exist. In the two or three cases that he had thought of as Dr. Skene had been reading his paper, he could not recall them fully enough to speak of them distinctly, except in one instance, and that was only a temporary trouble, lasting for but two or three menstruations. That patient recovered without local treatment. He was satisfied that this was a case of conception, and that there was an exfoliation of the decidua vera. This lady had no uterine disease whatever, and had never had any form of leucorrhœa and no disturbance of the menstrual function except these two or three attacks. Attention was given to her general health and she recovered. The cast that was thrown off at one of these periods was a perfect specimen, and would have served for the original of the reader's description in the paper. He rose simply to ask the question as to the philosophy of the local applications.

Dr. SKENE looked upon the criticism as a very pertinent one. He would simply say that, while derangement of nutrition was no doubt produced originally from the ovarian irritation, the order of pathological events simply followed the ordinary rule—that *a disease might be caused by some extrinsic disturbance, and, after the cause was entirely removed, the disease might continue.* To illustrate: We very often observed mental affections which could honestly be traced to some pelvic disease; and yet, the pelvic disease being entirely remedied, the brain trouble produced thereby continued. We saw the same thing in some forms of nervous dyspepsia—ovarian dyspepsia; after the removal of ovarian trouble the disease (dyspepsia) continued. So he believed that, even after we removed or quieted the ovarian irritation, this *habit* of irritation or brain or gastric disease might go on; and that was the occasion for the local treatment. Recent pathologists had proved that the investing membrane of the ovaries was exactly like the endometrium, the only difference being that the Graafian follicles were closed, while the utricular glands were not. (See an article by M. P. Jacobi, M. D., begun in the January number and continuing up to this time in the "American Journal of Obstetrics.")

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of October 6th, 1885.

The President, Dr. J. C. WILSON, in the Chair;
Dr. W. E. HUGHES, Recorder.

A Comparison of the Changes in Arteries after Ligature and in the Ductus Arteriosus and Umbilical Arteries after Birth. Dr. J. COLLINS WARREN read a paper with this title.

After the ligature of an artery in its continuity, he said, the earliest changes noted were the formation of the thrombi within the vessel, and the development of a mass of inflammatory tissue, or callus, around the point of ligature externally. No perceptible cell action could be observed in the inner wall with low powers during the first week, although, under favorable circumstances, a proliferation to a limited extent of the endothelial cells near the point of ligature could be seen with high powers, and occasionally a few wandering cells might be found to have penetrated the walls of the vessel at the same point. In the second week the bundle of fibers of the adventitia which were surrounded and held by the knot had been absorbed, and the two ends of the vessel retracted slightly from one another, leaving the ligature imbedded in and partly disintegrated by the granulation cells. The walls of each portion appeared to form a complete *cul-de-sac*, and it looked at this time as if the healing process were complete, but it could hardly be said to have more than begun, as the vessel had not yet passed through what might be considered as the first stage of healing. The beginning of the second stage was marked by an unfolding of the ends of the vessel, the walls separating somewhat after the manner of opening of a bud, which permitted the entrance of a considerable quantity of the granulation tissue. A disintegration of the thrombus followed, and there were now a fully developed external and internal callus, a small fragment of clot still protecting the latter from the current. The ligature might be totally disintegrated and absorbed, or have become encysted, or, finally, have created a small abscess about itself which had discharged the fragments of thread through a sinus opening externally. The second stage was completed when the internal growth had reached the neighborhood of a branch. After this there was an absorption of the callus, which, as in fracture, was only a provisional structure, and eventually the two ends of the vessel were found held together by a slender cord of varying length. The walls of the vessel were slightly separated at each end by a cicatrix consisting of connective tissue externally, inside of which was another layer consisting largely of unstriped muscular fiber, the surface being covered within by a new endothelium. The cicatrix was always pierced by a vessel, which terminated in a number of capillaries ramifying in the cord. Here there was a scar made up of three layers resembling closely the three coats of the vessel. In the large vessel of an amputation stump there was a somewhat different series of changes. Soon after the ligation the end of the vessel might be seen imbedded in granulation tissue, and containing a thrombus of varying length. By the second week there was a marked change in the intima, extending for some distance above the point of ligation, probably to the first large branch, or to the origin of the vessel. Examined several months later, when the healing process had been completed, the vessel was found to be preserved in the form of a cord, running from the first large branch to the cicatrix of the stump. On laying open this cord the walls of the vessel were found preserved, the interior being filled with new tissue, leaving spaces occupied by one or more vessels. There had been a process resembling that known as obliterating endarteritis, by which the caliber of the blood-channel had been narrowed to an extent to adapt it to the diminished blood supply. In this obliterating tissue we found comparatively large vessels, with new coats consisting of an endothelium, an elastic membrane, and also a new media. An ideal preparation would best represent the condition of the arteries of the stump at this time. The main artery would, after giving off its largest branches, break into a spray of smaller vessels, no one of which would predominate. A comparison of these two modes of healing with the changes seen in the arterial system after birth showed certain resemblances in the two processes. The ductus arteriosus, about the time of birth, differed considerably from the structure of the aorta and the pulmonary artery. The media was much thicker than in either of these vessels; it was thrown into irregular folds, which were increased at the time of birth and helped to narrow its caliber. The distinctions between the different layers of its wall were less marked than in other vessels. The lamina elastica was indistinct and in places apparently wanting; the media consisted chiefly of longitudinal layers of muscular fibers, a few circular bundles existing in the innermost layer. A few weeks after birth a greater portion of the walls of the ductus underwent hyaline degeneration, the inner or circular fibers of the media alone remaining, these being re-enforced apparently by a growth from the media of the larger vessels. At this time there was an active growth of long spindle-shaped cells with staff-shaped nuclei at the edges of the media bordering on the opening into the aorta; here was also a moderate thickening of the intima. Eventually the hyaline tissue became absorbed, and was replaced by a ligamentous band of fibers, which became continuous at either end with the media of the larger vessels. At the aortic end, in a longitudinal section, we saw the media slightly separated. At the point of the cicatrix, and between them and also continuous with them, were the longitudinal fibers of the ligamentum arteriosum. In this ligamentous tissue, and between the edges of the media, were numerous new muscular cells; nearer the surface there was a layer of thickened intima, which in the aorta had not only connective tissue in it, but also a deep musculo-elastic layer; in the center of the depression marking the site of the cicatrix a small vessel was given off, which penetrated into the axis of the ligament, where it either lost itself in a capillary network, or became continuous with a similar vessel coming from the pulmonary artery. These conditions closely resembled those which had been described as existing in the cicatrix of a large artery, after ligature, in its continuity—namely, the slightly separated ends of the media, between which lay the fibers of the ligament connecting it with the pulmonary artery, a new intima and a new growth of muscular cells, and finally a central arteriole. The only point of difference was the preservation of a layer of circular muscular fibers, which formed an outer wall to the ligamentous band, a much-needed support at a point exposed to great tension. Further protection was afforded by the oblique insertion of the ductus into the aorta, diminishing the pressure upon this particular point. At birth the umbilical artery, or that usually called the hypogastric artery, the portion within the abdomen, at its origin from the internal iliac, was a vessel of considerable size, being, in fact, a continuation of that artery. At its termination in the umbilical wound it had greatly contracted and was filled with clot for a distance of about one inch. The outlines of the various walls were not so distinct as in other vessels, and the elastic lamina for the most part was wanting. No special change was seen in the elements of the walls of the vessel except a slight accumulation of endothelial cells near the apex of the thrombus. A few weeks later there was a distinct growth on the inner surface of the wall up to its point of origin, the terminal portion having undergone a hyaline degeneration and obliteration for a short distance. The vessel had greatly contracted throughout its entire length, and its caliber was further diminished by the growth in its interior. Cross-sections taken from the superior vesical artery in adult life showed the media as a wall thick out of all proportion to the size of the vessel, and consisting not only of its original wall, containing longitudinal muscular cells interspersed with elastic tissue, but also of an inner circular row of cells which was provided with a well-formed elastic lamina. It seemed probable that the greater portion of the hypogastric artery had been preserved, the liga-

mentous band, which extended to the umbilicus, consisting of the obliterated extremity of that vessel, much elongated during the process of growth. The series of changes which occurred in the hypogastric artery after birth was closely analogous to that seen in the main trunk of an amputation-stump—a slight portion of each vessel was destroyed; both retracted and were attached to the terminal cicatrix by a band of fibrous tissue; both remained as pervious vessels, with thickened coats and narrowed caliber. In both the process was not unlike that seen in the so-called obliterating or compensatory arteritis. Arteritis hardly seemed a term applicable to the changes taking place in normal arteries after birth, nor could the alterations which had been developed through the whole length of a large vessel, extending a considerable distance from the original seat of inflammation, be strictly regarded as of an inflammatory nature. Might not the obliterating growths found to exist simultaneously in terminal arteries in widely remote portions of the body of the same individual also be regarded, not as of an inflammatory nature, but rather as a secondary and formative process, closely connected with disturbances in the mechanism of nutrition, designed to adapt the vessels to a diminished blood-supply?

Dr. S. W. Gross said that, in view of the fact that Dr. Warren's teaching seemed so directly opposed to that of other observers, he would like to have some points cleared up. He would, therefore, ask if Dr. Warren held, first, that, instead of the external coat, where it was included in the ligature, sloughing and coming away with the ligature, the pressure of the ligature set up an irritation which caused the adventitia to return to its embryonic state with a reconversion, after the ligature had cut through this, to connective tissue; and, second, whether the repair of arteries was brought about by the ingrowth of the cicatricial tissue, which he likened to provisional callus, together with some proliferation of the muscular cells of the media.

Dr. Randall said that, as the result of careful study of the subject, he had always found the clot present at first, and that it was honey-combed even in the first few days by the contraction of its fibrin; through the spaces thus formed the blood seemed to be circulating. Cells, either original white cells or of endothelial origin, occupied the walls of these cavernous spaces and seemed to sheathe them. The red cells early melted down into a homogeneous mass, furnishing the frame-work upon which the reparative tissue was built. The "plastic-clot" of some observers he had not seen—the new cells being distributed throughout the old clot as well as upon the vessel-walls, and not specially collected in the immediate neighborhood of the ligature. The obliteration of the vessel was accomplished by the growth and contraction of the trabeculæ of new tissue built upon the remains of the original blood-clot. Even close to the ligature he had not found the vessel-walls greatly altered, merely showing a great increase in the nuclei and in the number and size of the vasa vasorum, the lamina elastica being distinct and, as a rule, intact. Toward the end of the first month the new tissue consisted largely of spindle-cells, but careful staining had given no suggestion of muscular tissue. But, not having carried his study beyond the first month, he had no data upon this subject, since the development of muscular tissue was asserted to occur only at a later stage.

Dr. Formad was inclined to favor the views of Dr. Randall. The observation of Dr. Warren that the new formed connective tissue played the most important part was to him entirely novel. He thought that probably pressure upon the artery from without, with consequent diminution in its lumen, might bring about a condition more analogous to the growth of fœtal life than to inflammation.

Dr. Mears remarked that we were liable to be confused in considering this subject by the presence of the blood in the vessel. So far as the process of healing after ligature was concerned, we might consider only the structures which entered into the formation of the vessel-wall, which was complex in character and composed of connective, yellow elastic, and endothelial tissues. Dr. Warren had given a very clear demonstration of cicatrization as it occurred in these structures after application of the ligature.

Dr. Tyson said the most novel feature, to him, in Dr. Warren's observations was the part played by the muscular tissue. This apparent increase in the muscular tissue he was inclined to believe was really only a proliferation of inter-muscular connective tissue. He was becoming more and more convinced that there was only one kind of inflammation—the interstitial. He feared that he might himself mistake a proliferating connective tissue with spindle cells for muscular tissue. It was true that new-formed capillaries and arterioles had muscular walls, but the development of these seemed to him to be a slower process. He had expected to find a process of repair in the ductus arteriosus different from that in an ordinary artery. This process he had expected would be a true endarteritis, for it seemed that the conditions of closure here were rather different from those in the ligaturing of an ordinary artery and in the umbilical artery, where also ligation was practiced.

Dr. Warren, in closing, said that, in cases where there was much breaking down, with little repair, there might be a sloughing of the external coat, yet in his experiments this part of the arterial wall had not sloughed, but had simply been absorbed by the granulation tissue, as the ligature itself was in some cases. In the normal condition even the elastic lamina was not a perfectly continuous plate; he did not refer to these breaks, however, but to numbers of little ruptures incident to the pulling of an artery out of the wound in the act of ligation; however, this need not necessarily occur. He had not attempted to identify anything like muscular tissue early; this could not be recognized till a permanent cicatrix had been formed. He had carefully eliminated all sources of error, and it seemed to him that in almost all cases there was a considerable number of these muscular cells. The layer was not always so well marked as in his diagrams; especially was this true of human specimens, but these had all been in alcohol for some years; of the fresh specimens he had selected only those in which he had considered the process complete. In a specimen which he had with him, through an opening in the lamina elastica cells could be traced from the muscular layer, those in the inside resembling exactly those outside. These facts, together with the fact that normally there were a few muscular cells inside of the lamina elastica, led him to believe in the proliferation of the muscular tissue. The disintegration of the blood-clot was accomplished by granulations growing inward from the callus, there being two sets of blood-vessels—one in the granulations, the other (blood-spaces, rather) in the clot itself. These united about the end of the first or second month.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of September 23, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Œdema of the Glottis; Tracheotomy; Death.—Dr. J. C. Bowker read the history of the case, in behalf of Dr. O. A. Gordon, who was absent.

"Thomas L., aged fifty, a laborer, strong and well nourished applied for admission to St. Mary's Hospital, September 22d, at about 5 P.M. He said he had suffered from a sore throat for

about a week and had been unable to swallow much solid food for two days. He was quite hoarse, and unable to open his mouth more than three fourths of an inch, making an examination of the larynx very difficult. There was quite a marked enlargement in the left submaxillary region. The temperature and pulse were about normal. He was sent to the ward and an external application of iodine was made. When I made the evening rounds the patient was walking about the ward in conversation with other patients. I advised him to go to bed, intending to make a more careful examination in the morning. At about 8.30 the same evening the orderly rushed into my room and said the patient was choking. I hastened to the ward and found him gasping for breath and very cyanotic. I tried to pass my finger into his larynx. Failing in that, I opened the trachea at once without dissection and dilated the opening with a forceps until the tube was inserted. Although the operation was done as quickly as possible, the man had ceased to breathe before its completion, and persistent efforts at artificial respiration failed to revive him.

"The autopsy, made by Dr. Leuf, the pathologist, revealed marked œdema of the glottis, the whole mucous membrane above the vocal bands being involved. There was quite a large abscess situated in the left tonsillar region. The heart was filled with venous blood, and the lungs were emphysematous. There was cerebral œdema. The other organs were found to be normal."

Dr. Wackerhagen asked if there had been any hæmorrhage.

Dr. Read wished to know the cause of death.

Dr. Bowker replied that death had resulted from asphyxia.

Dr. Leuf stated that he had found no blood in the trachea or bronchi.

The President desired to learn if there had been any brain symptoms.

Dr. Bowker answered that there had not been, and that the patient had been in the hospital only a few hours when he died.

Dr. Burge called attention to the difficulty of examining the throat, from fixation of the jaw on account of the swelling in the tonsillar region.

Strangulated Femoral Hernia in the Male.—Dr. A. H. P. Leuf presented a specimen that he had removed from the left side. The constricting ring was about 1·25 ctm. in diameter and adherent to the gut passing through it. About 8 ctm. of the ileum had passed the ring, remaining incarcerated behind the saphenous opening. The patient had been sick seven or eight days. His trouble began with obstipation. At first there was no pain, but afterward he complained of pain in the epigastrium, close to the ensiform cartilage. Cathartics and enemata were given, and subsequently he was dosed with opium to relieve pain. At no time did he have any uneasiness below the umbilicus. Intestinal obstruction was diagnosticated by the attending physician, Dr. Irish, and both groins were examined several times. The patient always made contemptuous objections to these investigations, because he referred all his trouble elsewhere and considered the doctor tactful. Dr. Watt was called in consultation, confirmed the diagnosis, and recommended a continuance of the plan of treatment already adopted. Abdominal incision was not deemed advisable. There was considerable vomiting, and death was due to asthenia. There was no sign of peritonitis at the autopsy except a few vascular injections of the peritoneum in the neighborhood of the ring. The extended gut was darker in color than the remainder, but by no means gangrenous. All the adhesions at the femoral opening were recent and easily broken down.

Dr. Leuf opened the discussion by stating that the attending physicians, had they operated, would have made the exploratory incision above the umbilicus, near the seat of pain, and he desired to know the opinion of those present about the advisability of extending the cut down to the seat of trouble, or whether it would be better to pass the hand down and free the gut by manipulating it bimanually—*i. e.*, pulling with the inner hand and pushing with the other.

Dr. Wallace thought that that would depend entirely upon the surgeon.

Dr. Wackerhagen said he would *always* make an exploratory incision below the umbilicus, regardless of the seat of pain.

The General Pathology of Fever.—Dr. Joseph Merzbach read a paper with this title. (See page 569.)

Dr. Eccles could scarcely agree with the essayist in the statement that mental work had but little effect upon bodily temperature. Ordinary thinking might show a meager effect, but intense mental excitement would cause marked elevation. In conditions of terror or apprehension, when there was a tornado of thought, it was no unusual thing for the person affected to break out in profuse perspiration. Elevated temperature meant increased oxidation or diminished radiation. A check of perspiration might give rise to elevation of temperature. The act of perspiring did not lower temperature. It was work done in evaporation at the expense of bodily heat. Conduction also aided in keeping down temperature. The irritating presence of non-excreted waste products might constitute a factor in causing fever. In most febrile conditions there was a sort of diffuse inflammation in which the whole system took part. Apart from the action of specific heat-centers, or even without nerve control, every cell might become an independent heat-producer. To the physiological psychologist attention was the subjective side of co-ordinating force, and might be expected to have some bearing upon a subject of this kind. When attention was turned upon the feeling that arose from any particular organ there were congestion and increased heat of that organ. A boy at play might forget that he had a stomach until he thought of food, when all of a sudden he became hungry. This was true of every function having a special sensation connected with it. A soldier might be severely wounded and the injured part bleed but slightly while terror and duty commanded his attention, but, so soon as these ceased and he considered the pain, profuse hæmorrhage would set in. The pain was the subjective side of the wound. Attention turned upon the pain meant that the highest nervous control of the body discharged its energy toward the source of that pain. *Dis-ease* was a disturbance of our feeling of well-being. The concentration of attention during health upon this feeling maintained it. When much of our body or the whole body became irritated from any cause, energy went forth to every disturbed part from the highest centers. Along the path whence the discomfort came the return-current would go as soon as attention was turned thither. Thus every heat-producing part might be released and a sort of physiological anarchy ensue. The essayist had made no reference to the reduction and elevation of temperature by therapeutic agents, a phase of the subject well worth considering. Antipyrine lowered temperature and the salicylates elevated it. Many other agents acted in one or other of these two ways.

Dr. Leuf had frequently noticed upon himself the effect of excitement due to overwork in causing a feverish feeling. He had never measured his temperature with a thermometer, but could give an idea of the increase of his bodily heat by stating that he had again and again taken seven to ten, or even more, goblets of ice-water during an evening, and all within two hours (from 9 till 11), and during this time he would suffer with throbbing of the temples, tension of the head and face, sometimes

tinnitus aurium, a dry, parched tongue and lips—in fact, the tongue sometimes being actually painful. These symptoms invariably followed concentrated and continued mental effort. Still he could not imagine with Dr. Eccles that mental concentration would account for all rises of bodily temperature, if only for the reason that so many imbeciles, idiots, and children had fever. In cholera, for instance, there was the greatest mental apathy, and yet a marked rise in the body-heat. The increased work done by the body in perspiring could not be adduced as a general explanation of the reduction of high temperatures, for there was in some conditions a very high degree of fever, with profuse perspiration, continuing for days. Oiling the body also lowered the temperature when it was above the normal, but not in all cases. There was a reduction resulting from a cutaneous application and without resulting evaporation. He would also object to calling a fever a "diffuse inflammation in which the whole system took part," because that would be impossible with the present use of the word inflammation. He agreed with the reader fully in the thought he had intended to express, but objected to the words used.

Dr. Eccles replied that while children or idiots might not be able to do any complex thinking, they were subjects of terror and endurers of pain. On these simple sensations they could center their attention with considerable persistence.

The President asked if Dr. Leuf had ever reduced excessive temperature by oiling the skin?

Dr. Leuf rejoined that he had, and that too when the efficacy of the method could hardly be questioned. In these instances it had been employed either without the use of drugs or conjoined with placebos. He also replied to a previous question by the president, that he believed the efficacy of oiling was due to its lessening heat-production. This, it seemed to him, it did in two ways. It quieted the nervous system, like the chloral Dr. Read used in his cases; and it relieved the intense irritability and dryness of the skin by making it soft and pliable, and avoiding a great deal of friction. He believed that the one great ever-essential factor in increased heat-production was a certain disturbance or varying set of disturbances in the visceral sympathetics, especially those of the abdomen. Here were located the centers of heat, and they generated this in superabundance in proportion as they increased their activity. Their activity was presided over and depended upon the visceral sympathetic. As everybody knew, the thoracico-abdominal sympathetic ganglia were connected with the outer skin by means of their numerous double connections with the spinal nerves. It seemed, then, that oiling the skin also allayed irritability of these ganglionic centers, causing them to act with more control in regulating the work of the trunk viscera—the heat centers.

Dr. J. D. Sullivan stated it as his belief that fever was a disturbance of nutrition due to the nervous system. The waste in fever must be due to an arrest of nutrition. He put the question, whether the delirium in fever was the result of increased heat, of a poison, of an arrest of nutrition, or of a condition of the brain. He believed it was caused by changed conditions of the brain. He then illustrated by citing instances from his personal experience, when during an attack of fever he had imagined occurrences which to this day seemed to him as real as anything he knew, so that he had only become convinced of his mistake upon the positive assurance from reliable sources that he was wrong.

Dr. Eccles replied that he could take no mental grip upon the words of the last speaker. To say that defective nutrition caused fever gave no idea of the *modus operandi*. If it could be shown that this defect in any way increased oxidation or retarded the elimination of heat already produced, it would be an acceptable hypothesis. As to the delirium of fever, a few simple experiments, such as he had tried, would cast much light upon its genesis. During the time our attention was centered upon the delightful feeling of comfort experienced when about to drop into sleep, if we divided that attention, delirium of a mild type might be produced artificially and studied by introspection. "Try to catch yourself going to sleep," he said, "and an *alter ego* will arise with whom most incongruous conversations may occur, and ideas quite foreign to the purely waking state will intrude themselves. While you are yet awake, absurd dreams will come up in your consciousness, and you will be quite aware of their absurdity. It is the result of divided attention—unconscious cerebration in this way pushes itself within the door of consciousness." Even in our waking state it often happened that we did and said irrational things if our attention was divided. The unfortunate occurrence that had happened to Mr. Am Ende, the Hoboken apothecary, in which morphine was substituted for quinine, was probably one of those quasi-delirious acts of a man with divided attention. It would not have been beyond possibility for such a thing to occur, and he know that a blunder was being committed, and yet feel powerless to arrest it. In the delirium of fever, currents of discomfort reached the highest nerve-centers from every direction. All these were subjectively perceived and the attention was distracted among them. Active cerebration resulted from them in the most disorderly manner. Attention allowed this chaos to intrude on consciousness.

Dr. Sullivan rejoined that, if it was possible to explain nutrition by chemical or philosophical means, he might be able to explain how its arrest caused fever.

The President remarked that Dr. Eccles and Dr. Sullivan viewed the question regarding temperature elevation from opposite standpoints. The former looked at it as a physicist, the latter as a vitalist.

Dr. H. N. Read would speak only on the influence of the nervous system on the temperature of ephemeral fevers in children. He had one case in mind that had shown this beautifully. A young infant suddenly became ill. There were no other disturbances than those common to fever. The temperature was 103° or 104° F. He gave chloral to control excessive irritability and the convulsions—*i. e.*, to reduce the nervous tension. After several hours the child was in a normal condition. Such cases were quite frequently met with, and the patients were well within from six to twenty-four hours after the administration of a nervous sedative. Often there was not even constipation. He believed that, if the proper apparatus was at hand to weigh these children before and after the attack, there would be found a diminution of weight from superoxidation. He thought that in these cases the fever was brought about by a change in metabolism due to insufficient nervous control.

Dr. Leuf remarked that the softening of viscera accompanying fever was of interest and worthy of consideration. He had noticed that the softening did not necessarily depend upon the length or severity of the fever. He had not examined these organs very often with the microscope, but they always had a fatty appearance. He thought the change in consistence was due to fatty infiltrations and degenerations, because they were always soft, pale, and greasy. In his experience, the heart had seemed most frequently affected, and after that the kidneys and liver. The kidneys were often so soft that they could easily be doubled over and made to touch end to end, and this too without cracking or fissuring, while the capsule was on. When the spleen was in that condition, it was very mushy and had a dirty pale-gray color. The capsule was, as a rule, wrinkled. The pancreas was also quite often in a similar condition, and, when so soft, had almost the same grayish color, but with a slightly

yellowish tinge. He had simply expressed himself on this point because there were many who did not consider these changes fatty, and who denied that fever was the causative agent.

Dr. Merzbach said, in answer to some of Dr. Eccles's remarks, that, as regarded the function of the skin, he had stated in his paper that it reduced the temperature in several ways, the most important of which was evaporation, then conduction, etc. The theory which gave the mind so much importance in the increase of body-heat he did not credit much. He had also seen very severe hæmorrhage from patients during anæsthesia and in other unconscious conditions, and supposed that everybody else had also. He could not see how arrest of nutrition would cause fever, but it certainly was a concomitant. It was well established that the nitrogenous elements were burned in greater proportions than other tissue elements were, as was shown in the increased amounts of urea passed through the kidneys. All of this waste was not accounted for by the burning of nitrogenous substances alone, as observation showed seven per cent. of the total decrease in twenty-four hours not accounted for. Thus the changes in the urine did not represent all the destruction. The cause of delirium might be indicated by the increased amount of phosphoric acid found in the urine. A similar condition was observed in chronic cerebral irritation or neuralgia. He did not think it necessary to suppose some foreign influence to be the cause of delirium. Hot blood might be sufficient cause. There was, for instance, a chronic excitability noticeable in peoples existing in hot climates. We all knew the excitability of the races of the tropics, whether civilized or uncivilized, and he supposed it was possibly due to the continuous irritation of the superheated atmosphere and its effects transmitted for ages from generation to generation.

The President said it was interesting that in fevers of the same height there was a great difference as to the amount or even presence of delirium—for instance, malarial and typhus fevers. Then the existence of heat-centers was of interest. Dr. Ott had recently shown quite positively that there was a heat-center just anterior to the caudate nucleus. Fever, too, was very often accompanied for days with profuse sweating, although the temperature remained very high.

Dr. Eccles asked how high the president had noticed the temperature under these conditions.

The President replied that he had seen the thermometer register 106° F. during continuous profuse perspiration, and just after marked sweating in typhoid fever he had seen it 104°; likewise in tuberculosis.

Dr. Merzbach, in closing the discussion, stated that he had alluded in his paper to the fact that high temperature alone did not always explain delirium, because in different fevers, as had already been stated, when the body-heat was the same, there was a great difference in the degree of delirium. He had not attempted to explain it, because it could not be done. The only way in which he could account for persistent high temperature during perspiration was by supposing the heat-production to be so great that the sweating could not wholly counteract it.

Miscellany.

The Cholera in Spain.—The "Gibraltar Chronicle" publishes the following extract from a letter to the "Times," which has just been published in a Swiss paper, written by the wife of a Swiss merchant settled in Spain, both by giving a vivid idea of the condition of that unfortunate country, [illegible] how much medical men and Government officers have to contend with in their efforts to combat with the plague that is working such terrible havoc throughout the Peninsula:

"'The other day there died in a house not far from ours a widow, the mother of two daughters. She had been suffering for a long time from an affection of the chest, and, shortly before her death, a doctor was called in, who prescribed medicine and gave such directions for her treatment as he thought necessary. This was on a Saturday night, and on the following morning the poor woman breathed her last. No sooner was this known than a rumor went about that the medicine prescribed by the doctor contained poison, and was given to the widow in order that she might appear to have died of cholera. The elder daughter ran into the street like a maniac, shrieking "Scoundrel! scoundrel! where is the wretch who has poisoned my mother?" That was a terrible day for me, especially as Karl (the writer's husband) was not here. A great crowd gathered before the house of the dead and ours calling for the judge, and threatening the doctor with death. Then the body was taken into the churchyard in order that it might be opened. Just think; some of the people (as was afterward proved) killed a rabbit and said it had died after being given some of the physic prescribed for the widow. After the body was removed there came the judge, and also the druggist who had mixed the medicine, and, to show how harmless it was, the druggist took at a draught all the physic left in the bottle. The doctor also testified that it contained nothing whatever of a hurtful nature, and was really no more than a refreshing drink. When the widow's body was opened, moreover, it presented no choleraic symptoms whatever, but the lungs were very much diseased, and the cause of death was proved beyond dispute to be consumption. The excitement and uproar were, however, something terrible, particularly among the lower orders; they persisted in believing that the woman had been poisoned, and paraded the streets, declaring that they would force all the doctors to drink their own physic; and most of the patients of Dr. Antonio Espinosa (who prescribed for the widow) have thrown his medicine away, and he is bringing an action against the daughters for defamation of character. In the meanwhile the authorities have recommended the doctors to prescribe only pills, the popular belief being that pills can not be poisoned. This will give you some idea of what the people here are like.'"

A Dispensary Service for Mental Diseases.—The establishment of a service of this sort in Philadelphia, believed to be the first in this country, is thus announced by the Philadelphia "Evening Bulletin":

"At the last meeting of the managers of the Pennsylvania Hospital it was determined to add to the Out-Patient or Dispensary Department a new service for the benefit of the indigent poor who are suffering from the early symptoms of insanity, or insanity in its incipient stages. The managers have been led to create this addition to their already comprehensive service by the conviction that many persons in indigent circumstances do not receive that advice and medical treatment at a critical period when experience shows the greatest benefit from treatment may be expected. It is their observation, and that of all connected with hospitals for the insane, that, in consequence of delay from various causes, an undue proportion of cases lapse into a chronic and incurable condition, and in that state are brought to the hospitals.

"Public announcement is therefore made that the managers of the hospital have made arrangements for the commencement of the new service on Monday next, November 2d, at 3 P. M., in the Out-Patient Department, Spruce Street near Ninth, at which hour a physician will be in attendance. A physician will attend every succeeding Friday and Monday at the same hour and place until further notice. Chronic cases, and those requiring custodial care, will not, for obvious reasons, be received. The medical service will at first be rendered by the physicians connected with the Department for the Insane of the Pennsylvania Hospital. The work which is now proposed is of an experimental nature, and no conjecture can be formed as to the extent of the demand, nor whether any demand exists which will warrant the permanent establishment of a special department. If no demand for the additional service that has been provided shall, after a fair trial, be found to exist, it will be abandoned. But, if it shall appear, on the other hand, that such a department is likely to prove a great benefit to the class for which it is designed, some valuable experience may be

derived which may be suggestive hereafter. Every means for the prevention of insanity, or in the direction of a preventive measure, deserves most favorable consideration. If the measure shall appear to be a success, its friends anticipate that it may lead the way to enlarged operations in the same direction."

The Journal of Heredity is the title of a new periodical, published in Chicago, and edited by Mary Weeks Burnett, M. D., who modestly states at the outset that the journal does not "hope to solve all problems in heredity."

The Massachusetts Veterinary Association lately held its first meeting, says the "Boston Medical and Surgical Journal," and elected as officers Dr. Frank S. Billings, of the New York Polyclinic, president; Dr. L. H. Howard, of Boston, secretary and treasurer; and Dr. W. Dryden, Dr. W. T. Simmons, and Dr. J. M. Skally, all of Boston, members of the executive committee. The president read a paper on tuberculosis.

Luminous Signs for Doctors.—Speaking of an advertisement of these contrivances, the "Boston Medical and Surgical Journal" says: "As a rule, it is where the 'inward and spiritual grace' least abounds that there is the greatest ostentation of the 'outward and visible sign.'"

The Rex Disinfectant.—This is a preparation which acts by the slow disengagement of chlorine. It is the invention of an Ohio physician, and should not be confounded with the preservative solution termed "Rex Magnus." It consists of an earthy-looking, inodorous powder, to which commercial sulphuric acid is to be added. Chlorine fumes are at once to be recognized by the odor of the gas and by the ammonia test, but they are given off so slowly that, while efficient for purposes of disinfection, they do not render the air of the room irritating to the air-passages. Speaking from considerable experience, we have no hesitation in saying that the preparation is an excellent one for the purposes for which it is intended.

The New York Academy of Medicine.—The next meeting of the Section in Obstetrics and Diseases of Women and Children will be held on Wednesday evening, the 25th inst., instead of Thursday, the 26th, as Thanksgiving Day is appointed for the latter date. Dr. Joseph E. Winters will read a paper on "Diphtheria and its Management," which will be followed by a general discussion of the question "Are Diphtheria and Membranous Croup Distinct Diseases?"

Pasteur's Preventive Inoculation of Hydrophobia.—The Paris correspondent of the "Medical Times and Gazette," of London, states that M. Pasteur now adopts the following method. A rabbit is inoculated with a fragment of the spinal cord of a mad dog. The animal is affected with hydrophobia in the space of about a fortnight. A portion of its spinal cord is employed to inoculate a second rabbit, which also contracts the disease, but more rapidly; the spinal cord of this second rabbit serves to inoculate a third, and so on. It is observed that at each step of this process the intensity of the disease becomes greater, and the period of incubation shorter. When the spinal cord of these animals which have died of hydrophobia is suspended in a perfectly dry tube, its virulence diminishes by degrees, and at last disappears. A collection of these spinal cords, some of them entirely stale and powerless, others more fresh and active, others again quite fresh and extremely active, are always kept in readiness. To render a dog insusceptible of rabies, he is first inoculated with the stale and powerless specimens, then with fresher and more active ones, and lastly with the most powerful of all, when he becomes quite proof against the inoculation of rabies. Lately, a young boy, nine years of age, Joseph Meister, was brought by his friends to M. Pasteur's laboratory. He had been most severely lacerated by a mad dog, having fourteen bites in different parts of his body. M. Pasteur, in presence of the almost absolute certainty of death, inoculated the child according to his system; the first inoculation was made with a spinal cord fifteen days old on the 6th of July, sixty hours after the child had been bitten. Similar inoculations with virus of constantly increasing intensity were made up to the 16th of July, when the spinal cord employed was quite fresh. The child, having up to the present time, four months after the accident, exhibited no symptoms of hydrophobia, is considered by M. Pasteur as radically cured, and he has already recommenced the same method of treatment upon a young shepherd, who, in defending other boys, was cruelly bitten by a mad dog, which he killed upon the spot. The results of this new experiment will be communicated by M. Pasteur in due time to the Academy. With respect to the first patient, the writer remarks, it must be remembered—(1) That sixty per cent. of people bitten by mad dogs do not contract hydrophobia. (2) That the incubation of the disease is sometimes extremely long (cases have been known to occur two years after the bite). The experiment is not therefore absolutely conclusive, although it marks a great progress in the history of the disease and justifies in some measure the enthusiastic applause with which the communication was received.

The New Nomenclature of Diseases.—Referring to Circular dated July, 1874, adopting the Provisional Nomenclature of Diseases of the Royal College of Physicians of London as the official nomenclature of diseases, and to paragraph 310 of the Revised Regulations of 1885, the surgeon general of the Marine-Hospital Service, under date of November 7, 1885, informs the medical officers of the service that the revised edition of 1885 of said Nomenclature will be used on and after January 1, 1886, instead of former editions.

The Late Dr. Samuel G. Armor.—At a recent meeting of the Detroit Academy of Medicine the following memorial resolutions were adopted:

Whereas, It has been announced that Professor Samuel G. Armor, M. D., LL. D., an honorary member of this body, and for many years a resident of Detroit, died at his home in Brooklyn, N. Y., on the 27th ultimo, in the prime of his vigor and usefulness,

Resolved, That, while we bow in submission to the decree of Infinite Wisdom, yet we hereby express our sense of sore bereavement in his death.

Resolved, That the untiring devotion which our friend had exhibited in his chosen life-work, the large-hearted generosity which he uniformly manifested toward his brother physicians, and the delicate sense of honor that marked all his dealings with them, together with his thorough integrity and broad manhood, endeared him to the majority of our membership personally in life, and remain enshrined as his best legacy in death.

Resolved, That we extend our warmest sympathy to the great number who, in the death of Dr. Armor, mourn the loss of a friend and teacher.

Resolved, That a copy of these resolutions be sent to the family of Dr. Armor, to the Long Island College Hospital faculty, to the several medical journals of Detroit, and to the New York "Medical Record" and the "New York Medical Journal."

EDWARD W. JENKS,
(Signed) GEORGE P. ANDREWS,
J. F. NOYES,
Committee.

Dr. Kinloch on the Congress.—In a letter to the editor of the "Medical News," of Philadelphia, a member of the committee from South Carolina says:

"My attention has just been called to a criticism in the 'Association Journal,' of October 31st, by an officer of the ex-Committee of Arrangements for the International Medical Congress, of a letter of my own, which appeared in your issue of October 10th.

"The effort reminds me so much of a cobbler striving to patch with flimsy material his originally bad work, that I might complacently afford to stand in my old shoes. But, for the benefit of my professional brethren, who may, through inadvertence, be deceived, I will notice only the two points in the criticism which may seem to affect my position. My letter stands as the public record of my action in the committee.

"1. I am accused of having 'persistently endeavored to obstruct the proceedings of the committee' at the meeting in New York on the 3d and 4th of September 'by frittering away valuable time with trivial objections.' These objections of my own are on record, and need not be defended. No doubt they were annoying to some. But the author

of the complaint has inadvertently paid me a very great compliment, for which I am grateful. To 'obstruct proceedings' which I have shown to be irregular and prearranged by certain parties to advance their special ends, regardless of the unity, harmony, and well-being of the profession, can only be regarded by proper-thinking persons as a meritorious act.

"2. Next it is stated that I complained that 'a letter which he (I) forwarded to the temporary secretary was not read before the meeting of the committee in Chicago, or embodied in the report which was recently published.' My letter is referred to as on a par with two hundred letters received from other parties (not members of the committee), to have read all of which would have occupied the entire day. The committee, it is stated, only directed that a letter from Dr. Austin Flint, Sr., should be read.

"The above is not a correct statement of facts. I was, together with Dr. Austin Flint, a member of the Committee of Arrangements, and did not, therefore, occupy the same position with two hundred persons who may also have written letters, but who were outside of the committee. I had, therefore, equal right with Dr. Flint. As a member of the committee, unable to attend the Chicago meeting, I sent my letter addressed to both the chairman and secretary, waiving the fact that they had usurped their positions. I had an equal, if not a better, right than Dr. Flint to express my views by letter. He was represented by a proxy. After this proxy took his seat in the committee, Dr. Flint was, for the time being, not a member of the committee. But, further, the proxy was there to step in as a permanent member of the committee when Dr. Flint, in accordance with previous arrangement, stepped out. Possibly, as I was not connected with this or any other previously arranged programme, my letter was unimportant, and Dr. Flint's alone was accorded a reading. Had I occupied a like distinguished position in the eyes of the managers, or been as available for promotion from the ranks of the committee to the highest office in the Congress, I might have been accorded equal rights with my illustrious friend.

"Still, I am satisfied with my present humility, and would not exchange this for the highest office bestowed by the committee."

The Health of Chicago.—By the Health Department's "Condensed Statement of Mortality" for October, it appears that the following deaths from infectious diseases were reported: 1 from small-pox, 1 from measles, 27 from scarlet fever, 81 from diphtheria, 30 from croup, 8 from whooping-cough, 1 from typhus, 33 from typhoid fever, 6 from cerebro-spinal fever, 5 from malarial fevers, and 32 from other zymotic diseases.

THERAPEUTICAL NOTES.

Digitalis as a Corrigent of the Effects of Quinine on the Heart.—Tabua and van der Weyde ("Ztschr. f. klin. Med."; "Ctrlbl. f. klin. Med.") state that small doses of quinine exaggerate the diastole of both the auricles and the ventricles, without notably reducing the systole; but that large doses increase the diastole still more, and render the systole imperfect, so that suspension of the heart's action may occur in diastole. If digitalis is given in addition, however, the ventricular systole is rendered almost perfect, and the auricular distension at the same time moderated, which accounts for the good effects of digitalis in acute dilatation of the heart from quinine poisoning.

Hamamelis in the Treatment of Prostatic Enlargement and of Buccal Cancer.—Dr. Duncan J. Mackenzie writes to the "British Medical Journal" saying that irrigation of the bladder with a mixture of a drachm of the tincture of hamamelis half a drachm of carbolic acid, and a pint of warm water arrested periodical hæmorrhage from the urinary passages and the rectum in a case of prostatic enlargement, and has since used and recommended the combination to enable him to withdraw the use of the catheter. In another case, marked improvement followed the control of a hæmorrhagic tendency, followed by the removal of a cancer in the cheek, being one of cancer of the tongue.

Two American Species of Aconite.—In the current number of "Drugs and Medicines of North America," Dr. Roberts Bartholow, of Philadelphia, relates certain experiments with *Aconitum Fischeri* and *A. uncinatum*, and gives the conclusions that he has drawn from them. *Aconitum Fischeri* grows abundantly in the mountainous regions of the western section of the United States, and the author thinks it gives every indication of rivaling the imported drug in activity and value. There are, however, marked and fundamental differences between its physiological action and that of *A. napellus*, which may be stated as follows:

Aconitum napellus.	*Aconitum Fischeri.*
Affects sensibility and lowers the irritability of the sensory nerves.	Does not affect the tactile or pain sense, although it causes the characteristic tingling; and does not affect the irritability of the sensory nerves.
Paralyzes the end-organs of the motor nerves, the trunks, and ultimately the motor portion of the cord.	Does not affect the contractility of muscles or the irritability of the motor nerves, but paralyzes the motor centers of the cord.
Stimulates the vagus roots and slows the heart; after a brief stimulating action, paralyzes the vaso-motor center in the medulla, and greatly lessens the blood pressure.	Paralyzes the pneumogastric and increases the force and number of the cardiac pulsations; rather stimulates the vaso-motor center, and does not lower the blood pressure.

Both cause death by paralysis of respiration.

As regards *A. uncinatum*, the author thinks it is practically inert, although very large doses appeared to heighten the cutaneous and corneal reflexes a little in frogs.

Hydronaphthol as an Antiseptic.—At a recent meeting of the Philadelphia Academy of Surgery, Dr. R. J. Levis read a paper entitled "Notes on the New Antiseptics, Hydronaphthol and the Potassio-mercuric Iodide" (for proof-slips of which we are indebted to the courtesy of the "Philadelphia Medical Times"), in which he stated that his own experience with hydronaphthol in the wards of the Pennsylvania Hospital and in private surgical practice had confirmed the observations set forth by Dr. George R. Fowler, of Brooklyn, now in course of publication in this journal.

Hydroquinine as an Antipyretic.—According to Seifert ("Berlin. klin. Wchnschr."; "Union méd."), this derivative of quinine has antithermic properties resembling those of quinine and superior to those of salicylic acid and kairine, and produces neither delirium, ringing in the ears, nor headache. It appears to be rapid in its action and free from unpleasant effects, even on continued use, and it is to be recommended for children. It reduces the pulse and the temperature and causes free sweating. Its cost is about the same as that of quinine.

Thalline and Antipyrine in the Treatment of Febrile Diseases.—M. Jaccoud ("Gaz. hebdom. de méd. et de chir.") lately reported to the Paris *Académie de médecine* the results of his experience with these drugs in cases of typhoid fever, tuberculosis, pneumonia, and erysipelas, and laid particular stress on the transitory character of their effects. He believes that the course of the disease is not at all influenced by them, and that by using them we are merely playing with the surface-radiation of heat. Therefore he does not consider them solid additions to the materia medica.

Bismuth in the Treatment of Sweating Feet.—The "Union médicale" cites Vieusse's recommendation of daily frictions with subnitrate of bismuth as a remedy for fœtid perspiration of the feet. The spaces between the toes should not be forgotten. The treatment is to be continued for about a fortnight. After the second or third friction, the sweating becomes less abundant, and the soreness rapidly subsides. The epidermis soon loses its white tint, and adheres more firmly to the subjacent derma, the excessive action of the sudoriparous and sebaceous glands diminishes, the perspiration becomes less irritating, and about the sixth day the skin resumes its natural look.

An Untoward Result of a Submucous Injection of Chloroform is reported by M. Blocq ("Progr. méd."; "Ctrlbl. f. chir.") Five or six drops were injected into the gum, as has been recommended for toothache, and immediately an intense and painful swelling of the face took place, followed by rather extensive sloughing of the mucous membrane of the upper lip and the gum, suppuration that lasted for months, and superficial necrosis of the maxilla.

Original Communications.

REMARKS ON EXCISION OF THE HIP.*

BY LEROY MILTON YALE, M. D.

AN apology is perhaps due to the society for again bringing up so well-worn a subject as excision of the hip. But, as it is one upon which surgical opinion is far from unanimous, its consideration must be always in order until the value of the operation is better settled than it yet is. The more recent views concerning tubercle and the rise of antiseptic surgery have stimulated the resort to excision in hip disease. Aseptic methods have now been long enough employed for considerable experience to have been accumulated as to their effect upon the ultimate results of the operation. This paper is the outcome of an attempt to ascertain from the periodical literature of the last six or seven years what this experience has been, and whether any conclusions could be drawn from it regarding the indications for resection in hip disease. Although tolerably familiar with the difficulties of the question, I confess I was somewhat surprised at the scantiness of the material which came to hand that was valuable for exact comparisons.

The grounds upon which resection of the hip is urged as preferable to non-interference are usually three:

1. That it directly saves life.

2. That it shortens treatment, and, by so doing, lessens risks both vital and functional.

3. That it gives better functional results.

There can be no manner of doubt that the operation often saves lives that otherwise must certainly have been sacrificed. Such operations *in extremis* have been aptly compared to tracheotomy in like conditions. Under such circumstances failures should not be counted. Every success should be esteemed a clear gain, and even prolongation of life and mitigation of suffering be reckoned in favor of the operation. About such resections there is probably no question. The inquiry is rather this: Comparing cases as nearly as possible similar, at what period, or under what circumstances, do the results obtained by excision become preferable to those gained by less radical measures? And it may be here remarked that a good deal that has been said regarding the relative value of early or late operations is rather beside the question, for there is little doubt as to their comparative success. The issue is between the operation at all and conservative methods, and the former is clearly indicated whenever it can be shown to give better prospects for life than the latter.

The value to be set upon resection, therefore, depends very largely upon what is held to be the natural tendency of the disease, and upon what success can be gained by conservative treatment. And right here, at the start, we find a divergence of views so wide as to go far toward explaining the unsettled condition of opinion regarding the operation. The most gloomy statements come from German authors. Thus Billroth gave the death-rate of his cases, some of which were followed after leaving the hospital, at 31¼ per cent., taking, if I understand correctly, all cases. Hueter,* from hospital records alone, gave 26¾ per cent. The two lists united give 28⅝ per cent. Nowhere else is the death-rate set so high when all stages of the disease are considered together. From reports for several years of the Orthopædic Hospital of this city, I find that the deaths and discharges on account of incurability together make an annual average of about 4¾ per cent. of all cases treated. Gibney's† statistics from the Hospital for the Ruptured and Crippled give for 288 cases a mortality from all causes of 12½ per cent. Taylor's‡ statistics, which give (deducting one case of violent death) 2 deaths in 93 cases, or 2⅛ per cent., can not be fairly quoted here, as they were drawn from a private practice among well-to-do people.

Although exsection has of late been done quite early in the disease, yet it would be obviously unfair to make any comparison between the death-rate of these collections of cases in all stages and the most favorable operative statistics. Again, although exsection is frequently done when destructive changes are recognizable in the joint, but before suppuration is evident, I know of no extended statistics of the corresponding cases treated conservatively. A few cases will be mentioned further on. But, regarding suppurative coxitis, we have more distinct expressions of the results of experience, and some statistics. Here, again, Hueter's estimates exceed others in gravity. While acknowledging the absence of exact information, he states that he should be surprised if statistics should show that more than 50 per cent. of cases that reach the "second florescence stage" (the stage of flexion, adduction, and inward rotation) ever were healed. And he further states his belief that "suppuration of the hip joint—if the cases in which a single small abscess forms and quickly closes again, and also the cases of scanty suppuration in the granulations of synovitis hyperplastica granulosa are subtracted—is a nearly absolutely fatal process."* Volkmann‖ is by no means so hopeless. Ollier△ thinks that "the greater part of the suppurative coxalgias of children may be cured by methodical expectation, aided by the resources of hygiene." Taylor lost 2 out of 24 suppurative cases, or 8⅓ per cent. This, as before stated, was in private practice. The committee of the Clinical Society of London◊ set the mortality of cases of suppurative hip disease, treated expectantly, at 33⅓ per cent. from all causes; or, leaving out causes unconnected with the disease, at 31·6 per cent. Cazin‡ gives the result in the cases of 80 patients treated at the hospital at Berck, sent from a Parisian hospital after they had failed to improve there. All but ten

* Read before the New York Surgical Society, November 10, 1885.

* "Klinik der Gelenkrankheiten," S. 142.

† The Strumous Element in the Etiology of Joint Disease, "New York Medical Journal," July and August, 1877.

‡ Observations on the Mechanical Treatment of Diseases of the Hip Joint, "Boston Med. and Surg. Jour.," March 6, 1879, p. 218.

* *L. c.*, p. 641.

‖ Resectionen der Gelenke, "Samml. klin. Vortr.," No. 51, p. 2.

△ "Revue de chirurgie," 1881.

◊ "Transactions," 1881.

‡ "Bulletin et mémoires de la société de chirurgie," Paris, 1878.

of these were grave cases, and 5 per cent. were already albuminuric when received. The statistics cover five years; 55 per cent. were cured, 12½ per cent. died, 7½ per cent. were benefited, and the remaining 25 per cent. were not cured when removed. This remarkable success for cases of such severity may, perhaps, be not fairly introduced here, as the patients, although belonging to the hospital class, were at Berck under excellent hygienic influences, and were systematically treated.

Gibney,* out of 80 patients with hip disease cured without mechanical treatment, found 48 that had had abscesses. No percentage of mortality can be made here, as the total number having had abscesses that were treated is unknown; but this number of recoveries under a plan of the purest expectancy shows that suppurative coxitis can not be nearly so grave an accident as some have estimated it to be. As an offset, however, may be mentioned 19 patients recorded by Caumont,† treated conservatively, of whom 12 (63·1 per cent.) died.

From these discordant figures and opinions it seems to me fair to conclude that their disparity is not the result of the bias of different observers, but that in some communities or districts circumstances may so influence the course of the disease as to make an actual difference in the facts, as well as in the interpretation of them. To express an opinion, therefore, as to the average mortality of suppurative coxitis may be hazardous, or even presumptuous. Nevertheless, my own observations lead me to accept the more moderate estimates as the more nearly correct, and I should consider that the rate set in the Clinical Society's report was amply large; that is to say, that the death-rate would not exceed 30 per cent., even among the poor, at least as we know poverty in this great city. In private conversations, Dr. Gibney and Dr. Shaffer, of this city, both of whom have had unusual facilities for knowing the results of hip disease among the poor, expressed the opinion that the estimate I have given was very liberal, and would considerably exceed the facts.

Now, as to the death-rate of excision. Leisrink's often-quoted tables set it at 63·6 per cent.,‡ but this high figure is reached by setting aside all unhealed cases as worthless, which is a source of error, as many such cases go through the same course as unoperated cases and reach an ultimate cure, perhaps by ankylosis, after a long time. If all of Leisrink's cases had been included, his death-rate would have been 57·9 per cent. Sayre's# table gives 72 cases (two being still under treatment), with 25 deaths, or 34·7 per cent. Culbertson's tables contain 418 cases, with 174 deaths, or 41·62 per cent. If uncertain cases, 30 in number, are excluded, the percentage will be 44·84. All these collections contain cases observed for quite a long time, and this death-rate is by no means that of operation. Culbertson gives only 29 deaths as immediately resulting from the operation—that is, 6·93 per cent. of all cases. This is interesting as showing that even before the advent of antiseptic surgery the operation, as such, added but little to the general mortality from hip disease.

Many lists published since the beginning of antiseptic surgery contain cases treated in both periods, and often no attempt is made to separate them. Thus, Cowell,* in reporting 65 operations of his own, says: "I now perform the operation antiseptically," but the results are all grouped together. It does not appear that these cases were followed beyond the hospital. There were seven deaths among them, or 10·77 per cent. Three patients above eighteen years of age, all died. Of the 62 below eighteen years, only 4 died, or 6·15 per cent. Here should be placed the statistics of the Clinical Society's report, before quoted, which gave a mortality of 40 per cent., or, excluding deaths from causes unconnected with the disease, 37·7 per cent. Holmes's† list—given in his well-known Address in Surgery—of operations done in British hospitals belongs to the five years ending 1878, a period during which antiseptic precautions were coming into use. They should probably be considered as mixed operations. It does not appear how long the cases were followed, but, of 215 cases, 40, or 18·6 per cent., ended fatally, and 57, or 26·5 per cent., failed. Caumont,‡ whose statistics are commendable for the care with which patients have been traced for years after they left the hospital and carefully classified, records 42 cases, with 26 deaths, 61·9 per cent. Only 5, or 11·9 per cent., died from the operation. The remaining 50 per cent. were from progressive caries, amyloid changes, and tuberculosis. His death-rate before antisepsis was 66 per cent.; since antisepsis, 41 per cent.

Of operations entirely antiseptic, Volkmann# reports 48 with but 4 deaths, or 8⅓ per cent. Two only of these (from shock) were strictly deaths from operation; the third, after two months, was from thrombosis, and the fourth, after three months and a quarter, from hæmorrhage from ulceration of an artery, due to a suppurating scrofulous gland. Volkmann estimates that 8 or 10 would subsequently prove fatal from the progress of the disease, which would run up the death-rate to 25 or 30 per cent. Korff‖ reports 16 deaths out of 33 cases treated antiseptically (48·48 per cent.), the death-rate diminishing steadily as the methods were improved, being 75 per cent. when Lister only was used, 52·63 per cent. with a modified Lister, and 30 per cent. with a bichloride and salt gauze dressing. Grosch△ bases his statistics on 166 cases treated antiseptically; 120 of these were observed to the end, with 44 deaths, or 36·7 per cent. He divides his cases into three stages. The first contains those operated on with unruptured capsule and slight changes in the joint; the second, cases with abscess and fistulæ; the third, cases with long suppuration, extensive destruction of the joint with great debilitation. In the first class there was for children no death-rate; for the second, it was 24·1 per cent.; for the third, 67·5 per cent.

* "Medical Record" vol. xxii, p. 174.

† "Deutsche Zeitschr. f. Chirurgie," Bd. xx, S. 137.

‡ Leisrinkbuch. — Arch. f. klin. Chirurgie, Bd. xii, S. 177.

"Orthopædic Surgery," 2d ed., p. 547.

* "British Med. Journal," 1882, ii, 360.

† *Ibid.*, 1880, ii, 212.

‡ "Deutsche Zeitung f. Chirurgie," Bd. xx, 1884, Heft 3 and 4.

"Verhandl. d. deutsch. Gesellsch. f. Chirurgie," 1877, S. 59.

‖ "Deutsche Zeitschr. f. Chirurgie," Bd. xxii, S. 149.

△ Inaugural Dissertation, Dorpat, 1882, Abstract in "Centralbl. f. Chirurgie," 1882, S. 228.

Further, he found that for the period 1876–'82, after antiseptic methods were well established, the death-rate was 9 per cent. less than for the period 1870–'75, in which these methods were forming. Quite recently Alexander* gives the results of 36 operations apparently all done and dressed antiseptically (chloride of zinc and Lister). One patient only died of operation (shock), 2·77 per cent.; 10 more from disease. Total death-rate, 30·55 per cent.

It will at once be seen that statistics gathered in such different ways, and to bring out different aspects of the question, can not be closely compared with hope of an exact result. But, if I have correctly apprehended the general import, it is this: that the mortality after resection of the hip joint has materially diminished since the introduction of antiseptic precautions, and that the diminution corresponds very closely to the death-rate formerly chargeable immediately to the operation itself. Take the extensive tables of Culbertson; setting aside uncertain cases, he had a total death-rate of 44·84 per cent.; deducting deaths from operation—6·93 per cent.—we have 37·91 per cent., which is very nearly the same as Grosch's—36·7 per cent. for 120 completed cases under antiseptic treatment. In other words, asepsis has almost abolished the risks from wound complications, and the death-rate is reduced very nearly to that from the uninterrupted disease when the operation has failed to arrest it.† And, as it has been shown that, in cases that heal, the period of healing is shorter than when antiseptics are not used, the danger of amyloid changes may be slightly lessened. Thus much has been gained by perfect antisepsis; in weighing the chances in any given case, we need no longer put much stress on the dangers of the operation itself, except, perhaps, the one element of shock, which the prolonged extirpation of diseased and suspected tissues, necessitated by the thoroughness of modern surgery, sometimes favors. It seems, then, fair to say that whenever the disease in its natural course assumes an aspect threatening to life, resection is indicated, provided none of the less radical operations—drainage, gouging, etc.—can remove the danger.

It has just been mentioned that very early operations, done while the changes in the joint are slight and the capsule unruptured, have given no death-rate, or almost none. But, on the other hand, the disease itself has practically no death-rate at this stage. Occasionally general or visceral tuberculosis may occur thus early, but rarely. Amyloid changes and exhaustion do not enter here as causes of death. It does not appear, then, that there is thus early any vital indication for excision. The early operation has been urged as vitally indicated in forestalling tuberculosis and the other attendant risks of morbus coxarius by cutting short the disease. If it could be proved that such prevention actually followed the operation, it would be a weighty argument. As Grosch points out, tuberculosis is still the commonest cause of death. König‡ maintains, as a result of a large experience in excision of all kinds—117 in three years and a half—that the hope for immunity from tubercular infection has not been gained by antiseptic resection. Of 25 deaths after his operations, 18 were from tuberculosis, and in addition nine patients, not yet dead, were hopelessly tuberculous; in all, 21·5 per cent. of his cases; and of 21 hip excisions, 10—47·6 per cent.—died of tuberculosis in four years. In the debate on König's paper some disagreement with his views was expressed, but Esmarch essentially confirmed them. Caumont* distinctly states that he found no preventive effect in his cases. Of 26 cases of scrofulous origin treated by expectancy, he lost 5—rather less than one fifth—from tubercular disease; of 12 resected, he lost 4, or one third. Others may have had better results, but the prophylactic effect can not be very decided if such marked exceptions occur.

Nor is it clear that destructive changes in the joint without evident suppuration often present a vital indication for excision. A vicious form of caries, characterized by great suffering and great destructiveness of tissues without much pus formation (caries sicca) is probably best met by resection. But of ordinary caries this is not true. It is a matter of common experience to find cases in which the destructive process is evidenced by the misplacement of the trochanter, which go through the whole course to recovery without any external evidence of suppuration. Caumont has taken the trouble to place such cases by themselves in his report. Of those treated expectantly, 25 per cent. died; of those exsected, 50 per cent.

It is not until suppuration has taken place that any vital indication for resection appears. Even here I believe the dictum of Hueter† is far too sweeping when he says: "I hold resection of the hip joint in coxitis to be indicated as soon as an extensive suppuration of the joint manifests itself, or as soon as the course shows that the termination in suppuration can be no longer prevented." Such a statement, however, is the natural outcome of his extremely gloomy views of the results of suppuration. If the opinion I have expressed as to the prognosis of suppurative coxalgia is anywhere near a correct one, resection is only indicated in a minority of cases. The indication comes not from the existence, but from the persistence, of suppuration. If it persists after the drainage of the abscesses and under the best hygienic resources the patient can command, particularly if fever attends the suppuration, then exploration of the joint is indicated, by incision or dilatation of existing fistulæ, with resection or a less extensive extirpation of the diseased parts, as the condition found may demand. And this should not be delayed after the system shows distinct depression from the suppurative process. To wait until the operation is the only escape from impending death is to err on the side of ultra-conservatism. I have not mentioned necrosis or sequestra in the joint, because under such circumstances some operation for the removal of the dead bone is imperative. Likewise, if perforation of the acetabulum with pelvic abscess exists, we have no resource but

* "Liverpool Med. Chir. Journal," 1885, p. 289.

† At first sight it would seem as if more had been accomplished, but, as Grosch's statistics contain only early cases of a kind that scarcely appear in Culbertson's, the comparison is not quite upon an equal basis.

‡ Ueber die Resultate der Gelenkresektionen, etc., "Verhandl. der deutsch. Gesellsch. f. Chirurgie, IX. Kongress", also, Die Frühresection bei tuberculoser Erkrankung der Gelenke, etc., "Archiv f. klin. Chirurgie," Bd. xxxi. S. 822.

* *Loc. cit.* † *Loc. cit.*, p. 650.

resection. True dislocation of the femur with suppuration of the hip joint is of very rare occurrence in ordinary hip disease, and the indication for excision often urged in this connection is rather orthopædic than vital.

A few words may be said regarding the second claim, that, namely, resection shortens the period of treatment, and that it diminishes the risks, both vital and functional. This is true of those cases that heal promptly and soundly, but only of such. Beside those that are fatal there is a long series of cases in which the patients neither die nor heal, but live years with persistent fistulæ. In Leisrink's tables 12·5 per cent. were "unhealed"; in Holmes's, 26·5 per cent. were "failures." Such cases now are often spoken of as "relapses." Asepsis favors prompt healing of the soft parts, but the union subsequently in many cases breaks down, and the old process is re-established under circumstances in no way improved. Just how frequent these "relapses" are I can not say, but they are often mentioned as "common." My own observations make them about 20 per cent. of all cases operated on. A friend who was in Kiel the past summer quotes Neuber as saying that "about half" of his cases relapsed. This refers, I understand, to the reopening of the wound, with tubercular granulations of its edges. Many of these ultimately do well after excision of the diseased parts.

Lastly, as to function. It is far from proved that resection gives better average results than a "natural" cure. In the question shortening is not the most important element. The shortening from resection is on the average greater than from natural cure, but not so very much. In a case not resected, but of such severity as to bring the operation into consideration, the growth of bone from the upper extremity will have been considerably retarded or arrested, according to the degree in which the epiphyseal cartilage has been affected. In a case resected the growth will be entirely abolished, and some bone already produced must be sacrificed. Ollier* points out that, although the total growth in length from the lower extremity of the femur amounts to about twice that from the upper, yet during the first four years of life the two ends contribute about equally, and that afterward the lower increases in activity until its work is, toward the end, about three times that of the upper. The prognosis as to length, then, will vary with the age at which excision is done, very early excision giving much the greatest ultimate shortening. The leaving of the greater trochanter does not much affect this relation, for what it contributes to growth in length is mainly above the joint and does not much increase the efficient length of the bone. The atrophy from inactivity affects the whole limb and is not materially different in cases resected from those left alone. If a resection was promptly successful, the advantage ought to be in favor of the operation, as permitting more speedy use of the limb.

Again, a useful joint in a lower extremity must be stable as well as mobile. And for most occupations security in the support of the trunk is more essential than motion at any one joint. Mobility with security at the hip after excision is only obtainable when very strong fibrous attachments exist between the pelvis and the remainder of the femur. The destruction from the disease and the necessary extirpation of affected tissues usually prevent the formation of attachments at once strong and flexible. Exceptions occasionally occur, and some very brilliant results have been obtained in which stability existed with very free motion.* Some very remarkable attempts at renovation of a hip joint have occurred, and interesting specimens have been described.† Nevertheless, as a rule, the motion, if considerable, is combined with such feebleness of support that the femur rides up and down on the pelvis in the act of walking. "Flail-joint," in the usual acceptation of the term as meaning uncontrollable motion in various directions, is rare, and I do not remember to have seen it. It is this insecurity that has led some operators (Ollier, Caumont) to urge that, if the operation is made very late, or in cases where much local damage has been done, if the patient must earn his living, it is better to strive for ankylosis rather than mobility. *A fortiori*, the ankylosis of a natural cure, the limb on the average being longer than after excision, will give for such persons a more useful limb. The compensating mobility of the spinal articulations, if the disease occurs in childhood, is often marvelous. The most striking instance I ever saw is No. 31 in Dr. Sayre's tables of excision; the motion took place in the lumbar spine, not only antero-posteriorly, but laterally, through a wide arc. Statistics (Grosch) show no better functional results for antiseptic operation than were formerly obtained. Functional reasons strengthen the indication for the substitution, whenever possible, of the simple extirpation of diseased tissues for formal excision in that they disturb less the relations of parts. These less radical performances are by the perfection of aseptic precautions rendered safe, and the large removals of bone formerly necessary to prevent accumulations of pus and septic matter seem no longer essential. In the same direction improvement of functional results may be hoped for by the employment in proper cases of the operative manœuvres in which a partial or temporary removal of the trochanter only is resorted to, the muscular attachments being little disturbed.‡

Further, it should not be forgotten that good functional results as to position and motion can only be obtained by prolonged after-treatment. Neglect in this particular constantly produces great deformity, and the care required to secure these good results quite answers the claim already alluded to—that resection is a short road to cure.

The conclusion, then, to which the foregoing brings us is, that exsection of the hip is indicated as a life-saving operation only; and that, as it has not been shown that it can save from any dangers except those consequent upon prolonged suppuration, it is, with rare exceptions, only indicated when the suppurative process has evidently reached a dangerous point, and can not be interrupted by any less serious operation.

* "Revue de chirurgie," 1881.

* See, for example, several cases figured in Sayre's "Orthopædic Surgery."

† Sayre, *l. c.*, frontis-piece, 2d ed.; Kuster, "Archiv f. klin. Chirurgie," Bd. xxix, 109; Israel, *Ibid.*, p. 411.

‡ Ollier, *l. c.*; Konig, "Centralbl. f. Chirurgie," 1882, S. 457; Neuber, *Ibid.*, 1884, Beilage, S. 75.

TYPHOID FEVER
AS WE SEE IT IN CENTRAL NEW YORK.*

By H. L. ELSNER, M. D.,
SYRACUSE.

It is not the writer's object to give you a treatise on typhoid fever—its pathology, symptoms, and everything pertaining to that disease—in the space of this essay. That has been done by others whose accurate and keen observations have been given to the profession during the last twenty years. For the typical cases of typhoid we can find no better authorities than Griesinger, Liebermeister, Lebert, Murchison, and a score of others. All physicians who have been in active practice and seen a fair number of fever patients are well aware of the fact that in central New York but few of their cases follow the train of symptoms laid down in our leading text-books on typhoid fever. The cases that do follow exactly the descriptions of our leading authorities are rather the exception than the rule. Our cases are without the characteristic or typical temperature-curve. Their symptoms do not follow each other in regular order; in fact, their course seems different from the cases collated. The object of this paper is to lay before you the result of my clinical experience with the disease mentioned, and to prove to you by my records that our cases are atypical. In central New York you will have noticed that each year our fevers show some different phase; that each endemic has its characteristic manifestations, which cause it to differ from the typhoid of the previous year. Some epidemics, or even isolated cases, are influenced by a large and powerful malarial element; others are associated with complications changing the entire course of the disease, or markedly modifying it. Let us look, first, to the prodromes of the fever as we see it. In not a few cases of pure typhoid we have found our patients presenting, with a high temperature, following a more or less severe chill without having experienced a single prodromal symptom. In these cases there was no gradual rise to a higher temperature; but without prodromes we are at once plunged into a state of affairs which we would hardly expect in typical cases before the end of the fifth or seventh day. In one case, seen with Dr. A. S. Edwards, the patient was taken suddenly, on returning from his work, with a slight chill and a temperature of 104° F., all symptoms warranting the diagnosis of typhoid. Death took place on the sixth day of the disease. On post-mortem examination we found the enlarged spleen and mesenteric glands, with the characteristic appearance of Peyer's patches. These lesions at once proved the case to be typhoid beyond a shadow of doubt. Some of the cases do have the usual prodromes well marked; but the fact is established that, in a goodly number of our cases, there is an entire absence of prodromes; that in a few cases the gradual rise of temperature does not take place, but we have at once a high temperature followed by the characteristic rise and fall of the second week of typhoid. For the confirmation of this fact I would refer you to Charts K, O, and P. In children we frequently find a prodromal stage of catarrhal symptoms showing themselves in catarrhal bronchitis or broncho-pneumonia. I will not detail the history of patient M. L., but refer you to Chart Q, where there was a pneumonia followed by catarrhal bronchitis, and finally typhoid, with alarming hæmorrhage, on the thirtieth day of his sickness. In those cases not at first burdened with some complication we are safe in saying that violent chills are rather the exception than the rule. Most frequently there are sensations of cold, as "cold shudders" or "cold streaks." These sensations continue usually during an entire day, and are accompanied with headache. Violent chills occur in those cases with an intermittent tendency. In most cases we have the usual malaise, change of disposition, and listless and disinterested manner of the patient. Gastric disturbances are found in some cases during the first days of the disease, taking the place of other early symptoms. It is often difficult in these cases to give a positive diagnosis, for we may be justified, if there are also diarrhœa and abdominal tenderness, in diagnosticating gastro-enteritis, or some other abdominal disease with like symptoms. In these cases the epistaxis and facial appearance of the patient will aid in making the diagnosis. Gastric irritability continuing into the second and third week is a serious and often unfavorable symptom. In 60 per cent. of my cases there was an early diarrhœa; 40 per cent. of the patients suffered from constipation. This constipation is often obstinate, and, before resorting to any measure directed toward its relief, we are warned by the ileo-cæcal tenderness, and the other symptoms, that the patient has enteric fever.

A small admixture of blood is sometimes found in the stools during the first days of the disease, while in two cases I have found a free discharge of blood. In the first of these cases this bloody discharge was the symptom which led the patient to seek medical advice. In the second case there was a distinct venous hæmorrhage. These early hæmorrhages were found in cases of enteric fever with marked malarial symptoms. In some of our cases the diarrhœa was superseded by an obstinate constipation. In not a single case of typhoid disease have I been unable to detect tenderness in the region of the ileo-cæcal valve at some time during its course. This ileo-cæcal tenderness is not influenced by the severity of the disease or the amount of ulceration. *It is present in all cases of typhoid fever, however mild or severe the manifestations.* To this point I have given the closest attention in the examination of my patients, and it is one which I can positively assert. In typhoid fever, as we see it, epistaxis is one of the most frequent symptoms. In some cases it is mild, in others of sufficient gravity to require surgical interference. Early profuse nose bleed is more frequently found in the severer forms of the disease. Nose-bleed profuse after the tenth day is always to be regarded as an ominous sign. There is no characteristic appearance of the tongue in our forms of typhoid fever. Some of our cases have led to the death of the patient after severe hæmorrhage or perforation, with a moist tongue from the first to the last day of the disease. In some of the most critical cases of

* Read before the Third Branch of the New York State Medical Association, June 9, 1885. A number of temperature charts were shown at the meeting, but, in order to save space, they are not published.—EDITOR.

typhoid that I have seen there has been a moist, red-tipped tongue throughout the course of the disease. Repeatedly we find the dry, hard, cracked tongue, bleeding at its edges, with sordes on the teeth. This appearance of the tongue is found in the graver forms of the disease. We are more likely to find intestinal hæmorrhage and other intestinal symptoms in a case with the dry tongue than with the moist tongue. The pulse goes hand in hand with the temperature during the height of the disease; after severe hæmorrhage it is more rapid, and even dicrotic. If the temperature is high the pulse is correspondingly high. I hardly think that any one of us could diagnose typhoid fever from an examination of the pulse, as there is nothing characteristic in it, any more than a physician could tell the true state of a fever patient without the daily use of the thermometer. The roseolar eruption is usually present; only occasionally do we fail to find it; when I have failed I have thought that it was overlooked. In some cases the eruption is quite profuse, but in the majority it makes its appearance at the time and in the manner mentioned in the books. In most of the cases of hæmorrhage I have noticed a fall of temperature, at some time during the twenty-four or thirty-six hours preceding its appearance, externally. Some of our patients seem to mend rapidly after a single hæmorrhage, but, when oft-repeated and large, they tend to debilitate the patient, and finally death may ensue from exhaustion. There is nothing noteworthy in the behavior of the hæmorrhage, and we pass to the consideration of the question of malarial influence on our forms of typhoid. To me it does not seem possible that a patient who has typhoid germs floating in his blood can not modify the symptoms arising from that condition by the admixture of malarial poison. I have thought that our typhoids were markedly influenced by a malarial element, and am now positively convinced by clinical experience. Often we are called to attend patients with typhoid who have gone safely through all the stages of the disease, each stage marked by characteristic periodicity. After convalescence has commenced, and our patients are doing nicely, we find them suddenly with severe chill, elevation of temperature, profuse perspiration and exhaustion following. This condition, if not treated, is likely to recur at a corresponding hour in the course of a few days. Quinine, liberally administered, is sufficient to overcome this trouble. If you will study the temperature-charts closely you will find that in numerous cases the temperature is higher at periods of the disease every other day; again you will find sudden and irregular elevations of temperature, with profuse perspiration. These patients have the roseolar eruption, some of them are accompanied with active delirium, and some have profuse intestinal hæmorrhages. Though the typhoid germs are in the ascendancy, the malarial element makes a profound impression, and influences materially the symptoms and course of the disease. Many of our cases begin with the symptoms of malarial continued fever, but before many days assume a typhoid type, show abdominal symptoms, and are then true cases of enteric fever. To decide the subject of temperature-curve, I will not longer weary you with detailed histories of cases; but have taken a number of cases from my daily record, and some from the hospital records, all of which have been faithfully kept, and appended them to this paper. I could offer many more charts, but they all show that we have no characteristic temperature-curve for typhoid fever as we see it in central New York.

Are there mild cases of typhoid fever? Does our scientific or any other treatment of these cases abort them? That there have been mild cases in our midst we can not deny. In the mildest the patients in my experience have not been considered convalescent before the end of three weeks, and in some the convalescence has been very slow. Our German *confrères* do not deny the possibility of mild cases of typhoid, and Jürgensen has written an able article describing them in Volkmann's "Klinische Vorträge," No. 61. We can not accept the mere statements of those who tell us that they abort typhoid fever; if we are called to see a case of fever of any kind, and our efforts are rewarded by a fall of temperature and return to normal of the patient, we can not consider that a case of aborted typhoid. The accurate, skilled, and careful observer will be cautious how he makes a diagnosis of any fever during the first week; and yet some of our friends would have us believe that they have cured their patients before *we* have had time to make a diagnosis.

To make the diagnosis of enteric fever we must be satisfied that there are abdominal lesions; without these there can be no typhoid. During the early days when we are called to see these cases the symptoms are vague; there may or may not have been nose-bleed; we could not say that a patient had typhoid fever because he had nose-bleed and slight febrile disturbance, all of which disappeared after a day or two of most energetic and polypathic medication. Those who abort cases of typhoid must first satisfy us that they have made the proper diagnosis; must instruct us in the manner of making such diagnosis, by pointing out the features of their cases which lead them to its early recognition and ultimate abortion.

In conclusion, I would say that it has not been my object in this paper to mention all the symptoms of typhoid fever; but it has been my endeavor to attempt at least to decide, by a careful examination of my records, a few points which seem to have puzzled and upset us for some time past in the discussion of the subject under consideration. I think I am safe in concluding that we do not have as a rule in our cases of typhoid fever a schematic temperature-curve, that they are markedly influenced by a malarial element, and, finally, that we are only justified in making the diagnosis of typhoid fever after a careful examination of the patient, noting each and every symptom, including thermometric measurements daily for at least seven days, the abdominal symptoms, roseola, ileo-cæcal tenderness, epistaxis, and then, by the coupling of all these symptoms and a careful consideration of each, a diagnosis can be made.

DISCUSSION.

Dr. HIGGINS: Mr. President, I can not feel at liberty to let this paper pass without saying a few words and giving my testimony to the faithfulness of Dr. Elsner's description of typhoid

fever as we meet with it in this vicinity. And, after a practice of thirty-five years in an intensely malarial region, I am more and more impressed that we have few cases of disease of any character that are not to some degree influenced by malaria. The point he made I have often observed, of the malaria manifesting itself after having passed the patient through that stage which I supposed placed him beyond the need of my care. In these cases distinct chills with marked regularity, requiring active and decided anti-periodic treatment for their suppression, were the main feature of what is often called relapse. I should say, however, that these cases were generally of that class that were allowed to go on from eight to ten days at the outset without active treatment, the most important period to modify the disease.

I look upon the paper as one of the most valuable and interesting I have ever heard upon this type of fever, and it interests me greatly from the fact that in this long period to which I have alluded our fevers have very much changed in character. We do not have now, as we did thirty years ago, those positive characteristics that definitely settled the question as to their nature. We do not find even those marked and distinct cases of old-fashioned "fever and ague." We find more prostration with a commingling of types belonging to different classes. Those fevers that were termed "bilious remittent" have disappeared, or at least the name has, and the word "typhoid" has the ascendancy over all others. I find very little true typhoid fever in the vicinity in which I practice, and that, almost without exception, masked by this subtle agency. In fact, I find so much of this malarial character that I am very cautious how I use the word "typhoid," and cases of that type often require many days to distinguish their true character. But with reference to abdominal lesions, those cases that develop that form of complaint, there can of course be no question. But what I wished to speak of particularly were those peculiarly malarial influences mingling with almost every disease which comes under my notice, and that too in all seasons of the year.

I simply arose, Mr. President, to make my acknowledgments to my friend, Dr. Elsner, personally, for this very able paper, it being so faithful a delineation of the disease as it has come under my observation, and being a subject of great public as well as professional interest.

Dr. Ross: I am very much interested in the doctor's paper; and while it seems that the type of typhoid fever mentioned by him is somewhat different from that which I am accustomed to see, I think, at least in half our cases, we have a *comparatively* typical run. There was another fact brought out by the doctor which is present in almost every case—that of roseola being found between the seventh and eighth days. Almost all of my cases have been between the eighth and twelfth days. Another thing: after an extremely high temperature, often running as high as 104° at the outset, and a pulse of 110 to 130 during the first twenty-four or forty-eight hours, the temperature will drop, then gradually rise, continuing as in a well-behaved case of typhoid fever.

A great many patients, as we see them, have constipation—perhaps one third; some are so much constipated that we are obliged at times to remove portions of hardened fæcal matter from the rectum with the finger; the tongue usually assumes a comparatively typical form.

In regard to aborting cases, I have seen cases begin with every symptom of typhoid fever—epistaxis, diarrhœa, tympanites, tender abdomen, and delirium, with a gradual rise of temperature for five or six days; then suddenly, whether due to treatment or to the natural termination of the disease, the fever drops to normal, other symptoms subside, and the patient is out within a week or ten days.

I had such a case not more than a month ago—that of a physician who resided in this city and was in the hospital here, I believe. He left the hospital and went into the country, where they were having, or had recently had, typhoid fever. He came home to Elmira and remained a few days, intending to go to an adjoining town to practice. The day before his intended start he was taken with every symptom of beginning typhoid fever. He had epistaxis, tympanites, delirium, diarrhœa, and a gradual rise of temperature for about five days, followed by a gradual abatement of all the symptoms.

Within seven or eight days he was out and about the house. I have seen such cases again and again, especially when we have had a large number of typhoid fever patients on hand.

Now, whether these are cases of *simple* fever or cases of aborted *typhoid* fever I am not prepared to say; the thought often comes to me that they *might* be, and there are good, well-read practitioners who believe this to be possible.

Of course we have no authority for expecting to abort a case of typhoid fever; neither do I wish to be considered as advocating such a theory. I would like to hear on this point the opinion of other members of the association.

Dr. Brown: My idea of typhoid fever is somewhat different from that of the last speaker. I believe that typhoid fever, strictly speaking, is a specific poison; that it starts out as typhoid fever, and I have contended that the idea of breaking up typhoid fever is simply ridiculous.

I believe when it is typhoid fever it is typhoid fever from the commencement; I believe that it is typhoid fever throughout; I believe if it commences as typhoid fever it will run a course as typhoid fever, and, according to my experience in a large number of cases connected with a school in Pennsylvania several years ago, and published in the journals, where the infection was caused by drinking-water. There were sixty-two persons taken sick within three weeks. The shortest duration of the fever was thirty days, and they ranged from that to forty and forty-five days. A large majority had hæmorrhage from the bowels and the cases were typical cases of typhoid fever. There were a few persons about the building and in that vicinity, who did not drink the water, who did not have the fever, but all that drank it had the fever. It was found that the drinking-water that they used was from a well that was about forty feet from a privy-vault that had been used for ten years. We found that the contents of the privy-vault had backed around into the well. The water tasted good and had the appearance of being good water. At the place there was an Artesian well that was one hundred and forty feet deep carried into the building, but the students and some of the teachers liked the surface well so much better that they would go out from their rooms and down to this well to get the water because they liked it. The deep well was, of course, all right. I sent samples of this water to Dr. Lattimer, of Rochester University, and he examined it and reported that it was swarming with animalcula; and so I believe that the large majority of cases of typhoid are the result of drinking water that is contaminated by sewage and bad air, and that in these cases of direct infection of typhoid fever there is no such thing as aborting them. These cases of continued fever spoken of I should regard as a different disease from true typhoid fever.

Dr. Bloomer: Mr. President and Gentlemen: If this meeting had been held a year ago Dr. Chapin would probably have been here, and if he had been here he would have, no doubt, called attention to certain mental manifestations present in cases of typhoid fever.

There is no doubt that about the third week of typhoid fever there is a mental condition short of delirium, where the patient

is restless, apathetic, indifferent to his surroundings, when the question of testamentary capacity often comes up. Dr. Chapin related last year two cases published in the "American Journal of Insanity."

In one of his cases the patient, fifty-eight years old, a farmer, lying at the point of death, called his sons to his bedside and discharged some obligations to the amount of $6,000 or $8,000. He recovered from the fever; and a year afterward his sons were very much surprised by his asking them to have this obligation discharged; and he himself was quite confounded when he learned that the instrument had already been executed.

In another case the patient made a will in which he ignored the heirs in the male line, and his signature bore such a striking resemblance to that of the lawyer who guided the pen that there was a contest over the will. The late Dr. Cook and Dr. Chapin were called in as experts, who testified that in their opinion the patient was *non compos mentis*, and not in a disposing state of mind when he made the will; but the will was, notwithstanding, admitted to probate because it was executed in due legal form; and you all know what objections lawyers raise to the setting aside of an instrument that is executed according to the legal requirements.

Dr. Elsner: I merely wish to say that possibly the title, as it appears on the programme, is a misnomer.

The cases that I have described to you on paper have been seen in this county, and my experience with typhoid fever has been limited to this county. We consider ourselves in central New York, and, as I had no better name or title to give the paper, I gave it the title that appears on the programme.

Now, in regard to roseola. I think that you will find, in looking over the temperature-chart (for I have been particular in marking the roseola), that it did usually occur between the seventh and eighth day.

Then in regard to the abortive cases, and such cases as Dr. Ross mentioned. We all see them.

We are all called to treat just such cases as the doctor has mentioned. Some of the patients have active delirium at once, and some do not. We have a gradual rise of temperature, and, for a few days, imagine that we have a well-defined case of typhoid to treat; but our treatment is rewarded with success. Now, those cases can not be considered typhoid fever. One of the points that I wish to make in my paper is this: That we are not justified in making the diagnosis of typhoid fever unless we are sure that there are abdominal lesions. The tenderness in such a case may be caused by many other things. Typhoid ulceration may cause tenderness; ulceration in the region of the valve may cause it, and many other diseases that are not typhoid at all are associated with marked abdominal disturbance, yet can not be considered cases of typhoid fever. If we speak of aborting typhoid fever, such cases must be thrown out. We can not consider those as aborting cases of typhoid.

In regard to the mental state. I did not mention that in my paper for I simply wish to impress upon your mind the leading symptoms of typhoid as we see it.

Dr. Bissell has mentioned the mental state in some cases being on the second and third week—that apathetic condition, that condition when the patient does not care whether school keeps or not. I find the much larger proportion of our patients go into that condition at that time of the disease. The patient seems to lose all interest in himself or herself, however anxious he or she may have been before; and I think there is a stage in typhoid, though I would not make this as a positive statement, at which those patients are not responsible for what they do, however clear they may have been during the entire course of the disease. I have repeatedly asked patients who have appeared perfectly rational throughout the entire course of the disease whether they remembered any facts concerning their sickness; much the larger proportion of them have told me that the time during the entire sickness seemed as if it had been a dream.

THE ANNUAL AND SEASONAL CLIMATIC MAPS OF THE UNITED STATES;

WITH A RULE FOR THE EVEN DIVISION OF CLIMATE,

BASED UPON THE AVERAGE OF THE COMBINED ATMOSPHERIC HUMIDITIES IN THE UNITED STATES.*

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It is not the author's intention to write a new paper for the Climatological Association this year, but simply to complete his last year's contribution by a presentation of the graphical illustration of climatic statistics and of the divisions of climate in our own country, which was an important part of his last year's report. He can thus fulfill his obligation as "Committee on Climatic Elements, etc., Acting with the Chief Signal Officer," for the maps which are presented contain the different condensations of nearly five million signal-service observations, and for temperature, rain-fall, and wind movements—all the records since the Signal-Service stations were established. The result of studying so broad an area as is included within the boundaries of the United States is very gratifying in the presentation of a variety of climates and an amplitude between the extremes of moisture and dryness such as can hardly be claimed by any other government. Indulgence is craved for the introduction of the following descriptions of these climatic maps and the data they contain:

I. The Annual Map.—The annual map and tables are intended to give all the desirable annual averages of climatic statistics, and to graphically illustrate the most important of these—*i. e.*, the cloudiness of the air, annual temperatures, rain-fall, and wind—directions as to their prevalence and their influence upon the weather.

Cloudiness.—The relative cloudiness of the sky is one of the most important facts to be determined about the climate of different sections, for it is an estimate of the humidity of the atmosphere, which is but slightly affected by local peculiarities and the unequal radiation from the earth's surface. Particularly is cloudiness little affected by those faults of temperature statistics in cities, which are due to the greater heat there, and radiation from stone buildings, paved streets, etc. Besides, it is the most accurate estimate yet obtained of *the duration of sunshine*. The Signal-Service Bureau has no other reckoning of the time the sun shines than that obtained by inference—*i. e.*, if the sky is beclouded at two given stations thirty and sixty per cent. of the time, then the sun is assumed as shining seventy and forty per cent. of the time it is above the horizon at those places respectively. The annual average of sunshine can, accordingly, be approximated at from less than forty per cent. of day-time, in the northern Central Lake

* Read before the American Climatological Association, May 27, 1885.

region of the United States, to more than seventy per cent. along the eastern slope of the Rocky Mountains and in southern Arizona. This is a reasonable conclusion, and in accordance with the testimony of many observers. The sunshine is, therefore, represented by one hundred per cent. minus the per cent. of cloudiness of any given section. The proportion of cloudiness is telegraphed daily to Washington from all signal stations at 7 A. M., 3 P. M., and 11 P. M., Washington time. From these telegrams for the year 1883 the percentages were obtained which are graphically illustrated by the color shades on the annual map. They are divided into six grades of color, and show the proportion of cloudiness to range from over sixty per cent. of the time (one hundred being continuous cloudiness) to less than thirty per cent. The exact per cents. for each of the 136 signal stations are given in the tables, on the border of the map. It is interesting to note a somewhat intimate relation between increased cloudiness and increase of rain-fall and relative humidity, a fact which strengthens the belief that cloudiness is a good index of atmospheric humidity.

Temperature.—The average annual temperatures of belts of country stretching across the United States are represented by the *solid blue lines.* These *isothermal lines* are described by the figures (Fahrenheit scale) given at their termini on either coast. They are computed, according to the plan of the Signal Service, by dividing the sum of the 7 A. M., 3 and 11 P. M. observations by three to get each daily record. These isotherms represent the average of annual means for all time since the signal stations were established (for dates of establishment see annual tables), as do also the records given in the border tables for each station. The temperatures of places between isothermal lines can be approximately determined according to their nearness to the same.

Rain-fall.—The amount of rain and melted snow is accurately measured at each signal station (see Mean Precipitation in border tables), and the average yearly totals are graphically illustrated by the *interrupted blue lines* running over the face of the annual map. The inches of rain-fall are given at the termini of each of these lines on the border of the map. The variations in rain-fall within the boundaries of the United States are remarkable, being from less than five inches in southeastern California and southwestern Arizona to over seventy inches on the coast of North Carolina.

Winds.—An important part of the climatic maps to agriculturists, and to those who wish to prognosticate the state of the weather, is the record of the winds as to what winds bring pleasant weather and what usher in rain. Besides these two important facts, the prevailing direction serves to show whether pleasant weather winds or rain bearing winds are most likely to blow at any given place. All these three records are given by the *groups of arrows* which are scattered over the United States, the groups representing the regions in the center of or near which they are, and each kind of wind being indicated by a distinct form of arrow. These winds are the averages for the year 1882, and they blow as the arrows fly on the map, the quarter of the earth's surface, from which the pleasant-weather or rain-bearing winds come, being pretty nearly represented by the spread of the arrow's feather. *The velocity of the wind* at every signal station is constantly determined by a self-registering anemometer, and this valuable record (since the signal stations were established) is represented in the tables at the border of the annual map by the miles per month traveled by the wind. *The comparative windiness* is further given as determined by these records. For instance, Pike's Peak (1) is the windiest and La Mesilla (132) the least windy of all the places where the records are complete for the year, while the average for Denver, rating her as the 95th, shows that there are 94 out of 132 stations which are more windy than the "City of the Plains."

Elevations.—The elevations given in the border tables are the distances in feet, above sea-level, of the observation stations of the Signal Service Bureau, and are approximately accurate as representing the cities where these stations are. On the annual map the approximate elevation of sections of country are given which are over one thousand feet above the sea.

Ranges of Temperature.—Those who make a great point, as many do, of the precise variations of temperature, will be interested in the means of maximum and minimum and daily and monthly ranges of temperature, given in the border tables. The means of the maximum and minimum temperatures for 1883 are the averages of the daily highest and daily lowest temperatures for all the stations. From these two the mean daily range of temperature is computed, which is also given. The average or annual mean of monthly ranges of temperature is the average difference between the highest and lowest records in each month, and, with the daily range, indicates the equability or variability of a given climate. Many physicians, who had hitherto recommended equable climates for the classes of consumptives which can be benefited, have lately learned that *variability* is often to be preferred, as this quality pertains particularly to stimulating, dry, cool, and elevated climates, while *equability* always accompanies enervating warmth coupled with injurious dampness of atmosphere.

Relative and Absolute Humidities.—*Relative humidity* is the per cent. of moisture the air holds to what it would contain if it were saturated with vapor. It is always expressed in hundredths (saturation being 100), and the annual averages for all the signal stations are given in the border tables. A low average of relative humidity indicates the infrequency of fogs or dews as well as the presence of other qualities, as much sunshine and little rain, which produce a dry climate.

Absolute humidity is the real humidity of the air or the weight of vapor to a given space. It is usually reckoned in grains of vapor to the cubic foot of air. In the border tables of the annual map the annual record for 1883 is given in grains and hundredths, while in the tables of the seasonal charts it is given in terms of a grain of vapor to a cubic foot of air.

Dew Point.—This is the temperature at which the air will become more than saturated by the amount of vapor it contains. The annual mean dew point, which is that given in the border tables, is always lower than the given mean

temperature of a place. The reason is this: the air can hold moisture according to its temperature, the range being very great—*i. e.*, from about one half a grain to the cubic foot of air at zero to over nineteen grains at 100° F. Now, the annual average of relative humidity never exceeds 90 per cent., so the temperature must be lowered for dew to be deposited. The explanation is similar considered with reference to absolute humidity. A place which has four grains of vapor to the cubic foot of air and a temperature of 62° (66 per cent.) must have its temperature reduced to 49° when four grains will just exceed saturation. The greater the difference between the mean dew point and mean temperature of a place, the less frequently do fogs occur.

Vapor Tension.—This is the elastic force of vapor, and represents the expansibility of the vapor of water the air contains. The moister the air, the greater is its elasticity or pressure. This elasticity is determined by the difference between the wet- and dry-bulb thermometers, and is expressed in hundredths of English inches (see border table for annual means). This method of expression is used because the expansibility of the air, due to the vapor it contains, is determined by the depression in inches of a column of mercury when acted on by this force.

II. The Seasonal Charts.—The seasonal charts serve a special purpose in presenting all important climatic data in quarterly divisions, which method has many advantages over the annual representation. In the annual statistics we have not even approximate representations of either summer or winter, for, being on opposite sides of the mean for spring and autumn, they neutralize each other when combined, and the significance of each is lost. The seasonal division of the year is therefore necessary in order to show the contrasts between winter and summer. It aids the mind in retaining correct impressions of separate data, while a semi-annual subdivision would be rather impracticable, and monthly statements too confusing to be remembered. The study of climate by seasons is the most satisfactory and the most rational method for physicians, agriculturists, health seekers, tourists—in fact, the great majority of those interested in climate.

Combined Humidities.—An important and peculiar object of these seasonal charts is to illustrate a classification of climates which the author has originated after much deliberation. It is that which is given in the blue and red color shades, and is based upon an equitable combination of the humidity statistics of the atmosphere for 1883. The object being to rate all sections according to their records, nearly a third the rating influence is given to each of three attributes of climate, namely, *cloudiness* and *relative humidity* per cent., and *absolute humidity* in tenths of a grain of vapor to the cubic foot of air; or, perhaps, more definitely, about 35 per cent. to the first, 40 to the second, and 25 per cent. to the third, in the order named. The object of this rating is to correct the mistake of judging by any one existing element of dryness. Cloudiness is uninfluenced by the facts of temperature or absolute humidity records taken at times, and is comparatively independent of purely local effects, yet cloudiness is somewhat of a relative quantity, since the upper strata of the atmosphere must reach saturation in order that clouds may exist. Relative humidity would be an admirable test of atmospheric humidity were it not so fickle and under the dominion of faulty temperatures and changing winds. Absolute humidity, however, is more stable. It is an actual, *real* statement of the amount of atmospheric moisture, and serves as an excellent means of correction for relative humidity. For instance, Pike's Peak for spring, with a high relative humidity of ·84, has a low absolute humidity of nine tenths of a grain of vapor because of its low temperature, 15°; while Cedar Keys, with a less relative humidity, ·73, has a high absolute humidity—five and seven tenths grains—because of its high average temperature, 70°, for the same season. So each of these factors corrects the faults of the other two, and all of them combined better represent the climate of the country than any one of them alone can do. The finally accepted method of combining these statistics was to rate every station, forward or backward, from the average, which was assumed as the middle of climate for the United States. This mean of humidity statistics for the year would be represented by the average of the dividing lines between the blue and the red shades on the four charts. It is this yearly average with which all places are compared, those of more moisture being thrown appropriately into the shades of moisture (blue), and those opposite into shades of dryness (red). Since absolute as well as relative humidity is dependent on temperature, the capacity of the air to hold moisture varying according to temperature, it became necessary to have a separate rating standard or figure for each degree of temperature. Thus the "Rating Table" and the "Rule of Moisture and Dryness" were constructed, which are given both on the summer seasonal chart and on the annual map. The rating figures represent one third the sum of the three rating factors, and with this a third of the records of every place is compared. It must be remembered that this is not a geographical mean; so it is not essential to accuracy that the moist half should exactly correspond in area to the dry half. To get a fair mean as the basis of the "Rating Table," the averages of the separate factors were determined according to methods of computation approved by those in authority to judge of this subject. These means were found to be 44½ per cent. for cloudiness, 67 per cent. for relative humidity, and 67 per cent. of saturation for absolute humidity, expressed in tenths of a grain of vapor to the cubic foot of air. By these standards combined the proper climatic rating of every locality is determined, based upon the official and unbiased records of the Signal-Service Bureau. Thus a much-needed definition is obtained of what *moisture* and *dryness* mean as applied to climates. The moist and dry halves are each divided into four equal divisions, which are respectively represented by the blue and red shades on the seasonal charts. The seasonal peculiarities of localities and the relation of seasons to each other are thus well illustrated. Instance the large area (see winter chart) in the Northwest and in the Northern Lake and Central River regions, which are thrown into the solid blue shade of the extreme of moisture by the cold of winter, and the equally

large area (see summer chart) in the Southwest that is thrown into the solid red shade of the extreme of dryness by the heat of summer. Thus the laws which govern the diffusion of heat and terrestrial radiation are at many points illustrated by these charts. It is hoped this seasonal presentation of combined humidities will be appreciated, especially by those who would avoid undesirable weather in one season by a temporary removal to a more genial clime.

(To be concluded.)

THE PRINCIPLES INVOLVED IN THE CONSTRUCTION OF SPRAY-TUBES.*

By ANDREW H. SMITH, M. D.

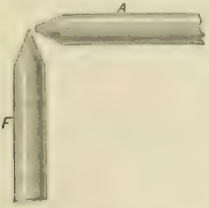
The Bergsen, or, as it is more commonly called in this country, the Sass spray-tube, having practically superseded all other forms, it is to this that attention will be confined in this paper.

The instrument consists essentially of two tubes placed one above the other, the upper one, which for brevity's sake we will designate A, carrying compressed air or steam, while the lower one, which we will call F, supplies the fluid to be atomized.

The free extremities of these tubes, greatly diminished in size, are so arranged in relation to each other that the stream of air issuing from A passes at a right angle across the tip of F. The action of the spray-tube depends upon the fact that air possesses a considerable degree of adhesiveness, the different particles adhering to each other with no little tenacity.

We are familiar with this property in viscid fluids and to a less degree in plain water, a drop of which can be drawn along a table by the finger, but we are not apt to think of it as belonging to the atmosphere or to gaseous bodies. Yet it is owing to the fact that the air or steam which escapes from A clings to and drags with it the air at the extremity of F that a vacuum is produced in F. Into this vacuum the fluid rises, and in its turn is caught by the current from A and dispersed in the form of spray.

The greater the velocity of the air-jet escaping from A, the greater will be the exhausting force exerted upon F, and therefore the greater the efficiency of the atomizer. As the velocity of the stream of air is greatest at its center,



where it is least retarded by friction, it follows that the axis of the opening of A should be exactly on a line with the extremity of F.

The pressure being the same, the character of the spray will depend upon the relative size of the openings of A and F. Increasing the former permits more air to escape and gives a larger volume of spray with a greater carrying force and more power of penetration. Increasing the latter results in a larger consumption of fluid, forming a coarser spray, and, if carried too far, results in dripping.

A large opening for A with a small one for F gives a large body of very fine spray. A small opening for A with a large one for F gives a small body of coarse spray. A successful application of spray to the throat or to the posterior nares often requires that it be effected as it were by surprise, and before there is time for reflex action of the muscles. Hence it is necessary that spray should be formed the instant the air-valve is opened; for, if the arrival of the liquid at the point of F is delayed appreciably after air begins to issue from A, reflex contraction will have been excited by the contact of the air with the mucous surface before any spray is produced. Now, no fluid will reach the point of F until all the air in F is exhausted, and the amount of air and the length of time required for its exhaustion will be in proportion to the length and the caliber of the tube. Hence these should be reduced to a minimum in spray-tubes intended for making quick applications. And, as there is nothing lost in any case by this construction, it may as well be made the general rule for all tubes.

With a properly constructed spray-tube comparatively slight air-pressure will suffice for all purposes. Increase of pressure will compensate in a measure for defective construction of tubes, but it brings with it its own inconveniences, such as mechanical irritation of the surface to which the spray is applied, waste of compressing power, etc.

The indications for the use of coarse or fine spray do not come within the scope of this paper, and will vary in accordance with the views of individual practitioners.

* Read before the American Laryngological Association, June 25, 1885.

ALCOHOL IN THE TREATMENT OF ACUTE AND CHRONIC FORMS OF ALCOHOLIC MANIA.

By LEWIS D. MASON, M. D.,
CONSULTING PHYSICIAN TO THE INEBRIATE HOME, FORT HAMILTON, N. Y.

While in certain forms of neuroses, occurring in cases of alcoholism, alcohol in any form would be injurious, nevertheless there are conditions in which the judicious use of alcohol is not only beneficial, but curative and indispensable, and its place can not be taken by other drugs. The assertion that alcohol is only and always a poison, and must not be tolerated in any condition, especially where the inebriate is concerned, is not carried out by our experience in the class of cases to which we shall presently refer. The indiscriminate and therefore injudicious and harmful use of alcohol is not here indorsed; we now speak of its careful administration, where the quantity and form used are regulated by a competent practitioner. An asylum experience of over nineteen years, embracing the cases of several thousand inebriates, has given us ample opportunity to test the relative value of sudden and complete abstinence from all alcohol, and the plan of gradual reduction, or what is known

as the "tapering-off" system. And just here it is legitimate to reason from analogy. Our experience has also embraced many cases of the opium and morphine habits. In a few of the earlier of this class of cases under our treatment the drug was left off abruptly. The terrible suffering and collapse that ensued demanded the immediate restoration of his full dose to recover the patient from a state of suffering, if not peril, and the endeavor by some other and less severe method to relieve him of the habit.

The same holds true in degree in certain cases in regard to alcohol. The inebriate, whose nervous system is broken down by his excesses, is suddenly deprived of his accustomed stimulant. Some hours may pass and nothing worthy of note happen; but in time the symptoms of deprivation manifest themselves, and he pleads for his usual draught, and will resort to all kinds of deceit or force to obtain it. He fails by reason of his environments, and then mental aberration, muscular tremor, insomnia, and the familiar symptoms of delirium tremens are established. This is the common experience of the hospital surgeon. The habitual inebriate, struck down by some accident, is brought into the hospital ward. He is thus suddenly deprived of all stimulants, and the necessity for administering the same is not recognized. A few hours pass, sleeplessness ensues, and a case of delirium tremens, associated with surgical injury, is established. And the hospital surgeon could not meet with a worse complication, especially in certain forms of injury, such as fracture, where perfect rest is so essential to secure proper results.

During the first few years of our experience at the Inebriate Home at Fort Hamilton the "cut-off plan" from all alcoholic stimulants was conscientiously adopted. Recognizing the great evil that alcohol had done, we did not desire to place it on record as of any use at all; and, further, the popular cry that inebriate asylums "were nothing more than hotels for the accommodation of a certain class who desired to continue their evil habits" influenced us somewhat to adopt this plan.

Cases of delirium tremens were common. Hardly a person entered the asylum but he was expected to pass through his attacks of acute delirium. At present this is an exception to the rule. If a patient enters the asylum, and is at all tremulous, especially if he has had a long, tiresome journey, and the experience of a sleepless night and deprivation from his accustomed stimulant, he is regarded as on the verge of an attack of delirium tremens, and the judicious administration of a few bottles of ale, or its equivalent in some other form of alcohol, given at proper intervals, will not only quiet him, but tone up his nervous energy and arrest a condition rapidly tending to delirium.

Many enter who do not need such treatment. The periodic dipsomaniac who is on the tail-end of his spree and is ready, after a day or two of rest, to again enter upon his sober interval, will probably not need such stimulant. The person most likely to demand it is the habitual inebriate, because, of the two, the nervous system of the latter is the more shattered, and because, also, he is accustomed to a daily stimulant. It must not be inferred that, in our asylum, alcohol is improperly, indiscriminately, or irregularly given. On the contrary, it is dispensed with as much care and caution as other drugs. A record of the quantities given, and the periods at which they are administered, in each case is kept, as well as the effect upon the pulse, temperature, and general condition of the patient. As a prophylactic or abortive treatment for delirium tremens, I know no remedy so safe and so potent as alcohol properly administered. I believe that insomnia is more readily overcome, and the end desired more promptly attained, than if we attempted to secure the same result by large doses of the bromides, chloral hydrate, or other hypnotics, and the risk that attends the use of these drugs avoided. If we have occasion to use these drugs also, less will be necessary, so that the quantities used may be administered in safer doses. I do not hesitate to assert that, by the too free use of these drugs in cases of delirium tremens, in the effort to overcome the persistent insomnia, the convalescence of the patient has been greatly retarded, and life has been put in jeopardy and even sacrificed.

The method, then, of administering alcohol should be regulated by the condition of the patient. On the first appearance of sleeplessness, mental aberration, muscular tremor (and these should be watched for in all cases submitted to our care), a bottle of Bass's ale may be given every two, three, or four hours, lengthening or shortening the interval as the case demands, and then, after sleep is obtained and the patient reacts from his mental irrationality and physical depression, the use of the stimulant be suspended.

The use of a stimulant may be necessary for a day or so, or longer periods. We find it rarely necessary to continue it longer than a week or ten days, gradually decreasing the quantity, and at the end of that time total abstinence may be safely practiced for an indefinite period. I have seen several instances, both in private and asylum practice, where the judicious use of ale alone, without other medication, has arrested in a few doses the tendency of the patient to acute delirium, and restored him to a safe condition of sleep and mental soundness. And, even in cases where the delirium was marked and the insomnia persistent, the judicious use of stimulants has put the patient on the road to recovery. Ale will often succeed where whisky or other forms of alcohol do not answer. After a night or two of rest, the mental and physical condition of the patient meanwhile improving, we may begin reduction and carry it on as speedily as the case seems to warrant, and in a few days the patient will be convalescent. If the case is one accompanied by severe injury, it may be well to continue the stimulant until the period of debility or shock has passed, or the exhausting drain on the system has been arrested.

In chronic alcoholic dementia—a low type of mental alienation occurring in alcoholics—the patient is anæmic, listless, and full of delusions; hears voices, and holds conversation with imaginary persons; appears to have sane moments, but readily relapses into his old delusions; his appetite is capricious, his sleep irregular, and his physical strength poor; he moves about in a waking nightmare, he walks in a land of dreams and shadows. The judicious use of stimulants in these cases, a glass of ale at each meal and at bed-time, conjoined with tonic treatment, proper diet, and regular exer-

cise, will do much good. The use of bromides and chloral to overcome the insomnia will only add to the already profound mental disturbance and still further lower the physical tone. I have already referred to the fact that the too free use of the bromides and chloral and other depressing drugs in the acute forms of alcoholic delirium may plunge the patient into the more protracted forms of mental alienation to which the inebriate is particularly prone. I have endeavored to be cautious in presenting my views; but our experience at the Fort Hamilton Asylum will not permit me to indorse the idea held by some practitioners—viz., that no harm can result from leaving off at once alcoholic stimulants in any case, and that no good can result from continuing them in any case of alcoholism; that their use is not only productive of mischief to the patient, but is, besides, a great shock to the moral sense of the community. I maintain, however, that, if, by the judicious use of alcohol in such quantities and at such times as we may direct, we can arrest the onset of an attack of alcoholic delirium, or abbreviate the duration of the more chronic forms, the result of the treatment certainly warrants its adoption. In order that my statements need not be misapplied or misconstrued, it may be necessary to state that there are many persons who drink alcohol in some form habitually, but never to excess or intoxication, and who have not passed through the terrible ordeal of delirium tremens, chronic alcoholism, or chronic alcoholic mania, and who have not yet been convulsed with alcoholic epilepsy. To such my remarks do not apply. These persons are not inebriates in the true sense of the word. Immediate and abrupt cessation with them means nothing more than the leaving off of a very pernicious habit, which, if continued, will carry them into the terrible precincts of the inebriate. All such I most earnestly advise to leave off alcohol at once. Total and immediate abstinence is their only safety.

Nor do we hold that all patients entering the Inebriate Asylum demand the treatment herein indicated. But I wish to impress the fact that a certain class of cases require alcohol in some form as a part of their treatment, and that in these cases it is especially indicated. We all recognize the moral side of the question; but, when a life is wavering in the balance, we must use the means which experience has proved to be the best.

One of the best and most conservative authorities in this special department of medicine indorses the judicious use of alcohol, if not directly, at least indirectly, and comes somewhat to our aid on this point. Speaking of digitalis and its effects in large doses in the treatment of delirium tremens—doses of half an ounce or an ounce of tincture of digitalis—he writes: "The patient must have received so much proof spirit;" and he is puzzled to account whether it was the alcohol or digitalis that effected the good result, and, although opposed to alcohol, says the favorable issue was either due, probably, in the large number of successful cases, to a spontaneous favorable termination of the disease, or was slightly helped by the alcohol which is contained in the tincture ordinarily employed. The "cut off" plan is also considered by the writer; but he says it is more difficult to carry out this plan with older patients . . . accustomed to depend for a long time on strong drink as a large part of their nutrition. "But still," he writes, "we ought to try less harmful drugs—opium, Indian hemp, etc.—before resorting to so doubtful a remedy as alcohol." Again: "Alcohol, also, in diminishing doses, does seem to aid in the cure of feebler cases." * If a man has been drinking a quart of whisky daily up to the time of his attack, a pint or quart of ale or porter will be to him only a mild tonic beverage, aiding his digestion." And, finally, the author is forced to this admission: "The popular idea of tapering off is not altogether devoid of scientific, as well as clinical, foundations." *

Another point to note, and of some value in gaining the confidence and sustaining the courage of the patient in the ordeal that he is to pass through, is the fact that his stimulant will not be immediately "cut off" if it is necessary to administer it.

I have no doubt that many persons desirous of entering a special asylum for the treatment of their diseased appetites would do so if they did not dread the sudden deprivation from their accustomed stimulant. When a patient is brought to our asylum, his first and only question often is, "Will they cut me off at once?" This thought is uppermost in his mind, intensifies his desire, and aggravates his nervous apprehensions.

If we can, by the judicious use of a stimulant, carry him over the first few days of his asylum experience, quiet his fears, secure to him rest, and gain his confidence, we have brought him successfully over the first part of his treatment, and, in all probability, arrested a train of nervous phenomena that would, if allowed to go unchecked, have precipitated him into an attack of acute delirium, or permitted him to drift into the more chronic form of alcoholic mania.

TWO CASES OF CROUP
TREATED BY
TUBAGE OF THE GLOTTIS.

By JOSEPH O'DWYER, M. D.

A brief account of my experiments in the treatment of croup by tubage of the glottis, with illustrations of the tubes and other instruments used, was published in the "New York Medical Journal" of August 8th last. I have since devised a much better extracting instrument than any previously tried, and also made some slight modifications in the tubes.

Since preparing the article above referred to, I have treated two cases of croup, both of which occurred in the service of Dr. C. C. Lee at the New York Foundling Asylum. They were carefully observed and complete records kept by Dr. Dillon Brown, the house physician:

The first case was that of Albert L., aged three years and three months, who had a rather mild attack of diphtheria beginning on July 9th, which was unattended by very serious symptoms until the night of the 12th, when the voice became husky and the characteristic croupy cough began. During the following day there was a moderate amount of dyspnœa, which

* Dr. Francis Edmond Anstie (Reynolds's "System of Medicine").

increased during the night and became severe early on the morning of the 14th.

Emetics, inhalation of steam, and hot poultices to the throat gave only temporary relief. When I was called, at 3.30 P. M., the dyspnœa was so extreme that I introduced a tube immediately, and without difficulty, the time occupied by the operation, after the gag had been inserted, not exceeding ten seconds. It gave rise to a vigorous spell of coughing which lasted at intervals for about half an hour, during which a considerable quantity of muco-purulent secretion was expectorated. After a quiet and very natural sleep, lasting almost two hours, he drank half a goblet of milk with a teaspoonful of brandy, which was swallowed with very little difficulty. Temperature in the axilla 101·9°, pulse 140, respiration 30.

15th.—Slept almost continuously during the night, looks well, and is quite cheerful. Asks for drink in a faint whisper. Some bronchial râles over the chest posteriorly. No membrane visible in the pharynx. Temperature 99·3°, pulse 144, respiration 30.

16th.—Passed the night very comfortably. Suffers greatly from thirst, owing to the extreme heat of the weather. Vomited several times during the day in consequence of having taken too much milk. Ordered cracked ice and iced Vichy, to allay thirst, and milk to be limited to three pints in the twenty-four hours.

18th.—Passed the two preceding nights very comfortably, sleeping most of the time. Coughs very little, except when drinking. Temperature 100·9°, pulse 160, respiration 35. The afternoon temperature, taken for the first time in the rectum, was found to be 103·5°. Removed the tube at 3P. M., ninety-six hours from the time it was inserted. For a short time the breathing remained perfectly free, and the cough, which increased when the tube was removed, for a while retained its tubal character, but soon became croupy again, and the obstruction returned so rapidly that I was obliged to reinsert it at 4.30. Has passed only about one ounce of urine in the last twenty-four hours, which contained a considerable amount of albumin and blood-corpuscles, but no casts. Given infus. digitalis with acetate of potassium, and hot poultices applied over the kidneys.

19th.—Spent a very restless night. Vomited and had several loose passages. Temperature 102·9°, pulse 168, respiration 42. Nothing found on auscultation but bronchial râles.

20th.—Passed a more comfortable night. Urine increasing in quantity; vomits occasionally. Temperature 102°, pulse 156, respiration 40. Removed the tube at 2·30 P. M., and was obliged to replace it at 4 P. M.

21st.—Slept almost the whole night. Excessive thirst continues. Temperature 101·9°, pulse 144, respiration 24. Sat up several hours and was quite playful.

22d.—Removed the tube for the third time at 2.45 P. M., and had to replace it in an hour and a half. Temperature 103°, pulse 156, respiration 36.

23d.—Temperature 102°, pulse 132, respiration 36.

24th.—Tube removed at 11 A. M. and reinserted at 11 P. M. Temperature 101°, pulse 138, respiration 30.

25th.—Removed the tube for the fifth time. Cough soon became croupy, but without any marked dyspnœa during the day.

26th.—Did not sleep so well as usual. Some dyspnœa. Temperature 103°, pulse 160, respiration 42.

A careful examination of the chest revealed nothing but bronchial râles. Although the dyspnœa was not marked, the tube was reinserted, with immediate improvement in all the symptoms. The pulse fell to 130 and the respirations to 26. The tube was finally removed on the 28th. The cough continued croupy with some elevation of temperature for several days subsequently, but convalescence was uninterrupted. Urine found free from albumin, August 4th, for the first time. He was sent out to board soon after, and I did not see him again until October 30th, when his voice was perfectly restored. I learned from his foster-mother that complete aphonia persisted for about four weeks after his removal from the asylum.

The tube used in this case was two inches and an eighth in length, and of much smaller caliber than the tracheal cannula in common use. It is quite probable that the long continuance of the obstruction—fourteen days (the longest time in any previous case being ten days)—was due in some degree to œdema of the tissues of the larynx, superinduced by the nephritis.

The second case was that of John E , aged sixteen months, always a pale, delicate child, who had a severe attack of diphtheria, beginning on October 10th. There was extensive pseudo-membranous deposit in the pharynx, with marked swelling of the tonsils and severe constitutional disturbance. The first symptoms of croup appeared on the 13th, and I was called at 2 P. M. the following day. The breathing was then very much obstructed and noisy, with marked recession of the sternum and lower ribs during inspiration, but no restlessness nor other evidence of suffering. The swollen tonsils, still partially covered with membrane, had an excavated, sloughy appearance, and the surface of the body was extremely pale; even the lips had no color. Temperature 102°, pulse 198, respiration 28.

As the case was absolutely hopeless, I concluded to resort to tubage only in case of severe suffering. I was called again at 5 P. M., and found him extremely restless and evidently suffering very acutely. I inserted a tube one inch and three quarters long with some difficulty, as there were no double teeth to hold the gag, and it was difficult to keep the mouth well open. The relief to the dyspnœa was complete, the pulse soon fell to 160, and his general condition was for a time considerably improved. He took milk and brandy in sufficient quantity, but did not swallow so well as the preceding patient.

15th.—Passed the night in a fairly comfortable manner. Early in the morning the temperature was 104·5°, pulse 192, respiration 54; 2 P. M., respiration 70, pulse and temperature about the same. Bronchial râles, of all kinds and in great profusion, heard everywhere over the chest, while the resonance was not impaired. Death took place, without much apparent suffering, at 5 P. M., twenty-four hours after the tube was inserted.

At the autopsy, six hours after death, the lungs, which receded normally when the chest was opened, were found perfectly normal, there being neither emphysema, atelectasis, nor even an abnormal amount of blood in them. A thick deposit of pseudo-membrane was found in the larynx, trachea, and bronchial tubes, as far as the third or fourth division, the caliber of the right and left bronchus particularly being reduced to a very small size. The tube, which was perfectly clear, reached within about half an inch of the bifurcation. The right heart contained a well-washed clot.

In the majority of the fatal cases of this disease, after obstruction in the upper air-passages has been overcome, it is difficult to exclude incipient pneumonia, owing to the presence of more or less congestion and atelectasis; but in such cases as the one just recorded, and I have notes of several similar cases, the high temperature and accelerated breathing, in the absence of anything else to account for them, must be attributed to the extension of the diphtheritic process into the bronchial tubes.

Dr. Waxham, of Chicago, who procured a set of my tubes early in the present year, recently reported five cases of croup treated by this method. Dr. Brush, of Mount Vernon, has also used them in two cases.

858 Lexington Avenue.

Book Notices.

Doctrines of the Circulation. A History of Physiological Opinion and Discovery in regard to the Circulation of the Blood. By J. C. Dalton, M. D., Professor Emeritus of Physiology in the College of Physicians and Surgeons, New York, and President of the College. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 296.

This little work, as its title suggests, is largely historical. Beginning with Aristotle, the idea of the circulation is traced step by step to the school of Alexandria, through the period of the Renaissance to the age of Fabricius, and finally to the time of Harvey.

Although an unassuming book, it shows evidences of a vast amount of research. Many curious and interesting facts are introduced from the works of the older writers, and in an appendix (including upward of fifty pages) there are numerous Greek and Latin citations. The book is a valuable one, not only to the special student and lover of the quaint and curious, but to the general medical reader.

Lectures on Phthisis Pulmonalis. Delivered at the Detroit Medical College, Detroit. By Ernest L. Shurly, M. D., Professor of Laryngology and Clinical Medicine, Detroit Medical College, President of the American Laryngological Association, etc. Detroit: George S. Davis, 1885.

In this little volume of about a hundred pages Professor Shurly has given, with admirable clearness and brevity, an instructive *résumé* of our present knowledge of the subject of pulmonary phthisis. To this he has added the results of a wide, intelligent, and carefully digested personal experience. The treatment of phthisis and its complications is considered with great thoroughness, and this department, occupying as it does about one half of the book, will be read with unusual interest and profit.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A. B., A. M., M. D., LL. D., Late Professor of Surgery in Bellevue Hospital Medical College, and Surgeon to Bellevue Hospital, etc. Seventh American Edition, Revised and Improved. Illustrated with three hundred and seventy-nine woodcuts. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xxxi–1005.

It is unnecessary to repeat the words of commendation which have so often been used with reference to this work, which has now become classical. The present edition is fully up to date, the alterations and additions being suggested, as the author says, by recent journal articles. He acknowledges his indebtedness for new material to Dr. Stimson, of New York, and Dr. Poinsot, of Paris. The treatise is eminently practical; indeed, it is the author's purpose throughout to avoid empty theories, and to introduce only such facts as have stood the test of clinical experience. It is with no small feeling of pride that an American points to "Hamilton on Fractures and Dislocations" when the originality of his countrymen is called in question. Such works as this, embodying the results of the practice of several generations of medical men, redeem us from the charge of superficial work, and prove that, whatever may be the failings in our system of medical education, practical ingenuity and common sense are not wanting with us.

BOOKS AND PAMPHLETS RECEIVED.

The Pedigree of Disease: being Six Lectures on Temperament, Idiosyncrasy, and Diathesis, delivered in the Theatre of the Royal College of Surgeons, in the Session of 1881. By Jonathan Hutchinson, F. R. S., late Professor of Surgery and Pathology in the College, etc. New York: William Wood & Co., 1885. Pp. 113.

A Text-Book of Nursing, for the Use of Training-Schools, Families, and Private Students. Compiled by Clara S. Weeks, Graduate of the New York Hospital Training-School, etc. New York: D. Appleton & Co., 1885. Pp. 396. [Price, $1.75.]

Manual of the Diseases of Women, being a Concise and Systematic Exposition of the Theory and Practice of Gynæcology, for Use of Students and Practitioners. By Charles H. May, M. D., late House Physician, Mt. Sinai Hospital, New York, etc. Philadelphia: Lea Brothers & Co., 1885. Pp. xi–25 to 357, inclusive.

Official Formulæ of American Hospitals. Collected and Arranged by C. F. Taylor, M. D., Editor of the "Medical World." Philadelphia: The "Medical World," 1885. Pp. 238. [Price, $1.]

Diseases of the Larynx. By Dr. J. Gottstein, Lecturer at the University of Breslau. Translated and Added to by P. M'Bride, M. D., F. R. C. P. E., F. R. S. E., etc. Edinburgh and London: W. & A. K. Johnston. Pp. 274.

Post-mortem Examinations, with Especial Reference to Medico-legal Practice. By Professor Rudolph Virchow, of the Berlin Charité Hospital. Translated by T. P. Smith, M. D., M. R. C. S. E., with Additional Notes and New Plates. From the Fourth German Edition. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 138. [Price, $1.]

On the Tests for Muscular Asthenopia, and on Insufficiency of the External Recti Muscles. By Dr. Henry D. Noyes, of New York. [Reprinted from the "Transactions of the Eighth Session of the International Medical Congress."]

Tracts on Massage. No. II. The Physiological Effects of Massage. Translated from the German of Reibmayr, with Notes, by Benjamin Lee, A. M., M. D., Ph. D., etc. Philadelphia, 1885. Pp. 46.

The Therapeutics of High Temperatures in Young Children. By William Perry Watson, A. M., M. D., Jersey City, N. J. [Reprinted from the "Archives of Pædiatrics."]

Observations on the Cause and Treatment of Infantile Eczema and Allied Eruptions. By Henry T. Byford, M. D., Chicago. [Reprinted from the "Journal of the American Medical Association."]

Letters from a Mother to a Mother on the Formation, Growth, and Care of the Teeth. By the Wife of a Dentist, Mrs. M. W. J. Philadelphia: Welch Dental Company, 1885. Pp. 106. [Price, 25 cents.]

Report on Ophthalmology. By A. M. Wilder, M. D., etc. Reprinted from the "Transactions of the Medical Society of the State of California."]

The Causal Relation of Obstructed Cardiac Circulation to Lymph Stasis. By Samuel C. Busey, M. D., Washington. [Reprinted from the "American Journal of the Medical Sciences."]

Primary Lateral Spinal Sclerosis. By J. B. Marvin, M. D., etc. Read before the Kentucky State Medical Society, June 26, 1885.

THE
NEW YORK MEDICAL JOURNAL,
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NEW YORK, SATURDAY, NOVEMBER 28, 1885.

WHAT MAY COME OF A SUIT FOR DAMAGES.

Our readers need not be told—for those of them who have long followed the practice of medicine are painfully aware of the fact—that medical men are peculiarly subject to injustice at the hands of the law. As one of our English contemporaries has lately remarked, the very institution that ought to be an unfailing and readily available refuge for any man who is conscious of his rectitude—the law—is becoming more and more a remedy worse than the disease, if not an engine of oppression. "He who filches from me my good name steals that which not enriches him, but makes me poor indeed," may many a man of our craft exclaim when he finds himself in its toils. Whether he has been goaded to seek redress in the law, or has been made against his will to take a position that subjects him to the gibes of every loafer who reads the vulgar newspaper accounts of things medical, he is lucky if on any such occasion he can look back on the affair, after all is over, with more satisfaction than regret.

If this can be said of the legal entanglements to which physicians are ordinarily and everywhere liable, what will be thought of a state of things in which obedience to the law is the very act that leads to punishment? This is what seems to have been exemplified recently in New York? One of the ordinances of the sanitary code makes it incumbent on physicians to notify the Health Department of cases of infectious disease, and they are subject to a heavy fine for any neglect to do so. Several years ago Dr. A. E. M. Purdy, an esteemed practitioner, gave notice to the Health Department, under this regulation, that, in his opinion, a young woman who was under his treatment was suffering with small-pox. Thereupon the Department sent one of its medical officers to visit the patient, and it appears that he agreed with Dr. Purdy as to the nature of the case, and the woman was removed, contrary to her will, to a public hospital set apart for infectious diseases. Her sickness proved to be of short duration, and she was not long detained, but she has now brought suit against Dr. Purdy for damages, alleging that the business in which she was engaged has been seriously injured by the fact that her old customers, having learned of her misfortune, shunned her shop; and, further, that Dr. Purdy's diagnosis was erroneous, since she did not have small-pox, but simply a dermatitis of the face, caused by a preparation containing acetic acid having accidentally come in contact with it. She sued for ten thousand dollars damages, and last week a jury awarded her five hundred dollars.

We can scarcely regard this verdict in any other light than as a miscarriage of justice. In the first place, Dr. Purdy still maintains the correctness of his diagnosis. It is in evidence that the sanitary inspector agreed with him, and he certainly seems to us to have been entitled to any doubt that might arise in the attempt to establish a retrospective diagnosis. It is to be borne in mind, too, that Dr. Purdy is a gentleman of mature experience, familiar with the clinical picture of small-pox and fully alive to the considerations that always restrain prudent men from condemning patients to the odium and discomfort involved in public information of their having such a disease, until they can no longer avoid that course. *A priori*, then, the assumption that the diagnosis of small-pox in this case was incorrect would seem to rest upon a very slim foundation.

But, allowing that it was incorrect, it is difficult to see the equity of holding the physician responsible for the misfortunes that happened to the patient in consequence of that diagnosis having become known. The notification to the Health Department was merely the expression of an opinion on the part of a man whom the law compelled to express his opinion. The Health Department did not rest satisfied with that opinion, but sent one of its own inspectors to examine into the facts. The information upon which the patient's removal from her home was decided on came, therefore, not from the physician in attendance, but from the Department's own officer. The straightforward interpretation of these facts would seem to relieve Dr. Purdy of all responsibility in the case.

We have heard it said that Dr. Purdy was sued in this case because a suit could not be brought against the Health Department. If the Department is really hedged about by such a divinity, it seems to us that the sooner it is removed the better. It is notorious that heretofore the reports of infectious diseases to the Board of Health have been exceedingly defective; what will they be henceforth, since it is virtually proclaimed that whoever reports a case does so at his peril? The Board has been lenient in inflicting penalties, so lenient as recently to have called forth severe criticism from a well-known citizen, and we lately took the trouble to offer certain excuses in its behalf. In the light of the verdict in the Purdy case, we doubt if any amount of leniency on the part of the Board, in so far at least as concerns reports of cases of infectious disease, will not be countenanced and even insisted on by the community. Should the case become a precedent, our registration of infectious diseases will practically cease to be founded on anything else than such cases as the sanitary inspectors may stumble upon, for our medical practitioners will surely choose to risk having to pay a specified sum, however onerous it may be, rather than incur the danger of being mulcted still more heavily. Small-pox will then be "given a fair chance," and everything will be lovely.

THE COUNTY SOCIETY AND THE CASE.

An extraordinary piece of business came before the Medical Society of the County of New York at the meeting held last Monday evening, being none other than the consideration of the suit in which Dr. Purdy was lately the defendant, and in which the jury brought in a verdict of damages in five hundred dollars against him. The main features of the case were those that we have set forth in the preceding article.

Associations for the legal defense of medical men are not unknown abroad, and, in the absence of any such organization in this community, we know of no good reason why the county society should not on occasion assume such a rôle. We are glad, however, that the meeting was prudent enough not to engage in a discussion of the way in which the further conduct of Dr. Purdy's defense should be carried on, in case of appeal, but contented itself with empowering the Comitia Minora to take such action in the matter as it might deem best.

We trust that the Comitia will act more carefully about the affair itself than it seems to have acted in preparing what was probably meant to be a notification that this particular business would come before the meeting. "Shall the medical profession," says the notice, "be subjected to a penalty of five hundred dollars for reporting contagious diseases to the Health Department of this city?" We hope that we shall hear of no more instances of individuals being mulcted on such grounds, and we are quite confident that "the medical profession" will not be so mulcted; and, if damages are again awarded in such a case, we do not know that it will necessarily be in the sum of five hundred dollars. But the Comitia "means well."

MINOR PARAGRAPHS.

THE REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The report for the year ending September 30, 1885, is not a long document, for it makes only a pamphlet of seven pages. It states that the appropriations for the repairs of hospitals have been so small that the Bureau has not been able to maintain those institutions in a satisfactory condition, and that the further reduction for the current year may cause serious embarrassment. The Surgeon-General is, therefore, compelled to ask for an increased appropriation for the coming year, in order to maintain the establishments in the necessary state of preservation. He calls attention anew to the bad condition of the drains of the hospital inclosure at Portsmouth, N. H. The quarantine temporary hospital lately built on Widow's Island, in Penobscot Bay, has been inspected by the Surgeon-General, and he reports that its construction is satisfactory, and that he saw no evidences of any feeling of anxiety among the residents of Rockland or North Haven about the risks of disease being introduced from ships that might visit the station. He considers it a safe and desirable refuge for infected vessels from the West Indies or the Gulf of Mexico. One hundred and seventy-eight articles have been added to the Museum of Hygiene, and eight hundred and thirty books to the library.

MORE NEWSPAPER MEDICINE.

One of the daily newspapers lately published a long dispatch from Cleveland, O., setting forth the wonderful features of a case of triple gestation, in which one of the children was born several days after the two others, and of a case of dermoid cyst. There is usually a lurking suspicion that the physicians in attendance are in some measure answerable for newspaper articles of this type, but we are quite ready to absolve the accoucheur from the charge of having connived at the publication of such a state of things as happened in the first case.

NEWS ITEMS, ETC.

The New Jersey Sanitary Association held its eleventh annual meeting in Trenton on Thursday and Friday of last week.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 24, 1885:

DISEASES.	Week ending Nov. 17.		Week ending Nov. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	2	2
Typhoid fever	25	8	33	9
Scarlet fever	21	0	39	9
Cerebro-spinal meningitis	4	4	3	3
Measles	13	4	17	5
Diphtheria	59	28	72	28
Small-pox	7	2	7	2

The Woman's Hospital.—The annual meeting of the managers was held on Thursday of last week. The receipts were reported as less by $1,514.33 than those for the year before.

The Regulation of Medical Charity.—The conference held last week between members of the Charity Organization Society and representatives of several of the public medical institutions was well attended, and resolutions favoring the extension of the society's system to the various institutions were passed. A committee of conference was appointed, consisting of Mr. Hewlett Scudder, Mr. A. B. Ausbacher, Dr. S. O. Van der Poel, Dr. J. W. Roosevelt, and Dr. J. H. Emerson.

A Death from Yellow Fever is reported to have taken place at the Chambers Street Hospital last Sunday, the patient having been a fireman on a steamship which is said to have passed Quarantine the Thursday before and been reported as free from sickness. The vessel had touched at several ports in the West Indies.

The Edinburgh Infirmary.—The "British Medical Journal" learns that Mr. Skene Keith has been appointed a special assistant in his father's (Dr. Thomas Keith's) ward.

The Academy of Medicine in Ireland.—The "Medical Times and Gazette" states that Dr. Thomas Addis Emmet, of New York, has been elected an honorary fellow of the Academy.

The Death of M. Bailliere, the founder of the well-known Paris medical publishing house, is announced as having taken place last Saturday. He had reached the age of eighty-eight years.

The Death of Dr. William Frothingham.—On Thursday of last week Dr. Frothingham, a well-known physician of Washington Heights, was killed by the discharge of a pistol which he had undertaken to put in order for the purpose of killing a sick dog. The deceased was fifty-five years old, and had practiced at Washington Heights for twenty years. He was a member of several of the larger medical societies of New York, and was much esteemed in the profession.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 15 to November 21, 1885:*

Huger, Anthony, Major and Surgeon, member of the Army Medical Examining Board now in session in New York city, is relieved from the additional duty of attending surgeon in that city, to take effect when Joseph R. Smith, Lieutenant-Colonel and Surgeon, shall have arrived in New York and entered upon that duty. S. O. 267, A. G. O., November 19, 1885.

Emery, F. W., Captain and Assistant Surgeon. Sick leave of absence further extended six months on surgeon's certificate of disability. S. O. 263, A. G. O., November 14, 1885.

Strong, Norton, Captain and Assistant Surgeon. Relieved from duty at Fort Union, New Mexico, and ordered for duty as attending surgeon, Headquarters, District of New Mexico, and post surgeon, Fort Marcy, New Mexico. S. O. 171, Department of the Missouri, November 16, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon, now at Fort Leavenworth, Kansas, ordered to proceed to Fort Reno, Indian Territory, and report to commanding officer for temporary duty in the field. S. O. 170, Department of the Missouri, November 13, 1885.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended November 21, 1885.*

Yemans, H. W., Passed Assistant Surgeon. Promoted to be Passed Assistant Surgeon from November 1, 1885. November 14, 1885. Reassigned to duty at San Francisco, Cal. November 16, 1885.

McIntosh, W. P., Assistant Surgeon. Appointed an Assistant Surgeon. November 14, 1885. Assigned to duty at New Orleans, La. November 16, 1885.

Society Meetings for the Coming Week:

Tuesday, *December 1st:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Herkimer (semi-annual—Herkimer), and Saratoga (Ballston Spa.), N. Y.; Hudson County, N. J., Medical Society (Jersey City); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *December 2d:* Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot County, Me., Medical Society (Bangor).

Thursday, *December 3d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Obstetrical Society of Philadelphia.

Friday, *December 4th:* Practitioners' Society of New York (private).

Saturday, *December 5th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE GRENET CELL *VS.* THE CHLORIDE-OF-SILVER CELL FOR A PORTABLE GALVANIC APPARATUS.

156 Madison Avenue, *October 24, 1885.*

To the Editor of the New York Medical Journal:

Sir: While perusing a file of Journals which had accumulated during the summer months, my attention was caught by an article in your Journal of July 18, 1885, from the pen of Professor L. C. Gray, entitled "Two Valuable Aids in Electro-Therapeutics." As the subject was one which bore upon a field in which for some years I have been extremely interested and quite actively employed, I feel it my duty to correct some statements made in that article apparently on insufficient information. The article in question is written evidently with great enthusiasm in support of a portable galvanic battery made of chloride of silver and zinc elements, which (according to the author) so far surpasses all previous efforts of electricians that he says: "I am prepared to say that its general employment will mark a new era in galvano-therapy."

Now, let us see upon what facts the champion of such a remarkable invention (as this would seem to be) rests his claim for its universal recognition. If I should state in the commencement that I have intentionally omitted this form of cell from the list of those which I have depicted and recommended in my forthcoming work upon "Electricity in Medicine," and that I have done so for good and sufficient reason, I must either admit myself to be unacquainted with the progress lately made in electrical devices, or I must prove the soundness of my convictions. I prefer to attempt the latter.

The chloride-of-silver and zinc element as the basis of a battery is not new. Dr. Gray need not have written to foreign countries (as he states in his article that he has done) to obtain much valuable information respecting its rise and fall. The "chloride-of-silver battery" presented to the profession some years since by the Western Electric Company is practically the same as the one Dr. Gray now extols. True, it had glass cups in place of rubber ones (which cost more), and it lacked some other of the mechanical features described by Dr. Gray, although the latter are but copies or slight modifications of identical devices employed by other manufacturers of this city and of Europe. Its excitant was the same, the elements were the same, the cell was practically the same, and the battery was light and easy to handle (the only claim, in my opinion, which it ever had to "universal recognition").

This battery was sold extensively at first by a reputable firm in this city, and probably equally so elsewhere. This firm finally declined to continue selling it, and I am informed that the Western Electric Company has since discontinued its manufacture. So much for the history of the "chloride-of-silver battery" in this country from a practical standpoint. Dr. Gray admits that a Mr. Schoth, of Europe, has thus far failed to make a satisfactory battery with this form of cell—although he has been "experimenting with them at Dr. De Watteville's instance." Dr. Gray has tried his own battery but a few months; yet, because it works and is light, he gives it his unqualified indorsement. Is not the conclusion on its face rather a hasty one?

In the second place, this type of cell has a low electro-motive force, and generates but a *small quantity* in the battery Dr. Gray describes. The elements are costly, and are not regarded by well-posted electricians as possessing the durability Dr. Gray claims for them. It is true that the silver can be reclaimed (when the fluid is saved after the elements are consumed and subjected to certain chemical processes), but few physicians would go to that trouble for the purpose of saving a few dollars. Dr. Gray estimates that it will cost "about $8 per year" for repairs. Even at this very low estimate, the battery becomes decidedly expensive. He fails, moreover, to state the first cost of the instrument—so that comparison on that score with the cost of other batteries made by reputable manufacturers is impossible.

In the third place, great stress is laid by Dr. Gray upon the light weight of the battery (9 to 12 pounds). Personally, I fail to see why a physician who owns a buggy and horse need to care much if a few pounds of weight are or are not dispensed with, provided that he can carry the machine easily from the carriage to the house of each patient without assistance. With a portable battery composed of the Grenet cells he gains (1) cheapness of construction; (2) a fluid which can be renewed when required at a cost of a few cents; (3) a cell whose elements last a long time and cost about ten cents each to replace when they at last are consumed by the fluid; (4) a high electro-motive force; (5) a considerable quantity of electricity—if the elements are of the usual size; (6) an easy way of overcoming

polarization when the battery is in use; (7) a clean instrument which, when properly made, will not spill the fluid: (8) the ability to select the cells employed from any part of the battery; and (9) a simplicity of construction which admits of repair by the physician himself if he possesses a screw-driver and a pair of pinchers.

Some months ago Dr. Brown, of this city, exhibited, at a meeting of the Clinical Society of the New York Post-Graduate Medical School, the very battery which Dr. Gray now presents as novel. The remarks of Dr. Brown were published, without the cut, in the "New York Medical Journal" in February, 1885. If I am not mistaken, Dr. Brown had been instrumental in calling the attention of the manufacturer to several of its best features.

In closing, I would say that the sentence in Dr. Gray's article which impugns the many advantages claimed for the Grenet cell, both by myself and others, for a portable galvanic apparatus, is not in accord (as far as I can learn) with the experience of thousands who are to-day using this form of cell in Europe and this country. It seems to give universal satisfaction when properly managed and cared for.

Respectfully yours,

A. L. RANNEY, M. D.

A NEW ANTISEPTIC LIGATURE.

JERSEY CITY, *October 19, 1885.*

To the Editor of the New York Medical Journal:

SIR: Ligatures have been used for many years for bringing together and retaining solutions of continuity, also for the ligation of blood-vessels. They have been made from a number of materials, such as silk, linen, catgut, silver and iron wire. Physicians prefer one or the other, as their experience or judgment may dictate. Claims have been made for this or that particular ligature, in some cases, as being superior to the others.

In solutions of continuity the principal points of a good ligature are ease of application, a ligature that will hold when properly applied, and of a non-irritant character, so that it can be left in the wound as long as necessary—*i. e.*, until the edges adhere, without exciting undue inflammation. Silk for ligatures has been used more than any other material, and, as a rule, has answered the purpose; but, after a few days in the tissues, it absorbs moisture, causing pus to form, which provokes a discharge from the wound, and thereby tends to prevent, in some cases, union by first intention. Before the silk is used it is coated with bees-wax, to keep it firm and prevent the thread from slipping in the surgeon's hand. I have for some years used shoemaker's wax for coating silk ligatures, which is *highly* antiseptic, and can be left in the wound a *much longer time* than by using bees-wax. To show the antiseptic nature of shoemaker's wax, I will give you the composition as obtained from an intelligent shoemaker, who has made it for himself and others: Rosin 1½ lb., pitch 1 lb., melted together in a vessel over the fire; remove and then add half a pound of Archangel tar (common); the whole to be mixed to a proper consistence. As I consider this an improvement on the usual method of coating ligatures with bees-wax, and am not aware of its having been used for this purpose, I wish to make it known through your journal.

JAMES CRAIG, M. D.

THE NAMES OF THE ENCEPHALIC ARTERIES.

ITHACA, N. Y., *October 24, 1885.*

To the Editor of the New York Medical Journal:

SIR: The report of my paper On a Seldom-described Artery (*A. termatica*), with Suggestions as to the Names of the Principal Encephalic Arteries, in the "Transactions of the American Neurological Association," pp. 33, 34 (Journal of Nervous and Mental Disease," vol. xii, No. 3, pp. 348, 349, July, 1885), contains an error, due to my own inadvertence, which can be most effectually corrected if you can spare the space for the following table, as amended. Instead of two cerebellar arteries, there are three, *superior*, *anterior*, and *inferior*, the mononymic new names for which are *præcerebellaris*, *medicerebellaris*, and *postcerebellaris*, and the English paronyms of these, *precerebellar*, *medicerebellar*, and *postcerebellar*.

Common Latin names.	Proposed names.	English paronyms.	Abbreviations.
Vertebralis.	Vertebralis.	Vertebral.	*vrtb.*
Basilaris. (sic.)	Basilaris.	Basilar.	*bslr.*
Cerebellaris superior.	Præcerebellaris.	Precerebellar.	*precbl.*
Cerebellaris anterior.	Medicerebellaris.	Medicerebellar.	*medcbl.*
Cerebellaris inferior.	Postcerebellaris.	Postcerebellar.	*pstcbl.*
Cerebralis anterior.	Præcerebralis.	Precerebral.	*precb.*
Cerebralis media.	Medicerebralis.	Medicerebral.	*medcb.*
Cerebralis posterior.	Postcerebralis.	Postcerebral.	*pstcb.*
Communicans anterior. (sic.)	Præcommunicans.	Precommunicant.	*precm.*
Communicans posterior.	Postcommunicans.	Postcommunicant.	*pstcm.*
Choroidea anterior.	Prechoroidea.	Prechoroid.	*prechrd.*
Choroidea posterior.	Postchoroidea.	Postchoroid.	*pstchrd.*

I have no mononym to propose for the very awkward dionymic eponym, *Circulus Willisii* (circle or pentagon or hexagon of Willis), but one is certainly desirable.

In this connection, permit me to add that in the paper On Two Little-known Cerebral Fissures, following the one just named, on pages 350 and 351, *neutromesal*, *callosal*, and *hypocampal*, should be *neutromesal*, *callosal*, and *hippocampal*, and on page 352 *hippocampal* should be included with the "fissures mainly or partly mesal."

B. G. WILDER.

NORTH BROOKFIELD, MASS., *November 18, 1885.*

To the Editor of the New York Medical Journal:

SIR: Are not the numerous remedies dispensed by druggists becoming a serious usurpation of physicians' practice? I requested a druggist to keep on hand a preparation of bromo-caffein, which I wished to prescribe for headaches, which, by the way, is an excellent remedy in the *beginning* of a sick headache. I now fear that my opportunities for prescribing the remedy are lessened, as I doubt not the druggist recommends it to others, who otherwise would apply to a physician. Ought not the druggists to be informed through their journals as to their duty in this matter, or shall physicians, as the evil increases, have to dispense their own medicine in self-defense?

Very respectfully,

J. GARST, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of November 19, 1885.

The President, Dr. A. JACOBI, in the Chair.

A Section in Laryngology.—A motion looking to the establishment of a Section in Laryngology was adopted.

The Health Department.—A letter from Mr. JAMES GALLATIN was read by the secretary, by which it appeared that the Board of Health of New York city had asked for a considerable increase in the annual appropriation over that for last year, whereas the amount allowed by the commissioners fell very considerably below that sum. In view of this fact, there was danger of the efficiency of the board being crippled by the reduction of the salaries of those who did the practical work. He hoped the Academy would exert its influence toward keeping off sinecures

and toward having nuisances corrected without the additional expense attending repeated inspections by the health authorities.

Dr. Gouverneur M. Smith had nothing to say with regard to the wisdom of reducing the appropriation called for, but with regard to other points brought out in the letter he thought we should speak, and therefore offered the following resolutions:

Whereas, It is a generally recognized fact that the value of the work of the Health Department of the City of New York depends largely upon the presence therein of competent medical men, and,

Whereas, It has been declared expedient that some reduction should be made in the expenditures of the department during the coming year;

Resolved, That it is the sense of the New York Academy of Medicine that said reduction should be effected in such a way as not to impair the usefulness of the department either by the dismissal of any of the competent and experienced physicians now in its service, or by lowering their salaries below a fair and equitable rate.

Dr. Fordyce Barker thought there was nothing in the spirit of the letter, nor in the spirit of the resolutions, which would not be for the best interests of the medical profession. As to how far the expenditures might have been injudicious, and how far the appropriations might be diminished, he was not able to speak, but there was no doubt that for the interests of all concerned the board should secure the services of physicians of integrity and ability, and then see that they were amply paid. He seconded the resolutions, and they were adopted without a dissentient voice.

The Annual Address: Pathfinding in Medicine.—Dr. Henry D. Noyes then read the anniversary address. He had been impressed with the thought that further advancement in medicine must depend upon acute, exact, and deep research. Clinical observation had done much toward advancing medical knowledge, and it promised still to do good work in the form of collective investigation, but it must be supplemented by work in the laboratory. Indeed, he laid greatest stress upon the importance of laboratory research, and instanced the discoveries made by Virchow, Helmholtz, Pasteur, and others. The value of exact and deep research made by some persons of restricted opportunities had been well illustrated in the case of that brilliant scholar, Dr. Thomas Young, to whom the author paid a warm tribute of respect. He also paid a tribute of honor to Mr. Palmer, who overcame all obstacles and finally succeeded in becoming master of Oriental and other languages, which was turned to practical use in winning the friendship of desert tribes which had harassed the workers on the Suez Canal. But to build and equip a laboratory for scientific investigation involved a large outlay of money. It was for this reason that in Europe, where governments built and sustained laboratories, and paid professors who had risen to eminence in special departments of their profession for taking charge of them, more numerous discoveries had been made, especially in bacteriology. If the people of this country, and especially the wealthy people of New York, were made to see the need of opportunities for exact research in order to advance the health interests of the human race, many would be found who would contribute of their wealth toward the building and equipment of laboratories. Proof of this view already existed in the munificent gift of Mr. Vanderbilt to the College of Physicians and Surgeons, and in the building of the Carnegie Laboratory.

Dr. Fordyce Barker spoke of the pleasure with which he had listened to anniversary addresses before the Academy of Medicine many years ago, but more recently, on account of the inefficiency, he said, of Dr. Jacobi's predecessor, the custom had been dropped and had not been revived until the present year. He was glad that the president had renewed it, and moved that a vote of thanks be extended to the orator of the evening. The motion was unanimously carried. Dr. Barker expressed great hope that ere long the Academy would be able to supply a laboratory for use by those engaged in special investigation. Surely a city having so many wealthy people as New York would not allow this need to be long felt.

NEW YORK SURGICAL SOCIETY.

Meeting of November 10, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Neuralgia of the Superior Maxillary and Inferior Dental Nerves; Resection; Cure.—Dr. William T. Bull presented a man showing the results of two operations — one performed upon the superior maxillary, and the other upon the inferior dental nerve—for obstinate neuralgia. These operations had been performed fifteen months before, and, as there had been no return of the trouble whatever, he thought the case might be regarded as one of cure.

A night watchman, sixty-two years of age, was admitted to the New York Hospital July 29, 1882. For several years he had had at intervals some pain in the right side of the face, which within a year had become more severe and almost continuous. He was rheumatic, had not had syphilis, and the history of malarial disease was doubtful. All sorts of medical treatment had been resorted to, and many teeth in both the upper and the lower jaw had been extracted. When admitted he was suffering from the same pain, which was partly controlled by hypodermic injections of morphine. There were tender points over the infra-orbital and mental foramina, and over the condyle of the jaw. He was slightly emaciated, and could not eat solid food, and also had pain in talking.

August 11, 1884.—The superior maxillary was exposed in the floor of the orbit and three fourths of an inch removed. The artery was divided and bled sharply. It was stopped by a plug of catgut which was continuous, with a few strands emerging from the center of the wound. Peat and bichloride dressing were applied. The wound healed primarily in four days.

18th.—The inferior dental nerve was exposed by a vertical incision over the ramus of the jaw and by chiseling through the outer wall of its canal (Warren's operation). The incision was placed low enough to avoid Stenson's duct; the fibers of the masseter, with the periosteum, were raised with the elevator, and the upper angle of the wound was strongly retracted. It was a narrow wound to work in, but there was little difficulty in removing a rectangular piece of bone, one fourth by three fourths of an inch in area. Three quarters of an inch of the nerve were removed. In separating it from the artery the latter was wounded and tied with catgut. A small bone-drain was left in the wound, which was treated like the other. At the end of a week, when the dressing was removed, the wound had healed except at the orifice of the tube, and this closed promptly under an iodoform scab.

From the time of the operation the man experienced no pain whatever in the face, and there was complete anæsthesia over the areas supplied by the nerves. There was no facial paralysis. Now, fifteen months after the operation, he continued perfectly well. There had been a dull aching in the lower jaw in damp weather, but it was trifling in degree, and did not increase in either frequency or severity.

Dr. R. W. Amidon had kindly examined the man lately, and stated: "I tested the sensibility with a faradaic current and a single wire electrode, and found complete anæsthesia on the right side of the face over an area included between two lines running from the outer and inner angles of the orbit downward to the line of the chin. It does not reach far back on the cheek, or

much under the chin. It does not reach the lower palpebral margin, nor *quite* to the median line on the nose. In the lips and chin it extends *exactly* to the median line. It involves the gums and what teeth there are in the lower jaw on the right side up to the median line. At the outer, upper, and nasal borders of the area the anæsthesia shades off into normal perception. On the lips and chin the anæsthesia is complete up to the median line, and the transition to normal sensibility is sudden. There is no anæsthesia of the palpebral conjunctiva of the right lower lid or the right internal canthus, or the gums of the upper jaw, or the tongue. There is no paralysis of any facial muscle. He has complained of his sight being weak since the operation. I find the fundus normal and the vision good, but with the prism-test I find that he has an insufficiency of the interni (probably the right) of 5° for distant vision and 12° for near vision, and he reads much better with a prism to correct that.

"*Query:* Did you injure, during the operation, the branch of the inferior division of the *third* nerve which passes under the optic nerve to the right internal rectus?"

The PRESIDENT said there was one point worthy of special note in Dr. Bull's case, and that was the extremely satisfactory result from an operation performed externally instead of dividing the inferior dental and maxillary nerves within the mouth. He thought the internal section, made after Paradacini's method at the spine of Spix, was rather an unsatisfactory operation. It was somewhat difficult to perform, and the amount of nerve extracted was comparatively limited.

Dr. F. M. MARKOE said he had had a satisfactory result in a similar case, but the operations were not performed at the same time. Quite a number of years ago he operated upon a patient who had suffered for a long time and severely with neuralgia in the parts supplied by the inferior dental nerve. He trephined the canal and cut out about one inch of the nerve, and with perfect success. About three years afterward the patient came to him with neuralgia of the superior maxillary nerve, and he performed the same operation, cutting out about one inch of the nerve, going back to the point where it entered the antrum, and destroying the nerve as far back as was possible with the point of the scissors, and again with success which lasted a little more than two years, when the patient returned with some slight neuralgia affecting the region supplied by the supra-orbital nerve. The man was unwilling to undergo further operation, and disappeared from observation. Up to that time, however, covering a period of five or six years, he had experienced perfect relief.

Remarks on Excision of the Hip.—Dr. L. M. YALE then read a paper with this title. [See page 593.]

Dr. MARKOE said the paper was so statistical in character that there was hardly room for discussion, and that it contained an extremely interesting and very valuable accumulation of results obtained by different operators. So far as he had been able to discover, nothing appeared in the paper which indicated that the danger of tubercular infection was either greater or less in those operated upon than in those not operated upon.

Dr. YALE said that was the conclusion, except in this one instance. Caumont had analyzed all the cases treated in every way, between one and two hundred in all, and drawn the conclusion that tuberculosis was in no way relieved by excision; indeed, one third of the patients died after excision, and one fifth in suppurative cases without exsection. Of course that was not a sufficiently large number of cases to settle the question.

The PRESIDENT asked if we were not premature in laying much stress on general infection after an operation upon a tuberculous bone or joint, as it was a matter which had not been brought to our notice, especially with reference to later pathological developments, until within the last two or three years. He would feel unwilling to accept such statements as conclusive until a larger experience had been obtained. This inference, if received as final, would cut off all attempts at operative interference for the purpose of getting ahead of tuberculous disease in bones and joints, and would render such operations unjustifiable.

Dr. C. T. POORE thought that private statistics should not be put in comparison with hospital statistics, because statistics derived from patients among the better classes were more favorable to the expectant plan of treatment. He did not believe that statistics of excision of the hip joint in hospital cases in general would show more than 33 per cent. of mortality, and in the same class of children treated expectantly without operation, his impression was, the mortality was greater than after excision. He was unable to see how one could determine, while persistent suppuration existed, whether or not he had to deal with simple caries of the joint or with a sequestrum which could not be removed without an operation. Besides, it was a serious question whether many patients with extensive disease of the acetabulum would ever get well without an operation, and whether an operation in those cases would remove that source of danger.

Dr. F. LANGE thought it generally conceded that a comparatively large percentage of patients with hip-joint disease would entirely recover under proper conservative treatment without excision of the joint. Even extensive destruction of bone did not preclude spontaneous recovery and a comparatively good functional result. He had observed so much destruction of bone that at last the trochanter was considerably above Nélaton's line, still without noticeable suppuration, and at the end with some mobility and a very useful limb. He thought it so much a point of experience as to whether in a given case one should follow out conservative treatment, or resort to more radical interference, that only the long-continued observation of a large material might entitle us to draw general conclusions. He must say that, as a principle, he was rather inclined to push the conservative treatment as far as possible, and his impression was that, even in cases presenting a more serious aspect, if only all the indications of hygiene and orthopædy were fulfilled, and retention of pus prevented as much as possible, good results could be obtained. Further, he thought that, if by consequent general treatment one succeeded in altering in a favorable way the constitution of the patient and in checking the progress of the local tuberculous process, any kind of surgical interference would be followed by more satisfactory results so far as complete recovery was concerned. Though feeling convinced that small particles of necrosed bone might be absorbed by the action of vigorous granulations, it was beyond doubt that a large percentage of patients would not recover entirely unless tuberculous sequestra were removed. Hence eventually in these cases excision had to be considered. He had repeatedly tried to avoid total excision, and to perform more of a sequestrotomy, but he must say that in all the cases but one he had been obliged to add excision of the upper end of the femur in order to get sufficient access to the diseased parts to enable him to remove with some degree of certainty the structures involved. In the one case above mentioned, in which several tubercular sequestra were removed from the anterior aspect of the acetabulum without touching the head of the femur, except to scrape away quite an amount of granulations, healing apparently took place, but it had not been under observation a sufficient length of time to enable him to determine whether recovery was permanent. He regarded the necessity of removing so much bone in excision of the hip joint as a great drawback to the operation, and did not think that the amount of shortening was so little as was

generally assumed. The question, what was the amount of shortening in adults who at an early age had been subject to excision of the hip joint, was not settled yet, and was worthy of careful investigation. Suppose we had a young patient with tuberculous osteitis of the acetabulum, and we removed, as might become necessary, a large portion of that bone, besides the separation of the shaft of the femur above the trochanter minor. In such a case we might have three or more inches of bone in its length lost, and, in addition to that, have abolished what additional growth might have come from the preservation of the upper epiphyseal cartilage. One ought to state how much that represented in the adult, in order to fix more accurately the question of indication for total exsection. The latter would of course always exist where the operation had to be done as a means of preserving life, and he thought that the standpoint of a good many surgeons and orthopædists, as a matter of principle, not to do any exsection at all, was identical with sacrificing a certain number of lives which otherwise might be saved. Especially the results of orthopædists were not absolutely conclusive, because in the majority of the worst progressive cases the patients did not apply to them, or eventually gave up their treatment in order to search for some more speedy relief. Regarding the very important question of functional result, he was not able to give a decisive answer. He had had some very good results after excision, and other cases in which after excision recovery was incomplete, or the functional result deficient. He had observed in several cases where a great portion of the acetabulum had had to be removed, in spite of consequent abduction during the after-treatment, that the shaft did not find a favorable point of support. One was able to make out in such cases a certain amount of slipping of the bones against each other, according to the more or less strong and tense fibrous connection; and he must further say that he was not convinced yet that, under all circumstances, a patient with a movable joint after excision was better off than one with ankylosis in good position. The latter, with a slight amount of flexion, would always have a safe gait, and was not deprived of the advantage of being able to sit. Besides, his limb would probably not be so short as that of the former, who, to be sure, might occasionally offer an excellent result, at other times an incomplete one. He also thought one point worthy of attention, namely, whether the position of the limb after excision, as well as after conservative treatment, was a lasting one. Eventually, after a year, perhaps after a good many years, an unfavorable position might take place. He had once within the last seven years seen general tuberculosis follow excision of the hip, apparently caused by the operation. The latter was done at an early stage of the disease. There were several sequestra belonging to the head of the femur, and the patient died, in the third month after the operation, of tubercular meningitis.

Dr. Yale said, with regard to the amount of shortening which might occur, that, according to Ollier's experiments, if it was assumed that the growth from the upper epiphysis was absolutely abolished, it was possible that, with the ordinary growth from that extremity of the femur, about nine centimetres might be lost. To that there might be added the atrophy from inactivity. He had measured many cured patients, some of whom had had abscesses, and others none, with regard to the different sources and amount of shortening. He had seen a tibia in a coxalgic person fall behind one inch or more, and it was fair to presume that the diminution in the growth of the femur was quite as much. If that was added to the other, it was possible that several inches might have been lost from simple inactivity. The amount of functional use which a limb might have with ankylosis after an extensive disease of bone had recently been brought to his mind by the case of a patient who, fifteen years before, had come under his care with an abscess which had been totally neglected. There were many fistulæ, and in the spring of 1871 he contemplated excising the joint, and asked the opinion of Dr. Sayre, who said that excision would do but little good on account of the great amount of disease of the pelvic bones. He therefore treated the case as best he could without resorting to operative interference, and the patient recovered with ankylosis, and was now a teacher in one of the public schools, although she still had six sinuses about the hip, which discharged more or less. The limb was in very good position; the actual shortening in the femur was an inch and a quarter, in the tibia about one inch, which is partially compensated for by tilting of the pelvis, and the remainder is nearly made up by super-extension of the sound limb; and practically, therefore, she walks with a shortening of only about half an inch, and locomotion is with only a very slight limp. He also recalled the case of a young man who, after he was cured, had thirteen cicatrices about the hip, and he was, when last seen, able to take an active part as a member of a baseball club.

A Urinary Calculus spontaneously fractured in the Bladder.—Dr. J. C. Hutchison presented a specimen which had been removed by bilateral lithotomy from a man twenty-three years old, who gave the history of stone in the bladder beginning when he was five years old. His general health was excellent, and he had always been able to attend to his business without much suffering until he began to drive a cart in the city of New York, when he experienced considerable pain in the bladder after a long day's drive over rough stones. Three weeks before he applied for treatment his symptoms suddenly grew worse, and the pain was so great that he was compelled to give up work. On exploration of the bladder with a searcher, the speaker at once detected a calculus. An instrument had never before been introduced into the bladder. Bilateral lithotomy was performed, and the two fragments of stone shown were removed. The patient made a satisfactory recovery. The surface of the stone showed no marks of an instrument with which it might have been broken, and the fractured surfaces were not covered with urinary deposits or smoothed by attrition, showing that the fracture was quite recent. All the evidence went to prove that the fracture was spontaneous, that it was the result of forces acting from within, and that it occurred at the time there was a sudden increase of pain in the bladder—three weeks before the operation. The stone was composed of calcium oxalate, with a uric-acid nucleus. It weighed 859 grains, was disc-shaped, measured an inch and a half in its transverse and an inch in its vertical diameter, and its surface was smoothly mammillated.

Dr. Ord,* in a paper read before the London Pathological Society, had expressed the opinion that there were three methods by which a calculus might spontaneously fracture: 1. From forces arising within the calculus itself; "in an altered state of the urine the nucleus becomes swollen, and acts as a bursting charge in a shell." 2. From molecular disintegration. 3. From weakness of the layers within the crust, allowing its fracture. The speaker could not understand how either of these methods could have caused the fracture in this specimen, nor had he any satisfactory explanation to offer.

Dr. Hutchison also presented twenty-two calculi removed by median lithotomy from a gentleman sixty-six years old, on on whom he had performed litholapaxy two years before. They varied in size from that of a pea to that of a hazel-nut; the surfaces were fissured, but not rough, and of a light-red color. A section of one was made for examination. It was composed

* "British Med. Jour.," May 10, 1879, and September 7, 1878.

mainly of uric acid, with a small amount of calcium phosphate. The total weight when removed was 478 grains. The patient recovered, but died some time afterward from causes not connected with the bladder. The speaker also showed the fragments removed from this patient two years before by rapid lithotrity. They weighed 225 grains, and were composed of uric acid and calcium oxalate.

Dr. POORE presented two small calculi removed from a child who was operated upon in May last by median lithotomy. The child was three years and a half old, and the second operation had been performed in September last.

The PRESIDENT asked if the child had suffered very much after the first operation.

Dr. POORE replied that the father, although perhaps his statement could not be accepted without allowance, had said that the child suffered a great deal after it left the hospital where the first operation was performed. At the time of its discharge after the last operation the child had no bladder symptoms.

The PRESIDENT said he had asked the question because it was well known that in the old subject two stones not infrequently existed and escaped detection. One case he recalled particularly, in which the patient was operated upon by the late Dr. Van Buren, and got a great deal of relief; and then pain came on again, and lithotomy was performed one year afterward by the late Dr. Buck. At the second operation a stone as large as the original one removed by Dr. Van Buren, of about the size of a walnut, was removed, and there was no evidence of facets upon its surface nor in its internal structure, and the explanation of the presence of the second calculus was found in the fact that an unusually large bar between the mouths of the ureters divided the bladder into two parts. Dr. Buck had been much struck by this condition, found at the time when he operated, and, as the patient complained about two weeks afterward of some pain, he anæsthetized him again, made another search, and found a small fragment of a calculus which was lodged in one of the irregularities of the prostatic portion of the urethra.

Dr. A. C. POST had met with two cases in which there was contraction of the bladder between two calculi so that the stones could not come together. His cases occurred in young subjects. In each case one calculus was near the urethral orifice of the bladder and the other was far back in the cavity, and there existed a contraction of the bladder between the two which could be felt with the finger.

Fistula in Ano.—Dr. LANGE directed attention to one way of treating fistula in ano, namely, cutting the entire canal out and sewing up the wound. In most cases it was a simple procedure, and he would be much obliged if the members of the society would try it. He had adopted it for the first time about two years before in the case of a woman who had a deep-seated fistula. In that case he had a complete result, and the patient recovered in about fourteen days. He had tried it in a limited number of cases, but he had not succeeded in all; yet he thought that, with improved technique, the results would become better. So far, at least, the results were encouraging. Having a probe in the canal, he dissected all about the probe and cut the entire fistulous canal away, including some of the tissues surrounding it, and then, with a catgut étage suture, closed the entire wound, and besides inserted several silk sutures around the whole mass, as after other plastic operations, to relieve tension and to prevent eventual separation of the lips of the wound in consequence of too early absorption of the catgut.

The PRESIDENT said he had performed this operation four times with satisfactory results. In one instance the fistula ran from the labium to the rectum. His first knowledge of the operation was obtained from the "Transactions of the American Gynæcological Society," and from a Western surgeon who reported a number of cases.

Dr. MARKOE had performed the operation twice by scraping out the fistula, but he had not got good results.

Dr. A. G. GERSTER had employed this method in a limited number of cases, and, as Dr. Lange had stated, with some good results and with some failures. He thought the method applicable in cases where the fistula was simple. Where, however, there were several fistulæ crossing each other, as occasionally occurred, and running perhaps in a spiral line around a part of the circumference of the rectum, and where, after removal of all the lining of these different canals, a complicated wound remained, the results had not been very satisfactory, the relations of the wound being such that absolute contact of all the surfaces could not be brought about, and accumulations of secretions with retention in pockets frustrated primary union. But certainly in simple cases, however deep, up to a certain extent, the method was a rational one, and it shortened the time of cure very considerably.

NEW YORK STATE MEDICAL ASSOCIATION.

Second Annual Meeting, held in New York, Tuesday, Wednesday, Thursday, and Friday, November 17, 18, 19, and 20, 1885.

(*Concluded from page 584.*)

Wednesday's Proceedings.

A Communication from the American Medical Association, regarding certain proposed uniform State legislation, was referred to a committee of three, to report to-morrow.

The Discussion on Pneumonia was resumed after certain other business had been transacted. Dr. CHARLES G. STOCKTON discussed in a brief paper the seventh question propounded by Dr. Flint, and said he thought the special manner in which the temperature should be lowered would depend upon the individual case; a single antipyretic would not answer in all cases. He had sometimes used quinine and antipyrine successively in the same case. Regarding antipyrine, he recommended its use in from fifteen- to twenty-grain doses once in from eight to twelve hours. When so used it had never produced any toxic effects upon the heart, and it had had the desired effect upon the temperature.

Dr. E. D. FERGUSON'S experience with antipyrine had been similar.

Dr. J. G. ORTON discussed the eighth question in a brief paper. He had never seen an unqualified case of relapse of acute lobar pneumonia during or shortly after the period of convalescence, but one attack seemed to predispose to subsequent ones in the same lobe. He thought pneumonia was a non-infectious essential fever. He also spoke of complications and diseases to which pneumonia predisposed.

Dr. F. E. HYDE had in several cases of acute lobar pneumonia found evidence at the autopsy that there had been early and persistent thrombosis as well as embolism of the veins, and in two cases there had been embolism in the arteries as well. This condition he thought occurred more frequently than was supposed, and we could see why remedial measures proved of no avail, and why death occurred so early in the course of the disease.

Dr. SHELDEN and Dr. ROSS also discussed the paper.

The Medico-Legal Bearing of Pelvic Injuries in Women.

Dr. ELY VAN DE WARKER, of Syracuse, read a paper with this title, in which he said that actions at law to recover damages for injuries sustained to the pelvic organs in women were becoming quite frequent and involved large sums of money. They were usually brought against corporations, particularly cities and villages, and railroad companies. He cited three

illustrative cases, by which it appeared that the facts of the case, could they be obtained by a thorough medical examination, were in favor of the defendant, but the verdict was likely to be in favor of the complainant. Some of the women conscientiously but erroneously attributed their symptoms to the injury sustained, but most of the cases were of a fraudulent nature. In all, perhaps, there would be found a history of previous pelvic inflammation, or affections which would fully account for the symptoms present. The impossibility of a fall of some nature, which was the usual accident in these cases, producing such concussion of the healthy uterus and pelvic organs as to cause permanent displacement of the womb, or swelling, pelvic inflammation, and abscess was evident to the physician but not to the simple juryman, whose sympathies were appealed to by a suffering woman, while the other party to the action was a heartless corporation with a supposed unlimited supply of money.

Dr. Williams, of Boston, and Dr. Alonzo Clark, of New York, were at this point introduced to the meeting.

An Address on Some of the Relations of Physiology to the Practice of Medicine was read by Dr. Austin Flint, Jr., who said that physiology was the only rational basis of scientific medicine; this was true even if we used the term medicine in its widest signification, including in it the practice of surgery, gynæcology, and pathology. A knowledge of anatomy and physiology was a most important requisite in making a correct diagnosis. The necessity of a knowledge of physiology was evident in the study of valvular lesions of the heart, for our ability to diagnosticate heart lesions depended upon our familiarity with the functions of the heart and the sounds produced by the blood current in health. Dr. Flint analyzed the heart-sounds in different diseased conditions of the heart, in proof of his assertion that a knowledge of physiology was an important element in scientific medicine. In the same line he cited certain affections of the digestive tract, Beaumont's observations upon digestion within the stomach through a gastric fistula, the discovery of vaccination by Jenner, of the circulation of the blood by Harvey, of the manner of bacteria cultivation by Koch, etc. Regarding bacteria as causes of disease, the theory offered wide possibilities, and it was not improbable that methods of prevention and treatment of disease would now be discovered which would be of the greatest benefit to the human race. Methods of bacteria cultivation might also prove of value in the study of the physiology of the fluids and functions of the body. Dr. Flint referred to an article on the subject of how to treat a fever as based on physiology, which he published in the "American Journal of the Medical Sciences" in 1879, and said that fever meant the rapid use of the heat-producing elements in the economy, and hence the importance of digestion of heat-producing foods during a fever to prevent the burning up of the system. Alcohol in fever was well borne, and temporarily was capable of taking the place of the elements consumed by hyperpyrexia. In phthisis with fever hydrocarbons should be given, such as starch, sugar, and cod-liver oil; alcohol was well borne by such patients.

Recto-Labial or Vulvar Fistulæ; their Causes and Treatment. Dr. Isaac E. Taylor read a paper in which he spoke of the comparative rarity of the condition. It was very liable to begin with a vulvar abscess, depending upon an inflammation of the vulvar glands perhaps excited by injury during coition, masturbation, labor, direct injury, or cold. A small tumor might exist in the labium prior to breaking down into an abscess, perhaps quite movable, and leading to the suspicion of a dispersed ovary. The history of such a case seen by the author was given. The tumor constituting the suspected ovary broke, and gases and fæces escaped by the small opening. Huguier's plates were shown in illustration of the subject-matter of the paper. The pathognomonic symptom of vulvar fistulæ was the escape of air and thin fæces. The vulvar opening was usually small—perhaps so small that it could be found with great difficulty. As to the treatment, he adopted the ligature. The method was simple and efficient, and, in view of the great and serious difficulties likely to attend the use of the knife, he thought it deserved much more general employment. The elastic ligature was to be preferred.

After reading the paper, Dr. Taylor presented to the society a form of obstetric extractor given to the association's museum by Dr. Samuel W. Francis, of Newport. Dr. Taylor also presented a fœtal skull which showed the effects of molding during extraction from an equally contracted pelvis. The gifts were accepted with thanks.

Recurring Luxations.—Dr. Edward M. Moore then read a paper on this subject. That luxations were likely to recur he would not attempt to prove, for it was a well-known fact. Recurrence of the luxation took place often not as a result of violence, but of the action of different forces not connected with violence. Some replacements were maintained with great difficulty. Attention was then called to the tendency of recurrence of luxations in different joints, and to the manner of preventing this accident. To prevent it in the case of the clavicle, the elbow was to be thrown backward and retained in that position by binding the hand to the side by means of adhesive plaster, or, what was better, by means of a figure-of-eight bandage; thus the scapula would be carried nearer the vertebral column. Several interesting cases were related in which recurrence of luxation had taken place in the shoulder joint, and the manner in which the accident was apt to occur was pointed out. The reader's views with regard to luxations occurring in this joint had been made clear by certain experiments which he had performed after removal of the flesh about the shoulder, and bringing forces applied upon the arm and forearm to bear upon the ligamentous structures. His experiments illustrated incidentally how it was that, in many cases of sprains, or supposed injury to ligamentous filaments, the symptoms were as serious as and more prolonged than in fractures of bone; for, as had been shown in these instances, the ligament gave way only by taking with it a portion of the bone to which it was attached. In luxations at the shoulder, either upon the dorsum of the scapula or into the axilla, examples would be met with in which maintenance of reduction would be found difficult. The manner in which the luxation took place was by gravity allowing the arm to fall, especially if at the same time the arm was turned more or less forcibly outward. Touching upon recurrence of luxation at the hip joint, the author cited an interesting case which had come under his observation, and had been reported, with two others, by Bigelow, in which a soldier acquired the art of dislocating and replacing the head of the femur by a certain twisting motion of the body.

The Difference in the Symptoms of Strangulated Oblique Inguinal Hernia.—Dr. Hyde read a paper with this title, in which the following were some of the principal points brought out: 1. In proportion to the length of time an inguinal hernia had existed would the symptoms and signs of strangulation be mild and chronic. 2. In a case of long-standing inguinal hernia in which signs of stricture of the bowel were obscure, with no evidence of total destruction of the canal, it was often not safe to wait for fæcal regurgitation before deciding that strangulation existed. 3. When strangulation occurred at the first protrusion, the symptoms would be found to be more marked. 4. If hiccough and fæcal vomiting had existed from nearly the beginning of the symptoms, no time was to be lost; kelotomy should be performed at once. 5. If a swelling existed, with

symptoms of obstruction of the bowel, the patient complaining of severe pain in the abdomen, although of none in the tumor, but having hiccough, even if there was no marked general disturbance, a fair trial of taxis should be made, and, that failing to reduce the tumor, kelotomy should not be delayed. This remark was based on an interesting case, the history of which Dr. Hyde gave in detail. No fæcal vomiting occurred, nor any pain in the tumor even after taxis, but there was some pain in the abdomen, with hiccough. Because of the mildness of the symptoms the consulting physicians delayed the operation more than twelve days, and, when it was finally performed, the strangulation was found to have existed within the abdomen. The patient died. 6. If no strangulated portion was found within the external sac, the finger should be passed internally and adhesions sought for in the neighborhood of the opening. 7. Too long a trial of taxis before dividing a stricture should be guarded against, as it increased the liability to death. 8. After stercoraceous vomiting had set in, taxis should not be applied, but kelotomy should be performed at once, although the prognosis was unfavorable. 9. If, after the sac was opened, the omentum was found smooth, and no intestine could be detected, the omentum should be unfolded to learn whether it did not contain a strangulated portion of intestine. It was unfair to speak of kelotomy as a dangerous operation *per se*. The danger attending it was due to the condition of the sac and its contents, and to taxis and delay in operating.

Dr. J. W. S. Gouley read some notes on the subject of Dr. Hyde's paper, in which he stated the following conclusions: 1. When doubt arises respecting the existence of strangulation of the intestine or omentum in a case of incarcerated hernia, it is the surgeon's duty to give the patient the benefit of the doubt by at once resorting to the operation of kelotomy. 2. Delay in relieving the strangulation was often fatal, while kelotomy in a case in which no strangulation existed was not usually harmful. 3. Medicinal treatment was often delusive, and local applications, such as opium, tobacco poultices, ice, etc., were in most cases worse than useless. 4. Persistent taxis was infinitely more dangerous than kelotomy, and such taxis, even when it was followed by reduction, was often the cause of fatal peritonitis. 5. Another, though rare, effect of violent taxis was the reduction of the hernia *en masse* in its state of strangulation, and it was well known what the result was. 6. As a general rule, two minutes of gentle taxis, the patient being in a hot bath, would settle the question as to the possibility of safely reducing the hernia. 7. Therefore, it might be said with propriety that the less taxis, the less ice, the less other topical applications, the less opium, the less general or special meddlesome interference, which often did serious injury to the intestine, the better the chances of recovery in the event of kelotomy. This was particularly the case in femoral hernia. The speaker had abstained from incising the neck of the sac in femoral hernia, but had made divulsion by simply insinuating the index-finger through the free opening made in the sac until it entered the abdominal cavity, and had had no trouble in effecting reduction of the intestine, the object of the procedure being to avoid division of the obturator artery should it be abnormally situated. He agreed with Dr. Hyde that kelotomy was not *per se* a dangerous operation. Further, if it seemed necessary in a case of inguinal hernia, after kelotomy he would open the abdominal cavity in order to relieve the strangulated intestine.

Dr. Varick, of New Jersey, indorsed what the other speakers had said, especially as to the advisability of an early operation, and the importance of guarding against undue taxis. In his hospital he always proceeded at once to kelotomy, knowing that before the patient had reached the hospital taxis had been carried to a sufficient degree.

The Medicinal and Dietetic Therapeutics of the Common Forms of Chronic Intestinal Catarrh.—Dr. John S. Jamison read a paper supplementary to one read last year. It called out considerable discussion.

A Cursory Review of the Epidemic and Endemic Diseases of Sullivan County during the last Thirty-four Years was the title of a paper read by Dr. Isaac Purdy. During the first years of the period, commencing in 1850, pneumonia and fevers of asthenic type prevailed, in which it was common to bleed, and to employ cathartics, diuretics, and a depleting system of treatment, and this course seemed to be indicated as being followed by the best results. About the beginning of 1854 typhoid fever was heard from in the distance, and soon reached Sullivan County, and for several years pneumonia and other forms of disease took on a typhoid character, and this period was marked by the fact that in nearly all cases the asthenic form of disease showed itself; a depletory course of treatment was followed by the worst results. Close attention had to be given to the diet, to encouraging nutrition, and to checking excessive discharges. About 1860 diphtheria began to prevail in Delaware County, marched up the Delaware River, and existed in Sullivan County in the epidemic form for about five years, being very violent and carrying away many patients. The odor of persons suffering from the disease was peculiar, and could be recognized at a great distance from the sick-bed. In the author's opinion it was a constitutional, not a local affection, although the local deposit constituting diphtheritic croup was present. About 1862–'63 it was present in the form of black fever, petechial fever, etc., being in places very malignant. Afterward it again appeared as genuine diphtheria of the throat. In these cases they applied turpentine and sweet-oil to the throat at night with benefit. During a part of this period dysentery prevailed; first severe, then of mild type. Scarlet fever was present at intervals of about five years, sometimes of severe, sometimes of mild character. Measles had occurred at different periods, but in general required little treatment. Occasionally diphtheritic cases occurred up to the present time, but the contagion was generally brought from afar. Typhoid fever had continued to prevail more or less, especially in the autumn, and typhoid pneumonia during the winter, up to 1881. The spread of typhoid fever up the Hudson and its tributaries occurred at one period. The highest point was situated 1,200 feet above the level of the sea. The treatment consisted chiefly in moving the bowels, particularly with calomel, and then giving quinine.

The discussion which followed was lengthy and of a general nature, particularly with regard to the treatment of diphtheria.

Commercial Prescriptions.—Dr. Henry Van Zandt, the author of this paper, was of opinion that physicians should write their own prescriptions and have their medicines compounded by the apothecary or do the compounding themselves, and not depend upon the preparations coming from commercial houses, regarding the exact nature of which they must necessarily be more or less in doubt.

Prophylaxis.—Dr. Isaac de Zouche chose this subject for a paper, in which he pointed out the advantages of preventive over curative measures.

Thursday's Proceedings.

Officers for the Ensuing Year.—The nominating committee had named for president, Dr. E. M. Moore, of Rochester; for vice-presidents, according to districts, Dr. William Gillis of the first, Dr. H. Van Zandt of the second, Dr. Frederick E. Hyde of the third, Dr. Desault Guernsey of the fifth; for members of the council, from different districts, Dr. E. M. Lyon, Dr.

Ira H. Abell, Dr. Thomas Wilson, Dr. F. W. Ross, Dr. S. T. Clark, and Dr. E. S. F. Arnold. The secretary was instructed to cast the ballot, which he did in the affirmative, and the president declared the gentlemen named elected.

The Demodex Folliculorum as a Cause of Acne.—Dr. Fell, of Erie County, read a paper in which he described some rebellious cases of acne which had come under his observation and had finally yielded to treatment, the cure, he believed, bidding fair to be permanent. This opinion was founded on his views regarding the possible or probable ætiology of the disease. It was true his views were new, but, so far as his own observation had gone, they were substantiated by facts. In a large number of examinations of the contents of the acne tumors, he had always been enabled to find the *Demodex folliculorum*, usually from six to ten in number. While the presence of these mites in the skin was not of unusual occurrence, and had long been known, they had not been regarded as the cause of acne. He had found them in the pus or oil-globule, and not in the indurated matter. While their presence in small numbers might not give rise to apparent disease of the skin, he thought that when large numbers existed they might stand in the relation of ætiological factors of considerable importance.

The Communication from the American Medical Association.—The committee of three, appointed by the president to report on the communication, recommending that a uniform law be pressed for passage by the various State Legislatures, reported that it was inexpedient for the association to enter upon the discussion of the subject at the present time.

Oxygen in the Treatment of Pneumonia.—Dr. E. G. Janeway, by request, made some remarks on this subject before proceeding to read his address in pathology. According to his experience, oxygen inhalation in pneumonia was of marked benefit. It was especially serviceable in incipient cyanosis or just previous to this symptom; its use should not be delayed until cyanosis had become well marked. If employed at the proper time it would often be found to tide life over the critical point and lead the patient on to recovery. Dr. Janeway would also add to the discussion on pneumonia that he had seen one case in which the patient had a relapse at the end of a week, as much a relapse as the relapses of typhoid fever. He said, further, that he had seen a number of cases in which tuberculosis of the upper lobe of the lung had occurred in patients who had suffered from pneumonia, and he was of opinion that the attack of pneumonia had left the lung in a weakened state, fitting the soil for the development of tubercle bacilli.

The Address in Pathology.—Dr. Janeway then proceeded to read his address, which was devoted largely to the advances made in pathology, particularly during the past few years, and the relation of pathology to exact diagnosis and the ætiology of disease. The importance of the cultivation methods adopted by Koch, the value of Pasteur's discoveries regarding anthrax and hydrophobia, etc., received attention. The field for labor and new discoveries was still great, and offered excellent opportunities for able and progressive young men. The backwardness of this country in scientific discovery was attributed in large part to want of Government aid, such as was given in Germany and other countries of Europe. Special paths for investigation were offered in instances, anæmia, malignant tumors, lithæmia, etc. Dr. Janeway thought vaccination should be done, if possible, before the third day after exposure to small-pox if it was desired to abort the attack; otherwise it might be too late.

The Report of the Library Committee was read, by which it appeared that a room had been secured in the Carnegie Lecture building. The entire number of volumes was about 3,000 and more than 1,000 pamphlets had been received. Some interesting specimens had been presented, which it was hoped would form the nucleus of a museum in connection with the library.

Exploratory Laparotomy for Gallstones.—Dr. W. W. Seymour gave the history of a case of gallstones in which the usual symptoms were present, but the gall-bladder could not be felt through the abdominal wall. Nevertheless, the patient's sufferings were such, and her health so reduced, that an incision was made for the purpose of removing the supposed stone or stones. The gall-bladder was found empty; there was a hard nodule involving the cystic and hepatic ducts, and, as it was thought that the symptoms were due to malignant disease, the abdominal wound was closed. Eight weeks later the patient died, decidedly emaciated and jaundiced. In the upper margin of the right lobe of the liver there was a cancerous patch; the gall-bladder was empty; the common duct was impervious; the junction of the cystic and hepatic ducts was involved in the hard mass, which was of the size of a hen's egg and continuous with the right lobe of the liver. The hepatic duct was enormously dilated, and filled with gallstones of the size of a peach-stone; an ulcerated opening led from the upper part of the hepatic duct into an abscess cavity, an inch and a half in diameter, in the right lobe of the liver, where a gallstone was found. The hard mass was cancer.

The Chlorides: Antisepsis a Prominent and Important Factor in their Medicinal Action, was the subject of a paper read by Dr. Nelson L. North.

The Causes of Failure in the Treatment of Urethral Stricture by Electrolysis.—Dr. Robert Newman then read a paper on this subject, in which he said that the method had been so successful in his own hands that he had not been aware of any failures until his attention had been drawn to a paper on the subject quite recently. He had then made some inquiries and found that failures did sometimes occur in the hands of those of little experience with the method. The cause of failures could be given in two words—bad management. This could be classed under three heads—incompetence on the part of the operator, errors in diagnosis, and faulty instruments. These headings were treated of at considerable length, the points being sustained by reference to letters, cases, and instruments.

Dr. G. C. H. Meier corroborated the author's statements from his own experience, and testified to the excellent results obtained by this method when properly carried out. It was true that it was not until he had assisted Dr. Newman in his public and private practice for some time that he had been enabled alone to give the patient the full benefit of the treatment of urethral stricture by electrolysis. The paper was also discussed by Dr. Manley.

Pelvic Hæmatocele; its Diagnosis and Treatment.—Dr. W. W. Seymour read a paper on this subject, which he had read at the branch meeting at Saratoga. A great many cases had occurred in his own and in his father's practice, going to show that pelvic hæmatocele was of much more frequent occurrence than was stated by most authors. Where there was a tendency to an increase in size, or to interference with the functions of neighboring organs, aspiration might give prompt relief. Aspiration failing, and suppuration taking place, he was disposed to make an incision *per vaginam* and irrigate.

The Action of Micro-Organisms upon Surgical Wounds, —Dr. Frederick S. Dennis read a paper on this subject. He drew a diagram, classifying bacteria, and pictured an operating-room to be disinfected before use by throwing hot steam into it.

Friday's Proceedings.

The History and Treatment of Thirty Cases of Diphtheria was the title of a paper read by Dr. Samuel W. Smith.

The great mortality from diphtheria was shown by figures obtained from the Board of Health of New York, by which it appeared that, out of an average of about 2,500 cases yearly for several years past, there had been a mortality of nearly fifty per cent., the rate of mortality varying slightly from year to year. In order to test the value of a given method of treatment, Dr. Smith had employed that adopted by Dr. Billington, described in a paper read before the New York Academy of Medicine. It consisted in syringing the nose and pharynx every two hours with a solution of chloride of sodium, a teaspoonful to a pint of warm water, to which Dr. Smith had added a teaspoonful of borax. The syringing should be done in a very thorough manner. In addition, the throat was sprayed with lime-water and a solution of carbolic acid, and tincture of chloride of iron and glycerin were administered, being alternated with chlorate of potassium. In the thirty cases there were five deaths.

Pelvic Hæmatoma.—Dr. GEORGE T. HARRISON read a paper in which he gave the history of a case, and treated of pelvic hæmatoma in a general way, taking up the questions of diagnosis, treatment, etc.

Cancer of the Kidney.—Dr. JOHN SHEADY read a paper in which he described a case of cancer of the kidney in a child, which had been reported in the proceedings of the New York Pathological Society. The differential diagnosis was considered. In a child the diagnosis was comparatively easy to make, but the rarity of the affection might cause the physician to overlook the true nature of the case.

On the Treatment of Spondylitis or Caries of the Spine by Partial Suspension and the Plaster-of-Paris Jacket, and the Treatment of Rotary Lateral Curvature by Gymnastics and Partial Suspension and the Plaster-of-Paris Corset.—Demonstrations by practical application in cases were made by Dr. LEWIS A. SAYRE.

The society then adjourned, to meet in New York on the third Tuesday in November, 1886.

During the session the following papers were read by title: "Antipyrine; its Power to diminish and occasionally entirely remove Fever," by Dr. W. S. Fuller; "The Significance of Non-traumatic Intra-ocular Hæmorrhage in Diseases of the Heart, Blood-Vessels, and Kidneys," by Dr. C. S. Bull; "The Relation of Drink to Insanity," by Dr. G. A. Blumer; "Tumors of the Jaw," by Dr. W. S. Tremaine; "The Treatment of Incontinence of Urine in Women resulting from Over-dilatation and Paralysis of the Urethra," by Dr. N. Bozeman; "Skin Flaps in Amputations," and "Umbilical Hæmorrhage in Infants," by Dr. U. C. Lynde; "A Case of Poisoning by Two Grains of Strychnine," etc., by Dr. W. Fitch; "The Treatment of Abscess," by Dr. J. D. Rushmore; "Chronic Catarrhal Gastritis," etc., by Dr. W. H. Thayer; "The Proper Disposal of Street Sweepings," etc., by Dr. A. H. Briggs; "Ergot, its Uses and Misuses," by Dr. J. K. Leaning; "Nutrition in Lithæmia," by Dr. C. G. Stockton; "The Modern Aspect of Therapeutics," by Dr. T. H. Manley; "The Vectis in Cross-Births," and "Pessaries and their Uses," by Dr. J. Hartmann; and "Notes on Contracture of the Bladder consequent upon Cystitis," by Dr. J. W. S. Gouley.

Miscellany.

The Case of the late Professor Panum.—Dr. D. Bryson Delavan writes to us as follows: The following history, communicated by Professor Frier to the Medical Society of Copenhagen, has been translated, prepared, and transmitted to me by my friend Dr. Holger Mygind, of Copenhagen. Besides the rare pathological importance of the case, its interest is still further enhanced by the fact that the patient was none other than Professor O. L. Panum, the distinguished and much-lamented President of the Eighth International Medical Congress.

Dr. Mygina's translation is as follows:

Professor Panum, who reached the age of sixty-four years and four months, had, on the whole, enjoyed good health. About ten years before his death a chronic bronchitis with frequent acute exacerbations had developed. This was followed two or three years later by well-marked emphysema. Besides cough, this disease occasioned shortness of breath, especially on going up stairs. This, however, never reached any important degree until the last weeks of his life, when he was often obliged to rest on the landings on going up to the third or fourth floor, and at times felt an oppression in the chest. After a few minutes' rest these attacks usually passed off. The stethoscopical examination, made by the son of the deceased, showed no disease, either in the heart or in the large vessels; only the above-mentioned chronic diseases of the lung were present. As the deceased, on the evening of May 1st, was returning from a visit, he felt a difficulty in walking in the somewhat high wind, and was unable to keep up with his companions, whom he asked to go on. He was several times seen standing outside shop-windows in Bredgade, probably in order to rest and regain strength. Shortly after his return home he felt severe pain in the region of the heart, and, as I was told afterward, a sudden feeling of something bursting in the left side of the chest. The pain increased, and the patient became uneasy and alarmed. When seen by Professor Frier, at ten o'clock P. M., he was pale and a little collapsed, the skin was cool and not perspiring, and the pulse slight, frequent, and irregular; he talked freely, and his respiration was not particularly accelerated. He moved about the room easily, undressed quickly and went to bed. Here he continued to complain of pain, which now included the sternal region and radiated out into the left arm to the fingers. He continually changed his position as if seeking relief, and used all his might to repress exclamations of pain. Attempts to give warm drinks, such as wine, camphor-drops, etc., failed, as they only produced nausea and sickness, which he himself repeatedly produced by thrusting his finger down his throat.

His mind was perfectly clear the whole time, and he even made jesting remarks on the inability of medical science to relieve his sufferings, for not only had mustard leaves, warm bottles, and incitantia, but also a considerable injection of morphine remained without effect. The pains began to decrease about midnight. After another injection of morphine he fell into a light, uneasy sleep.

The sickness did not return until after he had taken his coffee the next morning. Up to eight o'clock A. M. he felt so well that it was with difficulty he was persuaded to remain in bed and give up his morning lecture, and he gave directions as to his business letters. In the early morning he had thought out a thorough explanation of the functional disorders of the vagus and the sympathetic nerves from which he believed himself to be suffering, all of which he explained to his son, although unable to give a cause for them. Half an hour after his son had left him, his pulse being strong and his appearance decidedly improved, and a few minutes after he had spoken jokingly to those around him, he was heard at a moment when he was alone to utter a groan. He had fallen back cyanotic and unconscious, and a few minutes after he died. It must be added that, from the superficial examination which circumstances had allowed on the previous evening, no increased dullness of the heart had been discovered, but tumultuous action, with long, strong murmurs, which prevented the two heart-sounds from being clearly distinguished. That the patient was suffering from an affection of the heart, and that one which came under the category of angina pectoris, was clear to Professor Frier as soon as he had observed him a short time. It seemed improbable, however, that this attack should be the only one, and that the end was so near, as the pains had been relieved and rest obtained. The real cause of death was first discovered post mortem.

Copenhagen, May 4, 1885.—Twenty-nine hours after death, opened by Dr Dahl—Rigor well marked. Death-stiffening and cyan. Hands and body. The panniculus adiposus well developed on the chest and abdomen. The two superior lobes of both lungs and the right middle one emphysematous and swollen, especially along their anterior edge. No *fluid*

in the pleural cavities. The mucous membrane of the bronchial tubes somewhat injected and covered with cohesive white mucus. The pericardial sac filled with a little more than a pint of dark fluid and clotted blood. Blood of similar appearance was seen to flow out of a fissure of the anterior left ventricular wall. This fissure was five centimetres long, and was parallel with and close to the septum. Its edges were lacerated. A similar but smaller fissure, one centimetre and a half in length, was seen along the first one, and united with it by a cross-fissure. Both extended through the subpericardial fatty tissue, which was infiltrated with blood and reached the muscular substance; this was perforated by several small fissures and holes, none of which were larger than that a probe could pass through. In the lower part of the fissure the probe entered a small cavity between the muscular and fatty layers filled with blood. The heart itself was flabby, with much subpericardial fat, especially at the apex, where it was more than one centimetre thick, while at the seat of the fissure the thickness was exactly one centimetre. In a few localities the pericardium was thickened and white. The heart was thirteen centimetres in length and in breadth. The apex was formed by both ventricles and a little rounded. The aortic valves were normal. The foramen ovale was open. The tricuspid orifice admitted three fingers, the mitral orifice four. The tricuspid and pulmonary valves were healthy. On the anterior mitral flap there was a large, white, thickened patch. The right ventricular wall was two millimetres thick, the muscular tissue being of a deep, dull, grayish-brown color. Toward the septum there was a limited yellow area extending somewhat in depth.

The cavity was enlarged, although the septum projected much. The left ventricular cavity was much enlarged—the wall in the thickest part 8 mm., at the apex 2 to 3 mm. The trabeculæ were flattened and not much developed. The muscular papillæ were of normal thickness, the muscular tissue being flabby and much softened, and its color like that of its right side; at several places yellow spots were seen through the endocardium. Toward the septum, at a point corresponding to the external fissure, there was a rectilinear fissure four centimetres long. It did not quite correspond to the external one, crossing it at an acute angle. The edges of this fissure were flattened; in the depth of it there were several small holes, corresponding to those described in the external fissure.

The surrounding tissue was very much softened, and infiltrated with dark blood. A fresh cut across the fissure and through the muscular layer showed this to be very thin—about 2 mm. close to the edge, and 5 mm. farther away. The aortic valves were somewhat thickened. In the tunica intima there were many white, fibroid patches, and similar ones were found in both coronary arteries. In the vertical branches of the left, just after its separation from the horizontal branch, was found a constriction which barely admitted the passage of a fine probe. Upon opening the artery here there was found a soft, yellowish white plug, adherent to the wall, where it covered a soft, atheromatous cavity formed in the thickened and partly calcareous intima, which was perforated in several places by small holes. From this place and down to the rupture the artery seemed healthy. A little below the plug a small branch went off; it could be followed to the spot of fatty degeneration in the right ventricle. Microscopical examination of the muscular tissue showed the fibers around the fissure atrophic and very fatty; there were no transverse striæ to be seen, and there was no increase of the interstitial fibrous tissue. The nuclei were normal; many of the fibers were broken by extravasation of blood. At other places, both of the right and left side, the transverse striæ were well marked, but everywhere there was more or less fatty degeneration. Other organs were not examined.

It seem probable that the plug which caused fatty degeneration of a part of the heart had developed during the last weeks before death, and had caused the shortness of breath and feeling of oppression. The rupture, the result of the degeneration, was probably observed by Prof. [illegible] Paris, himself, but it seems to have gone slowly through the wall, from within outward, not causing at first any effusion of blood into the pericardial sac, but only irregularity of the action of the heart, pain, and nausea.

A New French Journal, entitled "La Normandie médicale," reaches us from Rouen. It is edited by M. Cerné and M. Gendron, with the collaboration of M. Duménil, of Rouen, M. Gibert, of Havre, M. Leudet, of Rouen, and M. Notta, of Lisieux. It is a semi-monthly octavo of sixteen pages.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality" for October that the whole number of deaths reported was 432, of which 75 were from zymotic diseases, 92 from constitutional diseases, 195 from local diseases, 36 from developmental diseases, 28 from violence, and 6 from causes not ascertained.

The Johns Hopkins University.—The "Therapeutic Gazette" notices a rumor that Professor Matthew Hay, of Scotland, has accepted the chair of pharmacology.

The "Medical News" Visiting-List.—We have received a copy of the "Medical News" Visiting-List for the year 1886, and an examination of it leads us to think that it will be found exceedingly servicable. It has evidently been prepared with great care, and its mechanical getup is pleasing. A very commendable feature is the thumb-index to the various departments.

THERAPEUTICAL NOTES.

Iodide of Sodium in the Treatment of Syphilis.—Arcari ("Gazz. med. ital. lombard."; "Med. Chron.") reports a number of cases of tertiary syphilis in which rapid improvement was due to the hypodermic use of this drug in quantities of about ten grains four or five times a day. He recommends the simultaneous use of thirty grains by the mouth, with only two daily injections, in cases where an organ is seriously threatened from syphilitic deposits.

The Stinging Nettle as a Hæmostatic.—Dr. C. J. Rothe ("Pharmac. Post"; "Therap. Gaz.") has experimented with the juice of the stinging nettle (*Urtica dioica*) as a hæmostatic. The leaves, flowers, and stalks of the young plant, gathered in the spring, are cut up fine, soaked for a week in sixty-per-cent. alcohol, and subjected to pressure. The liquid is filtered, when it is of a dark greenish-brown color, and has a spicy odor and taste. Applied on cotton, it rapidly arrests capillary hæmorrhage, and the clots formed are soft and tenacious.

Kava as a Remedy for Gonorrhœa.—Kava, a piperaceous plant indigenous to the Sandwich Islands, has been recommended by Dupuy and Gubler ("France méd."; "Dtsch. Med.-Ztg.") as a specific for gonorrhœa and leucorrhœa. It acts as a diuretic, diminishes the inflammation, and allays the pain. It has the advantages over copaiba of possessing an agrecable taste and of not disturbing the stomach. Gubler mentions a gum and a crystalline principle, kavaline, as the active constituents.

Cold Bandaging of the Leg in Insomnia.—According to the "British Medical Journal," Dr. von Gellhorn has found this practice very useful in cases of sleeplessness, especially from cerebral congestion. Sometimes he has found it necessary to reapply the bandage every three or four hours, as it dried. [It would be interesting to note what difference there is, if any, between the effects of this practice and those of the well-known device of plunging the feet into cold water.]

The Administration of Paraldehyde.—M. Lereboullet ("Gaz. hebdom. de méd. et de chir.") gives the following formula, proposed by M. Yvon:

Paraldehyde	150	grains;
Ninety-per-cent. alcohol	720	"
Syrup	900	"
Tincture of vanilla	30	"
Distilled water	450	"

A tablespoonful of this elixir contains fifteen grains of paraldehyde. Four soupspoonfuls should not be exceeded at a dose.

Phosphate of Bismuth.—Fredenat ("Giorn. farm. napol."; "Nouveaux remèdes") remarks upon the variable density of subnitrate of bismuth, and proposes the phosphate as a substitute, the latter being a stable salt. Its therapeutical properties are the same as those of the subnitrate, and it may be given in doses of thirty grains.

Essence of Peppermint as an Application to Burns.—"Nouveaux remèdes" quotes the "Australasian Chemist and Druggist" to the effect that essence of peppermint, painted on a burn, causes the pain to cease at once.

Lectures and Addresses.

A REVIEW OF THE LIFE OF LOUIS ELSBERG, M. D.,

AND OF THE ADVANCEMENT OF OUR KNOWLEDGE OF DISEASES OF THE THROAT DURING HIS PROFESSIONAL CAREER.*

By MORRIS H. HENRY, M. A., M. D., LL. D.,
OFFICER OF THE ROYAL ORDER OF THE SAVIOR, OF GREECE; LATE SURGEON-IN-CHIEF OF THE NEW YORK STATE EMIGRANT HOSPITALS, ETC.

MR. PRESIDENT: By your favor I appear to-night to pay tribute to the memory of our late colleague, Louis Elsberg, who died at his home in this city on Thursday, February 19, 1885.

With one accord I know we shall agree that it was a useful and honorable life; and, now that it has passed away for ever, I would gather from it an account of the virtues it exemplified, that the example may serve for guidance in our own careers.

Louis Elsberg was born at Iserlohn, Prussia, April 2, 1836. He came, with his parents, to this country at the age of thirteen. His family settled in Philadelphia and the boy became a pupil in a public school. He subsequently went to the High School, from which he was graduated with honor in 1852. He then obtained a position as tutor in an academy at Winchester, Va., where he remained two years. He returned to Philadelphia and entered the Jefferson Medical College, and acquired a medical degree in 1857. Immediately following his graduation he came to New York, and for six months was resident physician at Mount Sinai Hospital. He then went abroad, where he remained for one year, and returned to this city, and at once began the practice of his profession. With Störk, Semeleder, Lewin, and Türck—all subsequently distinguished laryngoscopists—Elsberg formed one of the first class that received instruction under Czermak. Störk and Türck became professors in Vienna; Lewin filled a similar position in Berlin; Semeleder attained distinction in Mexico, under the Emperor Maximilian. Elsberg did his good work in New York, and became no less distinguished than the *confrères* of his early professional days. He was the first of this brilliant little class to succumb to the inevitable.

In 1861 he delivered a course of lectures at the University Medical College. The following year he established the first public clinic for diseases of the throat.

In 1864 he wrote his essay on "Laryngoscopical Surgery, Illustrated in the Treatment of Morbid Growths within the Larynx." It was the prize essay for which the American Medical Association awarded him the gold medal in 1865. The subject of this paper was, at the time, a new one. The account of his success in these operations marked a new era in intra-laryngeal surgery. In 1864 he published, under the title of "Laryngoscopic Medication," several papers which he had read before this Academy and other societies. In this publication he gave descriptions of many new instruments of his own invention—all well known to you. They included a new tongue-depressor, sponge-carrier, and concealed porte-caustique.

In January, 1874, he contributed a valuable article to the "American Journal of Syphilography and Dermatology" on "Syphilitic Membranoid Occlusion of the Rima Glottidis." He described eleven cases of the disease, and the operative treatment pursued for their relief. The results were satisfactory; and it must not be forgotten that they were obtained at the time when many able men were in doubt of the safety and feasibility of surgical interference in severe forms of laryngeal diseases.

In 1878 he read before the Academy of Sciences a treatise "On the Structure and other Characteristics of Colored Blood-Corpuscles," a paper which showed that he was not only well versed in biology and a good microscopist, but possessed and capable of a vast amount of original thought. In June of the same year (1878) he, with a few others, founded the American Laryngological Association, and he became its first president. At the first meeting he gave some account of the history of laryngology. His address, at the second meeting, on "Laryngological Instruction," was sent from Aix-la-Chapelle, where he had gone to regain his health.

In 1880 he began the quarterly publication of the "Archives of Laryngology," which was continued until 1884.

In 1882 he delivered the annual address—his subject being "Changes in Biological Doctrines during the Past Twenty-five Years"—before the Alumni Association of Jefferson Medical College. This, as he expressed it, was "the silver wedding of his class."

The rest, change of scene, and renewal of old and pleasant associations, on his last visit to Europe, proved of benefit to him. Shortly after his return he delivered a lecture on "The Throat and its Functions," at the hall of the Young Men's Christian Association. It was one of a series instituted by the New York Academy of Sciences. He contributed largely to the "Archives of Laryngology"—the publication of which has ceased. Among his contributions may be found "Angioma of the Larynx," "Neuroses of Sensation of the Pharynx and Larynx," "Paralysis of the Muscles of the Larynx," "Contributions to the Normal and Pathological Histology of the Cartilages of the Larynx," besides many other clinical reports of which I have no record.

His intense application to his work, on his return from Europe, was, no doubt, the cause of the return of his disease. His kidneys had been seriously impaired. So far as outward appearances extended he seemed to have recovered. For a long time, however, after the attack he was solicitous about himself, and referred guardedly to the future. In his last paper, read before the American Laryngological Association in May, 1884—on the subject of laryngeal spasm—he remarked: "I promise you that, *if I live*, I will prepare a more elaborate essay on the subject before our next annual meeting." The place that he filled at that meeting and before that association knew him no more for ever.

* Delivered before the New York Academy of Medicine, December 3, 1885.

Ten days before his death he contracted a severe cold, but persisted in the discharge of his regular duties. Pneumonia set in, and scarcely was it known by his friends that he was sick ere the report came of his death. A widow, a little daughter, and many relatives and sincere friends mourn his death. During the last few days of his illness he was attended by some of his devoted professional friends. He retained up to the period of his death the professorship of laryngology at Dartmouth College and at the Polyclinic of this city.

Just one year ago I had the honor of nominating him for the position of corresponding secretary of this Academy. He was, of course, elected, and I know he appreciated the honor it conferred. He had, for many years, devoted a portion of his time to the collection of materials as a basis for a more complete work on diseases of the throat. Had he been spared, he would have given us a satisfactory volume—a book that would have contained the results of investigations pursued in this country as well as of those of foreign sources.

Elsberg was the first, beyond any question, to demonstrate and teach, in public, in this country, the use and value of the laryngoscope in diagnosis and treatment. He leaves many disciples among his former pupils who will continue the same course of investigations. The best work of his life, however—the work that inures most to his fellow-men—was the diffusion of his knowledge and experience in such a way that all practitioners might render good special service to their clients.

I recall in detail the works of our late brother, for I think it well to place the results of his active and industrious life on the records of the Academy which he adorned.

The account of his contributions will serve as guides to those who succeed him. They will serve as a stimulus in the advancement of studies that are still in comparative infancy. The perfect assimilation of clinical facts for future clinical benefits requires time, and natural and trained capacity of no mean order. Sound clinical records—what I mean by sound records are truthful records—must ever be the great basis of advancement in the practice of our art. Elsberg was an astute clinical observer. The records of his observations show intelligence of the highest order and no ordinary manipulative skill in the management of his cases. His knowledge of music and of the functions of the voice made him the physician of many of the great singers who have visited our shores.

A statement was very recently made in this Academy, by one of its distinguished fellows, that in the year 1860 the use of the ophthalmoscope and the laryngoscope was unknown in the New York Hospital, regarded at that time, by universal consent, as the best endowed and the best equipped of all New York institutions for the relief of the sick and injured. This statement seems to us now a strange one. It establishes the fact that, at this time, the use and value of the laryngoscope were scarcely known in New York. In the year 1858 I devoted a portion of my time to the study of the uses of these instruments in the treatment of specific diseases. I was "but a student." I mention this because when I subsequently—in 1864—first met the subject of this memoir, and in the course of conversation alluded to my own early experiences in the use of these instruments, it assisted in forming an attachment—a bond of sympathy in the study of congenial pursuits that was never impaired, never canceled.

It was during my early investigations of diseases of the throat with the laryngeal mirror that I first thought of the concentration of light by the simple means of a large plano-convex lens mounted in such a way that it could be used with any form of artificial light. By the advice of Elsberg I published an account of my method in the "American Medical Times," June, 1864, edited by the present distinguished chairman of the Section of Surgery of this Academy. This instrument is, I think, still deserving of attention. It is inexpensive, easy of application, and will answer perfectly all the demands of the routine range of diseases of the throat, larynx, and nasal passages. This same instrument has passed under other names since the date of publication I have just mentioned.

No allusion to the subject of the nature and treatment of diseases of the throat and air-passages in this country would be complete without reference to the accomplishments of Horace Green. He was the first and only specialist up to the period of Elsberg's advent in New York. May I not pause to say a few words in memory of that distinguished Fellow of this Academy who gained celebrity by his thorough knowledge of the science of medicine and the skill he displayed in the practice of his art? Without any disparagement of those who are now engaged in the same department of medicine, and although a quarter of a century has passed since he added luster to this Academy, that luster has never been dimmed by later work. It is possible that I may not do full justice to those who have followed him, but I have searched in vain through the transactions of this Academy to find his peer in contributions to diseases of the throat and air-passages. He was, like Trousseau, a teacher of the practice of medicine, and with that combined the elements of an admirable physician. His knowledge of the art of medicine was of service to him in the more limited range of practice to which he devoted the best years of his life. I remember him well as a teacher. He was a good one. His statements were reliable. In his controversies with Trousseau—when the illustrious Frenchman disputed his ability to pass the sponge into the trachea for topical medication—Green bore himself with dignity and ability. It would be well for the present generation to refer now and then to the works of their predecessors. While there was, perhaps, not less strife in the race for fame and fortune, there was, at least, less sensationalism and less seeking for secular newspaper notoriety; the genius for popular secular advertisements may have been born at the period of which I speak, but its full growth has only been attained within the past few years. Green, like other specialists of great attainments and distinction, knew well and taught the necessity of natural qualifications, as well as of a sound general education, as the basis of a successful (scientific) career in medicine. There is still lingering a theory that with a charter and a heavy dose

of teachers you can take anybody, from any trade or any sphere, and turn him out a physician or a surgeon—usually both—after "two full courses of lectures." Green was one of the teachers who did not share in this heresy. He knew that to make a good doctor you must have a first-rate man when you begin. He was the founder of a college, and, in mapping out the course of instruction for its alumni, he bore in mind the essential qualities of his teachers. In this, too, he was in advance of his time. He knew that "you can not create teachers as if they were light-infantry men, who can be manufactured out of clowns by three months' drill." He advocated his views more than thirty-five years ago. Twenty years have elapsed since he passed into eternal sleep. The purpose he toiled to serve is still in advance of the practice of the day. He was singularly successful in the choice of many of his colleagues. Many of the most distinguished have followed him to their last home. Among them were Conant, Childs, Cox, Stiles, and Peaslee. If I may single out for mention one of all others of that "old Faculty" who has been spared to us and who has won great distinction—you, Mr. President, must know to whom I refer—your revered predecessor, Fordyce Barker. Before ending this reference to Horace Green, let me recall to your mind the purity of his conduct and the nobility of his bearing in his last scientific struggle in this Academy when called upon, in 1859, by John Watson, for information in the case of, and as to the cause of, the death of the late Stephen Whitney. That extraordinary attack left no blemish on the character or skill of Green; but it left an insidious impress that hastened his death. His principal opponents, also distinguished in this Academy—I forbear to mention their names—have also, ripe in years and honors, passed away. I refer to these facts, for they serve as the best text for a lesson of forbearance and the cultivation of an honest, kindly intercourse among us in all our meetings.

During that period of excitement pending the discussion of "the code question" Elsberg could not be otherwise than thoughtful and liberal. He was gentle in the expression of his opinions. He was intense in his convictions. He never faltered in the discharge of an obligation or duty when once assured of its correctness and the probability of its serving a good purpose. While he was registered—if I may use the term—as a "new-code man," and I on the other side of the question, there was, in reality, no difference whatever in the substance of our views. A calm discussion of the questions at issue proved us in unison. Might not more forbearance have prevented the strife that disorganized associations and dissevered friendships of a lifetime? A calm, retrospective review of the field of battle tells again the sad tale of "what might have been" had wiser counsels prevailed. Elsberg shared the common feeling of all educated, thoughtful, honorable practitioners of medicine, that there should be no necessity of a code beyond that unwritten code of ethics that should govern the conduct of gentlemen in every sphere of life. He knew of, and fully appreciated, the difficulties of any enforcement of a statutory enactment or a professional mandate against persons devoid of honor and unworthy of fellowship in a liberal profession. He knew also that the attainment of this boon—a difficult one—could only be reached by the imperative demand of the profession at large that the mills should be stopped, and that there should be no more enlistments of ill-informed, improper persons to the ranks of our sacred calling. He knew also that you can neither teach nor enforce virtue by resolutions or text-books. He knew, Mr. President, as you and I know—no one better than yourself—that the enlightened men of this country—the class that have shed most luster, that have attained most honorable distinction, whether now rated (by irresponsible and illiberal factions) as new- or old-code adherents—are of one accord. The admission of the necessity of a special code—it is useless to deny it—is virtually an admission that the rank and file of the profession in this land is inferior, in moral integrity, to that of all other countries. I, sir, am unwilling to admit of any basis for any such conclusions.

There is seldom any romance associated with the lives of the serious workmen in science. The element of romance seems to be reserved to the credit of *soi-disant* followers that are but spurious imitations of the genuine men. Elsberg's career was a serious one. He knew no rest from toil, or thought of the work to which he devoted his life. He paid early the penalty of his incessant labors in a depreciation of his constitution that with gentler, less ardent enthusiasm, might have spared him to us many more years. He yielded to the natural characteristics of his race, the race of romance and reality. He belonged to that "chosen people" that conquered the empires of the East long before the dawn of the Christian era; to that race that has survived unparalleled persecutions from post-biblical periods down to the dark days of the Inquisition.

From one of his people—descended of those born on Latin soil, the same that gave birth to the Disraelis, Montefiore, Jessel, Aguilar, and Castelar, brilliant in art, literature, law, statesmanship, and humanity, not less dazzling to science—we are indebted for the first account, by the use of the laryngoscope, of the action of the vocal cords during inspiration and vocalization; important observations on the production of sound in the larynx; and valuable reflections on the formation of the chest. The story of the investigations of Manuel Garcia, who published, in the year 1855, in the proceedings of the Royal Society of England, his physiological observations on the human voice, is too well known to you to call for further reference on this occasion.

If the utility and value of a life be measured by the advantages which accrue from the love, devotion, and labors of those ever ready to sacrifice self in ministering to the ills of poor suffering humanity, surely no one will now deny a worthy site to the memory of our late friend and Fellow of this Academy.

The Comparative Action of Alcohol and Coffee.—W. B. Lewis ("Jour. of Mental Sci."; "Arch. de neurologie") gives a detailed account of certain experimental investigations of the action of these two agents. While alcohol increases the production of heat, it really lowers the bodily temperature by virtue of exaggerated radiation. Caffeine, however, preserves the heat, and thus, if given in conjunction with alcohol, tends to restrain the lowering of temperature that would otherwise be caused by the latter.

Original Communications.

JOINT DISEASES;
TREATMENT BY REST AND FIXATION.*

By De F. WILLARD, M. D., Philadelphia,
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The application of rest as a principle in the treatment of joint disease, although very generally accepted, is yet frequently employed only as an adjuvant to other measures of relief, while its proper position is in the first rank, and all other means are but subsidiary.

The principle is capable of wide application in medicine. Splints—rest-producers—are applied in fractures and in wounds to limit inflammation. Inflammations of the pleura, liver, intestines, or peritonæum are best controlled by absolute recumbency. In joint inflammations, quietude, unaided and alone, is capable of effecting more in averting and subduing a developing disease than iodine, blisters, heat, cold, the cautery, *et id omne genus*. These measures, powerless in themselves, are, however, useful as supplemental treatment; but no surgeon is justified in trusting to their power when dealing with a disease which is so prone to develop the most serious results if neglected. As soon should he trifle with a bleeding femoral artery or a post-partum hæmorrhage. In osteitic cases, especially, the evil tendency is so strong that no time can be lost.

Those who advocate the "motion-without-friction" cure assert that motion is the normal condition of a joint, which statement, while true as regards normal articulations, is no more applicable to diseased ones than to inflamed muscles or other tissues.

Friction is constant during walking. I took occasion to count my steps for a single square to-day. Ninety times each of the joint surfaces of my lower limbs was concussed between the stone pavements and the superincumbent weight of my body in two minutes, or nine hundred times in a walk of a mile. If inflamed or roughened, the effect of such friction would be just as disastrous as the rubbing of a hard substance upon an irritated external sore or pimple, and the results, though temporarily concealed, would be none the less destructive. Nature evinces her aversion to motion by producing the most perfect rest which she is able to accomplish unaided. Muscular rigidity is the first and most common *avant-courear* of danger.

When I speak of rest for a joint I do not mean that it should be that form of confinement to the house that allows the child to run up stairs, and play at games which will be more severe upon his articulation than walking. If the affected member is the lower limb, it should under no circumstances be placed upon the floor, and, until pain and all signs of acute inflammation have subsided, the recumbent position should be unceasingly maintained. If starting or spasmodic pains are present, weight and pulley extension should be employed, and fixation enforced until relief is secured. Then, and only then, should crutches and apparatus be used. By the careful enforcement of such a course, synovitis, if taken early, can be aborted, and articular osteitis so modified that its evil effects will be reduced to a minimum. Surely if such results are compared with the terrible consequences which follow procrastination, or temporization with ineffective counter-irritative measures, the slight restraint put upon a child at a period of life when a few months or even years are of slight importance can not be considered for a moment.

The abortion of articular disease is considered impossible by some surgeons, but cases of traumatic origin can within the first ten days be easily checked. The skeptical maintain that such a case is not one of true joint disease. It certainly is not articular osteitis; but a flame is as much a fire, save in degree, when first started, as when it has become a conflagration, and every suppurating articulation had a stage when it was but a tiny spot of irritation. One week of proper early treatment is more efficient than months of later work. The one objection to absolute rest can be obviated by rigid rules in regard to the admission of fresh air to the room. Windows should never be closed night or day, as warmth can be secured by additional coverings.

My practice is about as follows: For use by day a narrow platform is constructed of light boards, with a handle at each end, and on it is placed a firm hair mattress. To one end is attached a grooved pulley-wheel, over which plays the extension cord, with from two to ten pounds attached —comfort regulating the weight. This bed can easily be picked up by two persons and laid upon rests beneath the trees or on the porch, or it can be placed and locked upon a child's express-wagon, or, better, upon a frame wagon with easy springs. If removal is painful, the entire fixture can be laid upon the couch at night, but ordinarily the sliding upon a bed is not harmful, provided extension is maintained.

By this method an abundance of fresh air and exercise can be secured with little expense, and the patient will be contented and happy. When the starting pains are severe, and especially when the patient is intractable, the addition of sand-bags, or, better, of a Desault long splint, will be of service for the first ten days. This splint, covered with muslin or bandages, can be retained in position by an underwaist, to which it can be fastened by safety-pins. A rope stretched above from head to foot, together with a few toys and bent wires, will assist in sports and remove the great temptation to sitting up. After restlessness has ceased, the side-splint can be removed, and the freedom of sitting upright for an hour when weary does no injury, provided twisting is avoided. Should these means fail to relieve pain, the direction of extension should be changed and a plaster-of-Paris, leather, felt, or binder's-board splint be fitted. Wire gauze also has been applied, and constitutes an excellent dressing. It makes but slight difference how fixation is accomplished, and each surgeon will have his own particular method. I am speaking now of uncomplicated cases in their early stages, having in mind chiefly knee and hip inflammations.

If extension is commenced in the line of the deformity,

* Read, by invitation, before the Lehigh Valley Medical Association, August 19, 1885.

a change for the better can soon be accomplished until gradually a more normal position can be secured. In many cases a cautious surgeon can gain considerable time by straightening the limb during anæsthesia, but such a procedure requires the utmost caution lest new inflammation be excited. Tenotomy and aspiration are often advantageous.

I have no doubt that strict confinement in bed would be sufficient without extension in slight cases, but it is difficult to prevent a child from quietly slipping off the couch unless some decided impediment is offered. The method may be temporarily adopted, however, where the other treatment is viewed with disfavor, since, at the end of a week, so great is the mitigating power of time, the parents will acquiesce in a restraint which at first seemed unwarrantable to them. Counter-irritants can be used if desired, since they exert a good influence at least upon the attendants. All hygienic, supporting, and constitutional measures should be most carefully watched.

The time of confinement varies according to the conditions. In the hip much will depend upon the synovitic or osteitic character of the disease. If synovial, slight, and traumatic, a few weeks may be sufficient; but, if osseous in origin, several months should elapse after all cessation of pain before the crutches should be permitted. Night extension is often beneficial, even many months later. A simple over-gaiter is then the best foot attachment. If the knee is at fault, extension is rarely required for any length of time, simple fixation with rest being all-sufficient. These conditions are much more readily secured than at the higher articulation. It is better for the patient, however, to remain in bed during the acute stage, since more perfect quietude can be obtained. If the inflammation is violent, not only must fixation be secured by the adaptation of a posterior splint of wood, leather, felt, binder's board, tin, etc., but ice should be steadily applied in a rubber bag, or coil, or bladder. The action of this powerful agent upon the capillaries may be enhanced by covering the skin with lint wet with a saturated solution of sugar of lead, made anodyne in its properties by the addition of opium. Leeches also may be of service in an acute traumatic case.

In osteitic cases, however, the chief reliance must be upon rest, a condition which is most thoroughly secured by fixing the limb in the most comfortable position by gypsum or other material. If slight deformity with effusion has occurred, the procedures before alluded to must be practiced. Sponge-pressure or a close-fitting rubber bandage is of great service. If there is a tendency to posterior displacement of the tibia, extension must be made in two directions: one weight drawing downward, while another band is placed around the upper third of the leg, at right angles to the axis, and through a pulley in the ceiling the limb is suspended in such manner that forward traction is continuous upon the head of the tibia. Should this fail, tenotomy of the ham-strings will frequently hasten relief; but when displacement is great, of course, ligaments are destroyed, and even if restoration is accomplished it can not be maintained without absolute fixation.

In knee arthritis which is osseous in its origin, or when the joint is undergoing pulpy or fungous degeneration, when good position has been secured, or when ankylosis is to be desired, the complete incasement of thigh and leg is better than posterior splints. The enveloping ones of sole-leather, which can be laced and made removable, or the lighter ones, of partially tanned hide, are, however, very serviceable in the later stages. It is, of course, understood that all these appliances are intended to promote as perfect rest as possible, and that walking without crutches is absolutely to be forbidden, the injunction being that the foot shall *never* be brought to the ground. Without this restraint many steps about the house will be taken and great injury inflicted by friction. A high shoe upon the sound foot prevents the striking of the toe, and removes the temptation to walk.

Slight injuries or trifling synovitis may, of course, recover by counter-irritation, cold, etc., even though rest be but partial; yet even these cases are not without risk, and should receive the closest attention.

Osteitic cases, the old "white swellings," demand, from their inception, the most rigid enforcement of the principle of complete fixation, while every available constitutional health promoter is brought actively into service.

In hip disease, after all pain has ceased for months, and earlier if the general health demands, some form of apparatus should be applied to prevent joint motion and yet permit the patient to move about on crutches, and with a high shoe on the sound foot.

In this department every surgeon has his particular modification, and believes that it alone is capable of giving good results. While pleading partially guilty of the same weakness, I am yet able to see merits in all fixation splints. As for the so-called extension appliances, although I have seen nearly all of them in service, I can not imagine that they exert any separation of articular surfaces. By adhesive-plaster and bandage-pressure their beneficial action is, however, probably exerted in controlling muscular action, and thus giving a certain amount of rest, fixation, and protection, particularly in those appliances in which hip-joint motion is transferred above the pelvis. I employ horizontal extension, not with any idea of pulling the bone from its socket, but simply to relieve muscular spasm, give quietude, and reduce deformity.

I am compelled also to differ with many skilled surgeons, who believe that the perineal straps and ischiatic rests are capable of acting as pelvic crutches, and thus doing away with axillary ones. The tissues covering the pubic rami are thin and the skin is sensitive, and, as I have always encountered these appliances, the patients either could not endure the pressure, or, as more frequently happened, the straps, except for an hour after the physician's visit, were so loose that the weight was borne upon the articulation, and relapse has been the result. Even when most perfectly adapted, the jar upon the hip is far greater at each step than is received during axillary locomotion, and the liberation of the arm from restraint is not sufficiently compensatory for this harmful action.

Only a few weeks have elapsed since I saw a most lamentable instance of this effect, although the splint was in most careful hands and was one of the best of its kind.

Hutchinson's plan of permitting the patient to go about with crutches and high shoe, without splint, is a method to which we are often obliged to resort among poor patients, but it compels the hip-guarding muscles to remain in a vigilant state during the entire day, in consequence of which increased congestion starting pains will continue throughout the night in spite of extension.

The surgeons who strive most earnestly to obtain a cure with motion are the ones who are obliged to perform the most resections. Decide upon the instrument that will give the most absolute rest, and you will make the best cure. The indications are to fix the joint, protect it from injury, maintain proper position, and yet be light and comfortable. Innumerable methods have been tried in order to secure these results at slight expense. Binder's board, leather, plaster (even when stiffened with tin strips)—all fail in the case of active boys, owing to the long leverage and great strength of the thigh muscles. Leather answers best, but in adults so large a piece is required that the expense is considerable. Vance's splint is a good form. Thomas's posterior bar and Agnew's modification answer a good purpose, but are open to the objection that sitting is impossible in a proper position. To accomplish it, therefore, the boy soon learns to twist his body, and also his hip, thus giving the joint each time a decided strain. This appliance, however, has many advantages which are not to be obtained in other forms, and is especially of service in dispensary and country work. Simple bars of cast-steel, one, two, or three sixteenths of an inch in thickness, and from one half to one inch in width, can be easily cut to proper length and bent by wrenches or in a vise by any practitioner, so as roughly to fit the posterior part of the body from the thorax to the calf. Two tin strips to encircle the body, and one each for the thigh and leg, can be soldered or riveted to this upright, and, when all is fixed in position by gypsum bandages, a very rigid support is obtained. The encircling bands can be made of steel, which, when covered with leather and provided with buckles and straps, give a removable apparatus that, though less effective, is more comfortable and cleanly.

Any rigid material is as good as plaster. One great drawback to gypsum in its fixation uses has been the uncleanliness and annoyance of making the bandages. This is now avoided, since the instrument-makers are furnishing them for $2.50 a dozen, which is much cheaper than to make them one's self. The crinoline should always be open-meshed, and the plaster fresh. Oven-heating will often be of service. Muslin bandages will not retain sufficient gypsum. In order to secure the fixation of the joint and yet permit the sitting posture without the necessary twist produced by Agnew's or other instruments, I employ a lock joint, which is perfectly rigid except at the moment of sitting, when the simple lifting of a bolt from a mortise permits flexion, while at the same time no lateral or rotary motion is possible. On rising, the lock is easily managed under either male or female clothing, and the articulation is protected from blows on all sides. The joint is attached to Y shaped arms, riveted to thigh and body enveloping bands of leather or felt. The trunk section must extend as high as to the lower angles of the scapulæ so as to embrace the thorax. For accurate adaptation, a plaster cast of body and thigh should first be taken; but approximation may be secured by leather cut to measure, then wet and fitted to the body. Russian felt can also be employed, as it is readily molded when heated and sets quickly. Lace hooks complete the splint and render it removable at will.

Objection has been raised to my apparatus, that it permits motion; but experience shows that the simple temporary flexion movement is far less injurious than the twist necessitated by other fixation splints, since it is impossible to restrict patients to standing and lying. Chance's splint, like my own, embraces the thorax—a condition which I consider essential, since pelvic bands permit compensatory motion too near the hip. Crutches, and a high shoe on the sound foot, are always used with this appliance. Its total weight for a child need not exceed one half pound. While not an extension splint, its action is to relieve the articular surfaces by controlling muscular action and by distributing the pressure over a large area of surface, just as a plaster or leather jacket relieves the vertebræ by transferring weight to the material through skin contact. The great support given to the hip by this splint is markedly evidenced in its employment for ununited intra-capsular fracture and in paralysis. If we prefer extension apparatus, we have a choice among many varieties—Taylor's, Sayre's, Gibney's, Judson's, Bauer's, Stillman's, and a score of others. I have already stated my objections to them. Each has its advocates, and doubtless each surgeon can report good cures; but it is not a particular splint which cures hip disease. The good progress of a case depends upon the fidelity and care which both surgeon, nurse, and patient give to the proper guarding of the joint, to the carrying out of all the little details of treatment, to the strict obedience to the command of non-use of the limb, to the persistence of all these through the years of first, second, and third stages. Each case will test the ingenuity of the surgeon and the patience of the sufferer.

I have purposely omitted the treatment of the suppuration stage of the separate joint diseases, with all the various complications, since their discussion would lead us on to excision and the later stages, which our space will not allow; but the principle of rest is at all times applicable and beneficial. I can not forbear, however, to insert one word in regard to diagnosis. Whenever muscular rigidity is present about any articulation, too much attention can not be given to its significance, due as it is to the fact that neighboring joints and muscles are supplied by the same sets of nerves, and irritation of an articular branch fortunately displays the warning signals—*muscular fixation* and *starting pains*.

At the ankle and foot immobility can be secured by wood, binder's board, felt, silicate of sodium, starch, oxide of zinc and glue, gypsum, or any other convenient means, rest of the inflamed surfaces being the result to be obtained. The means of securing this will vary with the joint affected, whether ankle, tarsal, metatarsal, or phalangeal. The principle is applicable to all stages, and, as caries of the bones almost always co-exists, it will be found that gypsum will answer best, since it can be easily windowed, and, if varnished, is quite non-absorbent of pus. A tightly fitting

stocking is the best under-dressing. The more absolutely rest is insured, the less will be the inflammation and the smaller will be the suppurative results.

If the case is of long continuance, a molded leather splint which can be laced is of advantage. Walking without crutches is never allowable. Long-continued suppuration is the rule, and free drainage must be established. Gouging, excision, and amputation are, unfortunately, often required in the later stages.

The primary fixation position in this articulation, as in all others, should be the one which gives greatest comfort.

Extension knee and ankle splints are in no wise superior to fixation ones, and are far less comfortable. They can not safely be used without crutches, and are useful only so far as they give quietude to the joint, a result which can be secured with much greater ease and benefit to the patient by other means, at one tenth the trouble and expense.

When strumous inflammation attacks the sterno- or acromio-clavicular articulations, the osseous structures are almost sure to be primarily or secondarily affected. In a case which came under my care last June, a few weeks sufficed to cause destruction of the ligaments and head of the bone. Tissue-death continuing, the anterior two thirds of the clavicle perished, and, protruding through an integumentary opening, were easily removed.

To retain these two articulations in a position of quietude, the same means should be adopted as are employed in shoulder disease.

At the shoulder we have a joint which, though but seldom the subject of articular osteitis, yet when attacked is, from the movable character of the scapula, so difficult to keep at rest that ankylosis, suppuration, and bone-death are very frequent results. If "extension with motion" was the true theory of treatment, we ought here to have most admirable results, since the weight of the extremity makes an excellent extending force; but, on the contrary, we are usually doomed to disappointment.

To produce partial rest, the arm should be bound to the side of the body, borated or salicylated cotton being interposed between the two skin surfaces. If the patient is young, a large body-waist or broad muslin strip is better than bandages. The shoulder can be still left exposed for counter-irritation, if desirable. Should maceration of integument take place in the axilla, a sling may be worn for a few days, with a shoulder-cap of binder's board.

At the elbow it is not difficult to maintain rest, but, as the majority of cases of arthritis met with at this joint are strumous, and commence in the humerus, extensive suppuration is the rule. A permanent splint is better than one that is removable, and nothing answers better than plaster of Paris. The angle of fixation should at first be the one that will relieve pain, but changed from time to time so as to give a good position in case of ankylosis, the hand being placed slightly in pronation, so as to avoid the tendency of the head of the radius to displacement as disorganization advances. If the swelling diminishes, the incasement can be slit and tightened, or a new one applied. Traps can be cut for counter-irritation or to give exit to discharges. The aspirator should be used early, sparing [illegible] pressure being afterward applied. Suppuration from the humeral condyles is common, and excision is frequently demanded. A laced leather splint is often convenient.

The wrist joint, like the ankle, is subject to a strumous form of inflammation which may extend to the bones, or, as is perhaps more frequently the case, an osteitis may involve the joint and pass to all the carpal bones and articulations. To apply the principle of rest, we have here, first, to tightly wrap the wrist and hand with an adhesive-plaster bandage, which exerts pressure and tends to prevent the posterior displacement of the carpus which is so common when the dorsal ligaments give way. Over this should be applied a gypsum bandage, the hand being held during the hardening process midway between supination and pronation. This dressing answers much better than a palmar splint, and windows can be cut as required. If one prefers any other form of immovable dressing, it may answer just as well; but, if salt is added to the water in which the bandages have been soaked, the quickness of setting is decidedly in favor of plaster over any other material. Shingles and stiff paper are, of course, more constantly at hand, but require careful subsequent attention and are not nearly so certain in their fixation powers, since bandages will constantly loosen. In chronic cases a removable leather splint is useful.

The caries of bones and the fungous degeneration of the synovial membranes very frequently demand partial or complete excision or amputation. Unfortunately, surgical interference is frequently followed by increased bone-death, as is also the case in the tarsus.

To sum up in outline:

1. Rest subdues joint inflammation more effectually than all other means combined, often aborting, always lessening, an impending process. Its employment is indicated by nature; its beneficial influence is seen in every domain of medicine; in theory it is rational, in practice it fully proves its power.

2. The more perfect the rest, the greater will be the diminution of pressure, friction, tension, and inflammation, and the less will be the resultant ankylosis and suppuration.

3. The means for securing rest and fixation are exceedingly simple, and can be applied by every intelligent practitioner.

4. Counter-irritation is but of secondary importance.

5. In inflammations of the sterno-clavicular, acromio-clavicular, and scapulo-humeral articulations the arm should be fastened to the body, which takes the place of a splint.

In elbow disease the member should be immovably fixed in a semi-flexed or in an extended position; pressure, aspiration, puncture, drainage, excision, etc., to be employed as necessary.

In the wrist and hand articulations the same principle is to be enforced, long-continued rest being necessary. Early exit of purulent accumulations must be secured antiseptically by the bistoury, and the progress of cases carefully watched, the surgeon interfering only when nature is unable to properly accomplish separation and healing.

In the ankle and foot the same will hold true, fixation by plaster or other rigid material being complete and per

manent. Locomotion for even one step without the aid of crutches should be positively forbidden—an injunction which is equally applicable to diseases of the knee and hip.

At the knee, the question of counter-irritation, immobilization, or rest in bed with extension, will depend largely upon the amount of traumatism and the existence or absence of muscular rigidity. When nature indicates by the last-mentioned symptom that motion is harmful, delay in enforcing one of the latter measures is criminally negligent.

Serous effusion should be aspirated, pus evacuated antiseptically, free drainage maintained, and excision practiced as soon as it is decided that destruction has occurred.

Permanent rest and fixation, with the use of crutches, are far better than any form of extension that can be applied in the upright position.

In hip disease, horizontal extension with fixation answers best for the acute stage. Three months after the cessation of pain, if deformity has been largely reduced, the erect position may be assumed, provided the joint is put at rest by a fixation apparatus and the high shoe and crutches are used.

1818 Chestnut Street, Philadelphia.

THE ANNUAL AND SEASONAL CLIMATIC MAPS OF THE UNITED STATES;

WITH A RULE FOR THE EVEN DIVISION OF CLIMATE,

BASED UPON THE AVERAGE OF THE COMBINED ATMOSPHERIC HUMIDITIES IN THE UNITED STATES.*

By CHARLES DENISON, M. D.,
Denver, Col.

(*Concluded from page 603.*)

The rule of moisture and dryness mentioned above is stated as follows: First find for the given time and place the per cent. of relative humidity and cloudiness, and the absolute humidity in tenths of a grain of vapor to the cubic foot of air. Then compute the difference between one third of these three and the standard number given opposite the proper temperature (of the given place) in the "Rating Table," and the result, plus or minus, will show the relation of the given climate to the average for the United States. An excess of six belongs to *moderate moisture*, and over six to *extreme moisture*, while a deficiency of six locates a place in *moderate dryness*, and over six in *extreme dryness*. On the map each of these four divisions is divided into halves, thus giving eight even divisions of the whole climate. The gradations toward the extreme of moisture or extreme of dryness are thus easily seen as the colors change from the mean of climate, which is the dividing-line between the blue and red shades.

It is claimed for this mean of climate for the United States that it is only approximately correct, because the colors of the seasonal charts do not represent a period longer than one year (1883), and because the density of observation stations in the United States is very unequal. An effort was made to counteract this latter circumstance by taking the average relative humidity of places representing about an equal area along parallels of latitude. The averages thus obtained, of 67 per cent. of saturation for relative humidity and 44½ for cloudiness, were considered by the Signal Service authorities in Washington to be about as nearly correct as could be obtained. A little too much of the country may be apportioned to the blue shades, yet, if that is the case, it makes no difference with the extremes of either moisture or dryness. Here it should be noted that the excesses, from the annual average for the whole country, on the side of dryness (red) are much more than on the side of moisture (blue). For instance, Red Bluff, California, in summer—with a cloudiness of 13 per cent., a relative humidity of 34 per cent., and an absolute humidity of 3·7 grains to the cubic foot of air, giving a mean of 28 to compare with the usual mean (62·7) in the table for Red Bluff's temperature, 82°—gives an excess on the side of dryness of 23 above the extreme of dryness, while Spokane Falls and Port Huron, Mich., two of the moistest localities in winter, give only 4 excess above the extreme of moisture. This less fluctuation on the moist side of the average of climate is in perfect accord with the greater variability of climate according to the dryness of the air. These facts, and the proofs the author presented in his last year's report, that equability goes with warmth and moisture of atmosphere, should always make us suspicious when equability is claimed for dry, cool places, or when great dryness of atmosphere is alleged for warm, equable places.

The other features of the seasonal charts are easily understood—*i. e.*, isotherms, wind-arrows, and seasonal tables—by referring to the descriptions already given and simply substituting *seasonal averages* for *annual means*.

For instance, the isotherms represent belts of country of the same seasonal average of temperature. The same winds averaged for seasons are *prevailing*, *rain-bearing*, and *pleasant-weather producing;* but, instead of representing regions, as on the annual map, they answer for each signal station near which they are placed. In the border tables the *comparative windiness* of stations is worked out from the seasonal averages of miles the wind travels a month, which latter are likewise given at the sides of the charts. Besides the seasonal averages of cloudiness, relative and absolute humidities, precipitation, daily and monthly ranges, and the 1883 seasonal averages of temperature which are given below the seasonal charts, the establishment and elevation of stations, the annual cloudiness, annual temperatures, and mean annuals of maximum and minimum temperatures are given on the sides.

The basis map of the seasonal charts contains all the signal stations, State capitals, principal cities, health stations, and all the thermal and mineral springs of note, including many as yet unnamed, and comprising the most complete list of such springs extant.

The absolute humidity table, given on the chart for autumn (see Gulf of Mexico), is added for the convenience of those who may wish to compute the standing of places not rated on the charts, while the presence of the "Rating Table" and "Rule of Moisture and Dryness" on the chart for summer gives opportunity for any one to make such computations, or to prove the color shades as given for any signal station.

It is to be explained that barometrical records, atmospheric electricity and ozone are not given for the following reasons: The uncertainty incident to the fickleness of barometrical readings, with the necessity to reduce them to a sea-level standard, is not thought to be warranted by any good that would result; while atmospheric electricity and ozone are not yet estimated, if at all, with sufficient degree of accuracy to allow of their use.

The principal feature of these seasonal charts is the illustration of the method of dividing the climate into even portions, based upon the average of atmospheric humidities for the year. If this standard of evenly subdividing the climate of our own country shall be accepted as the rule by the Climatological Association until a better is submitted, the author will feel amply paid for his labor in working it out and presenting it to the medical profession.

DISCUSSION.

The PRESIDENT had received the maps three or four months before, and had spent some time, but perhaps not sufficient to express an opinion, in examining them. It seemed to him that Dr. Denison had endeavored to put too much on the maps, and they were confusing, to say the least, on that account. That was the only criticism which he had to make with regard to them. How reliable the observations made were, he supposed was only to be determined by the accuracy of the signal stations observations. With regard to the final deductions which the author made, he thought, as stated in his address, that humidity which was prejudicial to phthisical patients had more to do with the soil than with the general atmospheric condition, and therefore it would be necessary to know more of the soil of the different localities that were supposed to be specially favorable for phthisical patients before he should be willing to express an opinion. He believed that all of the gentlemen who had been the most correct in the matter of climate, starting with the observations of Dr. Bowditch in 1862, agreed that dampness of the locality due to the condition of the soil played an important part in the development of phthisis. It was not the amount of rain-fall, nor the amount of relative humidity, but the want of free drainage in the soil. Dr. Bowditch, in his address before the Massachusetts State Medical Society, had dwelt upon this point very strongly and very clearly. When the speaker first went into the Adirondack region as an invalid it seemed to him that everything was against its being a suitable place for phthisical patients so far as humidity, changes of temperature, and all that was concerned; but the results had proved that it was a good place for phthisis—certainly in the earlier stages, and the principal reason was the condition of the soil. There was no clay in the Adirondack region, and everywhere there was quick drainage.

Dr. A. N. BELL remarked that the maps which Dr. Denison had prepared to show the relative moisture and dryness in different parts of the United States, with a view to enabling physicians to decide where to send their phthisical patients, went far to counteract the position which Dr. Denison started out with, that dryness was the essential element in the cure of phthisis. Studying these maps, and the reports on which they were based, we found some curious facts. In Colorado, for example, the ratio of mortality from consumption to the mortality from all causes varied only a small fraction of one per cent. from that of Florida, Mississippi, and Louisiana, exclusive of New Orleans, where there were just reasons why the mortality from phthisis should be excessive. It was considerably higher than in Texas, which also had a damp climate. What the president had said with regard to the Adirondack region had an equal bearing on the subject. Everybody knew that forests were the storehouses of moisture, and, so far as we could go in measuring these climates, they were exceedingly damp, and for manifest reasons—not only because of the large amount of rain-fall, but also because the leaves interfered with evaporation. It had also been shown that there was something besides heat, as well as besides relative dryness, which had an important influence on the consumptive. We might refer to the statistics of the navy. It would be said that the men in the navy were picked men, but that fact might be offset with the further fact that they were of the age when phthisis was most likely to develop, seafaring men, usually occupying bad quarters for sleeping. The ratio of deaths from phthisis in the navy to deaths from all other causes was 6·3 per cent., while in Colorado, Florida, and Mississippi the ratio was 8+per cent. In Texas, Arkansas, and Arizona it was about 6 per cent., or nearly the same as on the ocean. According to English statistics, the mortality from phthisis was ten times less on the ocean than on land; if allowance was made for the seaman's age, from fifteen to forty-five years, it was sixteen times less. The rate of mortality from consumption among all classes who lived on the water in this country, including canal and river men, and their wives and children, was less in comparison with the general mortality than that of several of the New England States. Consumptives on land, subjected to like conditions, would certainly die much faster. More than thirty years ago he had kept records of the mortality occurring on vessels on the west coast of Africa, and found that the number of deaths from phthisis was greater at a given locality where the atmosphere was dry than at points where there was greater moisture, which went to show that moisture alone was not the cause of greater mortality among the phthisical. An atmosphere containing clean moisture was by no means necessarily promotive of consumption. If one wished to experience the full benefit of the Adirondack region he should go into it, and not remain on its outskirts. There one would get the benefit of free drainage, atmospheric agitation, electrical change, and a bountiful supply of ozone, equal to that developed by the action of the waves on the seashore. He had examined the maps prepared by Dr. Denison very carefully, and, while he held in admiration the industry displayed by the author, he certainly was far from being willing to accept his suggestion to make excessive dryness, to say nothing about altitude, the test of climate for consumptives.

Dr. REED was glad to hear the vigorous protest of Dr. Bell against the suggestions offered by the author. When Dr. Denison read his paper last spring he (Dr. Reed) had entered his protest against accepting his conclusions. He thought it was so generally admitted by the profession that ocean air, either on shipboard or at the sea-coast, was beneficial to consumptives that there ought to be no longer any question about it. It had been a known fact among physicians since the time of Hippocrates, and had never been questioned until recent years, when it had become the fashion to talk about dryness as the only standard. He had been glad to hear the explanation by the president of the importance of dryness of the soil. Against the idea that dryness was the only important factor he could place his observations at Atlantic City, where patients suffering from phthisis, particularly in the first stage, and often in the second stage, did very well. These maps, which showed elaborate work and were unquestionably valuable, also contained conclusions which required restrictions. They could not be accepted as proof positive. Regarding the statistics of the English navy referred to by Dr. Bell, in a paper which Dr. Reed read last spring he had given some of the records of both the navy and army of England, which were to the point. Of course the men in both the army and navy were equally picked men

and it was a striking fact that, while there was quite a fair proportion of deaths from phthisis in the army, in the navy, if he remembered correctly, the mortality from the same cause was not more than a third as great. The only way to account for this greater mortality from phthisis in the army was that the men were on land, while those in the navy were most of the time at sea.

The President remarked that it was evident the association was not willing to indorse Dr. Denison's position, and it was hardly necessary to take a vote upon it.

Dr. Tyndale, the reader of Dr. Denison's paper, stated that the author's contention was that the principal features of climate related to dryness, elevation, and equability of temperature. Statistics had thus far shown that, of these three, dryness was the most important, and equability next, elevation being third, and not separable from dryness.

[Note by the Author.—The author wishes to add a word or two in reply to those who took part in the discussion. First, with reference to the president's criticisms. A considerable number of physicians, whose opinions are most trustworthy, have critically examined the charts and have not found them at all confusing, when applying the given explanations to the colors, lines, arrows, etc., illustrating separate data.

The comparatively favorable Adirondack region was not differentiated on the seasonal charts, because the Signal Service had no station there. Undoubtedly the freedom from soil-moisture and the "quick drainage" would so have made its impress upon the humidities of the atmosphere as to have brought out this region into one of the light-red colors of moderate dryness. The qualities which the president mentions as favorable—porosity of soil, "quick drainage," and, in fact, all the soil conditions which produce a pure atmosphere—extend over large areas in the United States. These regions, because of their atmospheric dryness, are thrown into the deep-red shades on the seasonal charts; on the other hand, the dark-blue regions, showing atmospheric moisture, indicate a general preponderance of opposite soil characteristics. Therefore, for large regions, the character of the soil, in a great measure, determines the atmospheric humidities. Conversely, the humidity colors, to a certain extent, represent soil conditions.

The president's statement that the author's position is not indorsed is unfair, since the whole discussion, with the above-mentioned exception, was irrelevant to the subject of the paper read—namely, *the even divisions of climate*. The question is, Are the divisions of climate fair, and the extremes on the charts worked out with justice to the sections of our country which are put in opposition to each other?

The discussion seems to have been wholly confined to the therapeutics of climate, which the author did not intend to introduce in this paper. As to his previous writings he has nothing to retract; nor has he ever said that dryness was the "*only*" important factor in climate. If, however, he were to mention the principal features of climate, for the arrest of phthisis, in the order of their importance, he would give them as *dryness, elevation, and sheltered*, not mentioning *equability* at all, for he would expect to find a due amount of *variability* with these favorable attributes.

Finally, the president, at some future meeting of the association, [illegible] to discuss the subject introduced by [illegible] author. Perhaps the following title will best comprehend the question in dispute: *The comparative importance of [illegible] attributes in the arrest of phthisis.*

[illegible] these two statements made which should not be passed [illegible] they are foreign to the discussion of the author's proposed division of climate. With reference to Dr. Reed's statement, mortality statistics from consumption are inadmissible as settling the salubriousness or injuriousness of given climates, because of the migration of pulmonary invalids in search of health. For instance, if statistics of mortality from pulmonary tuberculosis alone are taken, probably not over five per cent. of such deaths in Colorado have been from disease which originated in the State. The author has written many certificates of death from phthisis—probably a hundred and fifty, and perhaps more—during his twelve years' residence in Denver, but he does not remember to have written one for an uncomplicated case which originated in Colorado. A brother physician suggests that one might as well assert that all the cases of syphilis at Hot Springs, Arkansas, originated there.

That sea-air is healthful, and the mortality among seamen is small, is not at all to be wondered at, since the analyses of the air by Miquel, at the Observatoire de Montsouris, near Paris, have shown that the air out at sea is next in freedom from bacteria to that of elevated regions. Therefore if, in addition to this purity of sea-air, the consumptive mortality among seamen —some six per cent.—is about equal to that in Texas and Arizona, where many invalids go, then the better—the dryer and more elevated—portions of those States must indeed furnish a very pure atmosphere, and one which is especially suited to the consumptive's needs.

If Dr. Reed's statement, that the maps "contained conclusions which required restrictions," does not indicate a determination to shun the inevitable logic of facts, it is at least very vague. There are no "conclusions" on the maps except the arithmetic of climatic data—the condensed and graphical illustration of the work accomplished by the Signal Service Bureau. Why should not the conclusions of facts be allowed to have full sway in the judgments of medical men who are able to appreciate their bearing? In fine, with reference to a many-sided question like the one introduced, is it not through the largest collection of facts and climatic data that the physician can have any reasonable grounds from which to draw conclusions? And is it not a mistake to try to determine those conclusions from an experience which is limited to sections which are within a hundred or so miles of New York city?]

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

By GEORGE R. FOWLER, M. D.,
SURGEON TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

(*Continued from page 459.*)

The following is a *résumé* of the antiseptic methods employed in this hospital with hydronaphthol:

Preparation of Sponges.—Medium-sized sponges of good quality are selected and thoroughly beaten so as to break up and loosen all calcareous particles. These are thoroughly washed until all gritty matter is separated. They are then placed in a solution of permanganate of potassium of the strength of thirty-six grains to the pint, and there allowed to remain for a few minutes, or until they are of a brown color. They are then washed in clean water and placed in a bleaching solution made as follows:

Sodium hyposulphite	10 ounces;
Water	68 "

Dissolve, and add muriatic acid, 5 ounces.

This solution should be made the day before required for use, so that the sulphur may separate from the solution. It should be decanted off. The sponges should be immersed in this solution for a few moments only. They

should then be washed in clean water, and, in order to make certain that no sulphurous acid remains, it is well to immerse them a few moments in a solution of bicarbonate of sodium, 100 grains to the pint. They are then sterilized by being immersed in a 1-to-1,000 solution of corrosive sublimate for two hours. From this they are transferred to a 1-to-1,000 warm solution of hydronaphthol and kept hermetically sealed in a screw-cap fruit-jar or museum-jar. If it is desired to keep them in a dry state, glycerin should be added to the last-named solution, in the proportion of half an ounce to the pint, in order to prevent the sponges from becoming harsh and brittle. For hospital use, a separate jar is kept for each day's supply of sponges, and, as soon as they are no longer required, they are washed thoroughly, again sterilized as before, and placed in the hydronaphthol solution in the jar in which they belong, which is numbered for purposes of identification, and not put to use again until at least a week has elapsed. This insures the most perfect immunity against infection from every source, and enables one to employ the same sponges again and again without incurring the slightest risk.

Irrigation.—During operations and dressings an almost constant stream of hydronaphthol solution, 1-3,000, in water previously sterilized by boiling, is kept running over the parts. The jar containing the irrigating solution is kept partly filled with the saturated solution, and, at the time of operating or otherwise employing the irrigating solution, warm water is added in the jar in sufficient quantity to reduce it to a weaker solution.* In cases of chronic joint disease or cases of hydrops articuli, if no purulent accumulation be present, the hydronaphthol is used to wash out the joint. If, upon tapping the joint, purulent or flocculent fluid flows through the cannula, a solution of corrosive sublimate is first used to thoroughly sterilize the interior, and this is, in its turn, well washed out with the hydronaphthol solution. By this means corrosive-sublimate poisoning is guarded against; a portion of the hydronaphthol solution may be left in the joint cavity. In all cases of a septic character sterilization had best be accomplished by the aid of the mercuric-bichloride solution, the latter being always washed away subsequently with the hydronaphthol solution.

Bath for Instruments.—The instruments are placed in shallow pans, porcelain-lined, and covered with a saturated solution of the compound. A towel, wrung out of the same, is spread out in a convenient place, upon which the operator drops the instruments when not in use, and from which an assistant transfers them to the bath until again needed. Towels for the purpose of isolating the field of operation are wrung out of a 1–1,000 mercuric-bichloride solution.

Preparation of Catgut.—The catgut should be wound upon hard-rubber, glass, or porcelain spools. It is then sterilized in a one-per-cent. solution of mercuric bichloride, being immersed for twelve hours. It is then transferred to an alcoholic solution of hydronaphthol, one tenth of one per cent., for permanent preservation. The latter hardens the gut sufficiently, and preserves it against all further change.

Silk and horse-hair may be treated in the same manner, excepting that they may be boiled in the corrosive-sublimate solution for a half hour and then immersed for twelve hours. They should be preserved in the alcoholic hydronaphthol solution, as in the case of the catgut.

Drains may be immersed in the corrosive-sublimate solution also, in the same manner as the catgut, and then placed, for permanent preservation, in a saturated watery solution of hydronaphthol, to which glycerin, in the proportion of half an ounce to the pint, has been added.

Wood-flour and Sawdust.—Sterilization of wood-flour and sawdust is accomplished by thoroughly triturating the same in a mortar with an alcoholic solution of corrosive sublimate, and in the same solution the hydronaphthol is dissolved, which latter gives to the dressing its permanent antiseptic character. The following is a good working formula for this purpose:

Hyd. bichlor., Hydronaphthol,	āā	℥ss.;
Glycerin		℥j;
Spts. rectif.		Oj.

This should be triturated with 3 pounds of wood-flour, or finely-sifted sawdust, and, after drying, placed in bottles with large mouths until required for use. Bags are prepared, of different sizes, of coarse cheese-cloth previously rendered hygroscopic by boiling in a strong alkaline solution, and then washed and dried. The material known as mosquito-bar or netting, if used, need not be rendered hygroscopic, as its meshes are so coarse as to readily permit of the passage of the wound secretions through and into the wood-flour. These are dipped into the same solution prepared for the wood-flour or sawdust, before filling. They are prepared and filled upon the day of operation, and kept in a tin can, or wrapped in some impervious material until needed.

Absorbent Cotton.—This is used for backing up and placing around the edges of the cushion or pad dressings, when these are placed upon uneven surfaces. It is hydronaphtholated in an alcoholic or benzol solution, so that the former represents twenty per cent. of the cotton by weight.

Absorbent Gauze.—This is hygroscopic cheese-cloth; what is known among dry-goods dealers as archery bunting makes a very good dressing after being rendered hygroscopic. It is hydronaphtholated in the same manner as the cotton, and, after drying, kept in tin cans until needed for use. It is used principally for making bandages. Should it be designed for use in immediate contact with the wound, it is prepared in the same solution used for the wood-flour, in order to insure its thorough sterilization by means of the mercuric bichloride.

*Paper-wool.**—This is manilla tissue-paper, cut into strips one sixteenth of an inch wide and saturated with the same solution used for the wood-flour. It is passed through the rolls of a clothes-wringer, dried and carded, or pulled apart by hand. It is used as a cushion-dressing, or may be applied in a mass directly to the wound.

* Solutions of from 1-3,000 to 1-5,000 are sufficiently strong for all purposes. The saturated solution, although generally well borne, has seemed at times to over-stimulate the tissues and lead to increased secretion, a very undesirable feature in any antiseptic agent.

* See article in "N. Y. Med. Jour.," October 10, 1885.

Hydronaphthol Soap.—Powdered soap, triturated with about four per cent. of hydronaphthol, is found to be most convenient for use. The compound may be incorporated in cakes of ordinary toilet soap with advantage. It is useful in scrubbing the parts preparatory to operation, the surgeon's hands, etc.

Hand Scrubbing-Brushes.—These are kept in a saturated solution of the hydronaphthol. Two sets are always at hand, one for cases in which some suspicion of sepsis is entertained and suppuration exists, and the other for aseptic cases and the surgeon's hands.

Mention has been previously made of a hydronaptholated magnesia for use as an absorbent along the line of sutures. I think that this is uncalled for in the majority of instances, and in antiseptic surgery whatever is uncalled for had best be omitted. Wherever such an application is needed, this will be found a safe and efficient substitute for iodoform.

In addition to these, hydronaphthol incorporated in simple ointment, in the proportion of half a drachm to the ounce, is found to be an excellent application when a stimulating ointment is indicated. Old leg ulcers and the like are found to behave very kindly and heal rapidly under its use.

Dr. F. W. Rockwell, chief of our department of genito-urinary diseases, informs me that he has had some excellent experiences with hydronaphthol in cases of purulent cystitis, washing out the bladder once or more daily with a saturated solution. In a case of irritable bladder of long duration, in a female, I recently dilated the urethra so as to admit my index-finger, for exploratory purposes. An acute cystitis followed, which yielded readily to a daily irrigation with a warm solution of this compound.

A case of intractable eczema capitis recently yielded rapidly to the application of the hydronaphthol ointment. I believe the naphthols have been employed in the Vienna skin clinics for some time past with marked benefit.

To summarize the results of my experience thus far with this compound I would state that: 1. It is an efficient and safe antiseptic and anti-putrefactive agent. 2. This is accomplished in very dilute solutions; consequently it compares favorably in point of expense with carbolic acid, and is to be generally [illegible] as a substitute for the latter that its use is urged, not only on the score of cheapness, but of safety. 3. Its saturated solution is only of the strength of 1 to 1,100, and consequently no mistakes can occur in its use. In this strength of solution it is at least five times above its antiseptic limit, and yet is non-poisonous, non-corrosive, and, generally speaking, non-irritant.

COCAINE AS AN ANÆSTHETIC IN FRACTURES AND DISLOCATIONS.

By JOHN R. CONWAY, Jr., M. D.,

[illegible]

Dr. M. Joseph Rogers's experiments on the use of the hydrochlorate of cocaine in bone surgery first suggested to me the idea that it could be applied with equal success to a fractured bone, and the soft tissues surrounding it, to render them perfectly anæsthetic, and thus allow of careful and painless examination, and, if necessary, the manipulation required for the reduction of a deformity of the fragments.

It is obvious that, if this could be done successfully and safely, it would be a valuable addition to the resources of the surgeon for accurately diagnosticating the line of fracture, reducing displaced fragments, and, finally, painlessly setting the broken bone.

The manipulation of a fracture necessarily causes great suffering, and, if there should be a displacement of the fragments, the agony of reduction without an anæsthetic is always very severe.

Of course, ether or chloroform can be given, but the inconvenience of so doing and the disagreeable after-effects, not to mention those during the administration, are generally sufficient to prevent the use of either, the pain being considered the lesser of two evils.

I believed, also, that the ligaments and tissues surrounding a joint could be anæsthetized by the use of the cocaine, so as to allow of a painless reduction of a dislocation.

I resolved, accordingly, to test the effects of cocaine in the first set of cases that presented themselves.

Below I have recorded three cases of Colles's fracture in which the solution was used with marked success, and one case of dislocation backward of both bones of the forearm at the elbow-joint, where it acted with equal satisfaction.

Case I.—A. T., aged thirty-seven, a painter by occupation, was admitted into Gouverneur Hospital, October 26, 1885. While he was painting the cornice of a house the scaffolding on which he was standing gave way, precipitating him to the ground, a distance of over thirty feet. He struck upon his right buttock and the palmar surface of his right hand. Examination showed that he had received a fracture of the right radius, about three fourths of an inch from the lower extremity of the bone, the lower fragment having been displaced backward upon the upper, and being firmly held in that position. He had, also, severe contusions about the right hip and buttock, but no other serious injury.

All attempts at an examination of the injured forearm caused him so much pain that I concluded to use deep injections, at the point of fracture, of the four-per-cent. solution of cocaine, and ascertain whether it would sufficiently anæsthetize the bone and the tissues surrounding it to allow of a thorough examination and of reduction of the deformity without causing him pain. I loaded a hypodermic syringe with twenty minims of the four-per-cent. solution, and inserted the needle perpendicularly into the posterior surface of the forearm, directly over the seat of fracture, and pushed it down into the tissues until the point could be felt on the bone and between the fragments; there the solution was slowly injected until three minims were discharged. Withdrawing the needle slightly, so that its point would rest in the soft tissues just over the fractured bone, I injected two minims more. On the outer side of the radius I adopted the same procedure, endeavoring in the deepest injection to push the point of the needle far enough anteriorly to leave two minims in the tissues in front of the fracture, as well as the three minims between the fragments in this situation. In withdrawing the needle I injected two minims into the soft parts covering the fracture externally. The third injection was made between the ulna and radius—three minims between the fragments at this point, and two into the parts covering them. Altogether, seven-

teen minims were used. I think it is very important that the cocaine should not only reach the fractured surfaces of the bone, but should also be injected into the tissues immediately surrounding the fracture, for, although the bone may be thoroughly anæsthetized, the manipulation necessary for examination and reduction will sufficiently disturb the injured soft parts to cause pain, unless they also are rendered insensitive. After completing the last injection, I immediately applied a rubber bandage to the arm above the elbow, to check the circulation, and thus render the anæsthesia as lasting as might be desired, a method first suggested and practiced by Dr. J. Leonard Corning, of this city. (See "N. Y. Med. Jour.," Sept. 19, 1885, p. 317.) In five minutes from the time the needle was first introduced there was complete anæsthesia all about the seat of fracture. Firm pressure, and even blows on the forearm over the injured bone, caused no uncomfortable sensations.

Flexion, extension, and lateral motion of the wrist joint were made without any complaint from the patient, and, when questioned, he assured me that he felt no pain.

This was all in marked contrast to his sensations and complaints before the cocaine was used. Then he could not bear the least pressure over the fracture, and any motion of the joint caused him great agony. After I had satisfied myself, by a thorough examination, that there was no doubt as to the fact that absolute anæsthesia was produced, I proceeded to reduce the deformity by extreme extension of the wrist joint, together with traction. This was successfully accomplished at the first trial, although considerable force had to be used. The patient bore the reduction very calmly, never making the least sign that would show he was being hurt, and, when asked if it pained him, he answered "No!"

I now had the fragments in proper position, and could readily move them upon each other, producing distinct crepitus. Rubbing the broken surfaces of the bone together was unattended by the slightest symptom of pain.

The rubber bandage was allowed to remain on at least half an hour, and at the end of that time the anæsthesia was as profound as in the first ten minutes after the cocaine was introduced.

After the removal of the bandage, sensation returned to the parts at the seat of fracture in about fifteen minutes, but the pain was not excessive, nor sufficient to give rise to any complaints.

Case II.—J. O'B., eight years old, a school-boy, was admitted into Gouverneur Hospital, October 29, 1885. He had been knocked down while playing in the school-yard and fallen forward, striking upon both hands and knees. Examination revealed a Colles's fracture of the right radius with dislocation of the lower fragment backward. The injured wrist was very sensitive, and could not be touched without causing a good deal of pain.

In this case I used fifteen minims of the four-per-cent. cocaine solution in divided injections in the same manner as in the preceding case. Instead of checking the circulation with an elastic bandage, digital compression of the brachial was employed. As before, complete anæsthesia was produced in a little over five minutes, and the patient bore the manipulation necessary for examination and reduction of the displaced fragment without complaint.

After the circulation was allowed to go on again the fractured bone and soft parts regained their sensibility in about ten minutes.

Case III.—J. S., aged twenty-seven, a varnisher, was admitted into Gouverneur Hospital on October 30th suffering from a backward dislocation of both bones of the left forearm at the elbow joint. Any motion of the dislocated joint caused pain. The parts were also very sensitive to pressure. Twenty-five minims of the four-per-cent. cocaine solution were used in five separate injections of five minims each. The punctures were made around the joint at equal distances apart. The needle was first pushed as deep as the ligaments, and three minims were discharged; then it was withdrawn slightly, and two minims were injected into the soft parts covering the ligaments. Having finished the injections, I encircled the arm with a rubber bandage, and so checked the circulation. Allowing ten minutes to elapse, I examined the joint at the expiration of that time, and found that the ligaments and deeper tissues were perfectly anæsthetized. Motions of the displaced joint were made in all directions without causing pain. Reduction was effected by means of forced flexion, together with traction of the forearm and counter-extension of the arm, with scarcely any sensation to the patient. As the bones were slipping into place he muttered an exclamation, but said that he "did not feel it much." I then removed the bandage from the arm, having allowed it to remain on about half an hour, and all that time the anæsthesia had continued profound. Sensation remained absent for ten minutes and then returned.

Case IV.—M. D., aged forty, a 'longshoreman, fell and received a Colles's fracture of the left radius on November 2d. There was no displacement of the lower fragment, and the symptoms of fracture were somewhat obscure. There was a good deal of tenderness about the wrist. I injected ten minims of the four-per-cent. solution in two injections between the fragments on either side of the bone. The circulation was not checked, as the examination could be made rapidly, and prolonged anæsthesia was not necessary. After five minutes had elapsed I found the bone anæsthetized, and could rub the fragments together and get crepitus without causing any suffering.

In this case I had not injected the solution into the soft tissues over the fracture, and therefore found that they were not without sensation, for, although scraping the bones together caused no pain, extreme flexion or extension of the wrist was attended by uncomfortable sensations. The anæsthesia did not last more than ten minutes.

In conclusion, I would like to state that, if the injections are made carefully in the manner described in Case I, and the circulation is checked, after five or ten minutes have elapsed anæsthesia will certainly be produced in a fracture, and will continue until the blood is allowed to resume its course through the vessels. In dislocations a greater quantity of the cocaine has to be used, and the punctures must surround the joint as nearly as possible, and the solution be injected not only into the ligaments, but also into the soft tissues immediately around the joint.

In none of the cases that I have experimented in have bad effects followed the introduction of the cocaine. On the contrary, I think the inflammation was checked and was not so severe as it would have been had the cocaine not been used.

11 Lexington Avenue, *November 26, 1885.*

A PLEA FOR CREMATION.*

By WILLIAM M. McLAURY, M.D.

In the course of human events, laws, customs, ceremonies, and even habits of thought change. There is a law of progression that manifests itself through individuals as well

* Read before the Society of Medical Jurisprudence and State Medicine, October 8, 1885.

as nations. There are more indications of peaceful progress of our race toward higher modes of life now than ever before in the history of mankind. One change that is inevitable, and becoming more and more necessary for health and comfort in our nation, is in the disposal of the dead. By our habits of thought, by our laws, by our religious ceremonies, we are silently and solemnly taught that to reverently deposit the remains in a grave dug beneath the ground is the only way of showing proper respect to our departed friends. And with many, no doubt, the religious sentiment taught of the physical resurrection of the body would continue to be a great objection to their giving consent to substitute cremation for inhumation. But safety for the living with change in religious sentiments must in time overcome all such scruples.

The Oriental nations that have practiced cremation for cycles of time are more philosophic and hygienic than we who selfishly plume ourselves on our highly enlightened Christian civilization.

Greece in her palmiest days cremated her dead. The ancients held to four elements in Nature—air, water, earth, and fire, the latter being the most powerful, as it is capable of changing, purifying, and destroying each of the others.

In our own country, with its vast extent of soil and climate, there is a great difference in the danger to the living from the inhumation of the dead. In country places, where the population is not dense and the location of the cemetery is hygienically chosen, the danger to the living may be said to be very slight. But, as our country becomes older and more populous, the danger becomes increased in a geometrical proportion. It will be conceded by all that cemeteries in the vicinity of cities are a source of increasing danger to those cities. Take the city of New Orleans, for instance, where the graves can not be dug so as to bury beneath the surface; hence the coffins are placed on the surface and mounds are built over them. In process of time some of these become leveled and broken; consequently the escaping gases from putrefying corpses poison the air for miles around, threatening seriously friends and employees who attempt to repair the damage. Not only is the air poisoned by cemeteries, but water in the vicinity. Wells are sunk in close proximity to decaying bodies, and I have often myself perceived the cadaveric odor in drinking water of wells so situated.

Dr. Gray, of Orange, N. J., whom I met at Ocean Beach the summer, told me of a well in his town so near the cemetery that the men, while digging a grave, being driven from their work by a sudden and violent thunder-storm, as they returned to their work found the grave nearly filled with muddy rain water, and, as they repaired to the nearest well for drinking water, found the well water also muddy, and on collating their observations, found a subterranean communication between the grave they were digging and the well which they proved by baling the grave with water and finding a corresponding record of water in the well.

I have often seen graves dug where the water had to be baled out repeatedly while the grave was being dug, and handfuls of straw or hay thrown in just before the coffin was lowered, to prevent the mourners hearing the coffin splash into the water.

By cremation we avoid another horrifying thing in regard to burial—it is the vermin infesting grave-yards. It is a fact well known by all grave-diggers that rats are abundant in grave-yards and burrow from grave to grave, gnaw the coffins, and feed on the dead bodies so tenderly and reverently placed there. All these things, so distressing to sympathetic friends and mourners, would be avoided by the simple, cleanly, reverent deposition of the dear friend's or relative's body in the fragrant retort gleaming with rosy light.

We can not overestimate the sanitary agency of heat; it is the only thing that will utterly destroy the cryptogamic spore and annihilate the mycelium. Freezing renders microbia dormant and inactive, but they easily thaw into life again, and become as active and propagative as ever.

If we will only rationally compare the difference between burial and cremation, we may see how much there is *every way* in favor of the latter. The slow putrefaction, the offensive stench, the miasmatic effluvia, the poisonous gases of contagious diseases and plagues, the burdensome expense of funerals—all, all are avoided by the simple, economical, healthful reduction of the human remains to ashes by the chemical agency of heat amid the fragrant odor of sweet spices.

From the legal side of the house we may hear the objection against cremation that, in cases of crime (felonious poisoning, for instance), the evidence of the crime is immediately and for ever swept into oblivion. I would say, in reply to this objection, that the changes going on in society through this and other improvements in life will so elevate the standard of public morals and so modify the selfishness of individuals that heinous crimes of cruelty against the person will be of very rare occurrence. Radical improvements in the customs, habits, and ceremonies of a people or nation never go singly. A change of this kind would rid the people of an immense amount of superstition. It would be economic as well as hygienic. It would economize labor as well as material, and thus save thousands of dollars to poor people, who annually bury an immense amount of money which is greatly needed for food and raiment for the survivors. This they waste and bury, thinking that thereby they honor the dead. When we lighten the burdens of the poor we lessen crime. Criminals are made so by the hardening systems under which they live.

We are still living in the midst of error. We look back and commiserate the people of the "dark ages." A few generations hence people will look back to our time and wonder why we did not reform abuses and correct our errors.

It is pertinent for this society, in its domain of State medicine, to suggest feasible methods as to the erection and establishment of crematories in all towns and cities where the public health makes it necessary for their establishment, and have the entire business as a department of State.

But we have first to agitate and educate the public mind up to such a condition that it will think and act upon the subject. This may be done by issuing tracts and circulars and

through the daily press, and directing earnest attention to it through national and State offices and officers. The various boards of health would be powerful aids in helping to mold public opinion.

To the members of this society, or the public who wish to further investigate this subject, I would recommend a very able paper read by my friend, Dr. P. C. Coal, before the Northwestern Medical and Surgical Society, and also to a more lengthy paper by Dr. E. J. Bermingham, published by him in 1881.

I would also call attention to an excellent paper by John O. Marble, M. D., of Worcester, Mass., published in the "Medical Communications of the Massachusetts Medical Society," vol. xiii, No. iv, 1885.

Book Notices.

The Science and Art of Midwifery. By WILLIAM THOMSON LUSK, A. M., M. D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Hospital Medical College, etc. New Edition, Revised and Enlarged. With Numerous Illustrations. New York: D. Appleton & Co., 1885. Pp. xviii–763. [Price, cloth, $5; sheep, $6.]

IN the short space of time that has elapsed since the first edition of Professor Lusk's treatise appeared, its reception by the profession has been such as amply to justify the commendation with which we greeted it. It has become a recognized text book in nearly every American medical college and in many of the British schools; it is read and quoted wherever the English language is spoken; and translations of it are announced in French, Italian, and Spanish. It is safe to say that it is generally regarded as the leading treatise on obstetrics, and that it is likely to maintain that position for many years to come.

The new edition contains nearly a hundred more pages than the first one, and twenty more illustrations. The number of the chapters and the phraseology of their titles remain the same, so that the changes have been interstitial, *i. e.*, of just the kind that a careful and painstaking revision should bring about. This means that the original work was so comprehensive and so well arranged that additions were needed only as to matters of detail. No higher praise than this can be given to any treatise on a practical branch of medicine. The book is now beyond criticism, for it has been accepted by the unerring judgment of the great body of physicians. We congratulate Dr. Lusk upon this reward for the immense labor he has bestowed upon it.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M. D., F. R. C. P., Physician Accoucheur to H. I. and R. H. the Duchess of Edinburgh, Professor of Obstetric Medicine in King's College, etc. Fourth American, from the Fifth English, Edition. With Notes and Additions by ROBERT P. HARRIS, M. D. With Three Plates and Two Hundred and One Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxv–24 to 662, inclusive.

THE appearance of a new American edition of this popular work will awaken considerable interest among students of obstetrics, inasmuch as the author's preface promises much. However, after a careful perusal of the book, it is impossible to avoid the conclusion that many questionable paragraphs have been retained, and that the most modern portions of the book are the work of the American editor.

It is unnecessary to discuss at length the character and scope of a work which is so familiar; it will be more profitable to note such improvements as have been made (or their absence). There are comparatively few changes in the chapter on anatomy; the brief paragraph upon the perinæum (page 53) preserves its original form in spite of the criticisms of former reviewers. As regards the woodcuts, it is sufficient to say that the bad ones are as bad as ever, although the worn-out state of the plates might have justified a few fresh drawings. Figures 34 and 35 are not pleasing to look upon. Chapter V, on the Differential Diagnosis of Pregnancy, deserves enlargement. In the light of modern improvements in the methods of diagnosis, the reader will be disappointed in it. The operative treatment of abnormal pregnancy belongs properly to that portion of the book which treats of obstetric operations. Chapter XVI, on Rupture of the Uterus, concludes with a long paragraph by Dr. Harris, who urges the performance of laparotomy "in all cases of rupture where it is evident that blood and liquor amnii have escaped into the abdominal cavity." His note on Porro's operation (page 526) is of value because of the exhaustive statistics it gives. The introduction of a separate chapter on Laparo-Elytrotomy (Chapter VII, page 529) is a graceful tribute to American surgery. Considering the amount which has been written of late on the conduct of natural labor, especially on the management of the perinæum, expression of the placenta, and the after-treatment of the puerperal woman, Chapter III (page 280) does not exhibit those evidences of revision which we should expect. The chapter on Puerperal Septicæmia likewise contains no reference to the recent American discussion on that subject.

In considering Professor Playfair's work as a whole, it can not be said that he has given that care to its revision which we should expect in view of the fact that it has not a few formidable rivals in the field. The reception which greeted Lusk's book ought to have been a convincing proof that the profession is not slow to recognize true scholarship. Every new edition of a well-known work must be abreast of the times, or it will surely be replaced by more advanced books. With all due kindliness toward the writer, we must acknowledge that Playfair's "Midwifery" is still just a little bit antiquated.

BOOKS AND PAMPHLETS RECEIVED.

Practical Surgery; including Surgical Dressings, Bandaging, Fractures, Dislocations, Ligature of Arteries, Amputations, and Excisions of Bones and Joints. By J. Ewing Mears, M. D., Lecturer on Practical Surgery and Demonstrator of Surgery in Jefferson Medical College, etc. With Four Hundred and Ninety Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 794. [Price, cloth, $3.75; sheep, $4.75.]

The Principles and Practice of Surgery. By John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania, etc. Fourth Edition, Enlarged and Thoroughly Revised. With Five Hundred and Ninety-seven Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxviii–33 to 1118, inclusive.

Clinical Therapeutics. Lectures in Practical Medicine, delivered in the Hospital St. Antoine, Paris, France, by Professor [illegible] Physician to the Central Hospitals, etc. The Treatment of Nervous Diseases, or General Diseases, and of Fevers. Translated by E. P. Hurd, M. D., etc., Newburyport, Mass. Detroit: George S. Davis, 1885. Pp. xvii–471.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By Various Authors. Illustrated by Colored etc.

graphs and fine Wood Engravings. Edited by Albert H. Buck, M. D., New York City. Volume I. New York: William Wood & Co., 1885. Pp. vi–808.

The Principles and Practice of Medicine. By the late Charles Hilton Fagge, M. D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital, etc. Including a Section on Cutaneous Diseases, by P. H. Pye-Smith, M. D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by Samuel Wilkes, M. D., F. R. S., Physician to Guy's Hospital, etc.; and Complete Indexes, by Robert Edmund Carrington, M. D., Assistant Physician to Guy's Hospital, London. Volume I. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. 1040.

An Atlas of Clinical Microscopy, by Alexander Peyer, M. D. Translated and Edited by Alfred C. Girard, M. D., Assistant Surgeon, United States Army. First American, from the Manuscript of the Second German Edition, with Additions. Ninety Plates, with One Hundred and Five Illustrations, Chromo-lithographs. New York: D. Appleton & Co., 1885. Pp. xiv–194. [Price, $6.]

Inorganic Chemistry, by Edward Frankland, Ph. D., D. C. L. LL. D., F. R. S., Professor of Chemistry in the Normal School of Science, London, and Francis R. Japp, M. A., Ph. D., F. I. C., Assistant Professor of Chemistry in the Normal School of Science, London. With 51 Illustrations and a Plate. Philadelphia: Lea Brothers & Co., 1885. Pp. xix–33 to 693, inclusive.

Des névroses réflexes d'origine nasale. Par le Dr. A. Cartaz, etc. [Reprinted from "France médicale."]

Observations upon the Mutual Relations of the Medical Profession and the State. Address by Donald Maclean, M. D., President Michigan State Medical Society, delivered before the Society at Port Huron, June 10, 1885.

Avena Sativa in the Treatment of Opium Addiction. A Therapeutical Fraud, a Delusion, and a Snare. By J. B. Mattison, M. D., Brooklyn. [Reprinted from the "Medical Bulletin."]

The Climatic Treatment of Phthisis. By Harold Williams M. D., Boston. [Reprinted from the "Boston Medical and Surgical Journal."]

The Surgical Treatment of Cysts of the Pancreas. By N. Senn, M. D., Milwaukee. [Reprinted from the "Journal of the American Medical Association."]

Kentucky School of Medicine. Thirtieth Annual Announcement.

Mechanical Dilatation of the Uterus. By Charles Meigs Wilson, Philadelphia. [Pamphlet.]

Correspondence.

LETTER FROM WASHINGTON.

The New Library and Museum Building.—Medical Officers on Duty Abroad must Pay their own Expenses.—The International Medical Congress.—Georgetown University.—The New Commissioner of Pensions.—The Inspection on the Canadian Border.

Washington, November 23, 1885.

The new Medical Library and Museum building is growing [illegible] and the work will be so far completed [illegible] that it is thought the roof will be on before the work [illegible] so that the building may be ready for the meeting [illegible]

Many officers of the Army [illegible] on account of the recent ruling of the accounting officers of the Treasury Department whereby he is obliged to pay from his own pocket the expenses of his trip to Europe in attendance upon the meeting of the International Medical Congress and in the collection of books and pictures for the library. This trip was evidently, as is reported, mainly for the latter purpose, and its results are already manifest in valuable additions to the library. Furthermore, the journey was made under the orders of the Secretary of War. It is understood that a similar ruling will be made on the traveling-expense accounts of Medical Director Brown, of the navy, who attended the same congress. The immediate effect of this ruling will be that these details will not be sought after as in the past. It looks to an unprejudiced observer as if medical men scarcely had an equal chance with other classes of our fellow-countrymen. An army officer of good looks, a graduate of the military free academy, and of undoubted pedigree, can with little trouble get an order taking him to witness the spring manœuvres at Saint Cyr, the mobilization of the *Landwehr*, or perhaps the actual hostilities between contending forces, but who ever heard of an order detailing a doctor to witness the establishment and hygienic management of the hospitals abroad, or of the quarantine service? It is only recently that we have gained enough in that direction to allow of the sending of an expert to study the cholera epidemic, and one to participate in the sanitary conference.

The President was waited upon by a committee from the Local Committee of Arrangements of the International Medical Congress to-day. Dr. J. M. Toner, Dr. C. H. A. Kleinschmidt, Dr. J. B. Hamilton, and Dr. A. Y. P. Garnett, the chairman, were present.

The Medical Department of the Georgetown University have in contemplation the erection of a new building for college purposes. The plans contemplate the erection of a structure worthy of this old institution and the National Capital. Dr. J. W. H. Lovejoy, the Dean of the College, has been confined to his room for the last two weeks on account of sickness.

Captain Henry F. Azpel, of the Medical Department of the Army, has been in the Hospital for the Insane for several months, and has recovered so far that a jury has decided him to be of sound mind and refused to appoint a guardian for his estate. It is probable that he will soon be released and returned to duty.

Major Ben. Perley Poore's index to the publications of the Government is now being issued by the Public Printer, and it is well for collectors to remember that any book published by the Government may be purchased at cost price, with ten per cent. added, if the purchase is made while the work is passing through the press.

The Surgeon-General of the Marine-Hospital Service is daily receiving applications for copies of the revised Nomenclature of Diseases, but it is authoritatively stated that the original work will be issued to the service, and no American edition will be published by that department, as was done in the case of the first edition. Gentlemen desiring the revised Nomenclature will therefore be obliged to depend upon their booksellers.

Owing to the outbreak of small-pox in Prince Edward's Island, and its extension to the Province of New Brunswick, the Marine Hospital Service has begun an inspection service on the eastern frontier. The health authorities of Ontario have made representations to the Surgeon-General to the effect that they are inspecting persons and baggage from Montreal with great care, that they are taking every necessary precaution, and that they therefore wish the inspections on the border discontinued as against the Province of Ontario. No statement is made in regard to the fumigation of Quebec baggage by the provincial authorities, hence there is some doubt expressed as to the wisdom of the proposed relaxation of the present precautions.

THE

NEW YORK MEDICAL JOURNAL,

A Weekly Review of Medicine.

Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D

NEW YORK, SATURDAY, DECEMBER 5, 1885.

ESMARCH'S BANDAGE IN LOCAL ANÆSTHETIZATION BY FREEZING.

IN the "Lyon médical" for November 15, 1885, there is a somewhat lengthy article on this subject by Dr. Chandelux. It appears that some time since M. Horand, having observed that local anæsthesia by refrigeration was unusually difficult of attainment in very vascular tissues, conceived the idea of passing a ligature around the part, thus effectually arresting the circulation in the region to be refrigerated before the application of the ether spray. By resorting to this expedient, insensibility was much more rapidly induced than when the blood was allowed to circulate in the part. All this might have been readily predicted beforehand, since it is evident that the blood constantly circulating in the capillaries carries continually to the tissues a quantity of heat, which is effectively opposed to the refrigerating influence of the spray. Hence the inevitable evanescence of the insensibility induced by refrigeration *even if we shut off the blood-flow to the part*, for, unless we operate in an ice-vault or a refrigerator, we shall always have the calorific influence of the external atmosphere to contend against. We are therefore not surprised to learn that the duration of the anæsthesia induced by refrigeration, even when the spray is used *after* arrest of the circulation by the application of the ligature, is *only three minutes.*

Dr. Chandelux's improvement upon the suggestions of M. Horand consists in this, that, before applying the ligature, he exsanguinates the part by means of an ordinary Esmarch bandage. This is the whole story of the achievement. It is true that the time necessary to produce insensibility of the part is sensibly abbreviated over and above that required by M. Horand, who has recommended the ligature alone; but the duration of the anæsthesia after it has been established is *only three minutes;* hence the question, What is to be gained by an anæsthesia which is far briefer in duration than that obtainable by the use of a few drops of a solution of cocaine, even when the latter is employed without Dr. Corning's precautions?

But, putting aside the merits and demerits of Dr. Chandelux's proposals, it must be remembered that among many surgeons of eminence to day the question is, not how shall we freeze, but shall we freeze at all? The devitalizing consequences of freezing to the tissues are often indeed disastrous. As Mr. Thomas Bryant remarks ("The Practice of Surgery," Philadelphia, 1879), freezing mixtures, when too long applied, "may produce frost bite or chilblain" and Dr. John Ashhurst, speaking of the same subject, observes ("The Principles and Practice of Surgery," Philadelphia, 1878), "The process of freezing is itself very painful in some instances, especially when mucous membrane is involved, as in the case of hæmorrhoids, and the use of the ether spray is not entirely free from danger; thus in a case of excision of the tunica vaginalis for hydrocele, which occurred in this city, the use of the spray was followed by extensive sloughing of the scrotum, which well-nigh cost the patient his life." There is probably not a single surgeon of extensive experience but can bear witness to such major calamities as the direct result of anæsthesia by freezing—this at least is true when operations at all considerable have been attempted.

In the face of such facts it is with pleasure that we recur to the method recently proposed by Dr. J. Leonard Corning, of this city (see the number of this journal for September 19th), which, after repeated trials by various surgeons, seems to leave nothing to be desired in point either of profundity or of duration of the anæsthesia, the latter quality being practically unrestricted.

The chemical method of inducing local anæsthesia seems, then, to embody the only principles which are really practicable; and, since by Dr. Corning's method solutions of one and even one half per cent. of cocaine hydrochlorate may be employed, there is practically no danger of constitutional symptoms of the graver sort, if even ordinary caution is employed. The possibility of preventing too rapid an escape of the incarcerated anæsthetic into the general circulation, by gradually loosening the constricting ligature or tourniquet, would seem to afford additional security of a physiological and substantial sort. The only surgical exploits performed under Dr. Chandelux's method of freezing have been the removal of some ingrowing toe-nails and the incision of a felon—very pretty little operations, certainly, but this is not the extirpation of large tumors, nor yet excision of the hip joint. Dr. Corning's method seems to fulfill the scientific ideal; the closer the analysis to which its various details are subjected, the more do the latter appeal to physiological intuition and common sense.

SURGEON BILLINGS'S EXPENSE ACCOUNT.

WE are not willing to admit that the decision of the accounting officers of the Treasury Department, whereby a man who has served the country so notably as Surgeon Billings, of the army, is placed in the unpleasant position of having to pay out of his private resources the expenses incurred by him while acting under orders from the Secretary of War, will be confirmed or treated as final. The sympathy felt with Surgeon Billings in Washington, as mentioned by our Washington correspondent, is by no means confined to the Capital, and we do not believe that it is limited to the army or to the medical profession. It is not too much to say that, if the ruling is carried into effect, the nation will be felt to have assumed a degrading attitude before the world. Without asserting now that there may not have been technical considerations to warrant or excuse the decision, we must insist that the fundamental facts in the case are such as should make the Government tardy to allow it to be enforced.

Among the acts for which the American Government is

most respected abroad are the production of the Index-Catalogue of the Library of the Surgeon-General's Office and the intelligent and liberal management by which the library itself and the museum have been brought to their present state. It was doubtless a gratification to Dr. Billings to attend the Copenhagen meeting of the International Medical Congress, but the fact must not be lost sight of that his presence at the Congress, advantageous as it undoubtedly was to our prestige as a country in which the demands of medical science are not wholly ignored, was far more demonstrably in the interest of the great public undertakings of which he has charge in greater or lesser degree. By his being enabled to visit the chief sources of accretions to the library and to the museum he was unquestionably put in a position to direct even more intelligently than before the purchase of books and apparatus for those institutions, and consequently to save the Government many an item of unnecessary expense that could not otherwise have been well avoided. At all events, he went, as we understand it, not merely with the permission but by the direction of the Government, and we can not see that his journey can be looked upon in any other light than as in the line of duty.

MINOR PARAGRAPHS.

THE CITY HEALTH DEPARTMENT.

It is mortifying to reflect that one of the commissioners, the president of the board, has been arraigned on a charge which involves his integrity in certain financial transactions, but it is gratifying to know that these transactions had nothing to do with his career as a Health Commissioner, and also that the accused is not one of the medical members of the board. A Senate committee, however, is investigating the methods which have crept into the doings of the Board of Health since he became its president, and the result may be somewhat opposed to the general impression that a layman is needed to manage the medical members of such a body. The facts thus far brought out have been well known in the profession, but the general public has probably had not the slightest inkling of their significance or even of their existence.

FREE TRADE IN DOVER'S POWDER.

It is notorious that any householder, or for that matter any servant girl, in New York can at any time obtain a Dover's powder of almost any apothecary in town by simply asking for it and paying for it. A prescription is not at all necessary and no questions are asked. A transaction of this sort [illegible] to the death of an infant, as it is supposed, and the apothecary has been tried and acquitted on the charge of [illegible] Dover's powder instead of another remedy that had been prescribed by a physician. The defence is said to have been that the baby's mother asked for Dover's powder and that he supplied it. In view of the loose custom prevalent [illegible] it is not easy to see how any other conclusion of the case could have been reached, but the occurrence ought to call the attention of [illegible] and those of the officers of the law anew to the need of enforcing the more restrictions on the sale of [illegible] that are in force in the case of certain poisons that sometimes happening. If it does not [illegible] and [illegible] apart.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 1, 1885:

DISEASES.	Week ending Nov. 24.		Week ending Dec. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	2	3	0
Typhoid fever	33	9	22	8
Scarlet fever	39	9	33	5
Cerebro-spinal meningitis	3	3	3	3
Measles	17	5	8	1
Diphtheria	72	23	75	29
Small-pox	7	2	3	2
Yellow Fever	0	0	1	1

A Pretended Vaccination.—The Springfield, Mass., "Republican" is credited with the story of a Vermont woman who, having occasion to travel on a Montreal train, determined to outwit the sanitary inspector by making him think that she had recently been vaccinated. Accordingly, she sewed a button to the inner side of her sleeve, at the usual site of vaccination, and, when the inspector asked her to show her arm, answered that it was not necessary, for he could "feel the scab." The device issaid to have succeeded.

Hospital Saturday and Sunday.—The Hospital Saturday and Sunday Association has taken measures which ought to secure an increase of this year's fund over that contributed last year. The plan relates chiefly to the auxiliary trade-organizations, but there seems reason to hope that the churches and the synagogues will improve on their past contributions.

A Confectioner's Clinic may be said to have been held in the Court of General Sessions last Monday, the occasion being that of the trial of a firm of confectioners on a charge, brought forward by a sanitary official, of having used tainted cocoanuts in the production of some of their goods. A member of the firm ate a large quantity of the sweets, and so did some of the jurymen, all with evident relish. The result was that the complaint was dismissed. The sanitary officer has since stated that the sweets eaten in this demonstrative manner were not of the lot on which he had founded his complaint.

Personal Items.—Dr. Charles E. Sajous, of Philadelphia, was among the passengers by the steamship Noordland, which arrived at New York from Liverpool November 27th.

The University of Santiago de Chile.—According to the "Deutsche Medizinal-Zeitung," Dr. R. Ewald, of Strassburg, has been called to Santiago de Chile as professor of physiology.

The German Hospital.—Dr. H. J. Garrigues has been appointed gynæcologist to the hospital, in place of Dr. E. Noeggerath, resigned.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 22 to November 28, 1885:*

Wisse, C. K., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon at Benicia Barracks and Attending Surgeon at Benicia Arsenal, California. S. O. 109, Department of California, November 20, 1885.

Reid, Walter, Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension, to take effect about December 1, 1885. S. O. 116, Department of the Platte, November 18, 1885.

Taylor, A. W., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect December 5, 1885. S. O. 116, Department of the Platte, November 20, 1885.

CHAPIN, A. R., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Robinson, Nebraska. S. O. 115, Department of the Platte, November 18, 1885.

SIMONS, JAMES, Lieutenant-Colonel, U. S. A. (retired), died November 11, 1885, at Baltimore, Md.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending November 28, 1885.*

DRENNAN, M. C., Surgeon. Ordered to Training-ship New Hampshire.

AULICK, H., Surgeon. Detached from Training-ship New Hampshire, and to wait orders.

FITTS, H. H., Assistant Surgeon. Ordered to appear before examining board preliminary to promotion.

RUSH, C. W., Past Assistant Surgeon. Granted sick leave for three months, from November 20, 1885.

MARMION, R. A., Surgeon. Detached from Marine Barracks, Washington, D. C., December 7, and to wait orders.

MOORE, A. M., Surgeon. Ordered to Marine Barracks, Washington, D. C., December 7, 1885.

Society Meetings for the Coming Week:

MONDAY, *December 7th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians (annual); Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *December 8th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Chemung (Elmira) and Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Medical Society of Morris County, N. J. (semi-annual); American Public Health Association (Washington, D. C.—first day).

WEDNESDAY, *December 9th:* New York Pathological Society; American Microscopical Society of the City of New York; Medico-Legal Society; Medical Societies of the Counties of Cayuga (semi-annual), Cortlandt (semi-annual), and Montgomery, N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational); American Public Health Association (second day).

THURSDAY, *December 10th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Laryngological Society (annual); South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; American Public Health Association (third day).

FRIDAY, *December 11th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.; American Public Health Association (fourth day).

SATURDAY, *December 12th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION

Meeting of November 6, 1885.

The President, Dr. GEORGE A. PETERS, in the Chair.

Photographing Wet Preparations.—Dr. J. W. S. [illegible] described a method of taking photographs of wet preparations which had been new to him five years before, when he first practiced it. It consisted in attaching the specimen to a blackboard and immersing it in clear water in a glass jar. Transferring the specimen from alcohol, the usual preservative fluid, to one of a different density caused the finer as well as the coarser filaments to float and stand out prominently from the mass of the specimen and to present a distinct appearance in the photograph. A number of beautiful photographs, taken according to this method and illustrative chiefly of the diseased bladder, were exhibited, and contrasted with others of the same specimens taken while they remained in alcohol. The latter were indistinct and unsatisfactory, while the former represented the irregularities of the lining membrane in minutest detail.

The Elements of Prognosis in Bright's Disease.—Dr. AUSTIN FLINT read a paper with this title. In the popular mind the name Bright's disease at the present time had a prophetic import not unlike that of a verdict of conviction after a trial for life. It was regarded as a hopelessly fatal malady. This prevailing impression reflected the views of the medical profession, that a fatal termination would invariably take place sooner or later. This view accorded with our pathological knowledge and clinical experience. But the scope of prognosis was not limited to recovery from the disease. A disease might involve more or less irremediable damage to important organs, but, after having progressed to a certain extent, the damage might not become greater, and the remaining healthy portion of the organs might be sufficient for all purposes of life and a perfect state of health. Again, a disease might be progressive, but so slow as not to be opposed to long life and general good health. But in chronic disease the danger to health might depend upon associated affections, or chronic disease might be tolerated, provided the conditions were favorable; otherwise it would prove fatal. Was the disease acute or chronic? Assuming the existence of acute Bright's disease, experience taught that, exclusive of the important concomitant affections, it did not end fatally as a rule, and did not result in any permanent renal lesion. In other words, the acute was not followed by the chronic disease; but exceptionally it ended fatally or in the chronic form. In some cases the acute disease was not marked; it continued for some time, and ended in recovery. Here he would substitute for the word acute, subacute. In some cases the question would arise, whether the disease was subacute or chronic, and the diagnosis could only be definitely settled in favor of the subacute form by the disappearance of every evidence of renal disease after some weeks, and the recovery of health.

The author then considered some of the elements of prognosis in cases of chronic Bright's disease. What were some of the conditions requisite for safety? 1. The kidneys must not be damaged beyond a certain degree. 2. The important organs of the body, other than the kidneys, must be capable of performing their respective functions satisfactorily. 3. The laws of health relating to alimentation, exercise, etc., must be observed. Suppose these conditions to be fulfilled, and a lesion of the kidneys to exist which diminished their functional ability one-half, and the disease was not progressive. Life and health would be compatible with the existence of chronic Bright's disease for an indefinite period. In order that chronic Bright's disease should be well tolerated the treatment should conform to [illegible] conditions required for [illegible] must [illegible] [illegible] [illegible]

appetite, and general debility. Examine the urine in such a case, and evidence would be found of chronic Bright's disease which had probably existed for years, the progress of the renal affection at length rendering the organs incapable of performing their functions properly, which caused attention to be directed to the state of the kidneys. It was important, in determining whether the kidneys eliminated excrementitious matters sufficiently not to endanger the health, to make a thorough examination of the urine, not alone with regard to the presence of albumin and casts, but also as to the amount of urine eliminated daily, its specific gravity, and the proportion of the salts. The quantity of the urine might be increased while the specific gravity was so low as to involve great danger from uræmic toxæmia. Suppose the examination of the urine in a case of chronic Bright's disease showed renal adequacy; how should that fact influence the treatment? In this way, that diuretics, sudorifics, and hydragogue cathartics would not be indicated; indeed, inasmuch as their influence was debilitating and opposed to the accessory conditions for health just mentioned, they were contra-indicated. Was the degree of renal adequacy, as determined by an examination of the urine, reliable in judging of the absence of danger from toxæmia? This question was to be answered in the negative. In some cases of Bright's disease the quantity of the urine was decreased for a long period without serious consequences. The explanation lay in the fact that the excrementitious matter was eliminated vicariously, or its effects upon the system were counteracted by other agents. On the other hand, slight inadequacy, without vicarious elimination and counteracting agents, sometimes led to serious consequences. The prognosis after coma was always grave, yet we met with cases repeatedly in which life was preserved for a long time. Of acute pulmonary œdema the same might be said as of uræmic coma. In his experience the most serious consequence of Bright's disease was dyspnœa, or renal asthma, apparently due to toxic effects upon the respiratory center. He had never known such a case to end in recovery, but he had known life to be prolonged for several years after dyspnœa from pulmonary œdema occurring in the course of chronic Bright's disease.

Recapitulating, Dr. Flint said that subacute diffuse nephritis, having the same seat and characters as acute Bright's disease, exclusive of acuteness, occurred not only after scarlet fever and other fevers, but irrespective of these; and when it occurred as a primary affection, or in connection with other diseases, it was liable to be overlooked, or, if recognized, to be mistaken for the chronic form. Further, acute or subacute diffuse nephritis not infrequently occurred as an intercurrent affection in the course of chronic Bright's disease, and rendered the prognosis temporarily more serious. The disappearance of symptoms and the presence of health did not necessarily indicate that the chronic disease was not still in existence. Again, a susceptibility to the occurrence of inflammation of the uriniferous tubules, irrespective of the existence of chronic Bright's disease, was to be recognized as an individual peculiarity.

Dr. G. L. Peabody said that from his limited experience he could corroborate all the conclusions drawn by Dr. Flint. He would emphasize the statement that Bright's disease of a serious character might remain latent for a great many years in persons whose circumstances were such that no particular strain was put upon the vital organs. He very frequently found at post-mortem examinations evidence of advanced Bright's disease in people in whom it had not been suspected during life. It seemed to him also very important to elaborate the extent to which the patient was postponing the function of eliminating as Dr. Flint had suggested. It was natural, on finding albumin and casts in the urine, to say to a person, "You have Bright's disease," and predict the progress not borne out by the facts. But, with people who were obliged to expose themselves to hardships, Bright's disease might terminate fatally at almost any time.

Dr. E. G. Janeway had heard only a part of the paper, but said he would speak with regard to prognosis very much in the same strain in which Dr. Peabody had spoken. He had seen cases of chronic Bright's disease which seemed to warrant a prognosis of the gloomiest kind, yet, the patients' circumstances permitting of travel in the South during the winter, and of living according to prescribed rules, life had been prolonged many years. Again, we saw not infrequently an intermittent element in chronic Bright's disease—cases in which, for a considerable period, albumin and casts might be absent, and again present. The co-existence of rigid arteries, especially if there was marked hypertrophy of the left ventricle, rendered the prognosis more serious.

Dr. E. M. Moore, by invitation, discussed the paper, and asked how long any of the gentlemen had known acute or subacute Bright's disease, following scarlet fever, etc., to exist without becoming chronic.

Dr. Flint replied that the duration varied from two or three weeks to four or five weeks, perhaps sometimes longer. When the disease had existed a year it must be chronic.

Dr. Moore mentioned a case in which the symptoms of Bright's disease, as manifested in the urine, had existed at least a year, yet the patient recovered. He thought the period during which the symptoms of Bright's disease could exist and complete recovery take place was greater than was generally supposed.

Forceps Delivery; Death from Typhoid Fever; Malarial Pigmentation in Several Organs.—Dr. E. G. Janeway presented some specimens removed from the body of a woman who had been delivered three weeks before her death with forceps under unfavorable circumstances, giving rise to the suspicion of puerperal septicæmia; the diagnosis of typhoid fever, however, was made in Bellevue Hospital, one symptom in particular pointing to this disease—namely, diarrhœa. The patient had been cured of an attack of malarial fever two months before her confinement. The autopsy showed marked malarial pigmentation of the liver and spleen; also the lesions of typhoid fever in the intestines. The case was interesting from a diagnostic point of view; there had been reasons for believing that it might be one either of puerperal fever, of typhoid fever, or of malarial fever. Dr. Janeway had seen a number of cases in which typhoid fever had developed during the puerperal state, and probably an error in diagnosis occurred not infrequently.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of November 11, 1885.

The President, Dr. John A. Wyeth, in the Chair.

An Enormous Double Hernia.—The President presented a part of the genito-urinary tract, and about ten feet of the large and small intestine contained in the sacs of a double hernia which measured about forty inches in its greatest diameter. The patient, fifty-three years of age, was admitted into Mount Sinai Hospital on the 28th of October, 1885. The hernia on the left side had been present for seven years. It had not been reduced for three years, but had caused no discomfort. The one on the right side was larger, and had existed only three or four weeks. The specimen was interesting chiefly on account of the great size, it being the largest hernia which the President had ever seen. During the past year he had seen a case in which the tumor was not quite so large, having a similar history.

Chronic Myo-Carditis and Chronic Interstitial Nephritis.—Dr. JOHN C. PETERS presented microscopical specimens illustrating these lesions in the case of a bachelor, sixty seven years of age, of regular habits, delicate in appearance, but who had not been sick for thirty years or more.

Dr. W. M. CARPENTER had examined the heart and kidneys, and said that there were also slight changes in the uriniferous tubules, but not such as would lead him to expect to find marked indications of the same in the urine. The epithelial lining of the tubules seemed to be sufficiently sound for them to discharge their function almost perfectly.

Double Hydrocele in an Infant.—Dr. VAN SANTVOORD presented a specimen illustrating double hydrocele in an infant which had died at the age of two months.

Lupus of the Larynx.—Dr. VAN SANTVOORD also presented the larynx of a boy, aged fourteen years, who died of lupus commencing in the nose. The disease had destroyed the nose, the upper lip, the alveolar processes between the canine teeth, and the hard and soft palate. The nasal septum had fallen out, and the sphenoid bone was bare and rough. There was thickening of the mucous membrane of the larynx, and that which lined the ventricles and their immediate neighborhood was studded with nipple-like processes, the summits of which were of the size of the head of a pin. The immediate cause of the death was a feature of interest in the case. The boy had lived with comparative comfort until about five days before death, when he was seized with severe headache, which passed on to delirium, coma, and death. The base of the brain was found coated with a dense layer of lymph, distributed about as was usually seen in tubercular meningitis, but no tubercles were observed. The body of the sphenoid was necrotic, and had given rise to the meningitis. The lungs were œdematous; the liver, spleen, and kidneys were markedly waxy. The case also seemed of to be interest in connection with the alleged identity of lupus and tuberculosis. The local disease was very extensive, yet tubercles had not been found in any portion of the body. The specimen had not yet been examined for bacilli.

Dr. M. PUTNAM JACOBI did not think the clinical history of the case could be accepted as weighing against the alleged identity of lupus and tuberculosis, for it was evident, from the statements of Hüter and König, that a localized tuberculosis in the skin and bones seldom became general. Supposing the lupus in this case to have been a tuberculous process, we need not be surprised that general tuberculosis had not developed.

Dr. T. M. PRUDDEN remarked that tubercle bacilli were found in a large number of cases of lupus, and that, if a tuberculous inflammation could be defined as one in which the tubercle bacillus was present, then the identity of the two diseases was established.

Cancer of the Stomach and Tuberculosis of the Retro-Peritoneal Glands.—Dr. LOUIS WAIDSTEIN presented microscopical specimens from a young man who some years before had suffered from chronic pneumonia in the left apex, from which he had recovered. Two years ago he suddenly showed symptoms, as was then believed, of remittent fever, which continued for two years, antipyretics having no curative influence upon the fever. The physician who examined him two years ago detected a tumor in the epigastrium, which he regarded as cancer, although there had been no particular gastric symptoms. The patient was seen by a number of physicians in consultation, and one detected an enlargement in the abdomen, apparently a continuation of that in the stomach. At the autopsy a cancerous focus was found in the apex of the left lung, and the bronchial glands were enlarged and contained many caseous spots. In the stomach there were a diffuse scirrhus, which showed no tendency to ulceration. The retro-peritoneal glands were very much enlarged, and had undergone cheesy degeneration. There were no cancerous foci elsewhere in the body.

Dr. PETERS remarked that it had formerly beenc onsidered that the presence of one of these diseases precluded the other.

The PRESIDENT thought that it was now considered that where both were present the one retarded the growth of the other.

Necrotic Cystitis.—Dr. PRUDDEN presented the bladder of a woman who for a month had been paralyzed upon the right side; had complained of pain only in the lower part of the back; and at one time had had difficulty in passing water, but lately had urinated without trouble. There was albumin in the urine; no examination was made for casts. The autopsy revealed a tumor occupying the left half of the pons, basilar meningitis, and pachymeningitis purulenta of the petrous bone and the posterior portion of the sphenoid. The lesion in the bladder was of interest in connection with a specimen presented at a recent meeting by Dr. Boldt, being a cast of the bladder from exfoliative cystitis; here the condition of the viscus was shown just before the stage of exfoliation. The bladder was distended with rather turbid urine. The mucous membrane was moderately red. At the neck of the bladder there was a patch of tissue, about three inches in diameter, denuded of epithelium, which had the appearance of œdematous connective tissue, rather sharply outlined by an irregular band of yellow, the seat of purulent infiltration and softening. The round area was fibrous, and contained some elastic fibers; the white and yellow patches contained urinary salts, and some bodies which would probably be found to be mucin.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of November 23, 1885.

The President, Dr. DANIEL LEWIS, in the Chair.

AN adjourned annual meeting was first held, and after that the stated meeting.

An Address by the President was read, in which he said that medicine had a commercial side, and he called attention to some of the tendencies of recent times to degrade the profession to a trade level. It had once been considered unprofessional to employ or to recommend medicinal compounds the ingredients of which were not known, but now it was nothing unusual to see physicians' names attached to laudations of medical compounds of almost every description. No professional man could afford to place himself in the position of recommending a remedy when it could be suspected that he did so for a monetary consideration. Our materia medica was extensive enough, and our therapeutics sufficiently perfected to enable any intelligent practitioner to prepare his own prescriptions, and to avoid any recognition of the patent-medicine men who infested every community.

Numerous plans for securing patients were now tolerated which had once been unknown—unknown even to the younger men of the profession. We received advertisements of Swedish movement cures and of medicated baths and read in the papers of sanitariums and sanitary homes conducted by the eminent Professor ——, with a large corps of assistants. There could be but one cause for this unseemly strife for medical business, and that was overcrowding of the ranks. So long as New York city had a physician to every four hundred and fifty inhabitants, the young physician would have to resort to new agents, such as the others resorted to, and a good deal of assurance combined with the hope of obtaining some patients. In order to attain to any standing in the city of the community at the present time it was necessary that the young physician be con-

nected with a dispensary or some other medical institution. Overcrowding of the profession was responsible even for the abuse of medical charity. At a former meeting he had expressed his conviction that a State medical examination would be the most potent means for overcoming these difficulties. Within the past few days a distinguished superintendent of a lunatic asylum, the president of the New York State Medical Association, had publicly declared that the interests of all concerned were best subserved by the present methods of admission to practice. Our leading colleges now furnished better aids than formerly, it was true, but they were too commercial in their organization to be highly scientific, and one or another of them would graduate anybody who applied for a degree; if a student failed to get his diploma at one school, he always succeeded at another. If the proposed State examination should be nothing more than our best schools required, it would at least keep out those who were totally unqualified to obtain diplomas, but which they had nevertheless obtained from schools without the State and had had indorsed here by the payment of twenty dollars. It was Dr. Lewis's belief that if the society would lend its full influence toward securing a State examination, as had been proposed, it would succeed, and the regeneration of the profession in New York would thereby be assured.

The President then thanked the society for the honor it had conferred upon him by electing him to office a second time.

Committees for the Ensuing Year.—The President appointed the following committees: *Hygiene*, Dr. E. H. Janes, chairman; Dr. Alexander Hadden, Dr. Cyrus Edson, Dr. John C. Peters, and Dr. W. L. Hardy; *Ethics*, Dr. George A. Peters, chairman; Dr. M. Blumenthal, Dr. C. C. Lee, and Dr. W. T. Alexander; *Prize Essays*, Dr. F. R. Sturgis, chairman; Dr. F. P. Foster and Dr. W. R. Birdsall; *Auditing Committee*, Dr. P. A. Morrow, chairman, and Dr. G. Bacon.

Cleft Palate.—Dr. Norman W. Kingsley presented a boy with cleft palate, who pronounced as well as he could certain words, that the audience might have an opportunity to contrast his speech at that time with what it would be after an operation, when Dr. Kingsley hoped to present the patient again.

The Mechanical and Operative Treatment of Knock-knee and Bow-leg Deformities; with a Description of New Forms of Apparatus and New Operations.—Dr. M. Josiah Roberts read a paper with this title, which he illustrated with drawings, photographs, and instruments. He said that, how-

[illegible] good results might be in some cases of bow-legs and knock-knee when they were left to nature, better results could [illegible] obtained in a much shorter time by intelligent treatment. When [illegible] patients came to the surgeon with deformities of this character, although only slight in degree, they should [illegible]. He referred to a paper read before the Medical Society of the State of New York, in which he had described the methods of the best orthopedic surgeons when of national fame, and in which, by the use of instruments of precision [illegible] the variation from the normal standard could be measured. Many degrees of deformity, which nevertheless [illegible] to the patient, might be overcome by the [illegible] which the patient was accustomed to [illegible] through the medium of walking, running, etc. To do away with the necessity of [illegible] he had devised a [illegible] which [illegible] the patient could [illegible] [illegible] [illegible]

particularly on the right side. In the course of years the patient sustained various injuries about the head, but no fracture of the skull. At no time did his condition give any evidence of renal or cardiac disease. Since February 1, 1885, he had experienced considerable and lasting pain at the back of the head on the right side. In getting out of bed on the morning of February 23d, of the present year, he felt somewhat dizzy, and noticed a pain in the right temporal, extending to the occipital region. He also found that he could not use his eyes as on the night before. He continued to work, however, and on March 9, 1885, consulted Dr. Mittendorf, who reported that the use of the patient's right eye had been lost early in childhood. The left eye had given him no trouble until recently. On March 9th both eyes were found to have turned considerably toward the nose. Neither could be moved outward. The pupils were slightly contracted, and the accommodation was good. Hypermetropia existed, rendering the use of a strong glass for the left eye necessary to make reading possible. Vision with the right eye, which had a corneal macula, was very poor. The acuity of vision of the left eye—not fairly tested, the patient presenting himself at night—was about $\frac{2}{3}\frac{0}{0}$. There was marked hyperæmia of the left disc. The interior of the eyes was normal. The paralysis extended to the third nerve, but was not complete. The patient would move his eyes downward considerably at times, but he seemed to have lost control over the movements of the muscles, and, if directed to look in a certain direction, he could not do it. On March 17th he first noticed some numbness and a cold feeling from the fingers up to the middle of the arm on the right side. While this sensation was unpleasant, it in no way interfered with his work of using a heavy hammer. But about April 15th the arm became weak. At the same time co-ordinate muscular action became impaired. He was unable to direct blows with precision, often striking an inch to either side of the object. He soon had to quit work.

He consulted Dr. Weber on May 14th. At that time the eyeballs were almost immovably fixed. Nevertheless, there was complete paralysis of the external recti only. The levatores palpebrarum were not affected; neither were the muscles of the iris. The right hand was colder than the left. The sense of touch was diminished, as was also actual muscular power. There was visible trembling, with gradual dropping of the wrist when the extremity was extended horizontally, showing weakness of the extensors. Slight exaggeration of patella tendon reflex existed on the right side. There was some dysarthria, but no dysphagia, and no symptom indicating disturbance of cerebral nerves other than the fifth pair. The gait was unsteady, resembling that described by Nothnagel in connection with certain cerebellar affections. Dr. Weber was inclined to locate the lesion producing the foregoing symptoms in the pons. As to its nature, it was probably a neoplasm of syphilitic or tubercular origin.

The patient was ordered iodide of potassium in doses at first of ten grains three times a day, which were increased by five grains every week. In this way the dose was carried up to forty grains three times a day. Noticeable improvement began in June, and by September 2d the patient's speech had become almost normal, the power of his right arm was much increased, there was no more headache, and the eyes had largely recovered their mobility.

On October 30th it was observed that the eyes could be moved freely, although some paresis of the external recti still remained. The patient was then taking forty-five grains of the iodide three times a day. Some spotting of blood occurring, the remedy was discontinued for two weeks, and resumed with an initial dose of twenty grains.

The anatomical lesion was believed to be situated in the left half of the pons, near the tegumentum, involving the lemniscus, and extending beyond the rhaphe some little distance into the right half of it.

Dr. W. H. Mittendorf said the author of the paper was to be congratulated on the result of the treatment in this interesting case. As had been stated in the paper, when the patient visited him there was this paralysis of the external recti, and he thought there was also a slight defect of the facial nerve, so that he had been inclined to place the lesion in the upper part of the fourth ventricle; but, as motor-oculi paralysis developed, he came to the conclusion that there was a more extensive lesion than he had at first supposed. An interesting feature in the case was the fact that, while there was ophthalmoplegia externa, there was at no time, while the patient was under his care, any affection of the intrinsic muscles, and this fact, according to recent investigations, would point to a lesion below the aqueduct of Sylvius. Cases of ophthalmoplegia externa without other symptoms were very few. He had now under his care a young man with ophthalmoplegia affecting both eyes, in whom there had been no change for two years. The lesion, he supposed, was to be placed in the region of the corpora quadrigemina. At one time he had thought there were real ataxic symptoms, but had been unable to make out a clear case of locomotor ataxia.

Dr. T. R. Pooley had never seen a case of complete paralysis of the ocular muscles with so satisfactory a result.

Dr. Weber remarked, in reply to a question by Dr. Spitzka, that there had been no wasting of the muscles, although the general nutrition had not been at all times equally good.

The President had reported two cases to the American Neurological Society which in some respects resembled this one, but in some others there were important differences. He had reported them as cases of ophthalmoplegia externa, according to Hutchison's nomenclature, and they were, strictly speaking, cases of this sort. The ciliary muscle and the iris were not involved at any time, while the external muscles of both eyes were involved to a greater or less degree. No other nerve-tract in the body could be found defective. The two patients had remained about in the same condition, with slight improvement, for two years. It seemed to him, however, that the cases which Hutchison had reported under the name of ophthalmoplegia externa did not all belong to that class, for in only two or three had the external muscles of the eye alone been affected. Most of his cases were of a complex character. It seemed to him that the pathology must vary greatly. The lesion would probably be found to vary not only in location, but also in character. His cases, he thought, were due to a slow degenerative form of disease, similar to that of progressive muscular atrophy. Certainly some of Hutchison's cases were of a multiple character, and probably in many others the lesions were multiple.

Dr. E. C. Spitzka said that he had been much pleased to find a doubtful point in the past history of this case cleared up by Dr. Pooley's discovery of a residual paresis of the other rectus externus. It added, however, to the difficulties of localization, though not incompatible with Dr. Weber's diagnosis. With regard to Dr. Pooley's suggestion, that the loss of skilled motion on the right side was due to the eye trouble, that possibility had already been taken into account, and disposed of by the following reasons. First, the motor disturbance was not present when the eye trouble was at its height; nor was it present when the latter began. He knew of ophthalmologists who were sure that locomotor trouble was apt to be present antecedent to the disorders of the eye complained of. If anything, he regulated provided the eye trouble [illegible] supervened. In this instance, however, we had eye trouble at its maximum without ataxic trouble, and ataxic trouble developing as the eye

trouble improved, and manifested when the eyes were closed. Besides, it must be borne in mind that, as the patient had not had the use of his right eye from childhood, he would not be so likely to be disturbed in his movements as patients with binocular vision would be.

He believed the oculo-motor disturbance could be best accounted for by a regional extension of the lesion in that part of the tegumentum which lay between the trochlearis and abducens nuclei, and where certain co-ordinating tracts ran. He should have an opportunity, perhaps, of demonstrating specimens of a case in which but one special conjugate movement of the eyes was interfered with and there was a neoplasm in and near the abducens level, chiefly unilateral.

Dr. Weber asked Dr. Mittendorf whether there had not for a time been symptoms of hemianopsia.

Dr. Mittendorf said there was no lesion of the retina or nerve when he examined the patient.

Dr. M. A. Starr asked whether there had been any ptosis.

Dr. Weber replied in the negative.

Dr. Starr thought that a lesion lying outside of the cerebral axis, such as a syphilitic meningitis, affecting the abducens nerves at their exit between the medulla and pons, might explain the symptoms better than to suppose a lesion in the floor of the fourth ventricle affecting the nuclei themselves. Of course such a lesion would yield to syphilitic treatment, whereas he could not conceive of a nerve nucleus being destroyed and again restored. If the third nerve were involved it might be supposed that the meningitis had extended a little farther forward. He had had the privilege of seeing a case in Bamberger's wards at Vienna three years ago, in which the third, the fourth, the sixth, the seventh, and the eighth nerves on one side were paralyzed, and Bamberger made the diagnosis of lesion at the floor of the fourth ventricle, involving the nerve nuclei from above downward, especially as there were signs of atrophy in the facial muscles. The autopsy showed localized meningitis affecting these nerve trunks after their exit from the cerebral axis.

Dr. Weber again mentioned the symptoms present, and said that, so far as the oculo-motorius was concerned, there certainly had been an affection of the superior and inferior recti.

Dr. E. C. Seguin had not been convinced, from seeing the patient that evening, that there were any ataxic symptoms in the right upper extremity. The dropping of the fingers might indicate either weakness of the extensors or the loss of a certain amount of muscular sense, which might be due to a lesion situated in many places besides the pons. He was inclined to Dr. Starr's view. The discussion seemed to indicate the vanity of theorized pathology.

Dr. Spitzka said that in his crude way he had always regarded muscular-sense disturbance as a factor of ataxia, and he believed authorities generally would so consider it.

Dr. Starr said that Erb had recently described a case in which there was ataxia, but in which all sorts of sensation were perfect.

Dr. Spitzka said that had nothing to do with the question. Ataxia was of different kinds—cerebellar, spinal, due to ordinary cerebral, to muscle sense, space sense, and co-ordinatory disturbances, sometimes singly, sometimes combined, but nowhere was this difference [illegible] mentioned in the definitions of ataxia to-day. He [illegible] and he would like Dr. Seguin or any one to formulate a general definition of ataxia which should [illegible] disturbance not to be a factor. It was possible, however, there was more than some disturbance that he believed the lesion to be partial. The interolivary layer happened to be in the deep part of the pons in those levels where the sensory nerve symptoms of the case in question were possible. He had shown, if any one case was conclusive, that this layer was the muscular-sense tract, and the case agreed with others of its kind. There was a combination of slight paresis with the muscular-sense disturbance which was almost characteristic of certain pons diseases, it requiring but an extension of the lesion across the deep transverse pons fibers to involve the pyramidal-tract bundles. With regard to the suggestion of a meningitis, it did not seem to him to harmonize either with theory or with experience. It was true that the affection of both abducens nerves might be accounted for in that way, but there were other symptoms which the supposed lesion must accommodate. How to account for the arm symptoms on this ground he did not know. There were too many important nerves near the hypoglossal, whose function was intact, to account for the dysarthria on the ground of meningitis. Besides, there was no true paresis of the hypoglossal. The intrinsic movements under its control were well executed, and there was no evidence of either nuclear or peripheral hypoglossal palsy; in other words, it was some higher tract—the speech tract—that was involved. We knew that this ran somewhere in the pons, near the rhaphe, whereby another nerve -the fifth—was affected in its decussation, thus accounting for the bilateral disturbance of face sensation. But the strongest objection to the meningitis theory was that it would have us believe it possible that the third pair could be diseased so totally in its extra-cerebral course—or intra-cerebral, for that matter—as to cause total paralysis of ocular motion, without any affection of the pupil, the accommodation, or the levator palpebræ. He had never heard of such a case, did not think there was one reported, and did not believe it possible. If there were no other reason for suspecting pons disease, one would, in his opinion, be constituted by the character of the ocular paralysis. But, in addition, we had the almost pathognomonic combination of paresis and ataxia. True, Dr. Seguin called it muscular-sense disturbance, which it was undoubtedly, with this difference in interpretation and definition—that he said it was not ataxia, whereas the speaker considered it to be such.

Dr. Starr thought that the abducens nuclei could not be involved, together with the interolivary layer, without affecting the formatio reticularis, which ought to have caused sensory symptoms if affected.

Dr. Spitzka said the difficulty seemed to be that Dr. Starr had only one particular level of the pons in mind—one not necessarily involved in the case, inasmuch as not the nuclei of the abducentes, but co-ordinating tracts, were supposed to be at fault. Even allowing that the lesion was in the level spoken of by Dr. Starr, the difficulty he discovered did not seem to be as he had stated it. That no symptoms referable to the formatio reticularis were present could constitute no objection so long as the function of that part which lay between the rhaphe and the abducens roots was unknown. The abducens roots, however, skirted and partly perforated the interolivary layer, and so far it was possible to have coincident abducens and muscular-sense disturbance; the real difficulty in this case would be to account for the double involvement of the abducens without bilateral involvement of the interolivary layer. As he understood Dr. Weber when he presented the case to him, he supposed the lesion to lie in the anterior third of the pons, with a dorso-mesad, and possibly caudad, extension to near the ventricular floor. Here the altitude of the tegumentum was extremely low. A comparatively small lesion might involve the interolivary division of the lemniscus, he meant its continuation, the rhaphe, with its trigeminal decussation, the posterior longitudinal fasciculi, the pyramidal tract slightly, and the speech, according to either Raymond's and Artaud's or the other theories. The advantage of this explanation over the others offered was that it required

the smallest lesion to harmonize with the symptoms, while grave objections could be urged against every other theory, particularly the one which would locate the lesion as a meningitis involving peripheral nerves. He repeated that, until the inconsistencies of the oculo-motor paralysis were explained away, insuperable obstacles opposed the meningitis theory. Possibly Dr. Weber's reference to the voluntary control of single ocular muscles might lead to misapprehension. No ocular muscle was capable of isolated movement under voluntary effort, but groups of them were. There was a ready-made co-ordinated mechanism of which the posterior fasciculus was probably the important mediator, which regulated the co-ordination of both globes, and it was here where the trouble lay.

A Contribution to the Study of Landry's Ascending Paralysis.—Dr. LEONARD WEBER read a paper on this subject and said: It was in 1859 that Landry had described a few cases of ascending paraplegia with negative post-mortem results as regarded the spinal cord, to which he gave the name of *paralysie ascendante aiguë*, and in the same year Kussmaul had reported two rapidly fatal cases of spinal paralysis in which the post-mortem appearance of the cord was apparently normal. Petitfils's attempt to classify Landry's ascending paralysis among the varieties of polio-myelitis anterior acuta or subacuta had been repeated quite recently by Immermann, but, in the light of later researches, and of the negative results of autopsies made by Westphal, his theory was hardly tenable. Another and perhaps less objectionable theory was that of Roger, who believed that many cases of the favorable form of Landry's paralysis were really polyneuritis acuta, of infectious or other origin, in which the spinal cord was either not at all or only secondarily affected. In an article in "L'Encéphale," No. 2, 1885, this writer had instanced the clinical picture presented in many affections of the spinal nerves, particularly in polyneuritis, in which the symptoms were very similar to those of disease of the medulla spinalis. In cases of simultaneous peripheral and spinal affection a correct diagnosis was of course difficult, but, although we had hitherto, said Roger, paid almost exclusive attention to the central lesions, the course of the disease often bore evidence to the fact that the lesion ascended from the periphery to the center. And he maintained that not only many cases of Landry's paralysis, but also Duchenne's *paralysie générale spinale subaiguë*, and *paralysie diffuse*, belong in the category of peripheral nervous affections.

Dr. WEBER then gave Roger's description of the usual course of the disease, and said, regarding the etiology, that we were still in the dark. Westphal laid much stress upon infection, and Roger drew attention to the frequent coincidence of polyneuritis and tuberculosis. Erb had said, so late as 1879, that cases of progressive polyneuritis ought not to be mistaken for acute ascending paralysis, since the differential diagnosis was sufficiently established by the sharp pains, the anæsthesia and paralysis limited to the affected nerves, and their rapid loss of electrical excitability.

On the strength of these recent observations he thought it might be justifiable to speak of two forms of acute ascending paralysis—the well-characterized spinal and the less well known peripheral forms. Acute ascending spinal paralysis was characterized clinically by motor paralysis, beginning usually in the lower extremities and advancing with some rapidity to the trunk and upper extremities. The bladder and rectum were but little affected, sensation was nearly normal, and the affected muscles did not waste much, nor suffer any change in their electrical excitability. More or less fever might be present, and death from asphyxia was not a very unusual termination. No cord lesions were found at the autopsy. Landry's paralysis was more common in men than in women, and occurred with greatest frequency between the ages of twenty and forty years. It had been thought by Landry, Westphal, Roger, and others that infection, of an unknown character as yet, might be the real determining cause of the disease, and it was significant to note that in some carefully made autopsies changes similar to those occurring in other infectious diseases had been found in the liver, spleen, lymphatic glands, and intestinal follicles. In the fatal cases death might occur at a period of the disease varying from two or three days to three or four weeks, but the average duration seemed to be from eight to twelve days. When recovery ensued, improvement began usually within a few days after the disease had been fully developed, restoration occurring first in the parts last affected, and progressing very slowly.

Some cases of polio-myelitis anterior subacuta simulated acute ascending paralysis very closely, and it might not be until the development of atrophy and the loss of electrical excitability that we could be certain of the presence of anatomical lesions in the spinal cord. But a well-marked case of polio-myelitis anterior acuta was not progressive, did not attack the medulla oblongata, and did not lead directly to a fatal termination; the loss of faradaic excitability and the muscular atrophy developed rapidly. In very light cases a doubt might arise in diagnosis. In acute central and infectious myelitis we always found fever, marked sensory disturbances, early loss of all the reflexes, paralysis of the sphincter, diminished faradaic excitability, bedsores, and a rapidly fatal termination. Certain forms of spinal syphilis closely resembled Landry's paralysis, and the diagnosis could often be determined only by the history of the case and the positive results of specific treatment. The prognosis of acute ascending paralysis was always serious, as it was impossible to tell at the beginning whether a case would result in recovery or death. Antisyphilitic treatment had given doubtful results, but better had been obtained from the wet pack or warm baths followed by cold affusions. Of remedies, the best seemed to be iodide of potassium and ergot. The application of a continuous current along the spine had been recommended by Erb.

The author then related the following case, which had been observed by himself: On December 20, 1880, he had been called to see J. H., a butcher, thirty-one years of age, of apparently good constitution, with no hereditary taint, who denied syphilis. In early life he had suffered often from intermittent fever. At the age of twenty-one he went to work in a barometer factory, and after some time he began to grow weak, and had occasional slight tremor and frequent vertigo, but no salivation or other sign of mercurial poisoning. These troubles increased, so that he was compelled to give up this work after four years. He then spent four years in the West, and returned home, in good health, two years ago. About three weeks before he was seen by Dr. Weber his horse ran away with him in his open cart, and he was obliged to exert all of his strength to control the animal. He received no apparent injury or concussion, but felt tired and ill all the afternoon. The next day he kept about with difficulty, and the day following felt somewhat ill and had slight fever, and, after some days of paræsthetic feelings, such as numbness and tingling creeping up from the fingers, gradually lost the use of both arms, and two weeks later, after similar sensations proceeding from the toes upward, the lower extremities became also paralytic. No paresis of the sphincters was noticed then or at any subsequent time. The stools were retarded. The intercostals and other muscles of the trunk remained intact, and there were no symptoms indicating involvement of the medulla oblongata, but the patient felt some pain along the spine, and continued to have pain and tenderness here and there in the extremities. On the [illegible] Dr. Weber's visit the patient had not been examined with special care. He found him still unable to do more than move his limbs slightly

while in bed; he could neither stand nor walk, nor had he the power to grasp any object firmly. Cutaneous sensation appeared to be normal, but the patellar and Achilles-tendon reflexes were absent. The limbs were not wasted, and the muscles responded to electrical stimulus. The pulse and temperature were normal, and an examination of the urine gave negative results. The slight improvement of the paralysis, noticeable to the patient at the beginning of the fourth week, had not progressed any further. Ascending myelitis and polio-myelitis were excluded, and the diagnosis was made of ascending paralysis—Landry's. It being impossible to carry out at his home a systematic course of electrical treatment with massage and warm baths, which seemed to be indicated, the patient was removed to Roosevelt Hospital, where the late Dr. Evetzky became interested in the case. He agreed with Dr. Weber as to the probable nature of the disease, and also looked upon the chances of recovery as good. The patient was discharged, cured, on the thirtieth day, and was soon able to resume his occupation. He called at Dr. Weber's office October 30, 1885, at which time he appeared in fair health, could walk briskly and firmly, and said he was well able to attend to his business, but required more sleep than he had five or six years ago. He had occasional backache, but no lancinating pains; the bowels were somewhat constipated; the urine was normal; the patellar-tendon reflex was totally abolished on both sides; and he could not stand very well on one foot when the eyes were closed. The pupils were normal. There were no sensory disturbances and no paræsthesia.

Dr. Weber then related briefly two cases recently reported by Sorgenfrey and H. Mietks, in which there was early loss of the patellar and Achilles-tendon reflexes, but in which, as opposed to his own case, the reflexes returned after the complete recovery of the patients. He also mentioned a case of Immermann's in which the diagnosis had wavered between anterior polio-myelitis and Landry's paralysis, and in which, at the autopsy, there was found recent inflammation of the anterior horns in the cervical, dorsal, and lumbar regions of the cord. It was this case which had led Immermann to conclude, with Petitfils, that both these clinical pictures might be due to the same morbid process, differing only in degree.

Dr. L. C. Seguin had not seen a case of Landry's disease, but he had always had a strong suspicion that there was a great similarity, if not identity, between that disease and polio-myelitis acuta. The mere matter of ascension did not seem to him to be of so great importance in the diagnosis. The views which, when a pupil, he had heard Brown-Séquard frequently express with regard to the ascension of spinal symptoms had always seemed to him very reasonable. They were that ascension of symptoms might be apparent when they did not represent any ascending lesion in the cord; they were due to a change in the depth of the lesion in the cord. Suppose, theoretically, a case of paralysis of the arms, with subsequent paralysis of the legs: it was not at all necessary to suppose a descending lesion in order to explain the descending symptoms, a change in the depth of a lesion which extended but a little way up and down the cord would account for the descent of the symptoms. In the same way we could account for ascending symptoms without supposing an ascending lesion in the cord. Many authors had stress upon the value of negative symptoms in the diagnosis of Landry's paralysis—as absence of degenerative reaction and [illegible] atrophy; but it was equally true that in many cases of polio-myelitis these symptoms were retarded. He regarded Immermann's case as instructive inasmuch as it showed the similarity, if not the identity, of the two diseases, the difference [illegible] in the situation of the affection.

Dr. Grace Peckham described the symptoms in the case of a girl sixteen years of age, whom she had seen only once, and made a diagnosis of acute polio-myelitis following exposure by sitting on a rock. She had given a favorable prognosis. The case was reported by Dr. Rockwell before the American Neurological Society in June last as one of transverse myelitis, with recovery. Considerable discussion had followed with regard to the nature of the disease.

Dr. Sachs thought that, while Immermann might entertain the idea that the pathological process in Landry's disease and polio-myelitis was the same, he did not suppose that he believed the lesions to be identical in localization. While the question of infectious origin had not been demonstrated in either acute myelitis or Landry's disease, the speaker thought it deserved investigation.

Dr. Weber closed the discussion, reviewing the differential diagnosis between Landry's paralysis and polio-myelitis anterior acuta.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of November 5, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

Lymphatic Leukæmia in Childhood.—Dr. J. M. Keating read a paper on this subject, and related a case, which he prefaced with some remarks on the blood in children in health, and also its diseases, briefly reviewing the literature of the subject.

Oophorectomy for Ovaralgia.—Dr. William Goodell exhibited the ovaries from two cases of oöphorectomy with the following histories: When the first patient, an unmarried woman aged thirty, first consulted him she weighed two hundred and thirty-six pounds, but at the same time she was very weak and could barely walk. She suffered excessive pain at her catamenial periods, which appeared only at long intervals. She had cataleptic and hystero-epileptic fits, and complained of very constant and acute ovarian pains. Her urine was passed but once a day, and was attended with much suffering. The womb was enlarged and the ovaries were very tender indeed, but nothing else abnormal was discovered. Assafœtida and the bromides were prescribed in large doses, and she was advised to try the rest treatment. Fourteen months later she was again brought by her physician to consult Dr. Goodell. She then weighed only one hundred and twenty pounds, having lost one hundred and sixteen pounds, and she was in every respect worse, her ovarian pains being constant and very acute, and requiring large doses of morphia to control them. Her catamenia had not appeared for about four months, and tonics seemed to have no effect whatever on her. Her physician was compelled to be in constant attendance on her, and was liable to be summoned at any hour of the day or night to give her a hypodermic injection. Masturbation was suspected, but she always denied practicing this habit. Nothing further could be done than the operation of oophorectomy, which was accordingly performed a few days later at the hospital of the University. The ovaries were found much enlarged from cystic and interstitial degeneration, but there were no evidences of peritonitis or of cellulitis which had been suspected. A corpus luteum existed in one ovary. A rectal hæmorrhage or vicarious menstruation having taken place a few days before the operation, her ovarian pains at once left her; she needed but very few doses of opium, which was given by rectal suppositories. Her convalescence was prompt, and she returned home in less than four weeks free from all pain, and in a fair way to get perfectly well. The case was a typical

one of the advantages of oöphorectomy, yet he (Dr. Goodell) thought that the operation was being performed altogether too frequently.

Oophorectomy for Bleeding Fibroid of the Womb.—In the second case the lady was thirty-seven years of age and had been married eleven years. She gave birth to a child about seven years ago, and since then has had one premature birth at seven months and one miscarriage. She first noticed an abdominal tumor nine years ago, but her catamenia began to be free some time before this. Late in the year 1881 the catamenia began to be excessive. As nothing served to check them, early in the following year Dr. Goodell was consulted. He found multiple fibroids of the womb. Six tumors could be readily made out, of which two seemed pedunculated. The sound gave a measurement of 4·5 inches. Under ergot and ammonium chloride the patient improved for several months, then the menorrhagia became worse, and finally a dribbling of blood kept up between the periods. In May of the present year she again consulted Dr. Goodell. She had been dribbling continuously from January, and was much reduced in strength. Being a brunette, she exhibited the facies uterina in a most marked degree, the pigmentation being very dark and extensive. The womb now measured 7·5 inches. She was admitted into Dr. Goodell's private hospital, and on May 24th both ovaries were removed without difficulty. They were greatly enlarged by follicular degeneration, a condition which Dr. Goodell had repeatedly seen in cases of fibroid tumor. The effect of the operation on the tumor, and especially on the main one, was astonishing. After two weeks that fibroid had diminished in length nearly a hand's breadth. Her recovery was prompt, and she was sent to Atlantic City to recruit. On July 10th, just forty-seven days after the operation, she called on Dr. Goodell, who found the tumors very greatly reduced in size and the uterine cavity measuring only 3·25 inches, a diminution of 4·25 inches. This extraordinary amount of diminution, in spite of the fact that the obliteration of the ovarian blood-vessels cut off only a small portion of the blood-supply to the womb, forced upon him the conclusion that the ovaries were the important factors in inviting blood to the womb. Every successful case in which he had removed the ovaries for fibroid tumor of the womb had been followed by the menopause and by rapid diminution in the size of the tumor. But in his hands and in those of others this operation was more fatal than that of ovariotomy. During the ten months of the present year he had had twenty-five cases of ovariotomy with but one death, and that one in a lady operated on at her home, two hundred miles from Philadelphia. For simple cases of oophorectomy the mortality should not be greater than that of ovariotomy. But, when complicated with the presence of a large or an adherent fibroid tumor, the operation was often one of great difficulty. Twice during the past year he was unable to reach the ovaries, and was compelled to abandon the operation, because in neither case was the woman willing to undergo the risk of having hysterectomy performed. Each case recovered, and while the women were under observation the tumors appreciably lessened in size, as if the shock of the exploratory incision had temporarily suspended the ovarian influences.

Dr. Montgomery was glad to hear the good results in Dr. Goodell's cases. In a few of the cases upon which he had operated the menopause did not at once occur, sometimes not for two years after the operation. In such cases the tumor did not decrease in size while menstruation continued. In the case of hysterectomy for fibroid tumors reported by Dr. Montgomery at the last meeting, the temperature at no time exceeded 101°, and the patient left the hospital that day perfectly well. He preferred removal of the uterus and its appendages entire when the ovaries could not be removed in consequence of previous inflammatory changes. Ligation of blood-vessels supplying the tumor might be useful when nothing better could be done.

Dr. Baer thought that when the ovaries could be removed it was the preferable operation.

Dr. Goodell had been so uniformly successful in removing the ovaries for the cure of fibroid uterine tumors that it was his choice. He had been notified that he would be called in consultation in a case of fibroid tumor of the womb in a woman aged thirty-three years. This would be the third. He should advise removal of the ovaries. If at the time of operation that was not found possible, he should close the incision, as the other operation was very dangerous, and the patient could certainly live a few years as she was. In one case only of his oöphorectomies had the menses continued, and he thought in that case there must have been some supplementary ovarian tissue.

Ovariotomy.—Dr. Montgomery exhibited for Dr. Warder a large ovarian tumor, and related the following history: The patient was a young woman. Her menses commenced at seventeen years of age, and had always been irregular. They ceased entirely for twelve months, and at the same time the abdomen was enlarging until the tumor reached above the navel. Fluctuation was doubtful; the mass seemed quite solid, and pressed the uterus down into the pelvis. Anæsthesia did not relax the abdominal wall, and diagnosis was doubtful. An exploratory incision, showing the pearly tint of an ovarian tumor, made it sure. Nothing would pass through the trocar, but some of the jelly-like contents of the tumor escaped beside it and passed into the abdomen. The large cyst was filled with small cysts. The patient did well for one week, then the pulse became rapid; but she had since been doing well, and was then rapidly recovering.

Dr. Goodell thought the danger from the escape into the abdomen of cyst-contents was overrated.

Dr. Baer said that in the early stage of ovarian tumors metrorrhagia was sometimes present; sometimes the menses were entirely absent. He should like to hear from the society some reason for this inexplicable difference.

Dr. Goodell had observed the same facts, but could throw no light upon it.

Dr. Montgomery remarked that in this case both ovaries had undergone cystic degeneration. The second ovary contained numerous small cysts.

Dr. Baer inquired about the treatment of the second ovary.

Dr. Montgomery replied that it was removed.

Some Uses of Cocaine in Gynæcology.—Dr. C. H. Thomas read a paper on this subject, in which he related some facts and experiences in the use of the drug in various gynæcological operations. He recommended it highly for local anæsthesia, and did not think that any toxic effects were likely to be produced even by a saturated solution.

Miscellany.

The International Medical Congress. At the [illegible] meeting of the Camden County, N. J. Medical Society, [illegible] the following resolutions were unanimously adopted:

Resolved, That this Society approves of the action of the American Medical Association in extending the invitation to the profession for the Ninth International Medical Congress in 1887.

Resolved, That the [illegible] appointing the [illegible] and Secretary of

the Congress, adopted by the Committee of Arrangements at the meeting in New York, September 3d and 4th, and the transference of the future management of the Congress to an executive committee, composed of the President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of Sections, be considered by this society sufficient to silence criticism and enlist the sympathies and support of the profession throughout the United States.

Resolved, That the Secretary be instructed to forward copies of these resolutions to the county medical societies of New Jersey.

The Present System of appointing Medical Examiners in Massachusetts.—At a meeting of the Boston Society for Medical Improvement, held November 23d, Dr. W. C. B. Fifield read a paper in which he alluded to the old coroner system still in vogue in most of the States, and the cause of its abolition in Massachusetts—the unfitness of most of the appointees by reason of ignorance, whereby the course of justice was impeded, and great and unnecessary expense was entailed upon the State. But, he asked, was the new system of medical examiners so great an improvement as had reasonably been expected? It was not, because in many cases political and social influence led to the appointments. He cited instances in which, on account of the ignorance of the examiners, innocent persons had languished in jail and been put to great expense. He alluded also to ridiculous reports of causes of death. To protect the State, and save the expense of unnecessary inquests, it had recently been ordered that a medical expert should be employed in every case where an autopsy was made. What was the remedy? An examination by a commission, to make sure that the appointees were properly qualified, that honest men, of integrity and ripe judgment, should hold these offices. In every county the medical examiner should submit his report to a chief medical examiner, and then, together with the latter's supplementary report, it should be passed upon by a commission of three, amply paid and selected for their special fitness—all this before any case went to a district attorney.

In the discussion, Dr. G. K. Sabine took the ground that in country districts it was impossible to secure men of the high attainments demanded by Dr. Fifield. The expenses allowed were meager, and the State discouraged autopsies on account of the expense involved. After an autopsy, the medical examiners lost days of time in attendance at court at $1.30 a day. If a body had to be disinterred, all expenses of disinterment and re-interment had to be borne by the examiner. The office was laborious and ill-paid.

Dr. Bowditch moved a further discussion at a specified time, the medical examiners to be invited to be present, and that a committee of three be appointed to report on the proper mode of appointment. The motion was carried, and the Chairman appointed Dr. C. D. Homans, Dr. R. H. Fitz, and Dr. G. B. Shattuck to constitute the committee.

Dr. Draper, one of the examiners for Suffolk County, thought that no great fault could be found with the present board of examiners. Many of those now serving were or had been officers of the Massachusetts Medical Society; they understood their duties fully, and performed them without fear or favor. Dr. R. H. Fitz also spoke in defense of the present system.

THERAPEUTICAL NOTES.

Ditana Digitifolia as a Galactagogue.—Professor Giardino, of Naples, [illegible] "Nouveaux remèdes") speaks in decided terms of the galactagogue powers of this Mexican plant, claiming that it not only increases the secretion of milk, but causes it to take place in cases where it has been altogether lacking. It must be used continuously. The author gives the following formula for making a "galactophorous syrup":

Fresh pulverized *Ditana digitifolia*	4½ ounces;
Sulphuric ether, } each	4 "
95 per cent. alcohol, }	

[illegible] for two hours in a strong and well-stoppered flask, and a fortnight is then allowed for digestion. The portion of the [illegible] is then to be exhausted with 4 pints of water, in which 1½ pounds of sugar are to be dissolved. Finally, add [illegible] of glycerin, and filter. The ordinary dose is one to two tablespoonfuls of this syrup, diluted with a pint of water or infusion of chamomile, are to be taken daily.

The Pharmaceutical and Therapeutical Uses of Algin.—Mr. Watson Smith ("Jour. of the Soc. of Chem. Industry"; "Nouveaux remèdes") calls the attention of pharmacists and physicians to a new product, *algin*, discovered by Stanford. It is the residual product of the wet way of obtaining iodine from certain marine *Algæ*, being a nitrogenous principle closely resembling albumin, except in not being coagulated by heat. It forms perfectly definite *alginates* with metals. The alkaline and earthy-alkaline alginates are soluble, but the others are insoluble. The double alginates are easy of preparation, and almost all of them are very soluble. Besides possessing many curious chemical properties, giving promise of extensive applicability in pharmaceutical and other processes, algin has a notable alimentary value, and may be advantageously substituted for gum arabic in the preparation of a great number of dietetic and medicinal products.

Salicylate of Sodium in Supra-orbital and Infra-orbital Neuralgia.—Devlezersky and Finkelstein ("Wratsch"; "Rev. méd.") report cases which they think tend to show an ætiological connection between articular rheumatism and hemicrania and other neuralgias. Theirs were cases of hemicrania. Trivus has extended the treatment to neuralgia of the ophthalmic branch of the trigeminus, and reports three cases in which salicylate of sodium, given in doses of thirty grains at the onset of the pain, promptly caused the disappearance of the latter.

Formic Acid as an Antiseptic.—Schulz ("Dtsch. med. Wchnschrift."; "Ctrlbl. f. klin. Med.") commends this substance highly as an antiseptic. He has found very weak solutions effectual in preventing the decomposition of organic substances, and, although he speaks cautiously on this point, he thinks that their use is not likely to entail unpleasant effects.

Cocaine as a Remedy for Seasickness.—Mr. A. J. Duffield writes to the "Medical Times and Gazette" as follows: "If a layman's experience be of any worth, let me say that twenty years ago, when returning home from Peru, I brought with me some fifty pounds weight of fresh leaves of the cucu, and proceeded to experiment on some miserable fellow-passengers, who were suffering from seasickness, by means of a straw-colored decoction of these leaves. They were all adults—ladies, priests, and Peruvian poets. Every one of the patients fell asleep on drinking a large breakfast-cupful of my tea. They were all cured. But, on changing from the Pacific to the Caribbean Sea, the malady again attacked the priests and the poets—the women were not attacked—and again a single cup of cucu-tea had the same effect as before. Much, of course, depends on the leaves being freshly gathered."

Lime in the Treatment of Bronchial Catarrh.—Trastour ("Union méd.") recommends the following mixture:

Iodide of calcium	75 grains;
Lime-water	3 ounces;
Distilled water	12 "

A soupspoonful should be taken at the beginning of the two principal meals, in a glass of wine and water or in milk, and the use of the preparation should be continued for a long time, together with frequent counter-irritation and the repeated use of laxatives and balsamics. In case of asthma-like oppression, antispasmodics and calmatives will be needed, especially morphine.

The Administration of Antipyrine.—After a number of trials, M. Dumoulard ("Lyon med.") gives the preference to the following formula:

Antipyrine	20 parts;
Jamaica rum	30 "
Syrup, } each	150 "
Water, }	

In typhoid fever, he gives a teaspoonful three times a day.

Diaphoretic Boluses.—A contributor to the "Union medicale" gives the following formula:

Sublimed and washed sulphur, } each	30 grains;
Powdered bitartrate of potassium, }	
Powdered gum guaiacum	15 "
Syrup	q. s.

Divide into four boluses. All to be taken in the course of a day.

Original Communications.

UNILATERAL HALLUCINATIONS.*

BY WILLIAM A. HAMMOND, M. D., LL. D.

THE fact that hallucinations of sight and of hearing may be unilateral—that is, perceived by one visual or auditory center only—has long been known, though the subject has not even at this day attracted so great a degree of attention as it appears to me to require. Several writers have, however, considered the matter from a more or less philosophical standpoint, and have brought forward interesting cases in support of the views to which they have given their adhesion.

The first reference to the fact that hallucinations may be one-sided that has come under my notice is made by Calmet,† who describes the fright experienced by a gentleman who, passing some time in a haunted house, heard a voice in one ear—the left—which came from a corner of a closet and seemed to him to be about a foot above his head. This voice spoke to him very distinctly during the space of half a *miserere*, and ordered him, *theeing* and *thouing* him, to do some one particular thing which he was recommended to keep secret.

Calmeil‡ alludes to the fact that some persons, the subjects of hallucinations of hearing, declare that the sounds are heard first in one ear, and then in the other, or exclusively in the right or left ear.

Baillarger§ cites two cases of hallucinations of hearing occurring in but one ear. In the first of these, a woman, who was under the delusion that she was being taken to a cemetery, imagined that she heard a mysterious voice encouraging her and telling her not to be afraid. In the other, a woman, affected with religious monomania, perceived in the right ear the sound of celestial music, which caused in her the highest degree of mental exaltation. Baillarger does not refer to one-sided visual hallucinations.

Michea,‖ who had previously written an excellent monograph△ on hallucinations in which, however, he did not consider those of a unilateral character, refers to them specifically in his subsequent work, and attempts an explanation of their *rationale*. He says:

"In the fantastic or subjective perception which constitutes the phenomena of hallucination the mind experiences a modification identical with that which takes place in the normal or objective perception. The false representation, the deceitful appearance, of which he has conscience, seems to it to be the result only of an exterior impression produced simultaneously on the two symmetrical or homologous portions of a sensorial apparatus. The attention is directed to the imaginary body, and not to the instruments by which the impression is produced. The mind interprets as single the double action of the sensorial organs that receive and transmit the impression of the fantastic image and by which it is brought to the consciousness and understanding. Nevertheless, it is not always thus. In certain cases the mind can be affected in such a manner that it perceives an imaginary object in the same way that it perceives a real body, the impression of which is effected on one alone of its two symmetrical and homologous portions; in a word, although always the same so far as regards characteristics and form, an hallucination may sometimes lose its unity of correspondence and be doubled and dichotomized, so to speak, relative to one single sensorial apparatus."

In accordance with this view, Michéa gave to the erroneous perceptions in question the designation of *divided hallucinations*.

Schroeder van der Kolk* cites a case, the only one, as he says, within his experience, in which the hallucination occurred in one ear. A poor woman complained to him that she was continually persecuted by the devil, who let loose at her all sorts of blasphemies, and indeed all the worse the more she exerted herself not to attend to them, but often also when she was talking and active. She had already been to a clergyman to have him exorcise the devil before she came under Schroeder van der Kolk's observation. On his asking her in which ear the devil always talked to her, she replied that it was invariably the left ear. He told her that her disorder was due to an affection of the ear that sometimes occurred.

Dr. Alexander Robertson,† in an interesting monograph, cites several cases of unilateral hallucinations occurring especially with the subjects of alcoholism. According to him, they are more frequent on the left than on the right side. He regards them as being the result of an independent action of the two hemispheres.

Dr. E. Régis‡ enters at some length into the history of the subject, and adduces several cases in support of the view that unilateral hallucinations are always due to some derangement of the sensorial apparatus—the eye or the ear—on one side. His attention was first attracted to the subject by the case of a patient who heard himself abused in opprobrious terms, but only in the right ear. He was able to induce these hallucinations at will by closing the left ear and concentrating his attention on some particular idea, when very soon this idea would be expressed vocally to him in the right ear. This patient had been affected since he was twelve years old with a paralytic otorrhœa, localized in the right ear, due to chronic catarrh of the cavity of the tympanum. A case cited by Pick strengthened his view, and the others occurred in his own experience, both as regarded the eye and ear.

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* Read before the New York Neurological Society, December 1, 1885.

† "The Phantom World," etc. Augustin Calmet. Edited by M. Henry Christmas. London, 1850, t. ii, p. 201.

‡ Art. "Hallucination," in Dict. de médecine.

§ "Des hallucinations," etc. "Mémoires de l'académie royale de médecine," t. vii, pp. 246 and 270.

‖ "De la lésion des sensations." Paris, 1851, p. 106.

△ "Des hallucinations," etc. "Mém. de l'acad. royale de méd.," t. xvii.

* "Pathologische und Therapie der Geisteskrankheiten." Braunschweig, 1856, p. 183, note.

† "British Medical Journal," 1875, vol. ii, p. 774.

‡ "Des hallucinations sensorielles." "L'Encéphale," t. i, 1881, p. 41.

An exceedingly interesting form of unilateral hallucinations is that in which erroneous impressions different in character occur on either side. M. Magnan,* at the meeting of the Medical Congress in Rouen in 1883, read a paper on this form of the affection, the patients having had hallucinations in both ears, occurring simultaneously, but opposed to each other in the nature of the impressions communicated. One patient heard through one ear—always the same—threats and abusive language, which gave him ideas of persecution, while through the other ear the perception was of flattering words, and others of a character calculated to excite in him ambitious delirium, and this antagonism of sensorial auditory impressions was maintained without change during the whole course of his disease. M. Magnan reported four cases of the kind occurring in his own experience. In one the painful impressions came through the right ear, while the pleasant ones were produced on the left side. In the three others this relation was reversed. He regards these cases as affording a new proof of the functional independence of the two cerebral hemispheres, and as presenting a great analogy with the facts obtained by experimentation with certain hysterical subjects.

Of course, as is well known, the sense of touch can be the seat of unilateral hallucinations just as it is readily and normally affected by actual impressions. So far as concerns the present subject of inquiry, such derangements are of no moment, as they originate ordinarily from subjective irritations. Sometimes, however, especially in hysterical and hypnotized persons, they may have a central origin. M. Dumont-Pallier† had a patient in La Pitié whom he hypnotized, and in whom he could determine at will anæsthesia, hyperæsthia, or sensorial delirium alternately in one half of the body and the other. One of the cerebral hemispheres, it is stated, appeared to preserve its power to act while the other was deprived of all activity. By other experimental combinations he could bring the two hemispheres into simultaneous action, but in an opposite way. Thus, the patient being in the unconsciousness of hypnotism, he could, by whispering in one ear words conveying sad ideas, give to one half of the countenance the expression of pain, while, by suggesting cheerful words in the other ear, the corresponding side of the face showed satisfaction.

I have given this short *résumé* of the subject mainly for the purpose of showing the state of the inquiry at this time, as I set with the idea of committing anything like a complete [illegible] of the researches and observations made. In the next place I have to bring forward my own cases, and to make such remarks upon them as they may appear to require.

So far as I am aware, no case of unilateral illusions has yet been reported. One case of the kind has come under my notice, and, though the subject of illusions is not under consideration in connection with the present inquiry, on account of the [illegible] it seems proper to refer to it here with somewhat more of amplitude than I gave to it when I first brought it forward,* nearly three years ago:

Case I.—A gentleman, in good general health, contracted the illusion that the ticking of a clock on the mantel-piece consisted of articulate words. At first he only had this erroneous perception at night after he went to bed, but in a few weeks the ticking of any clock sounded to him like human speech. There was no uniformity either of the tone or of the language employed, but sometimes a particular phrase would be repeated hundreds of times. As soon as he got beyond the range of the sound from the clock the words were no longer heard.

Generally the expressions were in the form of commands. For instance, if at dinner, they would be "Eat no soup," "Drink no wine," or "Eat your soup," "Drink some wine," and so on. One day he made the discovery that if he closed the right ear firmly the illusion disappeared, but if the left ear was closed the words were still distinctly heard. It was, hence, clear that the center for hearing on the right side was the one affected, and that that on the left side was normal. On neither side was there the slightest impairment of the capacity for hearing other words. A watch would be readily heard to tick at the distance of three feet from either ear.

These false impressions were not by any means unpleasant to him; on the contrary, he was rather inclined to attend to them and to amuse himself with suggesting new phrases for the clock to simulate. He did not allow himself to be deceived with the idea of regarding them as realities, but, though he strenuously resisted their acceptance, he began, after a time, to be influenced by them to the extent of acting upon them as guides, though he tried to conceal the circumstance. When, for instance, asked whether or not he was going to the theatre that evening, he would reply in a nonchalant way to the effect that he had not thought about the matter; and then, after a little while, when he thought the matter forgotten, he would saunter toward where the clock stood and shortly afterward give his answer either affirmatively or negatively, according to the words conveyed to him by the clock. Eventually he put clocks into every room in his house and proposed to be governed altogether by the directions they gave him, not, as he said, from any belief that the ticks were real words, but because there was some influence, spiritual or other, that caused them to seem like words to him.

During the whole time that this case was under notice there was no change in the unilateral character of the illusion nor in its distinctness. At this time the condition remains unaltered. The sounds made by the clock have all the appearance of words spoken into the right ear, while to the left ear they possess only their normal characteristics. Yet, though he is guided by them, he does not for a moment regard them as words. His intellect is free from any delusion of fact, though he is superstitious enough to accept them as conveying to him indications as to how he should act.

Case II.—This case is also referred to in my "Treatise on Insanity." A young lady of good mental development but of delicate physical organization was for several months almost constantly troubled with apparitions of various kinds of faces, which she saw no matter where she turned her eyes. She had, while looking through her father's library a few weeks before [illegible] a book containing many engravings

* "A Treatise on Insanity in its Medical Relations," New York, [illegible] p. 299.

ings of Greek and Roman masks, and these had made a great impression upon her. The pale faces beset her on all sides. Sometimes they would peep at her from around the corners of the streets as she was driving or walking. Again she would see them coming out of the shelves in the shops she visited, and again they would start up from the street just before her. They never passed out of her range of vision suddenly, but gradually faded away without changing their positions. Some of them she saw with one eye and some with the other, for if she shut either eye they decreased in number, about half of them disappearing; and if she closed both eyes they all vanished for a little while, though generally in either case they reappeared in a short time, but less distinctly. On opening the eyes, a new set appeared. They were of all colors and nationalities, and a good many were of the same description as the masks of the ancients, being of various degrees and character of grotesqueness and hideousness. She never saw them after dark except in well-lighted rooms or other places. The gaslight of the streets was not sufficient to develop them, but the electric light brought them out very distinctly. By repeating the experiment of Sir David Brewster—pressing on the outside of the globe of either eye so as to produce temporary strabismus—she could make any face appear double; but this was only when it had been visible for several minutes. A newly appearing one she could not duplicate in this way. There was no derangement of the vision of any other kind, and no abnormal ophthalmological appearances.

The peculiar features of this case are that the hallucinatory images were divided between the two eyes, part being seen with one and part with the other, showing, therefore, the distinctness and divisibility of the action of the two visual centers, and the fact that the stimulus of a strong light was necessary in order that they should be developed. The circumstance that by pressing on one eyeball so as to throw it out of its parallelism with the other any image was duplicated showed the permanence of the impressions made upon the retinæ—impressions that must necessarily have been transmitted from within and projected outward.

Case III.—A young man received a severe blow on the head just above the left ear. A few weeks subsequently, while engaged at his business, that of a salesman in a large mercantile establishment, he saw a large black cat sitting on the floor immediately before him. He had no doubt of the reality of the occurrence, and for several minutes wondered where the animal could have come from. At last he made a step toward where the cat was apparently sitting, and was surprised to find that the image remained as far from him as before. He then recognized the fact of the falsity of the perception. After this the cat seemed to follow him wherever he went, and sometimes appeared to jump on his lap or shoulder. His sense of touch was never deceived.

Being possessed of a considerable degree of intelligence, he had, by observation and experiment, settled several interesting points to his satisfaction. First, he found that the image was always larger and more distinct in the evening than soon after getting out of bed in the morning. Occasionally at this latter time it was entirely absent, but not often. Again it was always clearer, larger, and apparently nearer to him when he looked from part of the room (the legacy-table) that he passed many times a day. When he was first aware that the image disappeared when he shut his eyes, but never the previous time, he was in a state of great excitement, and opened and closed his eyes rapidly, so that the image appeared to be present when they were open and absent when they were closed, or when they were open. Proceeding on closer observation so as to destroy the parallelism of the visual axes and cause the production of two images, and then he made the discovery by alternately shutting the eyes, that the hallucination only existed on the side corresponding to that on which he had been injured.

In this case there were no abnormal ophthalmological appearances, nor any impairment of the faculty of vision in either eye. That there was serious brain lesion involving, probably, the left optic thalamus, I have no doubt. I was also of the opinion that there had been a fracture of the inner table of the skull at the point at which the blow had been received, and proposed trephining. He, however, declined to submit to the operation, and I finally lost sight of him.

Case IV.—A lady, about fifty years of age, became the subject of a most malignant persecution through anonymous letters which were sent to her in large number and from various parts of the country. The outrage had gone on, however, for several weeks before there was any other result than intense annoyance. But she finally began to worry greatly in regard to the source of the abusive communications, endeavoring to represent to her mind the man or woman guilty of the indecencies of which she was the victim. In this she was not successful. In fact, she could not determine whether the sender was a man or a woman, much less bring before her mind's eye his or her image. One day, however, as she lay in bed with a sick headache, her mind reverted to the question that had so often disturbed her—"Who was the person that sent her the anonymous letters?" Happening to look in the direction of the large bay-window that filled up nearly the whole front of the room, she saw a man and a woman standing in the opening.

For the moment she did not doubt the reality of the appearances, but as she raised herself in bed to look at them better she was astounded to perceive that they slowly faded out of sight—dissolved, as it were, so gradually that they scarcely seemed to get less distinct. She got up, dressed herself, and did not see the images again for several days.

But at last they made their appearance (this time while she was at the dinner-table), and presenting exactly the same aspect in every respect as they had at first. After that she saw them several times in the course of a month, and then they disappeared never to return again.

The most curious circumstance about the hallucination was that the man was perceived with the right and the woman with the left eye. Thus, if she closed the right eye she saw only the woman; and if she shut the left eye the man only was visible. If she had, by moving actively about the room, caused them to disappear, she could often bring them back by lying down on a bed with her head rather low. If, on these occasions, she kept the right eye closed, it was the woman only that appeared; and if she opened only the left eye, she saw but the one image—that of the man. Again, if she had in this manner brought back one image, and then endeavored, by opening the other eye, to cause the other one to appear, it was several minutes, generally, before she succeeded, and then but a time only one image was present.

Nothing, it appears to me, could be more conclusive of the case of the independent action of the two visual centers than such hallucinations.

And, indeed, it appears to me that unilateral hallucinations of the kind in question afford strong evidence of the correctness of the theory originally proposed by Wells,*

* On Dew, and Single Vision, 1818.

but since his time adopted by many others, that there are in fact two brains, the two hemispheres having independent though similar functions, ordinarily acting together, though capable of isolated and even different action. Wigan had no facts of this character to allege in favor of his theory of the duality of the mind, for which, nevertheless, he has adduced many striking proofs and convincing arguments, and toward the truth of which science seems to be tending.

Régis, in the memoir to which I have previously referred, advances the opinion, in which he is apparently borne out by the cases he has adduced, that unilateral hallucinations are due to disease or derangement of the organ of special sense involved. That this is not always the case I am very sure. In none of the instances I have cited was there any ocular or auditory trouble. It is difficult to see what connection can exist between disease of the eye or ear and an hallucination existing in the corresponding side. For, if such disease caused a unilateral hallucination, we should expect bilateral hallucinations to be the result of disease of both eyes or ears.

I do not believe that hallucinations are caused by lesions of the organs of special sense, but that they are produced by disease or disorder of the central organ of perception, probably of the optic thalamus, and that such erroneous sensorial impressions, when limited to one side, are evidence that the visual, auditory, or other sensorial center, as the case may be, of the corresponding side, is the starting-point.

EXCISION OF THE TARSAL BONES.*

By CHARLES T. POORE, M. D.,
SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN.

Disease of the tarsal bones is not an uncommon occurrence among children who apply for admission into hospitals. The following paper is based upon the cases of nine patients operated upon at St. Mary's Free Hospital for Children. Although there is nothing very noteworthy in any of the cases taken individually, yet, when taken together, they form a group from which one may draw a few practical deductions.

The following plan of operation was followed in all but one case, to which reference will be made further on: After rendering the limb bloodless by an Esmarch bandage, if the os calcis is to be removed, an incision is made from a point corresponding to the inner edge of the tendo Achillis and about one inch above its insertion, outward and then forward on the outer aspect of the heel to a point midway between the external malleolus and the proximal end of the fifth metatarsal bone, the incision being made directly down to the bone. The tendo Achillis and the anterior ligament above it pass over the lateral surface of the os calcis. No vessel of any size requiring ligation is divided. The incision will be found to extend nearly to the middle of the plantar surface of the os calcis. The periosteum is then divided and separated from the bone as far as possible with an elevator; it will also be found that the bone can be removed either as a whole or in pieces, the ligaments being divided as they present themselves. After removing all the bone and well washing out the cavity left by the operation, the constricting bandage is removed, and any bleeding points are secured. The edges of the incision are brought together with silver wire, except at the posterior part of the wound, which is left for a drainage-tube. I use silver wire because, in my experience, it is often necessary to hold the parts in coaptation longer than can be done with catgut. The foot is usually put up in a tin leg-splint, with a foot-piece at right angles to the leg. The cavity left after the removal of the bone is in some cases swabbed out with chloride of zinc, in others dusted over with iodoform. None were put up in a permanent dressing. The following is an abstract of the cases:

Case I.—F. M., three years of age, came to the hospital in 1874. She was an unhealthy-looking child. There was a large sinus, from which there was a considerable discharge, situated upon the dorsal aspect of the right foot, over the upper border of the cuboid bone. There was also disease of the first metacarpal bone of the left hand. In September, 1874, the patient was etherized, and the disease was found to be confined to the os calcis. This was freely gouged so as to remove all diseased bone. The portion left seemed hard, and was supposed to be healthy. In January, 1875, as the wound did not close, more diseased bone was removed. In April, as the foot was no better, an incision was made by splitting the tendo Achillis and then extending the incision forward upon the plantar surface of the foot, so as to afford room to remove the remains of the os calcis. The cavity thus left was stuffed with lint. The wound gradually filled up, and she was discharged with her foot in good condition, the heel somewhat flattened and with a deep cavity behind.

November 1, 1885, eleven years after the operation. Upon examination, it was found that the foot was in good condition. There had been no return of disease, no pain about the foot, and the child walked with but a very slight limp, scarcely perceptible. The heel, where there had been a deep depression at the time of her discharge, had now filled out, so that the point of excision was represented by a mere line occupying the posterior rather than the plantar aspect of the foot. The contour of the heel had filled out. There was an obliteration of the plantar arch. I do not think that there had been any reproduction of bone.

Case II.—M. D., aged three years and a half, had had disease of the os calcis for some time. The bone had been gouged twice before the patient came to the hospital, but without any permanent relief. He was a healthy-looking boy. There was a sinus on the external aspect of the foot over the os calcis, through which diseased bone could be detected. In February, 1879, the old line of incision was reopened. There was found a sinus in the os calcis leading to a cavity in which was a loose piece of bone of about the size of a filbert. The walls of this cavity were smooth and hard. The necrosed bone was removed and the wound closed, in the expectation that, the cause of irritation being removed, recovery would take place; but after a time the parts assumed the same condition that had existed before the operation. In May the bone was excised. It was found harder than normal. After the last operation the patient made a good recovery, and was discharged, walking well. He has not been seen since his discharge from the hospital.

Case III.—M. E., aged seven years, was admitted in February, 1879. Three months previous she began to complain of pain in the heel of the right foot. It then began to swell, and three weeks before she came under observation an abscess opened

* Read before the New York Surgical Society, November 21, 1885.

posteriorly, and had continued to discharge since. Diseased bone could be detected with the probe. In March the os calcis was removed. It was found entirely diseased. She was discharged from the hospital in June, able to walk well. She was seen November 20, 1885. She then walked well, with scarcely a limp, had had no pain, and the old line of incision had not reopened. About one year ago, five years after she left the hospital, an abscess formed on the dorsal aspect of the foot, and has continued to discharge ever since. There is now a sinus at this point. The patient seems healthy, and experiences no inconvenience from the foot. I presume there is diseased bone. There has been some reproduction of the os calcis.

Case IV.—Sarah J., four years before admission, received a cut on the plantar surface of her right foot from a piece of glass. The wound had never closed. Three years ago some diseased bone had been removed, and since then several small pieces had come away. In November, 1879, the os calcis was removed. The bone was extensively diseased. In February she was discharged, able to walk well. A week after her discharge she was brought to the hospital with a superficial abscess about the point of operation, caused, it was said, by walking with a badly fitting shoe. She was sent home in a few days. In May, 1885, her friend reported that she had had no further trouble, and that she walked well.

Case V.—C. R., ten years old, came to the hospital in March, 1881, with the following history: Six months before, without any known cause, a swelling had appeared at the back of the heel: an abscess had formed and opened, and had continued to discharge ever since. The os calcis was removed, and was found to be much diseased. He was sent home in June with a useful foot. He was seen November 20, 1885. There has been no change in the foot since he left the hospital; he can walk well, with but little, if any, limp, and is now employed as an errand boy in an apothecary's shop. There is, however, limited motion at the ankle joint. There does not appear to have been any new bone formed.

Case VI.—Peter H., an unhealthy-looking boy, about six years of age, was admitted in September, 1881. He had disease of the right os calcis, and carious bone in various portions of his body. In October the os calcis was removed. He did well for a time, then his foot began to swell, the old line of incision opened, and he was in a worse condition than before the operation. Other tarsal bones became involved in the disease. The bones were gouged, but with no improvement. In March, 1883, Syme's amputation was performed. The flap did well for a time, but finally sinuses began to form, and he was removed from the hospital. On examining the parts after their removal, there was found considerable reproduction of bone.

Case VII.—K. A., three years of age, was admitted in January, 1882, with disease of the os calcis of some duration. The bone was removed in February, 1882. She was discharged April 20th, with the wound all closed, and able to walk well. Nothing has been heard from her since she left the hospital.

Case VIII.—Joseph M., six years of age, came under observation in February, 1882, with a history of disease of the bone of the left foot of some duration. There was a sinus over the astragalus through which carious bone could be detected. The foot was much swollen. On March 20, 1882, the sinus over the astragalus was enlarged, and that bone removed by gouging. It was then found that the anterior portion of the os calcis was diseased. The anterior two thirds were removed through an incision on the external aspect of the foot, leaving the posterior portion of that bone. The foot did well for a time, the anterior wound closing, but a sinus persisted posteriorly. In October, as the portion of the os calcis left was evidently diseased, it was removed. After this the wound closed, and he was discharged with a sound and useful foot. He has not been heard from since.

Case IX.—Edward L., two years and a half old, was admitted in September, 1882, with an extensive swelling on either side of the left ankle joint. Fluctuation was marked. He had been lame for some months. The abscess in the ankle joint was opened under ether, and the lower end of the tibia and the articular surface of the astragalus were found denuded of cartilage. The diseased bone was gouged and the joint drained. The abscess continued to discharge for some time, and then the sinus closed about the ankle joint, but a new opening formed over the anterior surface of the astragalus in front of the ankle joint. Subsequently the astragalus and the os calcis, which were found diseased, were removed. At the time of the operation there was no disease about the end of the tibia, and the bone was well covered. The patient was discharged from the hospital with a useful foot, all sinuses being closed. November 19, 1885, he was seen at the hospital. He has had no trouble with the foot since. Can walk well with a slight limp. The end of the tibia occupies a lower plane than that of the sound limb, so that the ankle joint is depressed. There has been some reproduction of bone.

Of these nine cases the os calcis was alone removed in seven, the os calcis and astragalus were removed in two. A useful foot was obtained in eight, and in one amputation had to be performed. In but one of these eight cases has there been any return of the disease in the other tarsal bones, and in this not until five years after the operation. All but three of the patients have been seen or heard from within the past year, and in all, with but one exception, has the foot continued in good condition, and the patient been able to walk and be about with other children without any inconvenience except a slight limp. In all there has been an obliteration of the plantar arch, with a tendency to walk upon the inner border of the foot. All complain that the inner side of the shoe is worn out first, but there has been no pain.

In regard to a partial removing or gouging of the os calcis for disease, my own experience has not been flattering. Although a faithful trial of this procedure was made in four cases, no permanent cure was obtained, and only after total extirpation of the diseased bone did the sinus close. In one case the bone had been operated upon three years before the patient's admission, with no apparent benefit.

Case II, where there existed a sinus leading into the center of the os calcis, in which bone was impressed a loose piece of dead bone, seemed very favorable for such an operation, yet it failed to stop the disease, and a total excision of the bone had finally to be performed. In another case the posterior third of the os calcis was left as it was apparently healthy, but recovery did not take place until this, too, had been removed. I am well aware that others have obtained good results from partial excision or gouging, but perhaps it was in other subjects and under more favorable circumstances. My own experience is entirely opposed to a partial operation in this bone. Perhaps one cause of the want of success in these cases is the fact that the bone was softened and incapable of filling up the cavity left by gouging.

I have never made a resection of the ankle joint in

children, although I have seen some cases of disease of this articulation—I mean in which the lower end of the tibia and fibula was extensively diseased. The patients made a good recovery.

THE PROBLEM OF ACCLIMATIZATION.*

By Isaac Hull Platt, M. D., Brooklyn,

Associate Physician to the Department of the Diseases of Chest, St. Mary's General Hospital, and to the Hospital for Nervous and Mental Diseases, Brooklyn; Member of the Medical Society of the County of Kings, the Brooklyn Pathological Society, etc.

Although the subject of acclimatization is a long-vexed one, and has led to much discussion from the various standpoints of the biologist, the anthropologist, and the physician, it appears to be in a very unsettled condition in the scientific mind, both as regards the limits of the changes classed under that head and the physiological laws by which they are governed.

This seems to be due, in a great measure, to the fact that the subject has never been approached in the light which the advance in the sciences of biology and anthropology in recent years is capable of affording.

While I have no new facts to offer, and no personal observations to record, it has occurred to me that a few suggestions in relation to the lines of thought by which the subject may be approached would not be out of place, nor devoid of interest to us, as students of medicine and climatology, and might, perchance, serve as a ferment in some mind more capable of the task to set in operation processes of thought and observation tending to the elucidation of the matter.

That such thought and observation are called for will be manifest to any one even glancing over the literature of the subject. While one class of writers speak of acclimatization of plants and animals as a matter of course, and of man as being the animal most capable of adaptation, others scout the idea of the human race being, in any degree whatever, subject to the modifications grouped under that head.

Mr. Alfred Russel Wallace, in the ninth edition of the "Encyclopædia Britannica," has, in his usual interesting and able way, presented the subject as it stands at present, with the arguments *pro* and *con*, but with the result of showing that we are still far from understanding the problems involved.

Mr. Wallace defines acclimatization as "the process of adaptation to which animals and plants are gradually rendered capable of surviving and flourishing in countries remote from their original habitats, or under meteorological conditions different from those which they have been used to enjoy, and which are at first inimical to them." The definition is important because much of the argument which has been adduced against the possibility of acclimatization will be seen to have no bearing upon the subject when brought to this test.

Many anthropologists and climatologists have denied the existence of [illegible] altogether. Knox even asserted that as the races [illegible] in America [illegible] so they would [illegible] in the same [illegible] in America. Many [illegible] Americans [illegible] in this [illegible] ca and elsewhere out of Europe would die out if not replenished by immigration. Probably no one would make such an assertion at the present day; but Parkes, in his "Practical Hygiene," and Turner, in Buck's "Hygiene," deny, in a general way, the possibility of acclimatization in the human race, especially as regards malarial fevers, and they are far from standing alone in their position.

Common experience certainly seems opposed to this view. Nearly every one who has traveled has learned that, in undergoing even slight changes in atmospheric and telluric influences, slight disturbances of the system occur which pass away in a short time. It is a matter of common observation and remark that, while the natives of a region subject to any endemic disease show but slight susceptibility, new-comers fall its easiest victims, and foreigners who have been long resident enjoy comparative immunity.

The fact to which Dr. Westbrook called attention in his paper before this society last year—namely, that recent immigrants, more especially the Irish and their children, are peculiarly liable to consumption—must be a familiar one to all physicians whose practice brings them in contact with that class, and yet our fifty millions of people, probably as healthy and rapidly increasing as any in the world, are the descendants of immigrants, and a large proportion trace their ancestry to the Emerald Isle. After a few generations they show no special tendency to phthisis, certainly no more than the inhabitants of many of the old countries, including the British Islands.

Wallace, in the paper already referred to, quotes from notes furnished him by Dr. Richard Spruce, who resided many years in South America, to show the perfect acclimatization of the Spanish race in the equatorial regions of that continent. In Guayaquil and Piura, from latitude 2° to 5° south, where the mercury rarely falls below 80°, even at night, for months at a time, the white population is of Spanish descent, and of a high moral standard as regards the relations of the sexes, thus preserving it from admixture with the native races. The women are considered the finest on the Pacific coast; they are tall, handsome, healthy, and prolific; the men are large, stout, strong, and well nourished.

Dr. Spruce's notes also show examples of different portions of the same race of Indians, who have taken up their abodes in regions widely divergent in climatic conditions, and each become thoroughly adapted to its new environment. He says: "The warmth-, yet shade-loving Indian of the Amazon; the Indian of the hot, dry, treeless coasts of Peru and Guayaquil, who exposes his head to the sun with as much zest as an African negro; the Indian of the Andes, for whom no cold seems too great, who goes constantly bare-legged and often bare-headed, through whose rude straw hat the piercing wind of the *paramos* sweeps and chills the whole man to the very bones—all these, in the color and texture of the skin, the hair, and other important features, are plainly of one and the same race.

"Now," he goes on to say, "there is some of the equatorial Andes, ranging between about 4,000 and 6,000 feet altitude, which is very desirable to cultivate, but where the red man sickens and dies. Indians taken down from the

Sierra get ague and dysentery; those from the plains find the temperature chilly, and are stricken down with influenza and pains in the limbs," thus showing that, while each has become acclimated to his peculiar habitat, even a partial change toward the conditions of the other branch of the race proves deleterious and in many cases fatal.

The history of the colonization of Algeria by the French is interesting and to the point. After the conquest, about 1845, continual attempts were made by the French to plant colonies there, and, for a number of years, with very little success. The mortality far exceeded the increase by births. The colonists died off, the fertility of the survivors became reduced, and it was prophesied by physicians and anthropologists that the attempt would prove a failure. After the first few years, however, the tide turned, the births exceeded the deaths in number, and the census of 1870 showed a large increase in French population, only a small proportion of which could be attributed to immigration.

Instances might be multiplied indefinitely of the adaptation of races to new surroundings, but it seems profitless in view of the fact that is now undisputed that the Aryan and Semitic races, springing from neighboring regions in southwestern Asia, have made for themselves homes and established nations in every quarter of the globe, proving conclusively that acclimatization as a race phenomenon has been co-extensive with the colonization of the greater part of the planet.

It has frequently and strenuously been denied that acclimatization can or does take place with regard to malarial and endemic fevers, and the argument to prove it is that Europeans are rapidly and fatally attacked by these fevers upon taking up their abode in the regions where they prevail. This certainly does not prove that acclimatization is impossible, but only that it is necessary, for by the definition we have seen that acclimatization is a process of gradual adaptation to influences at first injurious. If this susceptibility of new-comers did not exist there would be neither its need nor its possibility.

If we accept the modern views in biology we can not escape the conviction that acclimatization is not only a possibility, but an inevitable consequence of a change of climatic surroundings within certain limitations.

"The broadest and most complete definition of life will be," says Herbert Spencer, "the continuous adjustment of internal relations to external relations."* It is a universal principle with living organisms that within certain limitations they have the power of adaptation to their environment, and, if exposed to unaccustomed surroundings which fall short of producing such commotion as to terminate its life, the organism will, by a gradual process, undergo such functional and structural changes as to better fit it for its new environment. In fact, the biological law of adaptation is but one phase of an even more general law, for, according to Spencer, "All that is corollary from the persistence of force that any deviation effected by a disturbing cause, acting on some other member of a moving equilibrium, must (unless it altogether destroy the moving equilibrium) be eventually followed by a compensating movement."†

* "Principles of Biology," § 72. † Op. cit., § 170.

Nearly all the physical influences surrounding a human being, or any of the higher animals, are those which go to make up what we know as climate. The air he breathes, and in which he is constantly bathed; the temperature to which he is subjected; the moisture of the atmosphere, with its effect upon his cutaneous and respiratory organs; the emanations from the soil; the water he drinks; the food he eats; and the clothing he wears—are all either elements of climate or are determined by it. In fact, the climate to which he is subjected is practically co-extensive with his environment. Acclimatization is, therefore, as regards the human race and the higher animals, practically an equivalent expression with adaptation to environment which Mr. Spencer has shown is the fundamental law of biology.

Admitting, then, that acclimatization is a reality, it is evident that it will present itself in two different aspects—as a phenomenon in the life history of an individual and as affecting the races of mankind. In its ethnic aspect, it has been a concomitant of those great streams of emigration which have from prehistoric times poured out from the source of the Aryan race in the valleys of the Himalayas, ever advancing, carrying all obstacles before them, until they have overrun nearly the whole of Europe, portions of Asia and Africa, besides both Americas and Australia. In a lesser degree it has been illustrated by the career of the Jewish race, which, starting from Palestine, has wandered far and wide upon the earth, making itself homes in strange lands.

As students of climatology, and, as all physicians must be to some extent, of anthropology, this ethnic acclimatization has its interest for us, but, as practitioners, the matter of individual acclimatization is of more vital importance. Let us for a moment consider the new forces brought to bear upon the human organism by a new climate, the effect produced upon the organism, and its reaction.

Climates differ in their temperature, their humidity, the weight and density of the atmosphere, and in the degree of variation of each of these; also in the composition of the atmosphere and its impurities, and closely associated is the nature of the food and water-supply. Of course, in a paper like the present it would be impossible to analyze the effects of changes in each of these climatic elements upon the human organism, even if the physiological data were sufficiently well understood, and a mere suggestion is all that will be attempted.

As a general principle, any decided change in the climatic influences brought to bear upon the body will result in a change in the relative demand for functional activity of the various organs. The increased functional activity of one set will result in increased growth and development, while diminished activity of another set will lead to a corresponding atrophy, until a condition of considerable harmony of adaptation will be accomplished. The [illegible] appear a period to go from a comparative [illegible] The [illegible] upon the body [illegible] work in keeping down the body temperature is a [illegible] than it is able to perform. In some cases the [illegible] is deficient, and [illegible] of the [illegible] that [illegible] enabling [illegible] power to [illegible] with the [illegible] of [illegible]

ing hyperæmia and intestinal derangements. Without attempting to go minutely into the physiological changes induced by the increased temperature, certain things are evident. The relative activity of the excretory organs is deranged, greater work is called for upon the part of the skin, less is demanded from the lungs and kidneys. The call upon certain organs for work for which they are not prepared can not but result in its imperfect accomplishment, and consequent derangement of the system. But, upon the same principle that a muscle develops by increased use, or the eye or the hand becomes trained to greater skill by exercise, the organs upon which the greater demand is made must, if the organism survive the change, gradually adapt themselves to the increased activity by increased growth and development. The organs which are partially relieved of their function will undergo a corresponding structural involution, the balance of the system will be restored, and the organism adapted, so far as these disturbing elements go, to its new habitat. Accordingly, we find that in the inhabitants of hot climates the lungs and the kidneys are less developed than among the dwellers in the temperate zone, the skin and the liver more developed. In illustration of the changes wrought in the structure of the body by climatic influences, it has been shown that among the dwellers in high altitudes—for example, the Peruvians at an elevation of from 7,000 to 15,000 feet in the thin, cool atmosphere of those heights—the lungs become greatly hypertrophied and the body short and compact.*

There are many other elements in the series of changes which the body undergoes. The physiological action of heat upon the sympathetic and cerebro-spinal system of nerve-centers is first that of stimulation, followed by a secondary sedative action, which leads to diminished functional activity of the various organs considered collectively, and consequently the heat production of the body is diminished, as it should be in the course of adaptation to a tropical climate. Probably the effect produced by the climatic influences upon the nervous system has a large share in the adaptive changes. The food demanded by the tissues is of a less stimulating and less heat-producing character, less meat and fat, more fruits and vegetables. This change in an Englishman, for instance, accustomed to his roast beef and mutton-chops, will call for a training of the appetite and of the digestive and assimilative organs, and approximation to those of the herbivorous and fruit-eating animals. Much of the intestinal disturbance consequent upon residence or sojourn in hot climates is probably due to the need of adaptation in this respect. More or less change in other habits of the individual would become necessary, and would be made when experience had taught him its need.

Until the science of physiology is more fully understood, and the function of every organ and the histological changes [illegible] made a matter of more nearly exact demonstration, and the action and reaction of each organ upon every other clearly seen, we can not expect to ascertain the precise manner in which the innumerable influences which go to make up climate do their work. For the present, we must be satisfied if we can discern in them a harmony with general principles.

Turning again to the subject of race acclimatization, we find another factor of prime importance at work—namely, the principle of natural selection. By the dying off of the individuals whose vital energy is insufficient to endure the changed conditions of life, and the survival of those who have become best adapted to the change, the race would be propagated only by those individuals who, either by an accidental correspondence with the new conditions or by a process of adaptive changes, have come into harmony with them, and the progeny, inheriting the peculiarities of their parents, would continue down the generations, as race characteristics, the modifications of structure and function which render them suitable to their new habitat. That this process of race acclimatization does occur is shown by the rapid increase of the negro race in the Southern States, and by the fact that members of that race taken from temperate climates back to the tropical regions whence their ancestors came sicken and die of the same disorders as the whites who go there.*

One phenomenon has been often cited against the doctrine of acclimatization of races which, rightly considered, will be seen to be one of its most important factors. It is the fact that children of emigrants from any region to one widely differing from their own in climatic conditions are frequently deficient in vigor, especially as regards the function of reproduction, the women being sterile in many instances, and the race consequently nearly or quite dying out in the course of a few generations.

To a certain extent the power of procreation may be considered as an excess of vital power over and above that required to maintain the life of the individual; consequently, when the vital power becomes reduced by struggles with adverse surroundings, the reproductive function is the first to suffer, and, of course, if the change in climatic conditions is sufficient to extinguish it, the race will of necessity die out; but this only shows the limitation of the power of adaptation, not its non-existence; for, if the reproductive function be not extinguished but only limited, this very limitation will aid the process of natural selection by allowing the race to be propagated only from those individuals whose power to resist the injurious effects of the changed conditions has been greatest, and thus gradually bringing the race up to their standard.

Natural selection, then, has been an important factor in the changes produced in a race by change of climate. Is it not possible to regard it as taking a part even in the modifications of the individual organism? It is sometimes difficult to determine exactly what constitutes an individual. Of course it is easy enough to tell the difference between one man and two, but in some of the lower forms of life it is often a question whether an organism should be considered as an individual or as a community of individuals. Now, the body of man or any of the higher animals may be considered as a highly organized community, composed of distinct masses of protoplasm or cells generated one from another, each of which is in a sense an individual living

* Martin on "Tropical Climates."

* Hodges, "Diseases [illegible]," i, pp. 90, 113. Wurtz, "An [illegible]," p. 47. Wilson on "Diseases of the Lungs," 4th ed., p. 357.

being, and each of which assimilates, excretes, reproduces, performs its function in the animal economy, and dies. The growth and multiplication and functional activity of these cells are dependent upon the play of molecular forces in the cells—that is to say, upon the entrance and exit of nutritive fluids into and from their interior, and the changes effected by the cells in such fluids and in their own walls.* If, therefore, we conceive of these forces being affected by the environment, as it would seem they must, it will be obvious that the law of natural selection has its part in the modifications wrought in the various organs of the body. For, if the cells going to the formation of any given organ or part of an organ differ in any degree among themselves, no matter how slight that difference may be, some of them must be better suited to the new conditions of life than others. From these, therefore, cell generation would be carried on to a greater extent than from the others, and the organs which they constitute, and the organism itself, would be correspondingly modified.

A change from a cool or temperate climate to a warmer one has been considered; other changes would operate in a similar manner. The converse, removal from a warm to a cool climate, would result in converse changes. Differences in humidity, acting upon the skin and respiratory organs in a somewhat similar way, would effect corresponding changes, and climates of wide and sudden fluctuations in regard to temperature or moisture, or both, would demand still further modifications of the organism, which would be brought about by the operation of the same laws which we have been considering.

The question of acclimatization to malarial influences is an exceedingly interesting one, but one which involves problems beyond our present power to solve. Admitting immunity from endemic malarial diseases, partial or complete, to follow long residence on the part of either an individual or a race in a region subject to their influence, we can scarcely do more than call attention to analogies between this phenomenon and certain other immunities from the injurious effects of noxious influences acquired by custom. Such is the toleration established for certain poisons —for instance, opium, arsenic, and tobacco—in those accustomed to their use. Of apparently like nature is the immunity from variola afforded by vaccination, and from various zymotic diseases by a prior attack. These are problems still awaiting solution; but, whether it shall be proved that these influences have added something to the protoplasm of the cells, or taken something from it, or produced changes in it by catalysis, or whether the changes shall be found to be in the constituents of the blood, all of which theories have been advanced to account for the phenomena, the phenomena themselves must of necessity be found to result in some manner from the changes in arrangement and composition of living matter, brought about by the new conditions to which they are exposed.

Enough has been said to show that the problem is a complicated one, but one which lies properly within the scope of physiological science. Its mastery will involve the solution of many of the most profound questions of biology—the actions of heat and cold, of dryness and moisture, upon the functions of the skin and lungs, the digestive and blood-making organs and the circulation, the kidneys, the glandular system, the cerebro-spinal and sympathetic nerve-centers, upon the action of the vaso-motor and trophic nerves, and the mechanism governing the production of animal heat, together with the reactions of the changed conditions of each of these upon the functions and structure of the organism. The influences of changes in the atmospheric pressure and consequent density upon the respiratory organs and the body in general must be considered, as well as the effect of sudden or gradual fluctuations in each of the climatic elements. The effects wrought upon the organism by the presence of diseased germs, the influence of changes in food and water, in clothing and habits of life, must all be considered.

It is evident, and becoming more fully recognized every day, that in the manifold conditions grouped under the term climate we have at our command, not one, but a host of hygienic and therapeutic agents, capable of exerting upon the human body influences potent for good if rightly used, but, like all other therapeutic agents, powerful for harm when used improperly. Hence it must be evident that any progress made in this branch of climatology will be of inestimable value, not only in the treatment of disease, but in the determination of the forces which are to go to the improvement and development of the human race.

DISCUSSION.

Dr. Shattuck thought the paper was extremely interesting, and suggested some points for discussion. Regarding acclimatization of the negro in the Southern States, he was reminded of what had been said by Dr. Miller in conversation last year. Dr. Miller said that consumption, which was formerly almost unknown among the negroes while they were slaves, had, at least in large districts of the South, become extremely prevalent, and was increasing in frequency and fatality. Of course the climate remained essentially the same. The explanation seemed to be that under slavery the negroes were all well cared for, their masters employed good physicians, and it was to their interest to look after the health of their slaves, and to provide them with enough to eat, sufficient clothes, and suitable dwellings. In other words, the negroes were entirely removed from the operation of the law of the struggle for existence and the survival of the fittest. At present their welfare was nobody's interest but their own, practically; there was nobody to look after them, and they were subject to the law before named. This seemed to be a sufficient explanation of the spread of consumption among this class of the Southern population. The speaker could not understand how any one could deny that there was such a thing as acclimatization. If one would simply take a walk in England and then in one of the New England cities he would no longer have any question about it. The New England population was originally of perfectly pure English blood, and the contrast in the appearance of the inhabitants of the two countries at present was certainly great. Something had brought about the change.

Dr. Wyeth rose to ask a question regarding the negro race of this country. He had understood the author of the paper to say it was increasing. He had recently seen some statistics going to show that it was not increasing. The mortality among the negroes in various parts of the State was very great, and the writer in question thought there was a tendency for the

* Carpenter's "Physiology," 8th ed., p. 137.

race to die out. Probably the reason was to be found in what Dr. Platt had stated concerning the negro's present and former condition.

Dr. Platt said he had not made a study of the increase of the negro race in this country, but the census showed a very great increase from 1870 to 1880. He had noticed recently in one of our magazines an article intended to quiet apprehension created by some alarmists that the whole nation was in danger of becoming Africanized by the rapid increase in the negro race, and the author showed that the great increase was only apparent, from the fact that the census of 1880 was much more complete than previous ones.

AN ACCOUNT OF A SUIT FOR DAMAGES

IN A CASE OF ALLEGED INJURY BY A BLOW ON THE EAR.

By GORHAM BACON, M. D.,

and D. B. ST. JOHN ROOSA, M. D., LL. D.

In this case both of the writers were called as witnesses, and, for the sake of convenience, we will give the circumstances relating to it according to our respective testimony.

Dr. Bacon's account of his experience in the case immediately follows:

I was consulted, about April 1, 1885, by Mr. X., who said that a suit for assault and battery with injury to the hearing was to be begun against him shortly in the courts, and he asked me if I would examine the child, whose hearing was said to have been injured by the blow, if permission were granted by the plaintiff. Having consented to do so, Mr. X. said that his lawyer would call in a few days and give the particulars of the case. The defendant's lawyer having written to the plaintiff's counsel, and not having had any reply, he made an appointment with me to call at the plaintiff's house and request an examination of the child whose hearing was said to have been damaged. On our arrival at the house, we found that the father of the child was out of the city, and had an opportunity of questioning the boy, who seemed to hear conversation addressed to him in rather a loud tone of voice. He seemed to be about eight years of age, poorly nourished, with a decided nasal twang to his voice, and breathed with the mouth wide open. His mother came in and said that her husband, Mr. Y., was out of town, but would return in a few days, and that he was perfectly willing to have a doctor examine the child, provided he were present himself at the time.

On the return of Mr. Y. to the city, he called at my office and made an appointment to bring his boy. He called on the appointed day, but without the boy, whom he was unable to bring as he had contracted a severe cold in his head and he was in bed. He was obliged to shout at him in order to make him hear. He said he would call in a few days, which he did, but, as the boy was still unable to come with him, he asked that the proposed examination be made at his house. April 18th I called to see the child, Master Y. He was still confined to the house and was so hard of hearing that I had to shout to make him hear. Both parents were present and told me that Mrs. Y. and children passed the summer of 1883 at a hotel on the Long Island shore, Mr. Y. being absent, however, in Europe. The summer of 1884 found Mr. X. also with his wife and children, at the same hotel, occurred during a week in August while Mrs. Y. was away and the children were left in charge of a colored nurse, who witnessed the blow. Mr. Y.'s children were in the habit of playing with those of Mr. X., and they said that the cause of the assault was a dispute between one of Mr. X.'s children and Master Y. over the possession of a butterfly. Mr. Y. said that his child was a year older than Mr. X.'s and much brighter. Mr. X. became very angry on hearing of the trouble between the children, and at first was going to cane Master Y., but instead brutally assaulted the boy, about an hour after the dispute, hitting him severely across the left side of the face and ear with his hand. Mrs. Y. returned from her trip in about a week after this and learned of the trouble from the colored nurse. After the blow, the nurse said that the boy complained immediately of pain about the left ear and of a buzzing noise. He was put to bed, and remained there that day and the following. The ear broke, but soon stopped running, and, when Mrs. Y. saw him on her return, the boy seemed to feel badly and still complained of a buzzing noise in his ear. The nurse applied some vaseline to the ear and side of his face. The boy played about after he got up from bed, but did not seem so bright as before. No doctor saw the child at this time. The parents stated, further, that the child had never had any aural disease previously, and that his hearing had always been good. He had measles and whooping-cough when three or four years old. He had always been a healthy child. They deny any hereditary tendency to deafness on the child's part, although I noticed, in talking with his father, that the parent's hearing was not perfect. Master Y. was in the habit of bathing and diving in the salt water during the summer. The noise in the ear, complained of after the blow, troubled him at times till about the middle of September, since which time he has not complained of any noise in either ear. In the early fall Mrs. Y. went with the boy to the mountains, where his hearing seemed to improve, but grew worse again on returning to New York. In October she took the boy to her family physician, who treated him for a short time. Since the occurrence of the blow Master Y. has been subject to head colds, and whenever he has had one of these colds his hearing has been affected; "it has gone to his ears." He hears better on dry, clear days. He breathes with mouth open during sleep. As the deafness seemed to increase, the parents took him to see Dr. Rounds, at the Ophthalmic Hospital, in March, 1884. He is under the doctor's care at present, and has been since the first visit in March. The hearing has been gradually improving of late, and two weeks ago he heard quite well. He has been confined to the house during the past week on account of a severe cold in the head, and the deafness has been very marked. There has been a discharge from the left ear, but none from the right one. He has had pain in both ears, but more in the right one. Mrs. Y. applied an onion to each ear and dropped camphorated oil into both canals.

Examination.—Master Y., aged eight, anæmic, poorly nourished, has a dazed or stupid appearance; breaths with mouth open. On closing the mouth, he breathes with difficulty through the nose. He has chronic naso-pharyngeal catarrh with hypertrophy of the tissues in the nasal passages. The left nasal passage is more obstructed than the right. The septum nasi deviates to the left side. He has chronic pharyngitis with thickening of the palatal folds; tonsils not enlarged; uvula elongated.

Right membrana tympani congested and swollen; epidermal layer sodden and coming off; also from the inner end of the canal. Left membrana tympani presents almost the same appearances, although less congested. No perforation seen in either ear.

Hearing distance, watch, right ear, contact; left ear, contact. When very close to him he hears loud voice in the right ear and very loud voice in the left ear. Tuning fork, when vibrating and placed on the vertex cranii and teeth, heard with

the same intensity in each ear. The bony conduction is much better than the aërial.

After inflation by Politzer's method the hearing distance was much improved, and the difference in the hearing power between the two ears was then much less marked. By means of the diagnostic tube it was perceived that air passed more readily through the right than through the left Eustachian tube.

At the trial both parents told their side of the story substantially as I have given it, with one exception, however, that after the blow they said the boy had pain in the ear and side of the face; but they did not mention any buzzing noise or discharge from the ear at the time.

The colored nurse who had charge of Master Y. in the absence of the parents testified that Mr. X. made a sudden attack on the boy while he was at her side; that he struck him such a severe blow that the boy fell over against her, and that he was ill for several days and complained of pain about his ear. The plaintiff produced four or five witnesses who testified that they had frequent opportunities of observing Master Y. up to the summer of 1883, when he left town, and that they had observed no difficulty with his hearing. Among these were his two school-teachers and a lady at whose house he was frequently engaged in playing with the children.

The defendant, Mr. X., testified that he saw Master Y. at the hotel on the Long Island shore in July, 1883. He was boarding there at the time for a few months with his wife and three children. He went back and forth occasionally to New York. His oldest child was four years old, his second two years and a half, and the youngest only eighteen months. There were thirty or forty guests at the hotel. He said, further, that a few days preceding the occurrence for which this action was brought he saw Master Y. annoy his youngest child and attack his children. He used obscene language to them. He saw him run down his youngest child on the lawn. Two days after he saw Master Y. walk up to his second youngest, who was standing under a tree playing with a toy express-wagon, and snatch the wagon away from him with such force as to throw him down and injure him. He then said to the boy, "If you hurt my child again I shall be obliged to punish you." On the day of the occurrence of slapping the boy Mr. X. testified that he was sitting reading on the hotel piazza. A lawn was in front of it about four hundred feet wide, on which were a number of trees and bushes. About 11 A. M. he suddenly heard screams from the opposite end of the lawn, and immediately afterward the nurse who had his child in charge came running toward him alone and called him. He ran to the child and found him lying on the ground and panting and very blue in the face. He had been ill and had been carried out to the place on the lawn. Mr. X. carried him up stairs, and, while doing so, saw Master Y. running from the spot. The witness further said that he looked then for Master Y., but, not finding him, returned to the piazza to read. About half an hour after, while still on the piazza together with his wife and several other ladies, the colored nurse who had charge of Master Y. came up leading the boy by the hand and said, "Here is ——." Mr. X. then said, "——, have I not told you that if you hurt my children again I would punish you?" He did not reply, and, thinking that the nurse had brought him up to be punished, Mr. X. with the right hand gave him a slap on the left cheek, which did not stir him an inch. The nurse did not say anything about hurting the child. The boy walked away with the nurse and was crying a little. The defendant further testified that he did it simply to protect his children, that he had no malice, but rather pitied the boy. He saw him coming into dinner that day, saw him repeatedly in the afternoon the next day, and every day as long as he remained at the hotel. He did not notice any difference in his actions or condition after that day, except that he did not go near his children again.

The nurse having charge of Mr. X.'s children testified that Master Y. was in the habit of annoying the defendant's children; she told of the quarrel between the children over the possession of the butterfly, how Master Y. kicked her child, and how she called to Mr. X. for help.

Mrs. X. and other ladies on the piazza at the time testified that they saw Mr. X. carry his child in when hurt, and that he did not injure Master Y. at all by the slap he gave him. They further said that the boy was playing around as usual all of that day, and they noticed no difference in the child's actions; noticed no mark about the face or ear. The wife of the proprietor of the hotel said that she examined the boy's face soon after the slap and saw no swelling of any kind; that he sat beside her at dinner that day and ate and seemed as well as ever.

A gentleman who was in the habit of being frequently with the children at the hotel said that before the boy was slapped he noticed that Master Y. at times did not hear well, and he had to repeat his questions to him; that the boy was in the habit of bathing and remaining in the water a long time.

The foregoing is substantially the testimony that was presented in regard to the nature of the blow, although not a verbatim report. The following testimony is from the stenographer's notes, but with some verbal omissions:

Testimony of Dr. William T. White, a witness sworn on behalf of the plaintiff.—I have attended Mr. Y.'s family. I am not a specialist in diseases of the ear. In my practice as a physician I have treated diseases of the ear. I treated Master Y. in October, 1883, for trouble with the ear. There was an abscess, and I treated him five days and then dismissed him.

Cross-examination.—I mean by an abscess a discharge of pus. I can't tell from which ear, but there was a discharge of pus.

Re-direct examination.—I can not tell the primary cause of the pus; there was inflammation, of course, preceding the formation of pus. A severe blow on the ear might create inflammation of the drum of the ear.

Re-cross-examination.—I can't tell what I did for the ear. I treated it on general principles. I examined the ear, but not with Politzer's inflation, etc. I found there was an abscess there, or running of pus from the ear, and I treated it as I did any other abscess. I never was called in afterward that I recollect.

Testimony of Dr. W. E. Rounds, a witness sworn on behalf of the plaintiff.—I have made a special study of diseases of the ear. I am connected with the New York Ophthalmic Hospital as surgeon. I became acquainted with this boy (Master Y.) in April, 1884. From that time to the present I have seen the boy on an average once a week. I have treated him for deafness in both ears, I believe more especially the right ear. Both ears were affected. He has catarrhal inflammation of the ear-drum. I have known inflammation of the drum to result from a blow. There is inflammation of the drum.

Q. Suppose a boy had been suffering from catarrh in the head and was struck a severe blow on the ear, in what way would that affect his hearing?

A. It might set up an inflammation of the drum, I think such an inflammation as I observed in this boy. I could not positively swear that a condition was due to a blow, although I would say that it might be.

Q. Assuming that the boy's hearing was perfect up to the time he was struck, and from that time forward was made so defective in his hearing, and which defect was never found him in the condition that you have stated, and suppose you had been told that prior to the summer of 1883 the boy's hearing

had been apparently perfect, and that then he had received a severe blow on the right ear, and that succeeding that you had, in April, 1884, found the boy's hearing in the condition that you found it, to what would you attribute his condition?

A. Unless there were evidence, I could not in fairness answer that. I could attribute it to anything which had produced the inflammation. If there were evidence of a blow there, I might attribute it to a blow. I did not find any such evidence of a blow. A blow might set up an inflammation which would continue and produce deafness. I believe inflammation might exist as the result of a blow without my finding, seven months after the blow had been struck, the traces of a blow itself.

Cross-examination.—I found this boy suffering in April, 1884, with naso-pharyngeal catarrh and an unnaturally opaque condition of the drum-membrane. I have seen such conditions produced by a catarrh. Catarrh is an affection of the middle ear, the drum. Catarrh is an inflammation of the mucous membrane wherever you find it. In connection with the middle ear, it is not always an inflammation of the Eustachian tubes; it may be of the drum-cavity, and sometimes of the nasal passages also. When I examined this boy I found that he did have a catarrhal condition of the nose, pharynx, and ear. I think that condition had existed for some time: I couldn't say how long. It was a chronic condition. It had existed, I should say, for a number of months. I should say in his case it had been standing eighteen months or a year; I wouldn't say positively. Some cases become chronic sooner than others. That condition may come from other causes than a blow, but I have known of cases of inflammation of the drum being set up by a blow upon the ear. An inflammation of the drum must be catarrhal. The most common causes of a catarrhal condition of the ear are sudden atmospheric changes, colds in the head, and anything which produces an inflammation of the mucous membrane. I recorded this case in my note-book at the hospital as one of chronic catarrh of the middle ear. Of course, I couldn't see the drum-cavity. The drum-membrane had an unnaturally thickened or opaque condition and was drawn in, pushed in farther than normal. That is all I remember about the case. I think that catarrh might be produced by a blow under certain circumstances. I think a blow upon the ear might produce an inflammation of the middle ear. I don't say that it could produce a catarrhal condition of the Eustachian tubes and the nasal passages. I have recorded that the right ear was more inflamed than the left, that the hearing was more diminished in the right ear than in the left. He is deaf in both ears. Inflammation in the ear opposite to the side of the face on which a person was struck probably could not be produced by a blow upon the side of the face opposite to the ear in which the inflammation appears. There was inflammation in both ears. A blow might produce an acute inflammation in the ear that was already affected. Inflammation in the right ear drum would not of necessity affect the left ear; I don't think it would naturally; one would not of necessity depend upon the other. If I had a case in which there was a catarrh of both ears and the trouble was acute in one, I could readily see how that trouble could have been aggravated by a blow upon the ear on the side where the blow or slap had been given. In this case it was in the right ear. All that I remember about the case, when I saw it at first, is as it is reported in the records. As nearly as I can remember, the deafness then was greater on the right side, and as to the inflammatory condition, there was no apparent difference between the ears. It was a chronic condition. I have treated him off and on since then for catarrhal deafness.

By Court.—I think a blow would be more likely to set up an inflammation where a person was suffering from chronic cold in the head and his nasal organs were affected than if the ear was healthy; it would be more likely to aggravate the disease. I can't swear from memory in which particular ear this deafness was. I can only swear to my impression.

Testimony of Dr. Gorham Bacon, a witness sworn on behalf of the defendant.—I devote my attention to diseases of the ear. I am surgeon at the New York Eye and Ear Infirmary. I made an examination of Master Y. two weeks ago. (The testimony in regard to the boy's condition, as given on the witness stand, is similar to that already given at the beginning of this paper.)

Catarrhal deafness is a disease of the middle ear and the Eustachian tubes. (The witness here explained on the model presented to him the location of the different parts of the ear.)

Chronic naso-pharyngeal catarrh affects the middle ear by means of the Eustachian tube, which is lined by mucous membrane, as well as the nose and posterior part of the pharynx. The Eustachian tube (one on either side) opens into the side of the naso-pharynx or back part of the throat, so that catarrhal inflammation affecting the nose and naso-pharynx proceeds up the tube to the middle ear. The Eustachian tube allows a proper ventilation of air to the middle ear, so that the pressure on both sides of the drum-membrane may be equal. When the Eustachian tube is closed by catarrhal inflammation and the parts are swollen, the air does not properly enter the Eustachian tube, and, consequently, the pressure of the atmosphere pushes the drum-membrane inward and interferes with the hearing. The ventilation is also communicated through the nasal passages. A healthy patient should breathe with the mouth closed, and the air should pass through the nose and Eustachian tube into the middle ear. A catarrhal inflammation, when the patient is not able to breathe through the nose, and he breathes through the mouth, interferes with the proper ventilation of the middle ear, so that changes take place there and the hearing is interfered with in that way. I found in my examination of this boy that there was a closure of the Eustachian tube of each ear, and, by forcing air through the tubes into the middle ears, and in this way removing the obstruction of mucus, that the patient heard very much better; it improved the hearing very materially. That introduction of air was by Politzer's method of inflation. I inflated both ears, and, by means of a tube, I connected my ear with the ear of the patient on either side, and heard in each middle ear the bubbling sound characteristic of the presence of mucus in the middle ear. I tested the boy's hearing with regard to the condition of the internal ear by means of the tuning-fork.

By vibrating a tuning-fork and then holding it just a little in front of the ear, and afterward placing it back of the ear on the bone, if the patient hears the tuning-fork louder when it is placed on the bone than when it is held directly in front of the ear—that is, when a patient is deaf—it shows that the trouble is in the middle ear, and not in the labyrinth or nerve. This boy heard the tuning-fork better by bone conduction in each ear, showing that the trouble in each ear was dependent upon middle-ear disease, and that the nerve was not affected. I couldn't tell how long this chronic catarrh of the middle ear had existed. I could only say that in this child's case it had probably existed several years on account of the obstruction and thickening of the mucous membrane in the nasal passages and naso-pharynx. An opaque condition of the membrane, accompanied with inflammation, is an indication of chronic catarrh. The usual symptoms of rupture of the drum-membrane include sharp pain at the time; there may or may not be some bleeding from the ear; there usually is. The patient is apt to be dizzy, and often vomits; is sick at the stomach, has a staggering gait, is unable to walk, and has a ringing noise in the ear. I should say that a slap upon the face of a child such as this boy was two years ago, which was not sufficient to move him from

a perpendicular line or throw him over, would not in any way affect his hearing. Catarrhal deafness can not be produced by a blow. Mouth-breathing is invariably a sign of the presence of catarrh when a patient habitually breathes with the mouth open. A slap or blow upon one side of the face could not produce deafness on the other side of the head unless it produced concussion of both nerves, and, from an examination of the patient, there was no trouble with that part of the ear. The indications of catarrhal deafness were precisely the same in both middle ears. Repeated immersion of the body in water during a series of days or weeks in one predisposed to catarrhal deafness increases it, and, in some cases where the water enters the auditory canal so that it passes down against the drum-membrane, it produces inflammation of the drum-membrane and middle ear. In summer we have a great many patients at our hospital that suffer from inflammation of the middle and external ears from sea-bathing and diving. If a slap or blow is given a boy on the first of August, and is followed by a discharge of pus in the latter part of October, it could not be attributed to the blow unless the boy had a chronic discharge from the ear from the time of the blow. Otherwise there would be no connection between the two. An abscess in the ear usually means a discharge from the external ear. The discharge may come from the middle ear, but, in order to come from there, there must be mucus in the discharge, as the lining of the external ear is not mucous membrane, and, consequently, unless there is rupture of the drum-membrane, there can not be a discharge of mucus. A very frequent cause of a discharge of pus from the ear is the presence of a boil or small abscess in the external auditory canal—that is, in that portion of the ear outside of the drum-membrane. Catarrh is a frequent cause of deafness in children, especially in the climate of New York, where the changes in the weather are so frequent.

Cross-examination.—Mr. Y. was to have brought the boy to my office for an examination, but he said that the boy had been confined to the house on account of a recent cold in the head or catarrhal attack, and gave me permission to examine him at his house. Mr. X. had asked me to make the examination.

Q. Be kind enough to tell us if that was not the reason why you were employed, because the defendant doubted that there was any trouble with the boy's hearing?

A. He had his doubts. I don't remember Mr. X. saying that he didn't believe there was any trouble with the boy's hearing. He had a letter of introduction to me, and asked me if I would examine the boy and find out exactly what was the matter with him—whether there was any deafness. On the first occasion when I called with Mr. ——, Mr. X.'s lawyer, Mr. Y. was not at home. I did not then make an examination. I saw the boy playing in front of the house in the area. I did not speak to him then.

Q. In which ear is there the greater trouble?

A. There is no difference, so far as I know. There was an affection of both ears—a catarrhal affection. When I made my first examination, I found that the deafness was greater on the left side. After forcing air, however, through both Eustachian tubes into the middle ears, the deafness on both sides was very nearly equal; it was a little greater on the left side, owing to there being more catarrhal trouble on the left side of the nose, which would account for that. In nasal catarrh there are usually changes in the middle ear, there may not be any appreciable deafness, but, on testing the patient with the tests that we have for hearing, we find that the hearing very often is greatly impaired.

Q. You know that the hearing of any two people is not the same?

A. In the normal ear there is very little difference in the hearing distance. Patients very often don't know that they are deaf, the same way that they don't know that the eyesight is not good.

Q. You would call a man that didn't know he was deaf, scientifically deaf?

A. I would, although he thought he was not deaf. A person afflicted with chronic catarrh in the head is apt to have his hearing affected, although you can not tell without an examination of the ear. This boy had chronic catarrh in the head, nose, and back part of the throat. I do not know that a person's hearing is more sensitive when he is afflicted with a chronic catarrh of the head, and that a blow upon such a person is more liable to interfere with the hearing. I don't understand what you mean by sensitive. If you mean that the drum-membrane is more liable to be ruptured in a patient who has chronic catarrh, and there are changes in the drum-membrane, I say yes. The ear is not necessarily more liable to become inflamed. There is a very great difference between an inflammation of the drum-head and a rupture of the drum-head. A congestion of the drum-head is what is usually termed a redness; the vessels are more dilated, and the part, by examination, appears red and dry, and afterward may throw out some exudation. A rupture is an opening in the drum-membrane—a hole in the membrane. In certain rare cases I have known of people becoming deaf from a blow on the ear. A little child is not more sensitive than a grown person, and his organs of hearing are not more liable to be affected by inflammation from a blow; they are not so liable to be injured. In a climate like this almost everybody has some slight catarrhal trouble. I know there is a sympathy between the organs of the body through the sympathetic system. An affection of one eye will affect the other in certain diseases. That is not necessarily so with the ear, though there is apt to be in a catarrhal patient more or less sympathy between the ears; in catarrhal diseases there is usually an affection of both ears. A deafness from meningitis very often affects one ear. Meningitis is an inflammation of the membranes of the brain that may affect the nerve of one side and not in any way impair the other.

Q. Suppose you had been told that a little boy about six years old who had previously been free from any impairment of hearing (he may have been scientifically deaf, but not in fact) had received a severe blow on the left ear, and that from that time on, or from within two months after that on, his hearing in that ear had been impaired, would you ascribe that impairment of hearing to the blow?

A. I should not. The blow might affect his hearing, but I couldn't say it was necessarily the blow that did it, because I have so many patients come to me complaining of deafness from such a cause, and I find catarrhal difficulty in both ears.

Q. A person suffering from catarrhal difficulty can be more readily made deaf by a blow or shock?

A. If it affects the nerve or ruptures the drum-head.

Q. How if it inflames the drum-head?

A. There is no such thing as inflammation of the drum-head alone. A rupture of the drum-head may be followed by inflammation immediately. Inflammation of the drum-head is not generally classified separately now. There is such a thing as the drum-head being inflamed. It can result from a blow, or from what is called salt rheum or eczema of the external auditory canal, or from an abscess in the external part of the ear extending down to the drum-membrane.

Q. What would create such an abscess?

A. Some constitutional tendency to the formation of pus. It is possible for inflammation of the drum-head to be caused by a blow, but an inflammation of that kind does not in any way affect the hearing in the other ear unless it produces con-

cussion of the nerve of the opposite ear, which it does not do as a usual rule. As a rule, it does not affect the other ear at all. The blow does not affect the catarrh, although a person suffering from chronic catarrh in the head is more liable to deafness from a blow under certain conditions. In this case the blow might possibly have affected the hearing in both ears if it had produced concussion of the nerve. I couldn't tell whether it had produced concussion of the nerve at the time of the blow, if he had recovered from that. I could only say that the nerve was all right in both ears at the time that I examined them. Nobody could tell whether he had suffered from concussion of the nerve at the time of the accident unless he had examined him then.

Q. So that after the lapse of two years you couldn't really tell what had affected the boy's hearing?

A. You couldn't absolutely tell.

By the Court.—Q. Would there or would there not be an indication of a concussion of the nerve so late as when you made this examination?

A. I tested with the tuning-fork and found that at the time of the examination there was no trouble with the nerve. He might have had concussion of the nerve at the time, but it might have been entirely recovered from. There was no evidence that there had been any concussion of the nerve on either side at the time I examined him. If there had been any concussion of the nerve, it could not have caused the deafness that existed at the time I examined him. I could tell absolutely that the trouble was in the middle ear at the time of the examination. I couldn't tell whether there had been an inflammation of the drum-head at the time of the accident. I found inflammation in both drum-heads. He had a fresh attack of catarrh. I found more inflammation in the right ear. He heard better in the right ear, although there was more inflammation in the drum-head, shown from the discharge in the right ear. He heard better on the side where there was the most inflammation. Inflammation of the drum-head does to a certain extent cause deafness in certain cases, but it does not make people absolutely deaf. A chronic catarrhal inflammation of the nasal organs is apt to interfere with the hearing materially; it generally does; it is very apt to extend up the tubes to the ears. Some patients are absolutely deaf from catarrhal deafness, from catarrh of the nasal organs, when it extends up the Eustachian tubes. If it does not extend up the Eustachian tubes to the ear, it does not affect it. I have never heard of catarrhal affection of the nasal organs alone making a man deaf. People are deaf who do not suffer from any catarrhal affection of the nasal organs. I placed the tuning-fork in this case back of the ear and on top of the head. The patient very often does not hare it at all when placed on top of the head if the hearing is normal. It does not follow if he does not hear it that he is deaf, but it is an indication of deafness, and shows that either he has some trouble of the internal ear, or else that his hearing is perfect.

Q. If he does hear it, it shows his hearing is imperfect?

A. It does not. It shows the nerve is affected if he does not hear it, or else it is a normal ear. A patient with normal hearing hears the tuning-fork placed alongside of the ear, quite plainly in either ear. If it is first placed on top of the head, he may hear it very well or not at all. If you place a tuning-fork on a person's head and he does not hear it, it is an indication either that the hearing is good or else that both nerves are affected.

Q. If he does hear it, is that an indication that his hearing is bad?

A. Not necessarily, under certain conditions. If a patient is deaf in one ear and the nerve in that ear is not affected, he will hear the tuning-fork much better, if placed on the top of the head, in the affected ear, while, if the nerve is affected, he will not hear it on that side by bony conduction. In this case, when I placed the tuning-fork on the top of the head and behind the ear, he heard it much louder in both ears than when I held it at a distance from each ear. He said he heard it when I placed the tuning-fork on the head and on the bone behind each ear. I then held the tuning-fork about three inches in front of each ear, and he said that he heard it not at all or very faintly. This experiment with the tuning-fork indicates whether there is any trouble of the internal ear or of the middle ear if the patient complains of deafness.* The boy was not in bed at the time. I was told that he had been. I found the hearing worse in the left ear than in the right. All I know is from what the boy answered and the expression of the patient's countenance, as they generally express some pleasure when they hear the sound. I noticed each time from the expression that he heard it. I have heard of catarrh becoming chronic in six months. From the condition of the passages of the nose, the back part of the throat, and the upper part of the pharynx, where the Eustachian tubes enter, I am able to say, in this case with accuracy, that the naso-pharyngeal catarrh had existed more than six months. I found much more thickening, much more obstruction of the nasal passages, than there would have been in six months. I discovered that by getting him to breathe and inspecting the parts with a speculum. I am positive that it had existed more than six months. I don't remember whether Mr. Y. told me, but I was told that the patient had had frequent colds in the head. It was either Mr. or Mrs. Y.; they were both in the room; and they told me that, when he had cold in the head, his hearing was apt to be affected. They told me that condition existed only since the accident. I concluded that it had existed before the accident. I could say that it had existed two years—from the condition of the nasal passages and of the throat—and probably three or four years. Everybody that bathes does not become deaf, though it is very frequent in summer for people who bathe to become deaf. Most of the acute cases that come to the hospital in summer are from sea-bathing, either ruptured drum-head, from the force of the waves in surf-bathing, or inflammation of the drum-membrane or middle ear. It is not necessarily from a single shock, though it does result from a blow of the wave on that side of the ear. It will develop immediately if it ruptures the drum-head, but the presence of the water itself in the ear may set up a gradual inflammation, or it may result from particles of sand in the ear, or things that are apt to be in the water in surf-bathing. The chronic thickening of the nasal passages in this case, and of the back part of the throat or naso-pharynx, where the Eustachian tubes enter, indicated that this was not a sudden cold. There was a good deal of what is called connective tissue thrown out, or thickening of the parts there, and the nasal passages were very much congested, so that he could only breathe with extreme difficulty. I had no means of determining how long this condition had existed but my experience in similar cases of catarrh. You do not have such changes, such thickening and narrowing of the nasal passages, and thickening of the naso-pharynx, in a boy of that age, in six months. I should say that had existed

* From the stenographer's notes the testimony in regard to the use of the tuning fork is not very plain. What I intended to say was that, in some patients with normal hearing power, when a tuning fork in vibration is placed on the head, it is not heard at all or very slightly. If, however, the patient suffers from deafness in both ears, and the tuning fork is heard not at all or very slightly by bony conduction, while by aerial conduction it is heard fairly well, it is probable that the internal ears are affected.—G. B.

at least three or four years. I examined the boy about two weeks ago. Of course I could only tell what I found at that time.

(To be concluded.)

Book Notices.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-lithographs and Fine Wood Engravings. Edited by ALBERT H. BUCK, M. D., New York City. Volume I. New York: William Wood & Co., 1885. Pp. vi–808.

WHEN it became known that Dr. Buck had undertaken the preparation of this cyclopædia, it was generally expected that the work would prove to have been exceedingly well done. This expectation will not be disappointed; the volume before us is quite worthy to be ranked with those issued in French by Jaccoud and Raige-Delorme and Dechambre, and with Eulenburg's "Real-Encyclopädie." The pages are very large, double-columned, and closely printed. The subjects are treated of in alphabetical order, and the volume closes with the article on "Cataract." The work is freely illustrated, and most of the cuts are very good. We must say, however, that we attach but little value to the colored plates, four in number; except the second one, showing the spectrum of blood, none of them, we think, give a very accurate idea of what they are intended to represent.

Within the space at our command, a detailed criticism of the work is out of the question. We can only say that the writers seem to have been judiciously selected, and their articles carefully prepared. Besides the choice of authors, the difficult problem has had to be solved by Dr. Buck of how much space should be allotted to the various subjects; and in this matter, it seems to us, he has shown rare discretion. The work is unquestionably one of the most important that have ever been published in this country, and it constitutes a storehouse of information that no one interested in medicine can well afford to do without.

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BOOKS AND PAMPHLETS RECEIVED.

Lectures on the Diseases of the Nose and Throat, delivered during the Spring Session of Jefferson Medical College. By Charles E. Sajous, M. D., Lecturer on Rhinology and Laryngology in the Spring Course of Jefferson Medical College, etc. Illustrated with One Hundred Chromo-lithographs, from Oil-paintings by the Author, and Ninety-three Engravings on Wood. Philadelphia: F. A. Davis, Atty., 1885. Pp. xii-439.

The Blot upon the Brain: Studies in History and Psychology. By William W. Ireland, M. D., Edin., formerly of H. M. Indian Army, etc. New York: G. P. Putnam's Sons, 1886. Pp. viii–374. Price, $1.

The Transactions of the Medico-chirurgical Society of Edinburgh. Vol. IV—New Series. Session, 1884–'85. Edinburgh: Oliver & Boyd, 1885. Pp. xxvi-280.

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbstudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der Medizin, Physik an der Universität zu Königsberg i. Pr. Siebente, neu bearbeitete Auflage. Mit etwa Zweihundertundfünfzig in den Text eingedruckten Holzschnitten. Siebenter Band. Erste Lieferung. Hartleben's Verlag: Leipzig: Leopold Voss, 1885. Pp. 1–192. In boards.

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Correspondence.

LETTER FROM LONDON

General Parliamentary Election.—Medical Candidates.—The Royal College of Surgeons and its would-be Reformers.—The Want of a Degree for London Students.—The Recent Addresses of Dr. Wilks and Dr. Hughlings Jackson.

LONDON, *November 23, 1885.*

Our parliamentary elections take place this week, and the first result of them will be known to you before this letter is in type. The chief interest of the present general election to a medical writer lies in the possibility, and I hope I may say probability, that the new House of Commons will include a larger proportion of medical members than it has ever done before. The chamber which has just been dissolved contained only four doctors; that number, we hope, will be at least doubled in the new House. Some members of the profession are putting up for election, who, if successful, would be a real gain to Parliament. Mr. Erichsen, the well-known surgeon and surgical author, is standing in the Liberal interest, with a good prospect of success, for the Universities of Edinburgh and St. Andrews. Mr. Ernest Hart, the clever editor of the "British Medical Journal," is standing for a division in the East End of London. Sir Guyer Hunter, a retired Indian surgeon and professor of medicine at Bombay, who got his knighthood for services in connection with the outbreak of cholera in Egypt in 1853, also stands for an East End division, but in the Conservative interest, and therefore I fear with small prospect of success. Dr. Alfred Carpenter, the well-known authority on sewage-disposal, is putting up for a rural district, and other unknown medical men are courting the electors in other parts of the country. The seats of at least two of the doctors who sat in the last Parliament are safe, so that we shall all be very much disappointed if the new House of Commons does not contain a strong enough band of medical and sanitary authorities to prevent important measures of public health from being strangled by the press of other business, or shuffled into law without sufficient discussion.

It is not possible for any one on this side the water, who has not carefully studied your medical journals, to understand the exact merits of the unfortunate dissensions which are tearing your body asunder, but I am sure that the sympathies of all, except a few whose vanity is upset by the slightest waving of the red rag of ethics, are with the known and honored men who have withdrawn from the Congress organization. Rightly or wrongly, we, who have been brought up in an old and well-disciplined community, are influenced more by names than by numbers, and I fancy that most of us would rather take the chance of erring in company with Bowditch, Weir Mitchell, and Bartholow than make common cause with a legion of unknown practitioners. On one point, I believe, we should all be found unanimous, and that is that it is in the highest degree unadvisable that an international Congress should be "run" by any medico-political association of the host country, however powerful. Our British Medical Association is, as you know, as large and as influential as any medical society in the world, but no one in this country would think for a moment of allowing it to interfere in the organization of an international Congress. Successful as it is, the association is overshadowed and its influence balanced by bodies which came into the field before it, and which include the *élite* of the profession, both as regards character and ability. The Royal College of Physicians and the Royal College of Surgeons are universally admitted to represent the highest medical knowledge and the strictest medical honor, in spite of oligarchical constitutions which you would not tolerate for an instant. The popular cry here now is for their reform, but there is a very strong feeling against converting them into bodies like the British Medical Association, in which numbers shall swamp tried judgment and ability. The College of Surgeons is at present under attack. The college, as you may know, has the best medical licensing business of any corporation in the three kingdoms. It examines many hundred candidates *per annum*, and last year it received over twenty thousand pounds in examination fees. About half this sum is enough to provide for the expenses of the examinations; the rest goes to maintain the magnificent museum and library, and meet other working expenses of the college. By far the greater part of the college in-

come is derived from the fees paid by the members, of whom there are nearly 17,000. The higher grade—the Fellows—who have to undergo much stiffer examinations than the members, number less than 1,200. And yet the right of choosing the governing body of the college is restricted to these 1,200 Fellows, while the 17,000 members, from whom the college has derived the main part of its princely income, have no voice whatever in its administration. The injustice and unwisdom of this arrangement have long been felt, and at length an association has been formed with a view to inducing or constraining the Council of the college to allow the members to vote for, and, if chosen, to sit upon, the governing body. One additional privilege has already been conceded to the members by the Council, viz., that of meeting once a year in the college theatre to receive and discuss a report from the Council, though no right of rejecting or amending the report is allowed. On October 29th this meeting took place, and a strange scene it was. The large theatre of the college was crowded by Fellows and by members who had been whipped up by the association. Tier above tier of the amphitheatre, and all the seats in the galleries above, were filled with men, each of whom had paid some £20 for the college diploma, but who were now little more than strangers within its gates. In the central well the members of the Council sat, sphinx-like in their silence, while the pent-up indignation of years burst forth from speaker after speaker, many of whom had come from distant towns to join in the demonstration. It was a painful scene, for the Council is composed of the most respected men in the profession; but they have been caught in the toils of a bad system, and have to suffer for the sins of their predecessors, of which, you may be sure, angry speakers did not omit to remind them. Many of the Council are men of most liberal minds, and in all other respects eager for advance (I need only mention the names of Mr. Savory, the president; Sir James Paget, Sir Spencer Wells, Sir Joseph Lister, Mr. Jonathan Hutchinson, and Sir W. MacCormac, to prove this); but as soon as they take their seats on the College Council they seem to say good-by to their liberalism, and to identify themselves with the narrow traditions which the college has derived from the time when it was a simple city company. At the meeting in question they all sat impassive and silent, as though by previous arrangement, and allowed their system to be arraigned and motions to be passed over their heads without a single word of explanation or defense. A resolution was passed, by something like three hundred votes against eight, that it was desirable that the members should be allowed to take part in the meeting of the Council, but the great men said never a word. They had their revenge, however, for, on November 14th, they met together and decided unanimously that the demands of the members should not be granted. The reason for this decision will be made known at another meeting of Fellows and members, to be held on December 17th. The members are, of course, disheartened by their defeat; but, if they will press on, victory is assured them sooner or later. I am afraid I shall weary your readers with this long account of what may appear to them a tempest in a teapot. But the Royal College of Surgeons is really our most important medical body, and is destined, through the munificent bequest of the late Sir Erasmus Wilson, to take a still more prominent part in the advancement of medical science than it has hitherto done. It bids fair to become the center of pathological research in this country, and to be a really worthy monument of John Hunter. In conjunction with the Royal College of Physicians, it proposes to seek university rank and the degree-giving power, so that the heen tintes of the two bodies shall be able to write the coveted M. D. after their names instead of the cumbrous L. R. C. P., M. R. C. S. And, probably, in the not very distant future, it may actually combine with the College of Physicians to form one Royal College of Medicine, which would then be far and away the most important and influential medical body in the empire. Under these circumstances, I think it will be admitted that it is highly important that the administration of the college should be conducted on a large and liberal basis, and that it should be able to make sure of the loyalty and to dispose of the administrative ability of all its licentiates, instead of remaining, as it is now, a practically close corporation, under the irresponsible government of a handful of hospital surgeons.

The entries of new students at the London hospitals this year do not show any marked increase on the comparatively low figures of previous years. It is disappointing, as year after year goes by, to find the prosperity of London as a center of medical education still under a cloud; and every one is now beginning to see that, unless London students are afforded the same opportunities of acquiring a medical degree that the students of other schools have, there is no prospect of any great increase in their numbers. London, with its many splendid hospitals, its immense mass of clinical material, and its eminent clinical teachers, ought to be able to take the place of a "finishing-school" for students from all parts of the country, and even from the colonies and from the United States. As it is, we find even our own students running away from London by the score, just at the period of their curriculum when they are in a position to make good use of its wealth of clinical material and talent, in order to spend a year or two at some northern university which will give them a degree. At the same time the medical students at the Scotch universities and the English provincial schools are steadily increasing in numbers, while the number of London students remains practically stationary. A cry has thus arisen for a medical degree for London students, and, somehow or other, we shall obtain it. The University of London examinations are so severe that only a small percentage of students can take that degree. Fifty-one have obtained the M. B. degree this year, out of an average annual entry of six hundred. It is for the other five hundred and more, or for the greater part of them, that a degree is wanted, and there are several proposals on foot for dealing with this want, of which I hope to say something in a future letter.

Important lectures have just been given by two London physicians well known for their contributions to neurological medicine, and they are both worth careful reading. The one was addressed to the Midland Medical Society by Dr. Wilks, one of our leading pathologists and most philosophical physicians, whom another year or two may very probably see in our chief seat of honor, the presidency of the College of Physicians, in succession to Sir W. Jenner. Dr. Wilks's address mainly dealt with the proper place for drugs in the treatment of disease. It will not, possibly, commend itself to the enthusiastic pharmacologist who still cherishes the hope to find a specific to cure every disease, and a drug to touch every symptom, but it will, I think, be read with pleasure and assent by every observant and thoughtful practitioner. The other address—the Bowman lecture, by Dr. Hughlings Jackson—is more "caviare to the general," and requires a previous study of Herbert Spencer to render it plainly intelligible. Dr. Jackson is a profound student both of philosophy and of disease. His disquisitions are spoken of with bated breath by the most distinguished of his colleagues, who are not ashamed to confess that he often takes them beyond their depth. His accepted *métier* is to bring morbid phenomena within the scope of the Spencerian philosophy, to act in some sort as the medical exponent of Herbert Spencer; but, with all regard for Dr. Jackson, it seems as though he would have to find an exponent himself before his profound thoughts are brought within the reach of the average medical intellect.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 12, 1885.

A NOTABLE DEPARTURE FOR PARIS.

Last Wednesday may perhaps become as prominent in the chronology of preventive medicine as it certainly will in that of philanthropy, for on that day a ship left this port having on board four little children who within a week had been bitten by a mad dog, and, by the generosity of a few citizens, were enabled to start upon a voyage of which the purpose was to bring them into the presence of M. Pasteur, who had kindly undertaken to do his best to rescue them from a horrible death.

In brief, the circumstances are these: One day last week six children, living in Newark, New Jersey, were bitten by a dog that was supposed to be rabid. As usual, unfortunately, the dog was killed, but this disturbing element is in great part compensated for by the fact that so capable a veterinarian as Mr. Billings, of the New York Polyclinic, has declared his conviction that the animal was really suffering with rabies. As good luck would have it, the children fell into the hands of a physician who evidently keeps himself informed of what is going on in the world, and is not so consumed with doubt as to fight against what may prove to be a good thing, simply because it has not yet been irrefragably proved to be one—Dr. O'Gorman, of Newark. The doctor at once made up his mind that the children ought to be sent to Pasteur, and he backed up this sensible conclusion by contributing liberally toward the necessary expenses of the trip, and by inciting others to do likewise. The result has been, not only that an abundance of money was promptly forthcoming, but even that there has been such emulation in the work that one gentleman's offer to defray the whole expense has had to be declined.

Not the least satisfactory feature of the affair is the fact that the children are accompanied by Mr. Billings, who will look out for them on the trip, and will constitute one of the very best observers of M. Pasteur's system of inoculation that this country could have sent. It is not unlikely, too, that a representative of the Carnegie Laboratory, Dr. Biggs, will be enabled to witness the treatment, for we understand that he also has sailed for Europe, presumably with that object in view. Indeed, that institution backed by its founder, is said to have stood ready to undertake the whole cost and responsibility of the pilgrimage, if, as we have said, this had been rendered unnecessary by the prompt subscription of the funds needed and by Mr. Billings's readiness to go. There is one drawback to what we all hope may be the glad outcome of the voyage, and that is that two of the children have been left behind, their parents having refused to allow them to depart. Another fact that is perhaps unfortunate to comment on under is the report of the death of one of the persons on whom M. Pasteur's system has been tried. This, however, may be susceptible of a satisfactory explanation; at all events, we may be sure that it will not be glossed over, for never did a man in Pasteur's position show more candor or a greater desire not to carry assertion beyond the warrant of facts. For our part, we are still hopeful that his plan of protective inoculation will be demonstrated to be successful.

Persons who have been bitten by mad dogs are reported to be flocking to Paris, even from such distant countries as Algeria, but a pilgrimage across the Atlantic for that purpose must still be considered a most notable event. If Pasteur's treatment stands the test, familiarity with its technical details can not long, in the interest of humanity, be confined to Paris or to any great center, for it is not to be supposed that circumstances always and everywhere will be such as to enable victims to be sent there without dangerous delay; but for the present this ought by all means to be done whenever it is possible.

THE ARMY MEDICAL SERVICE.

The annual report of the Surgeon-General of the army, recently issued, although not bulky, being but a pamphlet of not quite a hundred pages, is sufficiently full to contain valuable data and to prove interesting reading. The first part of the report is devoted to a synopsis of the condition of the force from the point of view of health. It seems that, as during the preceding year, the cavalry has suffered disproportionately from typhoid fever. The rate for venereal diseases in general remains the same as it was the year before, but that for syphilis is two per cent. lower. Respiratory diseases were the most prevalent of all; diarrhœa and dysentery were also prominent. Of the infectious diseases, there were sixty-eight cases of mumps, sixty-one of measles, two of varioloid, sixty-one of erysipelas, one of chicken-pox, and eight of diphtheria. The percentage of mortality among native-born white troops was 6·6, among foreign-born white troops 12·9, and among colored troops 14·1, thus, as the Surgeon-General remarks, bearing out the popular belief that the native white American has a greater proportion of vital force, and greater resisting power to disease and death, than foreigners and negroes.

A table is given of the surgical operations performed during the year, and histories of a few individual cases have been appended to the report. Sections are devoted to the work of the Record and Pension Division, to the Medical Museum and Library, and to various other matters of interest to the profession. It is stated that the manuscript of the third volume of the "Medical and Surgical History of the War of the Rebellion," which is to be the last of the series, is now well advanced toward completion, and that it will probably be ready for issue before the close of the winter. Much interesting statistical matter, illustrated with graphic representations, is given at the close of the report. We must congratulate Surgeon-General Murray on the excellent condition of his corps, as shown in the report.

MINOR PARAGRAPHS.

THE MANAGEMENT OF STRAY DOGS.

THE "Lancet" commends a London institution known as the Temporary Home for Lost and Starving Dogs. Owing to the present prevalence of hydrophobia in London, there has lately been a great increase in the number of stray dogs cared for by the institution, for they are brought to its doors by the police. As many as nine hundred were received in the course of six days. Our contemporary points out a conspicuous service to humanity rendered by the home, in addition to the benefit to the dogs—that, namely, of keeping sick animals under watch until it can be determined positively whether they are or are not affected with rabies. If London, in the face of almost an epidemic of hydrophobia, can afford to be so humane to vagrant dogs, what excuse is there for our annual period of legalized brigandage, when the chief occupation of a set of miscreants termed dog-catchers is to steal or forcibly capture animals that are in no sense vagrant, merely that they may exact ransoms?

THE DISINFECTION OF RAGS.

UP to the time of going to press we have not heard of any special effort having been made to secure the approval of the American Public Health Association, which began its meeting in Washington last Tuesday, for the process which, as one of the daily papers puts it, oppresses the importers at this port. The paper in question has thought it best to warn the meeting against the blandishments of persons who are openly or secretly interested in the company that works the process, and were likely to attend the meeting. The hint was certainly not uncalled for, and we hope that nothing will come to light to show that it has been unavailing.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 8, 1885:

DISEASES.	Week ending Dec. 1.		Week ending Dec. 8.	
	Cases	Deaths	Cases	Deaths
Typhus	3	0	0	0
Typhoid fever	22	8	18	5
Scarlet fever	33	5	25	8
Cerebro-spinal meningitis	3	3	4	4
Measles	8	1	10	1
Diphtheria	75	29	92	45
Small-pox	3	2	12	1
Yellow Fever	1	1	0	0

The Carnegie Laboratory.—Dr. Herman M. Biggs, instructor in the Carnegie Laboratory, sailed for Europe in the Ems last Wednesday. The object of his mission is to visit the laboratory of Pasteur and learn all that he can from him in reference to the preparation of the virus for the inoculation against hydrophobia. He will then visit Koch's laboratory in Berlin, and obtain from him his views upon the subject of inoculation. He will then go to Cambridge, and pay his respects to John Burdon Sanderson, whose work in this department has a world-wide reputation. After a visit to Edinburgh, Glasgow, and London, he will return in two months to institute some elaborate experiments on a large scale. A small farm will be provided in connection with the Carnegie Laboratory, where a system of inoculations can be perfected and some observations made in reference to diseases due to a special microbe.

Mr. Carnegie has just presented the Bellevue Hospital Medical College with six thousand dollars for the purchase of more scientific apparatus in addition to the five thousand dollars for this purpose which he gave last year. He has further signified his willingness to contribute annually for the support of this institution and for the purpose of encouraging scientific work. Dr. Biggs has gone to Europe independent of the Newark children, and his entire expenses have been defrayed by Mr. Carnegie. It is a matter of no small importance that an institution can send to Europe a scientific man for any special observation, and this fact with many others betokens a great future for American medicine and surgery. There are now three paid assistants in the Carnegie Laboratory, and one hundred and forty students and practitioners daily at work in the building, and great results are to be expected from an institution which is carried on upon such a liberal basis.

Within the next six months four original papers will appear which will represent original work done in the Carnegie Laboratory.

The Boston Water-Supply.—It is said that an idea originated by Dr. Thomas L. Jenks, a member of the Massachusetts Medical Society, has lately been brought to the attention of Mayor O'Brien and the Water Board, by which, it is thought, a great improvement can be brought about in the quality of the water. The plan is to build an open conduit, a mile or more in length, from the outlet of the system, in which large, rough bowlders are to be placed. The water, rushing swiftly over and between these rocks, will be so agitated, it is presumed, as to do away with that impurity which depends upon partial stagnation.

The Harvard Medical School.—We learn that Dr. John P. Reynolds, who for ten years has been professor of obstetrics, has resigned the chair. He succeeded the late Dr. Buckingham, having previously been an instructor. We understand that Dr. Reynolds's resignation is a matter of general surprise, coming as it does so soon after the opening of the term, and that his successor can not be appointed in less than a month. Meantime President Eliot has asked Dr. William L. Richardson to perform the duties of the position, and it is thought that he will undoubtedly succeed to the chair. Dr. Richardson has been connected with the department for a number of years, and it has been owing largely to his work that the instruction in obstetrics at Harvard has been so satisfactory. Dr. C. M. Green assumes the duties that have heretofore fallen upon Dr. Richardson.

Information concerning a Thief has been given to the police by a Madison Avenue physician, the offender being a young man of good appearance, stout of build, about five feet eight inches tall, with a smooth red face, who summons physicians to call on imaginary patients, and robs their premises while they are away.

The Illinois State Board of Health and the Regulation of Medical Practice.—A decision is reported to have been made recently by one of the Illinois courts which, it is thought, will have the effect of greatly abridging the board's power in the administration of the Medical Practice Act. It seems that a graduate of the Rush Medical College, of Chicago, was licensed by the board in 1877, but that the board subsequently revoked the license for an alleged violation of the law. A suit brought by the practitioner has resulted in a decision which practically limits the board's power to that of the verification of diplomas and the identification of their holders, without power to revoke any license it may issue. If this decision is true it can not but be looked upon as a severe blow to the spirit of the law, however it may accord with its letter, and is on all accounts very much to be regretted.

The Law concerning Medical Testimony, which prohibits physicians from divulging their patients' secrets on the witness-stand, when they have been communicated to them as information necessary to an understanding of the case, was lately put forward by an Oswego practitioner as a reason for his refusing to give certain testimony in an action for assault. He was fined for contempt, and committed on his refusal to pay the fine. It is thought that an appeal will be taken.

Society Meetings for the Coming Week:

Monday, *December 14th:* New York Ophthalmological Society (private); New York Academy of Medicine (Section in Surgery); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *December 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association.

Wednesday, *December 16th:* Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Allegany (quarterly) and Tompkins (semi-annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (Clinico-Pathological); Stafford, N. H., District Medical Society (annual—Dover).

Thursday, *December 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Medical Society of Addison County, Vt. (annual).

Friday, *December 18th:* Chicago Gynæcological Society.

Saturday, *December 19th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Roman Medical Society (private).

Letters to the Editor.

PAYING ONE OF OUR PENALTIES FOR THE LOW STANDARD OF MEDICAL EDUCATION IN AMERICA.

To the Editor of the New York Medical Journal:

Sir: Now that the failure to hold the Ninth International Medical Congress in America is passing into history as a fact, one is rather disposed to look over the field with the view of discovering, if possible, some hidden cause for this lack of success. Something behind personal ambition; something behind the untimely action of the American Medical Association; something behind the code controversy. We must believe that these can be nothing more than the prominent symptoms of some deeper seated disease, that has led to the fatal issue. If any or all of them had been successfully treated, would it have made an iota's difference with the final result? Would not the cancer still have had its own way, and death been unavoidable?

We go to representatives of other departments of science hold their congresses, while their members flock from all parts of the world, to invariably convene their councils in harmony, and transact their affairs with success. Hardly a year passes without some such meeting, whether it be of geologists, astronomers, naturalists or ornithologists, but in these days we never hear of any serious jars at their gatherings, and I can attest to the fact that it is not for the lack of disputed questions. It certainly seems strange then that such a disaster as has befallen the efforts of the representatives of American medicine this year should lie within the range of possibilities. A profession, too, that has so noble a goal for its object, and one upon which humanity has so many claims. Can it be that the disciples of Darwin, of Herschel, or of Linnæus have a greater love for their work, seek more closely after the truth, and more rarely look for pecuniary gain in their pursuits than do the advocates of physic? These facts may all have more or less to do with it, but the root of the matter is still deeper, for I believe it involves the question of education. I mean by this that we are now reaping in this disgraceful contention some of our deserts for the way in which medicine has been permitted to grow up in this country. Our dishonor is due to our second- and third-rate medical colleges, which have been allowed to flourish, and turn loose upon us for years hosts of semi-educated men, who hold a vote for weal or woe in the profession quite as potent as the one cast by a Gross or a Sims.

This becomes the more evident when we regard in an unprejudiced light the issue as it now stands. With at least one notable exception—and every rule, it is said, must have its exception—we find one, and by far the smaller, faction represented entirely by men who have, through their works and influence, made American medicine what it is; while, on the other hand, we see arrayed against them another faction, which includes medical men of the association totally unknown to the profession at large—the aforesaid exception—and an enormous constituency, largely the outcome of the class of colleges alluded to above.

It has been the clamorous charge of this latter element for a representation in the Congress, and the American Medical Association, or rather the unprincipled part of it, have been their mouth-piece, which has succeeded in routing the movers and defeating the efforts of the original committee.

A great deal might be said touching this point, as we come to examine into it more closely, which lack of space forbids entering upon, though, as we ponder upon it, its truth, I think, will become more and more clearly revealed to us as time rolls by.

R. W. Shufeldt.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of December 3, 1885.

The President, Dr. A. Jacobi, in the Chair.

Nominations were made as follows: For Vice-President, Dr. H. D. Noyes and Dr. William H. Draper. For Recording Secretary, Dr. A. M. Jacobus, Dr. George L. Peabody, and Dr. Frank P. Foster; Dr. Katzenbach declined to be renominated. For Corresponding Secretary, Dr. H. J. Garrigues, Dr. A. R. Robinson, and Dr. Wesley M. Carpenter. For Treasurer, Dr. W. F. Cushman, Dr. J. D. Bryant, and Dr. D. B. St. John Roosa. For Committee on Admissions, Dr. J. H. Emerson and Dr. Laurence Johnson. For Committee on Ethics, Dr. S. O. Van der Poel and Dr. Joseph D. Bryant. For Committee on Education, Dr. D. B. St. John Roosa, Dr. David Webster, and Dr. Charles Heitzman. For Committee on the Library, Dr. W. H. Katzenbach for the full term, Dr. J. H. Andrews for the short term, Dr. Laurence Johnson, Dr. R. W. Amidon, and Dr. C. T. Poore. For Trustee, Dr. S. T. Hubbard was renominated, but declined; Dr. George A. Peters and Dr. James H. Anderson were nominated. For Delegates to the State Medical Society, to serve four years, Dr. W. R. Birdsall, Dr. H. J. Boldt, Dr. H. C. Coe, Dr. J. W. Howe, Dr. R. W. Amidon, Dr. Bullard, Dr.

Goodwillie, Dr. E. Herrick, Dr. C. Heitzman, Dr. J. A. Andrews, Dr. A. S. Hunter, Dr. G. Bacon, and Dr. W. L. Hardy.

A Review of the Life of Dr. Louis Elsberg and of the Advancement of our Knowledge of Diseases of the Throat during his Professional Career was then read by Dr. M. H. HENRY. [See page 621.]

Original Deductions based on a Study of One Hundred Cases of Fracture of the Upper Extremity, excluding the Hand.—Dr. SAMUEL W. SMITH read a paper with this title. He professed no originality in the general plan of treatment, except in the use of splints which he had invented, and which he believed had never been used before. His constant aim in treatment had been to place the fragments in such a position as would be most likely to result in complete union without deformity, allowing the patient as much ease and comfort as possible. He then presented his tabulated list, and said that nearly half of the fractures had occurred to children under twelve years of age. Of these, twenty-five were of the clavicle, eight of the condyles of the humerus, and one of the lower end of the radius. In patients over twelve years of age, twelve were of the clavicle, three of the condyles of the humerus, and twenty-four of the lower end of the radius. Of the twenty-five fractures of the clavicle in children, twenty-two were transverse with and occurred near the outer edge of the middle third, there being only slight displacement of fragments; in the three others the fracture occurred near the middle of the bone, was oblique, and was accompanied by considerable deformity. Of the eight fractures in persons between twelve and fifty years, three resulted from great violence at the upper and outer portion of the shoulder, the line of fracture commencing near the inner edge of the middle third and running from above downward and inward, causing great displacement of the fragments, the outer fragment being drawn downward and inward. Of the five other cases, in three the fracture was oblique, running from the outer portion of the middle third backward and inward, causing less deformity than in the other three mentioned; in five other cases the fracture was in the outer portion of the middle third.

In speaking of fractures of the humerus, he confined his remarks to fractures of the condyles or separation of the epiphysis. Of eleven fractures of the condyles, two occurred in children under six years of age, one of the external and the other of the internal condyle; six between the ages of six and twelve, including one of the epicondyle, three of the external condyle, one of the internal condyle, and one so-called "T" fracture. Three occurred in persons between twelve and fifty, one being of the epicondyle, one of the external condyle, and one of both condyles.

Regarding fractures of the radius, the author confined his remarks to Colles's fracture, and said he conceived a marked difference between this fracture and a transverse or short oblique fracture. In the latter the characteristic deformity described by Mr. Colles did not exist unless there was also impaction of the upper fragment. The kind of splint used and the after-treatment depended largely upon the obliquity of the fracture; if the obliquity was great, the action of the supinator longus and the extensors constantly drawing the lower fragment upward, its carpal end and the carpal bones backward, and the hand outward, there would be difficulty in retaining the fragments in good position, and there would be danger of posterior deformity and the appearance of dislocation of the ulna.

There were in his list twenty-five fractures of the lower end of the radius; of these, two occurred to children under twelve, one of which was transverse and one a separation of the epiphysis with no deformity. Eleven patients were between the ages of twelve and fifty; of these, eight had short oblique or transverse with some deformity, and three had Colles's fracture, deformity being well marked; twelve fractures occurred to patients over fifty years of age, and of these two were short and oblique or transverse, with considerable of the characteristic deformity of Colles's fracture, but easily reduced and readily held in position. The remaining ten were Colles's fractures, the characteristic deformity being well marked in all of them.

The main object to be attained in the treatment of fracture of the clavicle was to lift the shoulder upward, outward, and backward, and to hold the fragments in apposition. The three methods most commonly in use were Desault's, with the axillary wedge, Dr. Sayre's adhesive-plaster splint, and to some extent Dr. Moore's figure-of-eight splint. Desault's method interfered seriously with the circulation in the arm. Dr. Sayre's method had been inefficient in cases in which the bone was fractured in the great convexity, and the obliquity was downward and inward; it also interfered in these cases with the circulation in the arm. A very great objection was the irritation of the skin produced by the plaster. Dr. Moore's method answered the purpose only where the fracture was near the outer edge of the middle third, and was transverse or short-oblique in character; but where the fracture was near the inner third, and oblique, it did not answer its intended purpose, but did the opposite, for, the end of the shawl, passing backward over the shoulder, pressed the outer fragment downward instead of holding it in apposition with the inner fragment. Nor did it suffice to draw the elbow backward and inward enough to overcome the action of the subclavius muscle, which the author thought was the main factor in drawing the outer fragment inward. This had led him to carry Dr. Moore's idea a step farther by making a clove-hitch with a scarf around the forearm well up to the bend of the elbow, passing the loose ends across the back and over the uninjured shoulder. This enabled him to draw the elbow of the injured side farther backward, inward, and upward, and to make the os brachii a lever and the side of the chest a fulcrum by which he could lift the shoulder of the injured side upward, and throw it outward and backward. It was for this fracture, oblique downward and inward, and through the great convexity of the bone, that he alleged for his new splint for fracture of the clavicle all the advantages of any other, as well as some advantages which no other possessed. The improved splint was described as follows: "It is a padded, gauntlet-shaped piece of leather, laced to fit the forearm, running on either side back of the bend of the elbow. To this part are attached a strap and buckle. A padded collar, with strap, buckle, and ring, is fitted to the uninjured shoulder. Through this ring the strap from the elbow-piece passes, and, by tightly drawing this strap, the arm of the injured shoulder is brought under sufficient control to bring the fragments into perfect apposition. A sling is made to pass from the ring to the collar on the uninjured side of the neck for the hand of the injured side."

Fractures of the condyles of the os brachii extending into the joint were generally caused by direct violence, with much injury to the soft parts; hence it was of special importance in treating them to use means that would most effectually promote absorption of the resulting inflammatory products in and around the joint, as well as the speedy coaptation of the fragments and holding them firmly in position, thus avoiding gun-stock deformity. His experience in treating injuries of the elbow joint, whether with or without fracture, had taught him that prompt and vigorous treatment, to [illegible] and effusion into and around the joint, and appropriate treatment for absorption, constituted our only safety against false ankylosis.

A varied experience, full of disappointments in the use of the known splints for the several fractures of the condyles had led him to work to make a splint with the following requisites:

1, to hold the fragments in apposition; 2, to lengthen or lessen the external lateral angle of the arm, with fixation; 3, to leave the entire elbow joint exposed for local treatment during the whole time of wearing the splint without disturbing it.

He then described his splint. It consisted of two rods of untempered steel, extending from the upper part of the arm to the wrist, with a ball-and-socket joint at the elbow, and screws for fixation; the lower ends passed into a sheath screw on either side of the wrist. The upper ends passed through two iron posts set in tin and made fast to the arm by plaster-of-Paris bandages, the rods being made firm in the posts by thumb-screws. On each side of the wrist was a post through which the sheath-screw passed, and it was made fast to the wrist in the same manner as the upper parts, and fastened with fixation-screws. By moving the sheath-screws the lateral angle of the arm could be contracted or widened as needed, thus overcoming any tendency to loss of the carrying point, or gun-stock deformity. A turn of the fixation-screws at the elbow and wrist would allow the forearm to be flexed, extended, pronated, supinated, and fixed at any desired point without other interference with the splint.

Regarding the time for passive motion, he thought it depended in each case on the extent of the injury to the soft parts and our ability to hold in check and reduce the inflammation following the injury. Thus, while it might be wisely begun within a week of the injury in one case, in another case it would be better not to begin for three or four weeks.

He would leave the discussion of the application of his splint to Colles's fracture for a future paper. He then cited some cases in illustration of the points made in his paper.

Dr. J. D. Bryant thought the function of the clavicle was essentially to hold the shoulder backward, upward, and outward, and, whenever the bone was broken in a position to allow the fragments to override each other, the shoulder would fall downward and forward. If fracture took place at the anterior border of the deltoid and trapezius muscles on the one hand, and at the sterno-cleido-mastoid and pectoralis major on the other, there would be marked deformity. He could not agree with the author of the paper that the subclavius muscle played an important part in the production of the deformity. As to treatment, any apparatus which secured the fragments in their reduced position would fulfill the indications. He had used Sayre's method by adhesive plaster successfully; Moore's method also fulfilled the indications, and he should judge, from a casual examination, that the apparatus employed by Dr. Smith would likewise fulfill the indications, and if it would it was superior to the others mentioned in being free from certain disadvantages which they possessed.

Dr. A. C. Post thought the most important distinctions with regard to location of fractures of the clavicle were those which occurred at the inner side of the coraco-clavicular ligament, those which occurred between the coronoid and trapezoid ligaments, and those which occurred on the outer side of the trapezoid ligament. In the first situation fracture of the clavicle caused considerable deformity as a rule, the bone being shortened and allowing the shoulder to fall, the outer fragment being below the level of the inner fragment; in the second situation there was little deformity, and little treatment was required except that the support by a sling; in the third situation there was considerable deformity, but entirely of a different character from that accompanying fracture on the inner side of the coraco-clavicular ligament. The shoulder was thrown forward, and the short fragment connected with the acromion, was placed at nearly a right angle with the long fragment, and was almost on the same level; there was no falling.

Dr. A. H. Gerrish had used a bandage similar to that employed by Dr. Smith, but made of roller bandage, in a case of fracture of the clavicle in which the adhesive plaster employed in Sayre's method of treatment had given rise to great discomfort. The change gave the patient complete comfort.

Dr. Smith, in closing the discussion, said he had followed Hamilton's division of the clavicle into thirds. His cases had led him to believe that the subclavius muscle played an important part in the production of the deformity. Only one of his fractures was in the outer third of the clavicle.

Reports of Infectious Diseases.—Dr. C. R. Agnew offered the following resolution:

Resolved, That it is the opinion of the Academy of Medicine that any judicial or other action which in its effect discourages members of the medical profession in making early reports to the Board of Health of cases of supposed contagious or infectious diseases is contrary to public policy and most detrimental to the interests of public health. Carried unanimously.

NEW YORK SURGICAL SOCIETY.

Meeting of November 24, 1885.

The President, Dr. Charles McBurney, in the Chair.

Excision of the Tarsal Bones.—Dr. Charles T. Poore read a paper on this subject. [See p. 652.]

Dr. H. B. Sands said that it seemed to him that a distinction must be drawn between tubercular inflammation and osteomyelitis of the os calcis. So far as he had been able to judge while listening to the paper, Dr. Poore had reported only one case of true necrosis of the bone. In this there was a cavity with healthy walls, inclosing a piece of dead bone, which was removed by operation because the cavity would not close. It was further stated that in this case when the os calcis was removed it was found to be firmer than normal, which would imply that it was not carious, and that the previous failure to obtain a cure was, as Dr. Poore had intimated, due to a refusal on the part of the bony cavity to fill up. The speaker doubted the necessity of removing the whole os calcis in cases of necrosis unless the necrotic process involved the entire bone, the indication being to remove only the loose sequestra. He recalled a case which had occurred about fifteen years before in a lad ten years of age, who was supposed, by the late Dr. Van Buren, the late Dr. Parker, and himself, to be suffering from caries of the tarsus. There were several sinuses in the foot, and it was advised that the foot should be amputated. But an exploratory incision was made, and the os calcis was found to be a shell, containing a large number of pieces of dead bone within a cavity which had a smooth lining, such as was usually found in bones containing necrotic tissue. The pieces of dead bone were removed, and, although the walls of the os calcis were exceedingly thin, the cavity filled up within a few months, and the wound healed. He had not had much experience in dealing with the os calcis in children, but he thought that in adults partial excisions were often successful. He was somewhat surprised to learn that caries was so often limited to the os calcis. His own experience had been that this disease was apt to attack the astragalus and scaphoid, and other bones of the tarsus, rather than the calcaneum alone. He thought the tendency nowadays was to avoid excisions in cases of caries, and that the use of the gouge or sharp spoon, as it was called, often gave satisfactory results. He believed that in one of the children presented the condition of the foot corroborated the statement which he had made a month ago—that after the removal of a large portion of the tarsal bones, provided the periosteum was left, considerable reproduction would occur. It was evident in that case that, although the entire os calcis had been

removed, there had been a considerable reproduction of bone. It seemed to him to be a point worthy of consideration whether, in caries, excision should be preferred to an operation which was partial, and which aimed to remove only the diseased tissues. It might occur, however, that, if a large part of the interior of the os calcis was removed, the space would remain open, although much might be done to overcome that difficulty by nailing down the soft parts or fastening them by deep sutures. He was willing to admit, however, that the results obtained in Dr. Poore's cases had been excellent.

Dr. Poore said that in almost all the cases he had reported the patients were in the hospital for a long time, and that where gouging had been performed the interval between the gouging and the excision was in some cases a year at least. He had given the patients all the chances of recovery he could, but, as suppuration had continued, the condition of the tarsus had not improved, and small pieces of bone had worked out, he had resorted to excision.

Dr. Sands asked if it was good practice to leave a case for a year after an operation. Was it not rather desirable to follow one operation by another, with a view to removing all the diseased tissue as quickly as possible?

Dr. Poore said he had performed gouging in one case four times within a year. He had been very much disappointed in this operation. He had certainly expected to see some patients get well after it, but he had never seen such a result. It might be because he had dealt with young children, the patients having been mostly under four years of age.

Dr. Lange recalled a very limited number of cases of tuberculous affections of the os calcis and astragalus in which the disease had been so limited that it had not been necessary to remove the bones entire. He had had one such case where the principal seat of the disease was in the bones of the ankle joint. There was also a tuberculous sequestrum in the os calcis, which was removed, and the entire shell of the bone left, and finally recovery took place. He thought that in a good many cases of tuberculous necrosis recovery would eventually take place after the removal of sequestra and scraping. It seemed to him that in Dr. Poore's cases a striking point was the difference between the reproduction of the os calcis and that of the astragalus; there had not been a reproduction of the astragalus. In some of his own cases of total excision of the ankle joint he had observed the same thing, and probably it had been this which had caused the amount of shortening in Dr. Poore's cases. He had twice excised the tarsal bones during his service in Bellevue Hospital, the first and second rows, and in one instance cut away also the surface of the os calcis and astragalus; in the other the extirpation was not so extensive, but the result was a good one, although the patient was an adult. The result in the first case he could not give, for the patient was removed from the hospital because she refused to submit to a secondary operation. The results of other surgeons were rather encouraging for operative interference—for instance, those reported by Neuber some years ago.

Osteo-sarcoma.—The President presented a specimen of large osteo-sarcoma, removed post mortem from a colored boy fifteen years of age. He had shown the boy to the society two years before. The history of the tumor was that it first appeared as a small swelling on the right side of the lower jaw eleven years ago. Its growth since that time had been steadily rapid. The boy remained in good health up to last July, when the interference with deglutition became so great that it was necessary to feed him per rectum. He died of exhaustion August 24th.

The microscopical examination was made by Dr. Frank Ferguson, who made the following report: "The tumor is an osteo-sarcoma with much fibrous tissue and fat. It arises from the right ramus and body of the lower jaw, to the right of the median line. Extending from this location is a mass of bone, the antero-posterior measurement of which is seven inches, and transversely it measures eight inches and a half. Vertically it measures four inches. This large mass of bone has crowded the left half of the lower jaw and a portion of the right half of the bone much to the left. The inferior maxillary bone is bent at the symphysis, forming an acute angle. An inch and a half of the body of the bone on the right side, containing two teeth, passes directly backward (from the symphysis) in the median line. The condyle of the right ramus is found just beneath the right external auditory meatus. The right half of the superior maxillary bone is much distorted. The last molar in this bone is half an inch below the floor of the right orbit, and three fourths of an inch from the median line. The œsophagus and trachea are pushed much to the left, being only an inch from the surface of the neck on that side. The neck extends directly backward, at right angles from the normal line of the vertebral column. The large mass of bone above described is covered by lobulated soft tissues, composed of fat, fibrous tissue, and numerous medium-sized spindle-form cells. The bone is simple compact bone tissue. The tumor is limited by a fibrous capsule. The greatest circumference of the tumor is twenty-nine inches. From the highest level to the most dependent portion of it it measures eleven inches. It weighs, as presented, seventeen pounds, three ounces and a half."

The Bacillus of Syphilis.—Dr. R. J. Hall presented the following report: In May, 1885, Dr. Süssgarten had published his pamphlet stating that by a new method, devised by him, of staining and bleaching syphilitic tissue he had found in sections of all the specimens examined, sixteen in all, a distinct bacillus; these bacilli were found in small numbers. In August, 1885, there was published ("Fortschritte der Medicin," Bd. 3, No. 16) an article stating the giaconic method of staining for the same bacillus. Both methods had been used by Mr. Freeman, under the guidance and with the supervision of Dr. Hall. The Süssgarten method, though more troublesome, was the more satisfactory. The statistics given below had been obtained from specimens stained by the Süssgarten method.

Seven specimens of syphilitic tissue had been examined. Five were primary—all typical hard chancres. Two were secondary—syphilitic papules.

Specimen No. 1.—No history. Sections received already cut. A typical hard chancre from the prepuce. Section No. 1: Found 1 bacillus in a cell; 2 bacilli in a cell; 3 bacilli in a cell.

Specimen No. 2.—No history. A typical hard chancre from the prepuce. Section No. 1: Found 1 bacillus in a cell; 1 bacillus in a cell; 3 bacilli in a cell. Section No. 2: Found 2 bacilli in a cell; 18 bacilli in a cell. In a flat cell in a condition of granular degeneration, no nuclei being visible, eighteen bacilli were counted, exactly corresponding to Süssgarten's description, and one or two dots which might be portions of bacilli partially concealed from lying obliquely. Section No. 3: Found no bacilli.

Specimen No. 3.—A typical hard chancre. Six weeks prior to August 11, 1885, a sore appeared on the penis-scrotal junction of a boy sixteen years old, with a suspicious history. He had had connection one or two weeks before. Four weeks before the date mentioned the inguinal glands enlarged and an eruption appeared on the legs. There was a copper-hued eruption, accompanied by a pruriginous tissue on the abdomen, and syphilitic buboes. The chancre was excised.

Specimen No. 4.—A typical hard chancre. Section No. 1: Found no bacilli. Section No. 2: Found 2 bacilli in a cell, and 1 bacillus in a cell. Section No. 3: Found no bacilli.

Specimen No. 4.—A syphilitic papule was excised, August 11, 1885, from a boy aged nineteen, who five months before had had an extensive chancroid with phimosis, and had been circumcised. The lymphatics were now swollen. There were two characteristic syphilitic ulcers on the right forearm and several indurated papules on the scrotum. The specimen examined was a large indurated papule, ¾ inch in diameter, greatly resembling a primary chancre, on the line of circumcision. There were no other secondary symptoms. The induration on the penis was excised.

Microscopic Examination.—Section No. 1: 2 in a cell. Section No. 2: None. Section No. 3: None.

Specimen No. 5.—A typical hard chancre was excised from a man, aged thirty-six, which had first been noticed eight days before, the connection dating back four weeks. There was no eruption.

Microscopic Examination.—Section 1: Found none. Section 2: Found 1 bacillus in a cell; 2 bacilli in a cell; and 3 in three cells. Section 3: Found 1 bacillus in a cell.

Specimen No. 6.—A syphilitic papule was excised from a man, aged twenty-nine, who had had gonorrhœa eighteen months before, and had last had connection two months before. Two weeks before, he had noticed an indurated sore on the prepuce and enlarged glands in the groin. A few days ago there was roseola. All these symptoms were present when the induration was excised.

Microscopic Examination.—Section No. 1: Found 3 bacilli in 3 cells. Section No. 2: Found none. Section No. 3: Found 1 bacillus in a cell.

Specimen No. 7.—A syphilitic hard chancre was excised, September 21, 1885, from a boy aged nineteen, ten days after connection. Four days before, a sore had appeared on the prepuce, of the size of a split pea, having a hard base covered with yellowish material.

Microscopical Examination.—Section No. 1: Found 3 bacilli in a cell, and 2 in a cell. Section No. 2: Found none. Section No. 3: Found 2 bacilli in 2 cells.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of November 25, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Cocaine Poisoning in a Cat.—Dr. H. J. Boldt presented the brain and medulla of a cat which had died in convulsions twelve minutes after an injection of eleven minims of a thirty-three-and-a-third-per-cent. solution of cocaine. The first effect noticed was a sort of leaping gait with dragging of the hind extremities, followed by convulsions. There was simulation of the Cheyne-Stokes respiration. The temperature in the rectum after death was 104° F. At the autopsy, made half an hour after death, the vessels of the pia mater in both brain and cord were much congested, and there was extravasation of blood in the fourth ventricle, also a small amount in the anterior part of the medulla, and there were minute extravasations throughout the cord. The lungs were collapsed, and contained no blood; the right ventricle of the heart was overdistended, the left one empty. There was congestion of the gray substance of the cord. Dr. Boldt said death seemed to have taken place from paralysis of the respiratory center.

Dr. M. Putnam Jacobi thought the phenomena pointed rather to contraction of the blood-vessels from vaso-motor irritation, and that to death from obstruction to the pulmonary circulation.

The President said that respiratory and cardiac shock was more likely to occur from injection of the surface in the neighborhood of the fifth nerve than in any other locality. He also spoke of the danger of using chloroform or ether after cocaine. A prominent surgeon had lost a patient by administering chloroform after the unsuccessful use of cocaine; and the same surgeon had told him of a similar accident after the use of ether following cocaine.

Carcinoma of the Uterus.—Dr. R. Van Santvoord presented a cancerous uterus, the disease having apparently commenced in the cervix and involved the body of the organ afterward. The patient had given birth to a child three days before her death. There was pigmentation of the intestines, omentum, retro-peritoneal glands, and broad ligament. The pelves of the kidneys and ureters were dilated; the ureters were somewhat obstructed by thick, dense fibrous tissue. The uterus was firmly fixed, the cervix had been eaten away, the urethra had been ulcerated into, and there was infiltration of the vagina and endometrium.

Tuberculosis of the Pharynx.—Dr. Van Santvoord also presented a pharynx, the seat of tubercular ulceration, removed from the body of an infant about two years of age, which had been admitted to Randall's Island Hospital about four months before its death with a large mass of enlarged glands under the angle of the jaw upon each side, accompanied by cachexia. A slight cough was noticed two months and a half before death, but physical examination revealed only a few râles over the lungs. A few days before death the child was thought to have some difficulty in swallowing, and a thin grayish coating was seen upon the larynx. The temperature was 102·5° in the evening. Death took place from exhaustion. The post-mortem examination showed the glandular enlargements upon each side of the neck to be due to caseous degeneration. The pharynx was roughened, and lenticular ulcers extended to some depth into the mucous membrane. The uvula was thickened and covered with granular elevations. The same roughened appearance was observed on the mucous membrane of the nasal cavities, the vault of the pharynx, and the convex surface of the inferior turbinated bones. There were two small ulcers upon the posterior surface of the larynx. There were miliary tubercles in the lungs and upon the pleural surfaces; there was a soft caseous nodule in the middle lobe of the right lung, together with a number of areas of broncho-pneumonia. There were also tubercles in the spleen, kidneys, liver, and intestines, and the retro-peritoneal and mesenteric glands were undergoing cheesy degeneration. Tubercular ulceration of the pharynx was a somewhat rare affection, although Dr. Mackenzie, of London, had reported a number of cases, and thought it was often mistaken for syphilitic disease.

The Lesions of Hog Cholera.—Dr. Van Santvoord also presented a stomach and large intestine illustrating the lesions of hog cholera. There was considerable gastritis, and at one point on the surface of the stomach there was a necrotic spot. This ulcer, which was like the characteristic ulcers in the large intestine, had a dark, dirty, sloughing center, with elevated edges. The process extended in different cases to a variable depth, sometimes reaching the peritonæum. The ileo-cæcal valve was swollen, principally on the side toward the colon, and contained ulcers; for about ten inches above the cæcum the mucous membrane was sloughing and the gut was intensely hyperæmic. In the descending colon there were enlarged solitary follicles, with depressed and slightly ulcerated centers, which were also apparent from the peritoneal surface. In some of the cases lesions were found in some other organs of the body, and in all there was some œdema of the lungs with some mucus in the bronchi. There was also in all of the cases enlargement of the retro peritoneal and mesenteric glands.

Dr. T. M. Prudden said that Koch reserved his opinion regarding the micro-organism peculiar to hog cholera; that alleged

by Pasteur had been found by Koch in the septicæmia of rabbits.

Dr. D. B. DELAVAN said, regarding tuberculosis of the pharynx, that he had seen only three cases. In adults it was very painful. It was a rare affection, and resembled syphilitic ulcers, so that the general practitioner was liable to overlook cases which might come under his care.

SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE.

Meeting of October 8, 1885.

The Hon. W. H. H. RUSSELL in the Chair.

Cremation.—Dr. WILLIAM M. MCLAURY read a paper upon this subject. [See p. 633.]

The CHAIRMAN conceded to the author the utmost sincerity in his views, yet, with due deference to his opinions, he must beg to differ with him in his conclusions. Suppose for a moment that his theory was put into practice in this country, what would become of the sentiment with which we surrounded our dead? He further maintained that, religiously considered, the result of cremation seemed incompatible with the form of resurrection we were taught to believe in; and that, therefore, while Christian civilization prevailed, cremation would not. If it was true that the latter had been the popular method of disposing of the dead in ancient times, the custom should have been perpetuated—which it was not—in order that the fact might be made use of as an argument in favor of modern cremation. Regarding expense, that would have little or no weight with the rich as compared with their personal feelings; and fashion would undoubtedly render the accessories of cremation quite as costly as those of interment, thus making it in no way a less extravagant affair for the poorer classes.

Professor JAMES L. GREENLEAF continued the discussion by considering the subject from a sanitary point of view, though not to the total exclusion of sentiment. He said the grave-yard might be the cause of the death of a man's sons and daughters; and, were such the case, this fact would, in that man's mind, far outweigh all the sentiment associated with the place. There were probably few present who would not readily admit that cremation was preferable to burial, since it accomplished in a few hours what generally required years by the other method. At the same time he admitted that not all grave-yards—those, for instance, in the country—were inevitably disease-centers. The oxidation which took place in decay was identical with that in the furnace, though less rapid. A body free from contagion or infection might, therefore, be placed in a dry, well-aërated soil, and, without detriment to health, be intrusted to the ordinary destroying processes of nature. Even disease-germs might die in a dry, well-ventilated soil, though instances had been known where, probably under circumstances favorable for their growth, they had lived in the ground for years. Also, tests had been applied to the air above crowded grave-yards, and it had been found swarming with germs. He believed crowded cemeteries in populous districts to be unwholesome, even though no instances of disease could be positively traced to them. The laws of the Roman Empire made cremation obligatory, except in remote and thinly settled districts, where the practice of burial was allowed. This, he thought, would be a good example to follow to a certain extent, and suggested a compromise between exclusive cremation and general inhumation as an advisable and proper course to pursue.

The paper was further discussed by L. C. KITCHELL, Esq., Professor A. L. RAWSON, Dr. C. S. WOOD, Dr. P. C. COLE, and others.

Reports on the Progress of Medicine.

PSYCHOLOGICAL MEDICINE.

BY J. LEONARD CORNING, M. D.

Physiological Psychology.—Buccola ("Alienist and Neurologist") gives a long and comprehensive review of the arguments employed by contemporary psychologists to break the bonds of metaphysical traditions, in order to attain more objective results through the aid afforded by critical reasoning from experimental data. "Analysis of the facts that form the substratum and represent the mechanical conditions, by means of which sensation, thought, and consciousness are evolved, have now proved that the existence of a special *quid*, which lives in the organs and presides over them—an unextended substance, a pure essence, which has the characters of unity and simplicity—is an illusion purely subjective and abstract. It is the thesis of metaphysics which hunts after *noumena*, without perceiving that the universe is a pure phenomenality, that higher than phenomena thought can not soar without the risk of falling into abstractions, and that, in fine, the limits of knowledge are the limits of induction, and this can not give to us anything beyond phenomenal life."

In constructing our philosophies, we should not delve after substances and the intimate nature of things; what really constitutes a secure datum of cognition is the phenomenon. As Ardigo truly observes, there is no other kind of cognoscitive data, no other secure basis of scientific principles outside the experimental. This certainty is the unique result of the constant and uniform repetition of the same phenomena. The dualistic *a priori* method of regarding things peculiar to metaphysics is directly opposed to the spirit of exact science. The shadowy rules of metaphysics locate in every several thing two strata—one exterior and phenomenal, and one interior and substantive. To be more explicit, metaphysics perceives in everything a special essence, and certain phenomenalities which accompany this essence. In the essence, it maintains, there inheres a true and unchanging reality; in the phenomenon, on the other hand, there is but an uncertain, flexible reality. From the phenomenon it is impossible, therefore, on account of this very mutability, ever to derive such a code of laws as will correspond to the exigencies of the highest objective science. These metaphysical conceptions have entered and still persist in the domain of psychical facts, and their presence has given rise to a psychology at once hollow and barren of practical results. The unutterably grotesque and utopian problems to the solution of which this school of psychology has in vain addressed itself are the direct outgrowth of these same fallacious conceptions. "While the physical sciences, once also prostrated under the car of scholastic quiddities, have definitively deserted the field of philosophic necromancy and have been called sciences purely phenomenal, and, by the sole attentive study of facts, interpreting and inducting the laws which regulate the motions of nature alike in the immense sidereal spaces as in the infinitely small interstices of ether interposed between molecule and molecule, psychology, which ought to be the physics of human thought, has, on the contrary, remained entangled in the meshes of the absolute and the essences [illegible] as the polypus to the rock, clinging to the old aprioristic method which shuns induction and experiment. And, while not only the physico-chemical sciences, but also biology, which should ever be the foundation of every psychical study, counting from its pages the vital events, be, by the aid of exogenetic experiments and of embryogeny, continually demonstrating the evolution genetic of the various elementary forms, from the protoplasmic monad to the cenobium, [illegible] with the richest experimental apparatus of various conclusions, and has, also by being continually recurring to the genetic basis of various demonstrated the many [illegible] of the two [illegible] and the psychology, [illegible] on the contrary, persisted in the theories of [illegible] and [illegible] [illegible] [illegible]

In our own time, however, a mighty change in the method of regarding psychological phenomena is discernible. If one follows attentively the rapid movements in the realms of modern science, one may discover with but half an eye that two grand conceptions dominate the entire development of psychology, transforming its contents: the theory of evolution, and the application of scientific methods to the elucidation of mental phenomena. The law of evolution, which explains the universal transformation from the homogeneous into the heterogeneous, is thus briefly formulated by Spencer: "Every active force produces more than a change; every cause produces more than an effect."

"As every fact succeeding proceeds from one antecedent, so all physical and mental facts, all biological and sociological, have been derived from antecedents which, traced back by induction from age to age, as far as can be reached by the secure laws of hypothesis, permit us to discover a simplicity greater in proportion to our greater distance from the present time, and show us, in the nebulæ, the first stage of the solar system; in the amœboid movements of the protozoa, the embryonal design of intellect; in the monera, the preparation of the vertebrate; and in the tribe of the savage, the germ of the constitution of civilized peoples." This vast evolutive conception, applied to mental phenomena, has given rise to a science substantially different from the ancient psychology, the usefulness of which was greatly lessened by the introduction into its methods of abstractions and *a priori* reasoning. By the application of the law of evolution to the elucidation of mental facts it has been possible to frame a scientific system of comparative psychology on the plan so ably unfolded by Mr. Herbert Spencer. "In fine, instead of that Idolatrous image of science, which pretends to investigate the manipulations of mind from the static point of view, it substitutes the true personality of a science, psychogenesis, which studies the facts in their successive development." Modern psychology is not metaphysical; it does not seek information alone through the channels of pure introspective observation, but endeavors to ingraft into its system of research the methods of the exact sciences.

[Let us say rather that it *tries* not to be metaphysical, in so far that it seeks after phenomena, adopting in its quest after the latter the methods of the biological sciences. In its interpretation of these phenomena it is still hopelessly metaphysical in many regards.—J. L. C.]

These experiments may be performed in the psycho-physical domain; that is to say, by varying the physical conditions of the interior processes we may note the resultant psychological modifications. Looked at from this point of view, there are no psychological, but only psycho-physical experiments. "But the change which is determined by the varying of a condition does not depend simply on the nature of the condition, but also on that of the conditioned." Thus the psychical changes produced by varying the external influences will elucidate the interior phenomena, and, regarded from this point of view, psycho-physical experiments may also be denominated psychological.

[As the genetic method of research has grown apace in all directions, it is well to remember that, however interesting the revelations already or to be thence derived may be, they can never equal in practical importance the results derivable from psycho-physical experiments. —J. L. C.]

What, in the opinion of Dr. Buccola, forms, however, the truly new side of modern psychology is genetic research. "In what point of the animal scale does psychical life commence? Between the amœba, which is only provided with nervous element, and the vertebratum, which has organs and instruments adapted to furnish to it the consciousness of itself, there is to be found an abyss." The old philosophy [illegible] on deductive abstractions and deductions from a priori principles, [illegible] this question with feelings well nigh akin to [illegible]. On the other hand, biology, having its method of research [illegible] the comparison of organs and their functions, interprets the [illegible] possibility [illegible] as a mere uninterrupted succession of [illegible] animal, from the plastic [illegible] up to man, in which [illegible] is to be found in the amœba without the [illegible] nervous system, and [illegible] with the complete aspect of [illegible]. [illegible] according to the [illegible] and the [illegible] mechanism of the [illegible] [illegible] and [illegible] [illegible] [illegible]

awkwardly, and before long his sphincters became completely relaxed. As to his mental symptoms, it was observed that his intellect was exceedingly feeble, his memory was almost gone, he was perfectly unconscious of his condition, and was oblivious to what transpired about him. There were no delirious symptoms, properly speaking.

As, from conversation with the mother, the existence of a syphilitic element in the case was suspected, a rigorous specific treatment was ordered in the form of inunctions. This treatment was badly borne; indeed, he seemed to get worse under it. Shortly afterward he was taken home, and, under a derivative and purgative treatment, his condition was considerably improved for a few months. Soon, however, he relapsed into a condition of cachexia, became bedridden, and was afflicted with bed-sores, frequent bleedings at the nose, and atrocious pains in the head. In December, 1884, he died. No autopsy was permitted.

The author concludes that where general paralysis occurs before the twenty-fifth year the fact is owing to some powerful predisposing factor, such as heredity, syphilis, alcoholism, traumatism, some form of general diathesis, in short, which tends to give rise to the anatomical conditions of the brain found at the epoch of mature life.

The Curability of Insanity.—Dr. Pliny Earle ("American Journal of Insanity") adds a most scientific statistical study to the literature of this subject. Some of his conclusions possess much interest from a theoretical and practical point of view. Thus, he observes that, so far as the statistics presented are an indication, the recoveries in British asylums, both in recent cases and of all patients admitted, exceed the recoveries in American institutions by between eight and nine per cent. The most important general conclusions to be derived from the statistics included in this paper are, first, that the old allegation of curability in a very large majority of recent cases is not sustained, and that a failure to sustain it is more apparent and more striking than at any antecedent time; and, secondly, that the percentage of reported recoveries of all cases received at the hospitals in this country still continues to diminish. The author of the paper pertinently observes that the diminution is perhaps in part attributable to the admission of a larger proportion of chronic cases and of cases of greater degeneracy from their origin, in part to a more stringent interpretation of the meaning of the word recovery, and to greater conscientiousness in the compilation of statistics.

Exactness in Psychological Nomenclature.—Dr. Orpheus Everts (*Ibid.*), in an article entitled "New Wine in Old Bottles," enters a protest against the confusion which has arisen from a lack of definiteness in expressions employed for the communication of ideas in psychiatric science. The new conceptions growing out of the application of the laws of physiological psychology demand a revision of the terms employed by the older metaphysical philosophy. The well-known illogical applications of such words as "will," "emotions," etc., are cited as illustrative of the author's position. [While we readily admit that the confusion of terms deprecated by Dr. Everts has a real existence in fact, we are compelled to acknowledge that the ground for such confusion is ample. It is the outgrowth, in a word, of the extremely rudimentary condition of physiological psychology itself. In truth, as Herbert Spencer observes: "Though accumulated observations and experiments have led us, by a very indirect series of inferences, to the belief that mind and nervous action are the subjective and objective faces of the same thing, we remain utterly incapable of seeing, and even of imagining, how the two are related. Mind still continues to be a something without any kinship to other things; and from the science which discovers by introspection the laws of that something there is no passage by transitional steps to the sciences which discover the laws of these other things."—J. L. C.]

Race and Insanity. Dr. Joseph G. Kiernan ("Journal of Nervous and Mental Disease") has made a series of interesting studies with a view to ascertaining whether the insanity of the negro is tinged by certain psychical tendencies such, for example, as those seen in the voodoo superstitions and in the periodic attacks of sexual furor which are such characteristic features of the dusky race. As the author truly observes, the attacks of sexual furor exhibited by negroes, especially in the spring bear a close resemblance to the corresponding phenomena displayed by the elephant and the bull. In order to test the question as to how far insanity in the negro is characterized by the phenomena just referred to, the author has carefully collected the statistics of a number of cases of paretic dementia occurring in negroes. From a careful analysis of these cases he is led to conclude "that the psychical peculiarities dormant in the race crop out very prominently in these cases, and it would appear certain from these that the question about the influence of the superstitions of the race must be answered in the affirmative."

Onomatomania.—Charcot and Magnan ("Archives de neurologie") have, under this somewhat formidable designation, drawn attention to a series of mental symptoms in which a name or a word plays a prominent part. In order that the preoccupation with the word shall attain such dimensions as to provoke positive anguish, and that such preoccupation shall repose upon an urgent active seeking after the word—upon a possession, an impulse—it is, of course, necessary that the psychological substratum should possess particular attributes. This assemblage of conditions, like that present in *folie de doute*, perversions of the sexual feelings and inversion of the latter, fear of pins, dipsomania, etc., can only be developed in those who are predisposed. "All these conditions, so numerous and so variable, confounded under the designations of insanity with consciousness, reasoning mania, mania without delirium, pseudo-monomania, etc., are only psychical stigmas of hereditary insanity." Moreover, these episodical conditions may be determined by the most trivial causes; the remembrance of a trifling incidental circumstance may give rise to the agonizing search after the name. In order to thoroughly appreciate the part which the word is capable of playing in the preoccupations of those afflicted by hereditary predisposition to mental weakness, it is necessary to examine the principal conditions to which it may give rise: "1. The harrowing search after the name or the word. 2. Continuous besetting of the mind by the word which imposes itself, with an irresistible impulse to repeat it. 3. The particularly portentous significance of certain words occurring in the course of conversation. 4. The preservative influence of certain words. 5. The word become a veritable solid body to the patient, inadvertently swallowed, pressing heavily upon the stomach, and capable of being rejected by expectoration."

Miscellany.

The International Medical Congress.—The following "special announcement" has reached us: "The Executive Committee of the Ninth International Medical Congress, to be held in the city of Washington, D. C., commencing on the first Monday in September, 1887, having accepted, under Rule 10 of the Committee on Preliminary Organization, the charge of the business of the Congress, hereby give notice to the members of the medical profession that they have been actively engaged upon, and have now nearly completed, the arrangements for this meeting; and they anticipate the hearty co-operation of the profession everywhere in developing this great scientific and humanitarian assembly.

"By order of the Executive Committee.

"HENRY H. SMITH, M. D., Philadelphia,

"Chairman of Executive Committee.

"NATHAN S. DAVIS, M. D., LL. D.,

"Secretary General of the Ninth International Medical Congress.

"Chicago, November 21, 1885."

The International Medical Congress of 1887. A meeting of members of the medical profession interested in the International Medical Congress of 1887, to which purpose the call issued from the office of the Secretary General was held at the Hall of the College of Physicians, Philadelphia, December 1, 1885, Dr. D. Hayes Agnew in the chair.

It was stated that official notice had been received of the election as members of the general Executive Committee of the Congress of Dr. J. S. Billings and Dr. J. M. Toner of Washington, D. C.; Dr. Christopher Johnston of Baltimore, Dr. George J. Engelmann of St. Louis, and Dr. J. M. DaCosta and Dr. William Pepper of Philadelphia.

A general and strong expression of opinion was made in support of the American Medical Association and its Code of Medical Ethics, and sincere regret was expressed that hasty action on the part of the association, and the introduction of false issues, had imperiled the success of the Congress. It was made entirely evident, however, that the acceptances of the above elections would not be regarded as affording any adequate guarantee for the future scientific conduct of the Congress, and, consequently, would not be followed by any co-operation on the part of the leading members of the profession now unwilling to join in that work. As an evidence of the earnest desire which is felt for the restoration of harmony upon this subject, and for the reorganization of the Congress on a basis which would command general support, and thus insure success, the view was unanimously expressed that if the present Executive Committee should unite with them the Original Enlarged General Committee, and recommence the organization *de novo*, this course would insure the desired result.

The late Dr. Samuel S. Clark, of Belvidere, N. J.—We have been asked to publish the following:

"The Board of Managers of the State Asylum for the Insane at Morristown, N. J., learn, with the deepest feelings of sorrow, of the death of their honored Vice-President, Dr. Samuel S. Clark, which occurred at Belvidere, on Monday, the 23d ult., at the age of sixty years.

"Dr. Clark came of a distinguished ancestry, from whom he inherited those sterling qualities which made his life so useful and honored. His grandfather, the Rev. Joseph Clark, left the pulpit to enter the Revolutionary Army, and served with distinction on the staff of General Washington. His father, the Rev. John Flavel Clark, was also a distinguished Presbyterian clergyman, and one of the founders of the American Board of Foreign Missions, and subsequently became one of the faculty of Princeton College. With such ancestry it was but natural that Dr. Clark should be the noble man that he was.

"He was born at Flemington, N. J., November 8, 1825, and entered Princeton College in 1841. After a three years' course in that institution he entered and graduated from the Medical Department of the University of New York, and for nearly thirty-seven years practiced medicine in Belvidere. His kindness of heart, his faithfulness as a friend, his wisdom as a counselor, his tender sympathy and skill as a physician, endeared him to the homes and families in the bounds of his large practice. His clear mind, his fine culture, his habits of careful study, and his acquaintance with the best results of science, placed him in the front rank of his noble profession. He was active and public-spirited as a citizen, always promoting the best interests of the community in which he lived.

"As a member of the Board of Managers he was firm in his convictions of right, yet considerate and forbearing with those who differed [illegible]. While he was modest and unassuming, and always a gentleman, He was one of the most companionable of men, and his fine social qualities endeared him, not only to his associates in this board and to the citizens with whom he came in contact, but to eminent men [illegible] throughout his native State. More than an ordinary [illegible] a happy home has been made desolate, and a devoted wife and [illegible] upon whom his fondest affections were centered, mourn for one whose companionship was more precious to them than [illegible]. We tender to them our deepest sympathy [illegible] to his memory in our book of minutes, and [illegible] to transmit a copy of the same to his sorrowing family."

The Mutter Lectures.—The first two lectures of the Mutter course, by Dr. Henry F. Formad, were given before the College of Physicians of Philadelphia on Tuesday and Friday evenings, the 8th and 11th inst. The remaining lectures are appointed for December 15th, 18th, and 22d, and January 5th, 8th, 12th, 15th, and 19th. The subjects are: Muscle; Tissue Metamorphosis followed by Interstitial Development; Anomalous Conditions of Pseudoplasms; Injuries and the Effects of Lesion of Organs [illegible] Referred to Surgical Pathology.

The New York Academy of Medicine.—The section in Surgery [illegible] Monday evening, the 14th inst., at 8 o'clock. The subject for discussion will be Suppuration in Penetrating Stab or Shot Wounds of the Abdominal Cavity" will be discussed by Dr. Bryant, Dr. Wright, Dr. Weir, Dr. Dennis, and Dr. Wyeth. The Section in Theory and Practice of Medicine will hold a meeting the following evening at the same hour. Dr. H. N. Heineman will present the subject of "Auscultatory Percussion."

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for October, the total number of deaths reported was 5,680, the percentage among infants being 32·6. In every thousand deaths there were 204·22 from all zymotic diseases, 26·59 from typhoid fever, 57·04 from diarrhœal diseases, and 75·53 from croup and diphtheria. There were five deaths from small-pox.

The Health of Michigan.—It appears by a circular issued by Dr. Henry B. Baker, the secretary of the State Board of Health, that during the month of November diphtheria was reported from sixty-three places, typhoid fever from thirty-four, scarlet fever from thirty-nine, and measles from six.

The Philadelphia Polyclinic.—We learn that the Polyclinic's new building, at the corner of Broad and Lombard Streets, will soon be ready for occupation. Owing to the increased attendance, its present quarters, at the corner of Thirteenth and Locust Streets, have been found inadequate. The new building will contain hospital wards and private rooms for paying patients, and it is intended that greater attention shall be paid to the out-patient service. It is announced that the journal edited by the faculty will be doubled in size after the first of the year.

A New Spanish Journal.—We have received the first number of the "Gaceta del Hospital Militar," a monthly journal published at Guadalajara. It is largely devoted to statistical and sanitary matters connected with the army, besides which there is the history of a case of chyluria ameliorated by dietetic treatment.

"Ominico" as an Antiseptic.—Dr. Henry F. Beam, of Johnstown, Pa., lately reported to the Central Medical Association of Pennsylvania the history of a case of oöphorectomy in which a solution of mercury bichloride was used at the time of the operation, a compress wet with it being applied over the wound. The next morning he found that considerable hæmorrhage had taken place during the night, that the compress was saturated with blood, and that the parts gave out "a nasty cadaveric odor." Two sutures were removed, and a considerable amount of coagulated blood was turned out with the handle of a scalpel. The parts were then thoroughly cleansed with "ominico," fresh sutures were applied, and a compress saturated with "ominico" was laid over the wound, and the subsequent progress of the case was in every way favorable.

Ozoniferous Essences as Antiseptics.—"Listerine," says the "Sanitarian," "possesses essential properties analogous in their effects to the ozoniferous ethers so highly recommended by Dr. Benjamin Ward Richardson and others as deodorizers and disinfectants for the sick-room, and should be used in the same way—sprinkled over handkerchiefs, garments, and the bed-linen of fever cases. Mantegazza, 'On the Action of Essences and Flowers in the Production of Atmospheric Ozone, and on their Hygienic Utility' ('Rendiconti del Reale Instituto Lombardo,' vol. iii, fasc. vi), as quoted by Fox on Ozone, reports that the disciples of Empedocles were not in error when they planted aromatic and balsamic herbs as preventives of pestilence. He contends that a large quantity of ozone is discharged by odoriferous flowers, and that flowers destitute of perfume do not produce it. Cherry-laurel, clove, lavender, mint, lemon, fennel, etc., are plants which develop ozone largely on exposure to the sun's rays. Among flowers, the narcissus, heliotrope, hyacinth, and mignonette are conspicuous; and of perfumes similarly exposed, eau-de-cologne, oil of bergamot, extract of millefleurs, essence of lavender, and some aromatic tinctures. He also points out that the oxidation of the essential oils, such as nutmeg, aniseed, thyme, peppermint, etc., is a convenient source of ozone, and concludes that the ozoniferous properties of flowers reside in their essences, the most ozoniferous yielding the largest amount of ozone. It is of such aromatic essences that Listerine is composed, and hence its efficacy under the circumstances indicated."

Original Communications.

REMARKS UPON THE CLIMATE OF FLORIDA.*

BY J. C. WILSON, M. D.,
PHILADELPHIA.

"Si la curabilité de la phthisie n'existait pas, il faudrait l'inventer, ne fût-ce que pour consoler le malade et pour justifier le médecin."—G. SÉE.

WHATEVER may be the ultimate outcome of the systematic investigation of the effects of different climates upon chronic lung diseases now being carried on, whatever the mutations of opinion, whatever the changes of fashion, Florida is to-day, and is long likely to be, the *most popular* of American winter resorts.

The popularity of this region as a resort for invalids, and especially for those suffering from diseases of the lungs, had its beginnings with the medical profession, and is based upon well established and easily verified facts relating to the equability of the climate and the low death-rate from consumption among the residents of the State. Its popularity with valetudinarians and the non-invalid classes, while also largely dependent upon the peculiarities of its fortunate winter climate, is enhanced by the practicability of continuous out-door life, the facilities for fishing and hunting, the sub-tropical vegetation of many regions in strong contrast with the snow-bound landscape of the North, and the ease and speed with which it can be reached. To these attractions add the excitement which attends the opening up of new territory, the development of new industries, opportunities for investment, chances for speculation, a most fertile soil upon which may be grown the widest range of fruits, vegetables, and staples, that *ignis fatuus* of northern capital, the orange, and it is easy to comprehend the enormous and increasing annual afflux of northern people to Florida at the beginning of winter. It is also easy to understand why a percentage of such visitors, both of the invalid and the non-invalid classes, and by no means inconsiderable, become permanent residents.

But the popularity of Florida has not grown in the profession as among the people. Medical men, anxious for the best results and seeking to act without prejudice, have in recent years become cautious as to whom they shall send to winter in Florida; have often acquiesced in such a plan rather than ordered it, and this not infrequently with serious misgivings. In the absence of statistical evidence bearing upon the effects of the climate upon invalids of all kinds —evidence difficult to obtain in regard to climate-treatment under the most favorable circumstances, quite impossible upon any adequate scale in this instance—it is not easy to explain at first sight the present guarded attitude of the profession.

But a closer examination of the conditions reveals some warrant for it. In many instances it has grown out of repeated unsatisfactory and disappointing results in particular cases. In others there has arisen a feeling of uneasiness as to the sanitary arrangements in over-crowded, restricted localities wholly lacking natural facilities for drainage. Again, the advantages of other and diametrically different climates have been urged upon the profession with an ability and pertinacity which have carried conviction sometimes even in the absence of proof.

Germain Sée, in his recent work upon "Bacillary Phthisis," divides the climates appropriate to the treatment of consumption into three categories:

1. Warm maritime climates,
2. High-altitude climates, necessarily cold,
3. Warm low climates not maritime,

and regards the first two of these as embodying all that is essential in the climate-treatment of this disease—namely, purity of the atmosphere, the more or less complete absence of dust and microbes in the air, abundant light, and ozone. From the standpoint of this observer, the fact that the low barometric pressure of high altitudes and the increased pressure of the sea-coast, acting so differently as they do upon the function of respiration, are alike favorable, is only an apparent contradiction. On the one hand, the increased oxygen of low levels is unfavorable to the biological necessities of the bacillus; on the other hand, the rarefied atmosphere freely ventilates the lungs and interferes with the multiplication of this microbe.

I confess to an inability to view the subject in this simple manner. To me phthisis, alike clinically and pathologically, is a complex malady, and climate an entity, the sum of many factors, variations in any one of which may modify the result, and therefore too complex for any save the most cautious generalizations.

The meteorological phenomena of various regions are constantly marshaled before our attention as all-important in determining the nature of the climate, and a subordinate value is often assigned to such matters as soil, drainage, aspect, and exposure to or shelter from particular winds. But the investigation of the climate of different localities from the standpoint of the therapeutist demands that every element entering into its composition (and their number is many) should receive due consideration. In fact, local conditions are so important that wide variations of climate within narrow geographical limits are constantly encountered—I was about to say are the rule rather than the exception. This statement is certainly true of the Florida peninsula. The regions of the State now readily accessible to travelers of every kind, including all invalids who have anything to expect from climate-treatment, comprise four distinct strips of territory, which differ from each other in their climate in essential particulars. I speak now of the peninsula of Florida, and exclude from consideration the mainland contiguous with Georgia and Alabama, which has not up to the present time, to any great extent, attracted the attention of invalids.

These four strips of territory extend in a general south and south direction, and are nearly parallel to each other and to the long axis of the peninsula. They are

* Read before the American Climatological Association, May 28, 1885.

1. The Atlantic seaboard,

2. The St. John's River,

3. The elevated pine lands forming the water-shed of the State, and

4. The Gulf coast.

A brief study of the general characteristics and the special peculiarities of these regions may serve to point out some of the sources of disappointment in the past, the real advantages for a wider range of patients and their better distribution at present, and the opportunities for a more scientific and more extensive employment of the resources of the State in the climate-treatment of disease in the future.

The two great characteristics of the climate of all these regions alike, in fact of that of the whole peninsula, are mildness and equability. These traits are due to causes for the most part well understood, namely, the sub-tropical geographical position of the peninsula and its situation between the waters of the Gulf Stream on the one hand and the Gulf itself on the other; and its surface configuration, marked by low levels, the average altitude being about sixty feet, and the absence of abrupt elevations or mountains of any kind.

The peculiarities of the different regions depend upon conditions which are purely local.

It is obvious that the greater portion of the territory already accessible to railroad travel, including the fertile "hummock lands," the savannas, and many other regions adapted to agriculture, are unsuited to the needs of invalids, and that a few localities only are adapted to the requirements of health resorts.

1. The Atlantic Seaboard.—The principal stations are Fernandina and St. Augustine. They enjoy the advantages and suffer from the disadvantages of a climate essentially maritime. The life is agreeable, the amusements are diversified; many patients steadily improve at these places. On the other hand, a small number suffer from the abrupt alternations of the land- and sea-breezes, and from a certain sense of excitement or nervous tension which they attribute to the "*stimulating*" effect of the sea-air. This class includes many neuralgic and neurasthenic subjects, those who have a disposition to bleed, and those who have fever. Moreover, these stations are subject to the northeast storms which occasionally prevail here as elsewhere on the Atlantic coast, and are the cold, wet storms of Florida. Sidney Lanier quaintly remarks that the climate of Florida is nearly perfect, but that it has a *northeast nick* in it.

Farther south upon the seaboard the beautiful Indian River country, sheltered as it is by Merritt's Island, is as yet inconvenient of access, and lacking in suitable accommodations for invalids.

For those who are equal to the requirements of an out-door life and fond of "roughing it," this region has special attractions.

A lad of eighteen, the last of a phthisical race, went down there last autumn because he had orange interests to look after, and brought back this spring eighteen pounds of hard additional flesh and more than strength in proportion. His complaint was that he was "hungry for milk"—a hunger complained of everywhere in Florida.

2. The St. John's River.—I speak of this beautiful stream or chain of lakes with its thirty-eight stations between Jacksonville and Enterprise, a distance of one hundred and forty-six miles, with hesitation, lest in expressing a personal view, which I believe to be well founded, I may do any interest a wrong.

These stations are every winter crowded with the sick and their friends. Lured by its marvelously beautiful scenery, its facilities for out-door life, its clear and almost currentless waters, its gentle air, the consumptive spends his winter along this river in tranquil dreams of better health and strength in the spring. It is an ideal land, and its atmosphere is drowsy with the perfume of its flowers. But what of its climate? Neither the advantages of high, cold stations, nor those of the sea; neither dryness on the one hand nor ozone on the other. It is essentially a sub-tropical lake climate, in many districts a marsh climate. Such a climate as this finds place in no classification of winter or summer stations for the sick. Doubtless there are patients who do well. The open-air life counts for much. It is far better than that of the office or the shop. But some of whom I have knowledge have fared the worse for the seductive climate of the St. John's River. I will not speak of fever except to say that the danger of intermittents constitutes one of the real objections to several of these stations.

Until within a brief time these two strips constituted the accessible regions of Florida for the great majority of invalids and tourists. Some persons could not stand the coast climate; that of the river had dangers for all. Thus the physician set his face against Florida and sent his patients to Colorado, to New Mexico, to California, to Arcachon, to Pau, the Riviera, Capri, the Tyrol, the Engadine, the Cape of Good Hope. Such are the journeys which the rich man with damaged lungs is called upon to make in search of the health he seldom finds. The poor must stay at home. And some have been sent to Aiken, the Georgia Sand Hills, to Thomasville; and on the whole they have done better.

But within a year the railroad system of the State has again pushed its way across to the Gulf and opened up new regions of which the climates, retaining the cardinal traits of mildness and equability—nay, more, excelling in these—possess peculiarities and advantages of their own.

Of these, as we proceed westward, the first region is found in

3. The Elevated Pine Lands of the Water-Shed.—This divide extends from the Okefinokee Swamp in Georgia southward and somewhat to the east, with an average altitude of about two hundred feet, and occasional ridges reaching an elevation of three hundred feet. Between this main ridge and the Gulf there is a second line of elevation known as the Sand Hills, which attains a height of about one hundred and twenty feet. At many points along the line of the South Florida Railroad these lands are being settled and developed with the activity of a new oil or mining country. Exact meteorological data are not yet collected, but the climate of these pine lands is in many respects not unlike that of Aiken or Thomasville, but much milder and more even. The soil is sandy and deep, with good natural

drainage facilities; it is adapted to market gardening, and, when properly cultivated, sufficiently productive. The pines branch high and afford little obstacle to the free movements of the atmosphere. The summers are bearable, and many invalids are becoming permanent settlers. It is safe to predict for this region a useful future in the climate-treatment of diseases of the chest.

Finally, 4. The Gulf Coast claims our attention. Here we find the perfection of the warm maritime climate—from Cedar Keys to Punta Rassa, a coast-line much broken, deeply indented, and of rare beauty. This region rejoices in a climate which possesses, in an exceptional degree, the qualities of equability of temperature, purity of atmosphere, and comparative dryness. Stretches of hummock land alternate with sandy reaches of some elevation, and often covered with an open growth of pine. Along the edges extend narrow beaches shelving gradually into the limpid waters of the Gulf; overhead is a summer sky.

The mean temperature for the five winter months, during a period of five years, at the United States Signal Station at Punta Rassa, is shown in the following table:

November	69·4
December	64·6
January	64·8
February	66·1
March	68·8
Mean for five months	66·7

The maximum and minimum temperatures for the same months, in the years 1878–1879, are here set forth:

	Max.	Min.
November	83·7	46·7
December	76·2	42·3
January	79·3	46·7
February	79·1	47·6
March	82.6	49·7
Mean for five months	80·7	46·6

The movement of the air is, as a rule, moderate but continuous—a factor of much importance in climate. The influence of the sea and of the abundantly wooded shores, where grow in plenty the pine, the palm, and the cypress, brings about an atmospheric state at once free from inorganic and organic dust and rich in ozone. In this aseptic air, notwithstanding the warm temperature, putrefaction goes on but slowly, and meats hung out are said to remain free from taint and to undergo a slow desiccation without decomposition. This is doubtless also largely due to the dryness of the atmosphere.

The rain-fall is small. At Punta Rassa, during the five cold months, it is given in inches and hundredths from the statistics of the Signal Service as follows:

November	1·62
December	1·08
January	2·31
February	1·79
March	·83
Mean for five months	1·52

The mean of the maximum and minimum temperatures of the water of the ocean bottom at Punta Rassa, for the five winter months during five years, from 1878 to 1883, is here shown:

November	72·8
December	67·2
January	63·6
February	68·1
March	73·0

The advantages of this region as a winter station have long been known. The Government Reservation of Fort Brooke, at Tampa, was formerly used for this purpose. Some years ago Dr. Levis, of Philadelphia, published an admirable paper describing the climate and life of the Gulf Coast. At the meeting of the American Medical Association this year at New Orleans, Dr. Van Bibber, of Baltimore, again called the attention of the profession to it, with a valuable suggestion as to the hygienic principles to be regarded in the improvement and development of localities designed to be used as health resorts.

The obstacles to its settlement and growth hitherto have been connected with difficulty of access and want of means of communication—a difficulty no longer existing. Railroad and steamboat facilities are to-day ample, and the tide of travel has set toward this region. Towns and settlements are springing up at many points. Large investments of capital have led to an extended knowledge of the advantages and resources of this portion of the State. Suitable accommodations for invalids and tourists are projected in various localities. The establishment of sanitaria and other similar institutions upon a large scale in regions previously unsettled affords opportunities for measures of hygiene elsewhere practically unattainable. Danger of over-crowding and errors of drainage may be at least avoided.

Among many excellent localities, the high strip of pine land which extends as a peninsula between the Gulf and Tampa Bay, terminating in Point Pinellas, has great natural attractions. Its dry, sandy soil, its comparative elevation above the water-line, its protecting reefs and islands, its narrow but smooth beach, its clear waters, abounding in fish, and its natural semi-tropical vegetation, adapt it in a remarkable degree to the purposes of a health resort. The Statistical Reports of the Surgeon-General's Office show that the climate of Fort Brooke, across the bay from Point Pinellas, possesses in a high degree the favorable characteristics of this general region. The thermometric range is "less than at any other point in the United States, with the exception of the coast of southern California." The mean annual temperature is 58° F., with extremes of 92° F. in summer and 31° F. in winter. I have been informed by trustworthy observers that the temperature at Point Pinellas is some degrees higher than this, that the extremes are less, and that frosts are practically unknown. In fact, the Point has been spoken of as the "Frostless Pinellas." Like the rest of Florida, this region enjoys complete immunity from the sudden variations of temperature and violent storms which occur in the vicinity of mountain ranges. The prevailing winds are from the south and west; northeast storms are unknown except at the equinoxes; northwest storms, which correspond to the "northers" of Texas, are occasionally felt. These are the cold, dry storms of Florida. The settle-

ments upon Point Pinellas at Big Bayou are exempt from every form of malarial disease. The water in the bay is always warm, the beaches are of gradual slope, the ebb and flow of the tide only about twenty inches; bathing is therefore practicable at all seasons and free from danger.

In conclusion, it may be affirmed that the climate of Florida, though possessing the attributes of warm maritime climates in general, is much diversified and is, in its various regions, adapted to the requirements of a large class of invalids both for the winter season and as a permanent residence.

DISCUSSION.

Dr. Tyndale said the use of the terms mildness and purity, and others, in Dr. Wilson's paper gave him occasion to say what he might have said in connection with Dr. Denison's paper. Such terms were negative expressions, and were implied in the positive ones used in Dr. Denison's paper. Dryness, equability of temperature, and elevation implied all the other qualities or elements of climate, such as sunshine, wind, and electricity, for the latter were dependent upon the former. The terms mild, soothing, etc., denoted sensations only. He would not compare the effects of dryness and elevation, which were inseparable, with those of equability of temperature, but would say that there were statistics to show the influence of these climatic elements upon the human system, and it was these positive facts which were of value in the study of climatology. Sunshine, an implied quality of these three, was to be found in connection with equability at the sea-shore, and in connection with dryness and elevation at inland altitudes. Sunshine had two qualities, that of abundance and that of intensity. Abundance, there being a great many clear days, was common to the sea-shore and to inland stations, but intensity of sunshine was present only at inland altitudes, where there was no obstruction in the atmosphere to the passage of the rays of light. Of other elements of climate he knew nothing of the effect upon the human body, except as they were negative, interfering with comfort. In this regard wind was the principal factor, having the effect of rapidly cooling the body and creating dust and general discomfort, and was generally an attribute of dryness and elevation rather than of equability and moisture. If we had to choose in any given case from among the three elements of climate mentioned, dryness, elevation, and equability, which included other conditions, such as electricity, ozone, etc., it was better to choose the first and second and leave out the third, for the third without the first could be of little benefit. In other words, it was better to [illegible] with elevation, and forego equability, than to [illegible] and forego dryness and the effect of [illegible] reduction of pressure. In that respect he would say that he believed the peninsula of Florida had only the [illegible] with abundance of sunshine but without intensity.

AN ACCOUNT OF A SUIT FOR DAMAGES

IN A CASE OF ALLEGED INJURY BY A BLOW ON THE EAR

By GORHAM BACON, M.D.

AND D. B. ST. JOHN ROOSA, M.D., LL.D.

[illegible] My testimony is based upon my [illegible] which [illegible] to believe that the [illegible] had existed three or four years. I found the [illegible] were [illegible] and [illegible] material thrown out there than on the right side. He could breathe more freely through the right nostril than through the left one. In that way I accounted for the inferior hearing on the left side. The Eustachian tube was not so pervious on that side. In my opinion, it is impossible for an expert opinion to be given that the presence of deafness in a boy is produced by a blow or slap in the face in the region of the ear, unless an examination has been made immediately at, or about the time of, the occurrence. That is the view of all authorities upon the subject. I do not know Dr. Rounds. I have never met him before. Patients often come to me stating that they have had falls, etc., and date the deafness from that time, when changes had actually existed in the ear for a long time, and the deafness was due to pathological changes in the ear itself.

Those who read the cross-examination will notice the evil effects of the present system of securing expert testimony in leading the lawyers to attempt not so much to allow the expert to say what he really means as to make his testimony valueless by an apparent but not real contradiction.

Testimony of Dr. D. B. St. John Roosa, a witness sworn on behalf of the defendant.—I am one of the physicians of the Manhattan Eye and Ear Hospital. The divisions of the ear are the external, the middle, and the internal ear. The external ear commences with this portion (illustrating) and extends to the drum-head; the middle ear commences with the drum-head and communicates with the throat by the Eustachian tube, and on the other side is the nerve. The inner ear is where the auditory nerve is situated. The Eustachian tube passes into the middle ear from the throat immediately back of the tonsil. The Eustachian tube is lined with a mucous membrane. The nasal passages open directly into the Eustachian tube. The Eustachian tube ventilates the ear-chamber or tympanum so that the atmospheric pressure is the same on either side of the drum-membrane.

A blow over the ear would affect the hearing in two ways. It might produce a rupture of the drum-head, and it might not produce a rupture, but might produce a concussion of the nerve and of the brain.

Q. And of the inner ear?

A. Of the inner ear. That result is produced by the compression of a column of air in the auditory canal by direct violence upon the mouth of the ear. The blow must come so that the air in the canal will be compressed. In order to produce a compression of the air in the auditory canal, I should think that it would be necessary that the opening over the ear should be closed for the time being, either by direct violence upon it or by being pushed up and closed.

Rupture of the drum-head would perhaps be accompanied by concussion of the nerve, but we may have concussion of the nerve without a rupture of the drum-head. We tell whether or not the nerve has been affected by a blow by the use of a tuning-fork which is placed in vibration by striking it upon some object, and it is held in front of the ear for one test, and then it is put on the bone behind the ear for another test. If the tuning-fork be heard better through the air than through the bone, and there is at the same time impairment of hearing, that impairment is, in my opinion, dependent on disease of the nerve. But, if the bone conduction is better than the aerial conduction, it depends upon disease of the middle ear, in my opinion, and not upon disease of the inner ear. The usual symptoms of rupture of the drum-head from a blow are bleeding from the ear, and often there is a watery discharge if there be no bleeding; but usually there is bleeding, and generally sickness at the stomach,

inability to walk straight, and a complaint of dizziness. If there be a rupture of the drum-head, a discharge of blood is almost invariably present. A serious rupture might heal in two days, but it would show traces on examination. I should not consider a rupture serious where there was only a complaint of pain in the ear for a few days after the occurrence.

Q. In your opinion, from your experience as an aurist, would you say that a slap from the hand of a gentleman of about my size upon the cheek of a boy, given with such a degree of force only that the boy was not stirred from the perpendicular, could produce any impairment of hearing?

A. I should not.

By the Court.—Suppose it was sufficiently weighty to actually disturb him from the perpendicular and throw him against a person standing near; would that, in your opinion, be sufficient?

A. I think it might. The most frequent causes of deafness in children are colds in the head, commonly called naso-pharyngeal catarrh by doctors, measles, and scarlatina, which produce the same results upon the nose and throat as are produced by colds in the head. The drum, Eustachian tube, and the mastoid cells make up the middle ear. In the diseases I have mentioned the inflammation travels up the Eustachian tube to the drum-cavity. If a patient has an inflammation of the back part of the throat, by continuation it goes into the middle ear, and there is the same kind of inflammation there. That inflammation narrows the tube, prevents ventilation, and makes the chain of bones that conduct the sound to the nerve rigid instead of flexible. I omitted to say that the passages of the nose suffer in the same way, and the patient, as one of the symptoms, does not breathe freely through the nostrils, but through the mouth.

There is a well-marked condition of chronic catarrh called "mouth-breathing," which is an evidence of chronic catarrh, though it might occur in very acute cases.

If it is permanent, it means a chronic condition. Catarrh is inflammation of the mucous membrane, and, when affecting the nasal passages and Eustachian tubes, is apt to affect both ears. One of the results of this want of ventilation in the middle ear, and of this locking together of the chain of bones, is a dragging inward of the drum-head, called by doctors a sunken drum-head. If a patient hears better at some times than at others, that is an indication of chronic catarrh. If the disease has not got to a dead level, there are variations in hearing. On a damp day the patient does not hear so well as upon a dry day.

Deafness, when caused by catarrh, in a child frequently exists for a considerable period of time before it is first discovered. Politzer's inflation is a means of ventilating the drum of the ear through the Eustachian tube. The patient takes a little water in the mouth and holds it, and the doctor puts a tube in one nostril and closes the nostrils over the tube, and, on a signal, the patient swallows, and at the same time the doctor forces a column of air from this tube back into the drum of the ear through the Eustachian tube. When the patient is in the act of swallowing, the soft palate has back against the throat so that the air must go in, as it can not go down. That is the operation called Politzer's inflation, from Professor Politzer, of Vienna. If the hearing improves after the use of Politzer's inflation, it indicates that it is a disease of the middle ear. It almost exclusively brings relief in cases of catarrhal deafness. It is my experience that there is frequently a marked result in regard to the cause of a discharge from the ear in children. I have known patients to call a discharge of salt rheum from the ear a discharge of matter from the deeper parts. I have known them to suppose that an abundant supply of wax was a discharge. On the other hand, I have known them to suppose a discharge of matter from the ear was only a slight affair. Something to frequently the cause of trouble in the ear. Continuous presence in the water, so that the body becomes chilled, is a very frequent source of catarrh—not a very fruitful source, considering the number of children who bathe; but a certain percentage of cases do result from prolonged bathing. Catarrhal deafness can not be produced by a blow. A blow upon one side of the face might produce a concussion of the nerve on the other side. I never saw such a case, but, if it did produce a concussion of the nerve, I should say there would be no other result coming from it.

Cross-examination.—*Q.* Are you acquainted with Mr. X.?

A. I am not.

Q. You would judge him to be a man of considerable muscular power, would you not?

A. He has been pointed out to me since I came in. I should think he had fair muscular power.

Q. Looking at him in that way, and judging of his muscular power, how much harm do you suppose a man of that kind, exerting his muscular power upon a little chap about that size (pointing to the plaintiff) by striking him on the ear, could do to the hearing?

A. If he struck him on the ear, I think he could do a great deal of harm.

Q. Do you think he could produce inflammation of the drum-head?

A. I think so.

Q. And inflammation of the drum-head leads to deafness, does it not?

A. It does.

Q. It is accompanied by deafness, is it not?

A. Inflammation of the drum-head is usually accompanied by deafness.

Q. Inflammation of the drum-head is distinguished from rupture of the drum-head. It is a different thing, is it not?

A. It is. We have inflammation without a rupture.

Q. But there can't be rupture without inflammation, can there?

A. Hardly.

Q. Inflammation of the drum-head is frequently followed by a discharge from the ear, is it not?

A. It is.

Q. And in a sense it may affect the hearing in both ears, may it not?

A. Not if I understand your question correctly.

Q. Inflammation, the result of a blow on one ear, may it not in some way affect the hearing in the other ear?

A. I think not.

Q. Not through a nerve?

A. Not through a nerve, if it is an inflammation of the drum-head.

Q. But a blow inflicted upon one ear may affect both ears, may it not?

A. I should judge that it might.

Q. Where a young child, five or six years old, is suffering from a nasal catarrh, which does not at the time affect the hearing at all, but a subject which at the bench here was not known at all, a blow inflicted upon the ear to affect the hearing very materially?

A. I have said [illegible]. I know of the case of a boy who [illegible] and had no [illegible] but [illegible] upon a blow on [illegible].

Q. What I wanted to [illegible] was this: [illegible] a child [illegible] people [illegible]

and a severe blow is inflicted upon the ear, is he not more likely and liable to become deaf from that blow inflicted while he has this catarrh in the head than if he was in a healthy condition?

A. Certainly.

Q. It very frequently happens that a slight blow on the ear will create deafness?

A. I do not know that it does.

Q. The ear is more susceptible when there is catarrh in the head?

A. Yes; the drum of the ear, if there is catarrh in the head, is much more liable to be broken.

Q. You never examined this boy, did you?

A. No.

Q. Suppose a patient came to you, a little boy of whose hearing there had been no complaint until he had received a severe blow on one ear, and from that time on his hearing had been affected and he had inflammation of the drum-head, would you not attribute the inflammation to the blow?

A. I might. It would depend upon the history of the boy and other circumstances.

Q. I wish you would mention any other circumstances that would influence your judgment, or that would change your judgment, that the boy's deafness came from the blow.

A. If he was deaf on both sides, and he had a blow on one, I should conclude that he was probably not deaf from the blow.

Q. Suppose the boy's hearing had never been affected before that blow, and the blow had been a severe one, to what would you attribute his deafness?

A. I would go into the case. I should have to see the case. I could not isolate it in that way. It is a very common occurrence for us doctors to have a diagnosis made out for us beforehand.

Q. Would you attribute it to anything?

A. Not until I had examined the case for itself; I should not dare to.

Q. Suppose you found that the boy's hearing had been perfect before he received this blow, and then his hearing had been affected in both ears, would you not conclude that the blow had had something to do with it?

A. I should suspect it.

Q. You have consulted with Dr. Bacon, have you not?

A. I have consulted very freely with Dr. Bacon this morning or yesterday — I have forgotten exactly — within a short period.

Q. As to this case?

A. As to this case, and I heard as to what he found on an examination of the case.

In cross-examination.—*Q.* Don't you rely upon what you are told?

A. Very little in regard to medical cases. I regard what I see.

Q. You can't say how long before a man is brought to you he became deaf, can you?

A. No.

Q. Suppose you were told he became deaf at a certain time, don't you regard that as a circumstance?

A. I don't regard that as a fact because I am told it.

Q. You don't base any assumption upon that at all?

A. Very little.

Q. If this boy were brought to you and you were told that from the time that this boy struck his hearing was impaired, you would not ; [illegible] on that?

A. I should place some reliance, I should never negate, but I [illegible] it.

Q. And [illegible] that was always?

A. Yes, I would [illegible]

Re-cross-examination by defendant's counsel.—*Q.* Is it or is it not a fact, from your experience, that the large number of cases of rupture of the drum-head are actually cured?

A. I can't answer that directly. A rupture of the drum-head accompanied by concussion of the nerve may heal up easily and leave no scar; I have seen it, and yet the person remained deaf. Ruptures with concussion of the labyrinth, when the nerve is not injured, that heal up promptly, are slight affairs.

Re-cross-examination by plaintiff's lawyer.—*Q.* When they don't heal up for a couple of years they no longer become slight affairs?

A. They are pretty serious then.

Q. (by the Court). The physician who was on the stand a short time ago said that this boy, upon his examination, was suffering from a chronic catarrh—that seemed to be his diagnosis—and an opaque condition of the drum-head. Is an opaque condition necessarily an inflammation?

A. It is a result of inflammation.

Q. Would a catarrh follow such a blow or such an injury of the ear; would it be incidental at all?

A. Hardly.

Q. If you found catarrh existing, what would be your inference as a physician as to the causes of the deafness?

A. That the catarrh caused it.

Q. The catarrh, then, would not be superinduced by the blow, in your opinion?

A. I think I have already stated that I did not see how catarrh is induced by a blow.

Q. Then, as a matter of fact, if the catarrh was existing as a chronic condition, in your opinion, it would have some other cause than the blow?

A. Probably.

Q. Could you tell whether catarrh had existed for six or twelve months by examining the patient?

A. Not positively.

Q. It can become chronic in six?

A. I should call six months pretty near chronic.

Q. If you found catarrh accompanied by inflammation of the drum-head, and were told that the boy's hearing had been impaired from the time of receiving a severe blow, you would conclude, would you not, that the blow had something to do with the inflammation?

A. As I said before, not necessarily. I decline to answer that question that way because I can't. I should have to look into the circumstances. I do not see how catarrh can be caused by a blow. I have said that two or three times.

Q. We are talking of a case of catarrh accompanied by inflammation of the drum-head?

A. But catarrh is inflammation.

Q. But I am speaking of a local inflammation of the drum-head. You know that succeeds a blow?

A. I do not know such a thing as a local inflammation of the drum-head in conjunction with catarrh. I don't know how to make such a diagnosis.

Q. You could make a diagnosis of a local inflammation of the drum-head existing with catarrh in the head, could you not?

A. If there was a rupture of the drum-head I could make a diagnosis of rupture.

Q. Existing with catarrh?

A. Existing with catarrh of the head, certainly.

Q. And you could conceive of such a rupture succeeding a severe blow?

A. I could.

Q. You have been asked something about sea bathing. Is it your experience that inflammation of the drum-head succeeds sea bathing?

A. In some instances.

Q. And if a boy had been sea-bathing a great part of the summer, June, July, and part of August, and in August somebody struck him a severe blow on the ear, and inflammation of the drum-head followed immediately and continued, you would not ascribe it to sea-bathing, would you?

A. Not necessarily.

This case is perhaps an average exhibition of the uselessness of endeavoring to settle cases, which should be determined by experts, by referring them to an ordinary jury of laymen. The medical evidence is so technical that it is literally impossible to cause any jury made up of laymen, however intelligent, to render a verdict in accordance with the facts.

The plaintiff in the case now under discussion secured a verdict for $400. If this was intended as a compensation for an assault, it might perhaps be justified, for an assault of a mild character did occur.

As a compensation for loss of hearing, it is, of course, entirely inadequate. It is probable, therefore, that the jury was convinced that no damage to the ears resulted from the blow. This certainly was the opinion that both of the present writers entertained. Dr. Rounds, the witness for the plaintiff, said nothing in his testimony that could contradict this view. He simply testified that he treated the child, whom he saw for the first time long after the incident which caused the suit, for catarrh of the nose, pharynx, and of both middle ears. By far the greater weight of evidence went to show that the boy was struck on the cheek once, not sufficiently hard, however, to move him from a perpendicular position, and not on the ear; that he soon ate his dinner and appeared as usual. A blow upon the cheek, in order to hurt the ear, would have certainly moved the boy, and probably have knocked him down. It would also have caused dizziness and other symptoms than those complained of; a severe blow of this kind might press the column of air in the auditory canal upon the membrana tympani, and in a catarrhal subject rupture it, or, without rupturing it, produce a serious lesion of the labyrinth. Such an injury would usually be confined to one ear, at least for a long time.

It is not yet settled whether sympathetic otitis ever occurs. It is believed by one anatomist at least that the nuclei of origin of the acoustic nerves communicate directly with each other. In this case not only is there no evidence of any kind that the boy suffered from vertigo, nausea, or bleeding from the tympanum after the blow; but, on the contrary, the testimony of one well-known, respectable, and intelligent lay witness was that the boy did not hear well for some time before the blow.

It was also shown that he was at a sea-side resort, in the habit of bathing and diving and remaining in the water for long periods at a time; that at the time of the said bath parents were away, his father in Europe and his mother away on a week's visit, and the boy was left in the sole charge of the colored nurse, who was the principal witness for the plaintiff as to the nature of the blow. When he was examined by a general practitioner he found no disease of the ear (he did not examine the throat), and this was two months after the blow. It is understood that the boy remained several weeks longer at the sea-side in the mean time, and that he continued his usual habits there. This physician did not profess to be an expert in aural diseases, and it was not shown through him where the pus came from, or indeed anything that would enable us to know whether the abscess of the ear was situated in the canal or tympanum, or that it resulted from the blow.

When he came under Dr. Rounds's care in April, 1884, six months afterward, the boy had chronic catarrh of both middle ears as well as chronic naso-pharyngeal catarrh, and Dr. Rounds found the ear on the opposite side of the head from the one upon which the blow was inflicted the worse. He thought the trouble had existed for a long time.

When examined by Dr. Bacon, the case was a typical one of chronic aural catarrh. When first seen, the child was hearing quite well, but, on the second visit, he was suffering from a subacute attack, such as is common in young subjects who have chronic catarrh.

In the light of this evidence, it seemed preposterous to Dr. Roosa, who was called as an expert, to assume that the blow had anything to do necessarily with the causation of the disease. Certainly, blows on the head, however severe, do not cause naso-pharyngeal catarrh, and, while an affection of the ear may be produced by a blow, such a disease would be entirely different in character from that shown by the testimony to exist in this boy's ears.

One of the counsel for the plaintiff, in cross-examining Dr. Roosa, was very much surprised to find that the latter laid so little stress upon the history as given by the patient's friends, and their conclusions as to the cause of the disease.

Over and over again he inquired, "If a patient were brought to you who stated, or whose friends stated, that he or she heard *perfectly well* until after a blow was received upon the ear, would you not believe that the deafness was caused by the blow?" When Dr. Roosa replied "Not necessarily," the lawyer showed by his surprise that he did not understand how unreliable such testimony as this was, even when honestly given and with no intent to deceive.

In this case, the testimony that the boy heard perfectly well just before the blow was contradicted, and the colored nurse, who was left in charge of the boy, was the only witness who testified to the perfect hearing *just previous* to the accident. His father, being in Europe, had not seen him for several weeks, and his mother was away on a week's visit and did not see him several days before the alleged assault. But it is quite possible that the boy generally heard very well until his [illegible] bathing at the sea-side. It is impossible to get over the testimony given by one of our most reputable citizens, who was in daily contact with the boy, that he did not hear well just before the blow was received (that is, during the previous part of the summer), and that [illegible] hearing [illegible] was [illegible] a disease of the middle ear [illegible] or less grave, existed in spring [illegible] had.

Nothing is more unreliable and unsatisfactory, if honest, than the testimony of patients and parents [illegible] as to the [illegible] of illness. The lawyer, as well as the physi-

cian, knows that even the facts, and an interested person's account of them, are sometimes entirely at variance. When it comes to deductions drawn from facts, the non-expert mind will inevitably fall into error. We are very often obliged as physicians to give very little credence to the history of cases, but lawyers often seem as credulous as laymen in regard to theories of the causation of disease, and the value of testimony upon which these theories are based.

Fortunately, in the examination of the ear, we have in the speculum, the otoscope, and the tuning-fork aids to diagnosis which enable us to look at cases with considerable objectiveness. If a patient comes to us with the statement that, while hearing well, he received a blow on the ear which caused tinnitus, pain, and perhaps vertigo, that he soon found his hearing defective in that ear, and that it was growing worse, if we examined the drum-head and found no lesions, and yet the patient's hearing was impaired on that side, and the tuning-fork was heard better through the air than through the bones, we should conclude that the history was correct and that he was suffering from concussion of the nerve or labyrinth, the result of a blow. But when a disease is found that is not at all likely to have resulted from a blow, certainly we would not *necessarily* conclude that it had so proceeded, no matter how strongly his friends might insist upon it. Expert testimony as now given by physicians chosen by the counsel, and not by the Court, and before a jury of laymen, is often of no value, and sometimes brings the medical profession into disrepute, and, what is worse, defeats the ends of justice. Medico-legal cases should be settled by juries of medical men, and experts should be witnesses called and paid for by the Court.

DEFORMITIES OF THE NOSE AS A FACTOR IN NASAL CATARRH.*

By J. W. ROBERTSON, M.D.,

DETROIT.

Every person who has paid any attention to diseases of the nose has noticed that a large proportion of the applicants for professional services have some deformity of the nasal organ, varying from a slight deviation of the septum to a complete obstruction of one or both nostrils.

Many cases which to all external appearances are perfect in shape are often found, when examined internally by the aid of a nasal speculum or rhinoscope, to be deformed to an extraordinary extent, and in a large majority of these cases the patients suffer from the various forms of catarrh.

Now, it seems to me specialists ought to give to the general medical profession the results of our researches into the cause of these deformities and their relation to the catarrhal diseases of the nose and throat.

With this object in view I have been investigating some of the causes of the so-called catarrhal affections, and have come to the conclusion that deformities of the nose are the cause of the trouble in the majority of cases.

But we must needs go further back than the mere fact that deformities exist. Immediately many questions arise.

1. What are the causes of the large number of deformed noses?

2. At what age do these deviations from the normal take place?

3. In what way do these deformities produce catarrhal diseases?

4. How can these abnormal conditions be prevented?

It will not be the province of this paper to discuss all the various questions that may arise in this connection, or go into any extended debate in regard to them, but simply to give the observations made and the deductions therefrom.

1. Causes of deformities.

Of one hundred and sixty patients (males) examined, thirty-seven gave histories of injuries received before the age of twenty years; nineteen others were injured after attaining that age, having fractures, dislocations, etc., due to external violence. Sixteen deformed noses were the results of tertiary syphilitic manifestations.

Twelve cases of congenital deformities were consequent upon improper development in hereditary syphilis, scrofula, etc. Three perforations of the septum resulted from necrosis during typhoid fever. One case of necrosis of the vomer and turbinated bones followed injury and long-standing suppuration of the lower extremities. One case of perforation of the septum followed vaccination in a tubercular subject, afterward culminating in general tuberculosis and death. Two cases of perforation of the cartilaginous septum resulted from ulceration due to injury of the mucous membrane by the finger-nail. One case of congenital occlusion of one nostril was caused by attachment of the posterior portion of the vomer to the inferior turbinated bone. The remaining cases gave no histories of injuries having been received; quite a number had high-arched, irregular palates, which were undoubtedly congenital, and nearly all were suffering more or less from catarrhal difficulties.

Of fifty-seven patients (females) examined, five had had recent fractures, the results of blows, falls, etc., upon the nose. Twenty-two gave histories of injuries from violence. Eleven cases were due to tertiary syphilis and congenital non-development. Two were cases of lupus. Three were cases of asymmetry of nasal cavities, probably congenital; partial obstruction to one nostril since early childhood; no histories of injuries. The causes of the deformities were not known in the remaining cases, but nearly all the patients were troubled with the various catarrhal diseases.

Of two hundred and forty persons of both sexes examined, two hundred and seventeen had deformities of the nose. Of the two hundred and seventeen, eighty-three gave histories of injuries received; and, of the ninety-seven remaining, having no histories, in all probability one half of them had had injuries early in life and had forgotten them, because many of them had dislocations of the cartilages and fractures of the nasal bones, which could only have been the results of external violence. It would appear from the foregoing that a large percentage of the deformed noses were directly due to injuries received—syphilis, scrofula, tuberculosis, and allied diseases, causing necrosis, ulceration,

* Read before the American Laryngological Association, June 25, 1885.

and congenital improper development, coming in a good second in the production of these abnormal conditions.

2. At what ages do these deviations from the normal take place?

Through the kindness of Dr. E. A. Chapoton, I was enabled to examine at St. Vincent's Orphan Asylum and the Home of the Friendless two hundred and thirty-three children, ranging from two to eighteen years of age, the object being to determine, if possible, at what age these deformities began to be made manifest. I have tabulated the following:

Ages	No. examined.	Normal	Abnormal	Deformed.	Syphilitic, Scrofulous, Imp. Dev.	DEFORMED NOSES.	
						Histories of injuries.	No history of injuries.
2 to 5	46	36	10	1	5	1	..
5 to 10	115	91	24	6	9	3	3
10 to 15	64	35	29	20	9	5	15
15 to 20	8	5	3	2	..	1	1

From the foregoing it will be seen that in a total of one hundred and sixty-one children, at ages ranging from two to ten years, only seven deformities existed, and four of them gave histories of injuries. In a total of seventy-two children, between the ages of ten and twenty years, there were twenty-two deformed noses; six gave histories of injuries, while in sixteen the causes were unknown, although five had dislocation of the septum and one had disarticulation and depression of the nasal bones; four had narrow superior maxillary bones, high-arched palates, crowded teeth, and deviation of the nasal septum. Quite a number gave histories or indications of syphilis, scrofula, or tuberculosis. In a total of thirty-two children under ten years of age examined in private practice, only one had any deformity of the nose. It would appear from this that between the ages of ten and twenty years a large proportion of the deformities manifest themselves either through the receipt of injuries or improper development due to malnutrition.

3. In what manner do these deformities produce catarrhal diseases?

Nearly every person is subject, more or less, to frequent attacks of coryza, influenza, etc. Ordinarily these attacks last only a few days, and the patient eventually recovers with no untoward symptoms; but, when these diseases occur in persons afflicted with any of the numerous deformities of the nasal organ, there will always be some interference with the proper drainage therefrom.

The secretions accumulate to a certain extent in some portion of the nasal tract, thereby causing an irritation by drying or undergoing decomposition. This irritation is kept up for a greater length of time in these cases than where no abnormal conditions exist; a subacute catarrhal inflammation supervenes, leaving the patient liable to subsequent attacks of coryza with increased irritation, repeating itself until eventually a chronic inflammation, with its concomitant symptoms, results. In the same way individuals having deformed noses, who are obliged constantly to breathe air impregnated with irritating substances, are liable to have chronic inflammation of the nasal mucous membrane, on account of an inability to dislodge the irritating particles because of the abnormal proportions and curves.

Again, in those unfortunate children who have inherited syphilitic and scrofulous diseases, where there is an interference with the proper nutrition of the entire system, there seems to be particularly a condition of malnutrition of the nose and throat, usually a lack of proper bony growth, the nasal bones being short and small, the vomer resting upon a flat palate, the bridge of the nose slightly sunken and broad, the point tilted up, the nostrils large and open, allowing in many cases too free a circulation through them, which has a tendency to dry and harden the secretion in the nose and upon the membrane of the pharynx, producing ultimately ozæna, pharyngitis atrophica, or diseases of a severer character of the upper air-passages and lungs. These children usually exhibit a tendency from birth to chronic discharges from the nose, and eczematous eruptions of the lips and nostrils, the nasal passages being deformed and allowing too much air to pass through them, as stated above, causing the secretions to dry upon the surface of the mucous membrane, producing considerable pressure and atrophy of the underlying tissues. In this way many of the cases of atrophic catarrh may be accounted for.

4. How can these abnormal conditions be prevented?

It devolves upon the medical profession to instruct the people that the time to prevent catarrh and its concomitant diseases is during the growing period of childhood.

We can not prevent children from falling down stairs or boys from playing ball and fighting, but the resulting deformities can be, to a certain extent, relieved; for during early life the cartilages and bones can be more easily molded into shape, and fractures and dislocations more easily reduced, and they should be looked after with as much care as fractures and dislocations of the arms and legs. The nose should have at least as much care as the teeth, for it is far more essential to health, and, should its functions be impaired or destroyed, no false one can replace it.

In those cases of syphilitic and scrofulous diseases where the secretions are profuse and inclined to adhere to the mucous membrane, it is usually necessary to cleanse the nostrils constantly with some bland fluid, and apply oil by means of a spray, which will prevent, to some extent, the constant irritation. In children the utmost care must be had in regard to the hygienic surroundings, and an attempt made, by proper treatment and feeding, to develop, if possible, the bony structures of the nose.

DISCUSSION.

Dr. MACKENZIE referred to the [illegible] Persons with reference to wearing artificial [illegible] in the cavities of the nasal bones. [illegible] to act upon the throat who had a crooked or deformed nose, and the patients who had shapes of the nasal bones accentuated by small bones at the nasal angle. [illegible] said, had an instrumental name which was made a thing of horror through the [illegible] of the [illegible] Above. In regard to the [illegible] of the [illegible] [illegible] advocated by Dupuy and subsequently [illegible] by Dr. Mackenzie, he had [illegible] a [illegible] [illegible] [illegible]

A CASE OF CÆSAREAN SECTION, AND ONE OF EXTRA-UTERINE GESTATION.*

By ROBERT ABERDEIN, M. D.,
SYRACUSE, N. Y.

Mr. President and Fellow-Members: I venture to present to you this morning the histories of two cases which occurred in my practice, their rarity and my irregular attendance at our quarterly meetings being my only excuse for bringing them before you at this late day.

A CASE OF CÆSAREAN SECTION.

On the evening of the 16th of June, 1881, I was notified by Mr. S. that his wife was beginning to have labor pains with her first child. Accordingly, I called about 10 P. M.; found her reclining on a sofa awaiting my arrival. She said she was feeling pretty easy, and, thinking she might rest for the night, I made no examination, but left her, promising not to accept any other call that night. About 2 A. M. of the 17th the husband came for me again. On my arriving at the house, the nurse informed me that the waters had broken. I made an examination and found what I considered to be the head well down in the middle strait, but could not detect the os. After a while I made a second examination, first giving a few whiffs of chloroform, when I introduced my hand far enough up anteriorly to distinguish the os not much dilated. The pains not being very strong, I did not examine again for some time. At the third examination, by bimanual taxis I found a tumor above the pubes, and through the os detected the fontanelle. Then I knew I had a formidable case to deal with, and requested counsel. Dr. A. Mercer was sent for. He, too, thought he felt the head, but could not find the os until, under chloroform, he searched for it as I had done. I had previously tried to force up the tumor into the abdominal cavity, thinking that by dislodging it I might turn, should the head not engage.

I now applied the forceps and endeavored to press the head back, while Dr. Mercer tried to push the tumor up out of the basin of the pelvis. After successive efforts and failures we asked for another physician, and Dr. Van de Warker was sent for. When we had told him our experience, he, after examining, said, "Why not aspirate?" We attempted to, but did not succeed in getting a drop of fluid. Then one of us proposed the Cæsarean operation; it was conceded by the others to be the only [illegible] the family were informed, and a ready consent was given. Leaving Dr. Mercer and Dr. Van de Warker with the patient, I started out to get the instruments required and invite a few [illegible] to assist. About noon, the patient being anæsthetized, Dr. Pease, Dr. Van Duyn, Dr. A. C. Mercer, Dr. Coad, Dr. [illegible] and Dr. Storum were admitted to the room. The patient was placed upon the operating table and Dr. Pease made [illegible] of the other physicians. His opinion coincided [illegible] Cæsarean section to be the only possible procedure. I performed the operation, assisted by [illegible], assisting the mother [illegible] Dr. Pease and Dr. Van Duyn [illegible] and we all left the room together. The patient was [illegible] and we all left the room together. The patient was [illegible] Through the assistance of Dr. Pease I succeeded [illegible] abdomen. The tumor presented itself [illegible] by into a [illegible] of unexplored extent.

[illegible] it was determined whether [illegible] Medical Society of the County of Onondaga

it was better to remove the tumor. On examination, several thought the pedicle to be too short and thick, and, wishing to give the patient every chance, it was left *in situ*. The woman rallied nicely from the chloroform, and I stayed with her for the succeeding eighteen hours, during which time she complained very little of pain, took what was given her, caressed her baby, and often asked why I would not allow her to turn and twist in bed as she wanted to. The urine was drawn off every fifth or sixth hour, the vagina at the same time being examined and the lochial discharge noted to be nearly normal in quantity and quality. On leaving the house I cautioned the nurse not to allow any one to enter the room during my absence except the husband. I had not been gone long, however, when some of her friends visited her, and one, more officious than the rest, told her she had been cut open and the baby removed in that way. This was the first intimation she had of the operation; the news, and the graphic way in which it was communicated, produced a shock; she fainted, rallying partially after a while, only to pass into another faint more profound, and about twenty-five hours after the operation she quietly passed away. Dr. Mercer, whom I found with her when I returned, had done all that was possible to revive her, and coincided with me in attributing the direct cause of death to delayed shock.

At the autopsy, performed twenty-four hours after death by Dr. Jacobson and Dr. Elsner, Dr. Mercer, Dr. Pease, and myself being present, the following notes were made: Subject, a well-developed blonde, five feet three inches in height, about one hundred and thirty pounds in weight, twenty-nine and a half years old. On reopening the abdominal wound, no signs were found of commencing peritonitis; the uterus and its appendages were removed; the abdominal cavity contained very little if any fluid. The tumor was found to be egg-shaped, attached, by a round pedicle three fourths of an inch long and one inch in diameter, to the posterior wall of the uterus five inches from the os, the entire length of the womb being nine inches. The natural position of the tumor had been transverse, as was shown by the position of the fibers of the pedicle; but its attachment, being a little nearer the smaller end, had allowed the heavier extremity to dip down into Douglas's *cul-de-sac*. The dimensions of the tumor were: long circumference fourteen inches, long diameter six inches; circumference of large extremity twelve inches, diameter four inches.

On a section being made into it, the walls were found to be over an inch thick, very hard and unyielding. The interior resembled that of a kidney.

After having completed the post-mortem and closed the cavity, it was found that in some mysterious way we had neglected to return the specimen. Not knowing how better to dispose of it, it was handed over to Dr. A. Clifford Mercer, who promised to prepare it for the histological museum of the Syracuse University; hence I am enabled to present it for inspection now.

I met Mr. S. only a few days ago, and he informed me that the little girl was growing nicely and had seldom seen a sick day.

CASE OF EXTRA-UTERINE GESTATION.

On April 24, 1884, I received a note from Mr. M., asking when it would be convenient for me to visit his wife. I answered at 5 P. M., about which time I called, and was met by the family physician, who gave me the following brief history of the case. I was called to see Mrs. M. had given birth to a [illegible] healthy boy [illegible] eight years before, since which time she had never been pregnant. In January he was called to her, and,

the symptoms indicating suppression of the menses from cold, he gave her some remedies which restored them, but she had not menstruated since. For the past two weeks she had been confined to her bed, suffering from a pain in the left side of the abdomen, had considerable nausea, and the bowels were constipated. He was at a loss to know whether these symptoms were from pregnancy or some other cause. On entering the sick-room I found the patient in bed; her countenance was pale, and had a worn, anxious expression; the skin appeared to be normal in temperature; pulse rather rapid. After a brief interview I made a digital examination. I found the womb enlarged, the os having that peculiar, indescribable feeling attendant upon gestation. The breasts, too, had commenced to enlarge, and the areolæ were darker than normal. I did not hesitate to pronounce her pregnant and about in the third month. On examining the abdomen, I found considerable tenderness on the left side. She said she felt easier when the left leg was flexed. She had had chills, and nausea was very persistent. I advised citrate of magnesium as an aperient and stomachic sedative, and the abdomen to be painted with ol. menthæ pip., then covered with a heated flannel, over which an abdominal bandage was to be firmly applied. She seemed much relieved and greatly pleased when I expressed my belief in her being pregnant. On May 13th the husband called to say that his wife was feeling much better, but would like to have me call again, as she wanted to know if I was certain she was *enceinte*. On a second examination I reiterated my former statement, as I was able to detect the uterine souffle in the left inguinal region. She had improved very much since my first visit, and was up and about the house. I advised her to take as much out-of-door exercise as she could without fatiguing herself, and live on plain, substantial food. In the course of a few weeks the husband called and jubilantly informed me that his wife had felt life a short time before, and that she had improved very much since. From this time on I heard nothing of the case till September 18th, when I was called in the evening, and found the family physician there. He said pains had commenced two days before, and he had remained with her both nights; as she was pretty well worn out, he requested me to make an examination and determine whether labor had actually commenced. On doing so, I found the parts relaxed and pretty well bathed in that albuminous mucus which lubricates the vagina during parturition. The mouth of the womb was soft and dilatable, but no part of the child was presenting. The nurse said the movements of the fœtus had been so strong a few days before as to kick a book off the mother's lap as she lay reading. I told them labor was commencing, but, as there was no presentation at present, they would have ample time to summon the doctor when he was needed, and advised an anodyne to procure rest. Some time after this I met the husband on the street. He said he was very anxious about his wife, as she had not been confined yet, and had not felt life since I last saw her.

On November 27th he called and asked me to take charge of the case. On doing so I explained to them the necessity of determining whether the fœtus was in the womb or abdominal cavity, as I had grave fears that something was radically wrong.

The patient was able to retain but very little in the stomach, fever was pretty constant, although she had no chills, and there was circumscribed tenderness on left side of the abdomen, which was distended as at full term, and tympanitic. I could not detect the fœtal heart sounds nor determine the location of the head. The following evening I called upon Dr. Dobson, who went with me and plainly detected other parts. I dilated the womb and explored it only to find it as I had feared—empty. The doctor verified my statement, and I, knowing what I had to certain there was a dead fœtus in the abdominal cavity; but the patient was in such a prostrated condition that we concluded to wait, endeavoring to build up her strength and trust to either mummification or the establishment of a fistulous opening into the vagina or rectum, as sometimes does occur. Various remedies were tried for the persistent nausea, which would succeed one day only to fail the next. Opium in any form gave no relief, but rather increased the intolerance of the stomach. Dr. Van de Warker saw her with me, and advised an enema of ℈j each of pot. bromidi and chlo. hydrat. at bedtime; total abstinence from anything by the mouth for twenty-four hours. This did not act kindly, and, after three trials, I abandoned it, again trying morphine hypodermically, which, with ten-grain doses of oxalate of cerium occasionally, gave most satisfaction. To nourish her, an enema consisting of one egg, half a tablespoonful of cod-liver oil, one grain of quinine, a teaspoonful of brandy, and milk enough to make about three ounces, was given every fourth or fifth hour. She now seemed to improve, and, as there were no symptoms of septic poisoning, we began to hope that, after all, she might get better. On the morning of December 15th, on entering the house, I discovered a most horrible odor; passing into the sick-room, the nurse informed me that in the middle of the night something seemed to break, and there was a gush of fluid from the vagina. On separating the legs, the discharge came with a force and sound resembling escaping steam, saturating everything on the bed and almost filling a bed-pan, which she hastily placed in position. The patient lay passive and faint. I gave her some brandy, and, on applying my hand to the abdomen, found the distension very much reduced. I discovered, on examining *per vaginam*, that the fluid came through the mouth of the womb, so concluded that the passage was either through the left Fallopian tube or uterine wall. The fluid was of a dirty grayish color, interspersed with spots of pink. Pouring it carefully from the vessel, I succeeded in getting a small shred of membrane which, under the microscope, proved to be skin, with a few delicate hairs *in situ*. I thought we should probably have septicæmia following rapidly, and that a few days at most would end the patient sufferer's time on earth. But, instead of our forebodings being fulfilled, she rallied more than before. Day by day the discharge kept up, the patient gradually improving, and finally the nutrient enemata were nearly altogether supplemented by nourishment *per os*. The husband, whose business had long required him elsewhere for a time, now, on my suggestion, left, but three or four days after was telegraphed for, as grave symptoms had appeared. On the morning of January 3d I found that, during the night, the discharge had suddenly ceased, and the abdomen was again distended as much as before. I endeavored, by introducing a large gum-elastic catheter into the uterus, to find the opening, which had become clogged, but did not succeed. The patient lost strength rapidly; chills, delirium, and other septic symptoms set in, toward the last she became comatose, and, on January 7th, during the night, her troubles ceased.

I was notified of her death early in the morning of the 8th, and, as she had requested a post-mortem examination in the event of her death, was asked to make it as soon as possible.

I called upon three physicians who had seen the case, one was out of the city, two were engaged. Dr. Parker, of Utica, N. Y., who was visiting in the city, and had assisted at the case a week or so before, was next waited on and gladly consented to be present. Miss De Dion, having charge of the surgery, came in. On opening the abdominal cavity, we first encountered a fibrous mass, the uterus, which, as it was not distended, I did not suppose to be in an advanced stage of decomposition. This was carefully removed, when a round opening about three eighths of an inch in diameter was discovered, communicating with the uterus through

the left wall, which was agglutinated to the sac very firmly. The two together were of about the thickness of a piece of chamois leather. In the posterior side of the sac was a rent about three inches long, leading into the abdominal cavity, where quite a quantity of the previously described fluid was found.

The mass of the placenta had been entirely dissolved, leaving only the vessels, like cords, clinging to the top of the sac, which was adherent to the flexure of the transverse and descending colon; the anterior surface was pretty firmly attached to the peritonæum of the left side. We determined that the sac was formed from the left Fallopian tube.

This, gentlemen, I present as the history of a case from which many valuable lessons are to be learned:

1. The unmistakable signs of gestation in the empty womb in tubal pregnancy, especially the entire absence of the menses.

2. The sympathy of the mammæ, as in normal pregnancy.

3. And, most remarkable, the preparation of that empty womb for parturition at the completion of gestation, and the part played in the same rôle by the vagina.

4. The resistance of the interior of the womb to the septic matters pouring through it for weeks.

5. The entire absence of septic symptoms until the sac ruptured into the abdominal cavity.

A REMARKABLE CASE OF LATENT PNEUMONIA.

By FRANK GRAUER, M. D.,

ASSISTANT TO THE CHAIR OF PATHOLOGICAL ANATOMY AT BELLEVUE HOSPITAL MEDICAL COLLEGE.

It occasionally falls to the lot of medical men attending hospitals and dispensaries to see cases of latent pneumonia, which assume various forms and symptoms, and may, as a rule, be classified under one of the following heads or types:

1. The so-called walking cases of pneumonia, in which there is partial or complete solidification of one or more lobes of a lung, with a few or all of the following symptoms: weakness, loss of appetite, fever, increased frequency of pulse, etc.

2. Those cases in which the symptoms of pneumonia are masked by the symptoms of some other disease, with which it is complicated.

3. Small pneumonia, which in a large proportion of cases [illegible]

These cases, especially the second and third type, are, as I have stated, not infrequently met with in practice, but it is unquestionably a rare thing to see a case of pneumonia with three lobes involved, one in the state of red, the other two in the state of gray hepatization, which does not present any symptoms whatever indicative of or pointing toward the disease.

The following is a complete and correct history of a case in which the writer performed the autopsy.*

Mr. H., a [illegible] was apparently in perfect health and strength, and enjoyed himself, felt in the best of spirits, and sang three or four songs. On Monday, October 13th, not having any work to attend to, he went out walking, returned home in the evening, ate a hearty supper, and shortly afterward retired. When he awoke on Tuesday morning he felt that his throat was sore and that he was slightly hoarse. His daughter noticed that he was very pale, and, as she states, told him to send for a physician, but he was opposed to it, stating that he was feeling well and that he did not require the services of a doctor. He was very anxious to go out, but, the weather being unfavorable on account of the rain, he was compelled to remain at home. His daughter in the afternoon insisted that he was not well, and that he had better go to bed, which he did at 4 P. M., having previously washed his hands and face at the hydrant in the hallway. He slept until 6 P. M., when he awoke and arose to get his supper, but only drank some coffee, which he thought made his throat feel better. When asked later on how he felt, he remarked that he was not sick, that he had no pain, and that nothing ailed him. At 8.30 P. M. his next-door neighbor called to see him, told him he was looking very pale, and advised him to go and see the doctor, so as to satisfy his family. He promised he would do so, but remarked that he knew the doctor would tell him that nothing was the matter with him. At about 9 P. M. he had a cough for the first time, coughing three or four times in succession. At 10 P. M. he arose from his bed, walked to the door of his bedroom, a distance of about three feet, where he stood. His daughter asked him if he wished a drink of water, and he replied No, whereupon he began to shake from head to foot. I questioned the daughter as to whether it was a chill or convulsion, and she seemed inclined to think it was the former. After the chill, which lasted about a minute, he began to bend over as if about to fall, but was supported by his daughter and assisted to a chair, and thence to the bed, where he expired fifteen minutes afterward. The autopsy revealed the following points: An incision was made from the chin to the symphysis pubis, the integument divided, and an examination of the abdominal cavity made. The intestines were somewhat dilated and slightly congested, but showed no evidence of inflammation. The arch of the diaphragm was between the sixth and seventh ribs.

The sternum was then removed, and the lungs were found somewhat distended, covering the pericardium to a great extent. There were adhesions on the left side due to an old pleurisy, but none on the right side.

The pericardial sac contained at least three tablespoonfuls of a clear, reddish fluid. The heart was somewhat enlarged and the left ventricle contracted. There was also considerable hypertrophy of the left ventricle, the walls being of about twice the normal thickness. The aortic valves were slightly thickened at their bases, but the aorta was found normal.

The left auricle was dilated, and there was slight thickening of the mitral valves. The right ventricle was also dilated and contained a post-mortem clot, reddish in color and slightly adherent to the walls of the ventricle. The pulmonary valves were normal. There was a clot in the right auricle, dark red in color and prolonged into the branches of the pulmonary artery. There was nothing abnormal about the tricuspid valves. The left lung was removed and the lower lobe was found to be covered with a recent fibrinous exudation. On making an incision into it, it was found completely solidified and in the state of gray hepatization. The right lung at its lower portion, also had spots of recent fibrinous exudation, and, on cutting through the lung, the middle lobe was found in the state of red, the lower in a state of gray hepatization. A portion of the exudation from the middle lobe was taken and pressed between two cover glasses; in the way about a dozen specimens were made and examined by both Delafield and Grammess's method of staining

*I am indebted for [illegible] Dr. Joshua [illegible] I attended the autopsy.

for detecting pneumococci, a large number of which were found present. A microscopical examination of a portion of the lower lobe showed the air-cells filled with fibrillated fibrin, with a large number of pus-cells, granular matter, a few fat-cells, and occasionally a red blood-globule in its meshes.

The trachea, larynx, and œsophagus were apparently normal.

The spleen was of normal size, but very hard.

The kidney was enveloped in a mass of fat, the capsule was readily stripped off, and, on cutting into its substance, showed a slight amount of parenchymatous nephritis.

The bladder was slightly distended with urine, but showed no evidence of cystitis.

The stomach was pigmented, covered with mucus on its inner surface, and showed evidence of a chronic catarrh.

Intestines and pancreas were normal.

The liver was enlarged, and showed parenchymatous, and in some spots the beginning of fatty, degeneration.

The cause of death was undoubtedly paralysis of the right side of the heart, as the upper lobes of both lungs did not show any evidence of pulmonary oedema. In concluding, I would like to state that this case teaches us two things:

1. That the tolerance of pneumonia is variable in different persons. Here was a man with organic disease of the heart and three lobes of the lungs completely solidified, who yet did not complain of dyspnœa or shortness of breath, showing that the two upper lobes were sufficient to do the work of respiration.

2. That we should never rely on the remarks of a patient and direct our attention only to the part that he thinks is affected, but examine every organ carefully and thoroughly, so as to do justice not only to ourselves, but to all who are interested in the case.

ANGIOMA BENEATH THE TONGUE.

By W. H. HAYNES, M. D.,
NEW YORK.

Some time ago Mrs. [illegible] was delivered of a well-developed female child, which was noticed to have a tumor on the lower lip at about the middle of it. Upon the tumor [illegible] skin beyond the tumor [illegible] three eighths of an inch. [illegible] the mouth at this time. Three months later the child was brought to me to account of [illegible] beneath the tongue, on each side of the [illegible] swelling, looking exactly like the illustrations shown in text books of typical ranula, except that in this instance there were two tumors. The one on the left side [illegible] both together were of such a size as to elevate the tongue and impede nursing and respiration, causing the latter to be distinctly nasal. They were bluish in color, soft, and fluctuating. The mucous membrane covering [illegible] of a bluish-red color and [illegible] Pressing the tumor on the left side gave rise to [illegible] A hypodermic was passed through the tumor after the manner of introducing a seton [illegible] The procedure was [illegible] and a small amount of [illegible] Into [illegible] tumor [illegible] Dr. Eggleston [illegible] freeing the ligature and severing the ends of it close to the [illegible] The wound [illegible] and [illegible] of the divided tissue took place, [illegible] was a small stripe of cicatricial tissue [illegible]

brane. The same procedure was repeated on the right side. This time, however, the hæmorrhage consisted of bright red arterial blood, which ceased spontaneously as before. In all other respects the process of repair was the same as after the first operation. No further difficulty has been experienced in performing any of the functions of the mouth. The nævus, though growing *pari passu* with the normal development of the parts, oozes bright-red blood at times, which is checked by the use of styptics. Areas of cicatricial tissue have appeared in these places, so that we are in hopes that in time a cure of this deformity may take place by this process.

The pathology of this form of tumor consists in an overdevelopment and dilatation of the capillary blood-vessels of a part, covered by the different tissues, according to the depth and place of location, in the present instance being covered by the connective tissue and mucous membrane lining the cavity of the mouth. They are always congenital. Their cause is unknown. Their occurrence upon the surface of the body is very common. In the different cavities of the body their development is rare; particularly is this the case with the cavity of the mouth, and it is still rarer for the deformity to be double.

There are two other forms of tumor—which are apt to be met with more frequently in this locality at this early time of life—with which these tumors may be confounded, viz., true ranula and cysts * (false ranula,† so called).

Dermoid cysts may possibly be located here also, but they have distinguishing features of their own for purposes of diagnosis. Labbe mentions having met with sanguineous cysts in this region, but, from his description, I believe them to have been analogous to those described at the head of this paper, of the same pathology, and not of that he mentions.

The three first mentioned forms of tumor resemble each other so closely in appearance and feel during their development that our only certain means of diagnosis is by exploratory puncture, which can not possibly do harm, and may also bring about immediate cure. After such a puncture, if the tumor be a true ranula (simple closure of the mouth of the duct), the sac collapses with the exit of the clear fluid, and a probe can be passed [illegible] cavity, covering for a varying distance of about an inch till it reaches the gland [illegible] In the case of a false ranula (simple cyst [illegible] of the connective tissue), after the puncture the cyst partially collapses with the exit of the [illegible] and the probe enters only a small limited cavity, which, being laid open, [illegible] the wall or walls of other similar cysts.‡ If, after the puncture, blood [illegible] we have a tumor [illegible] up of capillary blood-vessels.

I have mentioned the treatment of these tumors as being a minor [illegible] but as [illegible] there cannot be [illegible] of [illegible] tumor [illegible] can be [illegible] of some consequence, like any [illegible] part, will leave an ill-looking [illegible] and the [illegible] ance. This condition is due to the absorption of the watery part of the [illegible] and consequent condensation of the [illegible] material forming an [illegible] cicatrix, and to

* Vol. [illegible] Amer. Ed., 1885, p. 187.
† Quincy, "System of Surgery," Amer. ed., vol. i, p. 716.
‡ Ibidem, vol. vi, p. 396.

false ranula an encysted tumor." * The angiomatous form of tumor may at this period contain a phlebolite.†

In the case under observation my suspicions as to the nature of the tumors were aroused by their occurrence in the immediate vicinity of a nævus, leading me to suspect a similar condition to be the cause of their appearance, which the puncture confirmed. This, however, would naturally be so in any case where the two conditions were met with, no matter how remote they were located from each other. Another point of interest and aid in diagnosis was the different colors of the blood exuded from the two tumors, showing them to be of a vascular character, in the one the veins predominating, and in the other the arterioles.

The treatment and cure of this variety of morbid growth is of the simplest kind, and consists in merely passing one or more ligatures through the growth or around its base, tying it tightly, and causing sloughing and subsequent cicatrization by granulation. The former will be the easiest, unless the form of the tumor readily allows of the latter plan being employed, at the same time using a simple antiseptic mouth-wash and giving attention to the patient's general health.

Book Notices.

A *Treatise on Pharmacy*: designed as a Text-Book for the Student, and as a Guide for the Physician and Pharmacist. Containing the Officinal and many Unofficinal Formulas, and Numerous Examples of Extemporaneous Prescriptions. By Edward Parrish, late Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy, etc. Fifth Edition, Enlarged and thoroughly Revised. By Thomas S. Wiegand, Graduate of the Philadelphia College of Pharmacy. With Two Hundred and Fifty-six Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xxiv-17 to 1090, 8vo, sheep.

Parrish's "Pharmacy" is pre-eminently a work for the [illegible]. It does not in any great degree meet the needs of a student of medicine, for it does not give him the physiological or therapeutical facts which he should have prominently set before him. Nor, again, is it best to be of service to the chemist, although it necessarily contains a great deal of chemistry and many chemical data. The latter are calculated according to no empirical arrangement, which does not always facilitate the study of chemistry, but correctly confuses chemical relations. For instance, to group together in one list formic, succinic, acetic, and lactic acids is misleading to the student of chemical science. Still more so is the confusion in one chapter of such chemical substances as carbon, charcoal, acetic acid, and creasote, while benzoic acid is reserved for another chapter in which it is associated with hydrocyanic and valerianic acids.

Of course, in following this order as nonsensical as the [illegible] has a distinct object in view, that of grouping together objects of similar origin. But inasmuch as chemical science is very largely given, it would still have been better to have grouped the natural order and the chemical relations. Also these substances [illegible] to each other.

* [illegible] Anat. vol. 1874, p. 44.
† [illegible] Anat. vol. 1877, p. 400.

A more serious objection than that of faulty arrangement attaches to the chemical part of the work. Apart from the introduction of substances which are not certainly known to exist (a fault almost unavoidable in a work of this character), and apart from some curiosities of chemical nomenclature, there are errors of much less venial character in the matter of chemical formulæ. The authors have neither entirely retained the old system of chemical notation, nor entirely adopted the new. In the same list, therefore (particularly in the case of the carbohydrates), we find formulæ in both the old and the new notation placed side by side without any sign to indicate which method is employed. Such confusion is highly misleading to the novice, and is indefensible in a work having any pretense to scientific accuracy.

Much more satisfactory than the section on organic chemistry is that devoted to the metallic elements and their compounds used in medicine. This is scientifically arranged, accurate, and well brought up to date.

The remainder of the book—that part which is directed especially to the student of pharmacy—contains a description of pharmaceutical processes and of the various preparations and their manufacture. This part is certainly very well done. It has been revised to accommodate it to the last edition of the Pharmacopœia, and seems to leave nothing to be desired as regards either fullness or accuracy. It is this portion of the work which constitutes its value for the student, and which has created a demand for it sufficient to call out five editions. Such a popularity renders extended commendation superfluous, and leaves the reviewer only the ungracious task of pointing out the deficiencies in an otherwise excellent treatise.

A Practical Treatise on Massage, its History, Mode of Application, and Effects, Indications, and Contra-indications, with Results in over Fourteen Hundred Cases. By Douglas Graham, M. D., Fellow of the Massachusetts Medical Society. New York: William Wood & Co., 1884. Pp. x–286.

Dr. Graham has performed a valuable service to the profession in thus collecting the results of the massage treatment in a great variety of cases. We think that he has been judicious in declining to illustrate his work, since, as he says, woodcuts give but a poor idea of the technique of the process. He divides his book into sixteen chapters, in the first two of which he gives an interesting review of massage, tracing the practice back to the early Aryan nations. In the third chapter he carefully describes the *modus operandi*, and rightly says that no physician should think it beneath his dignity to learn and apply the method in suitable cases. The author's remarks upon the physiology of massage are perhaps tinged with a little too much of that enthusiasm with which physicians come to regard a method of treatment which they have practiced long and successfully. Regarding the value of massage in neurasthenia, most readers will agree with Dr. Graham. The chapter upon "Massage of Internal Organs" seems to us rather more encouraging than the facts warrant.

Three chapters are devoted to the treatment of affections of the nervous system. The most useful chapters are those which refer to joint disease; the importance of the "movement cure" in these cases is unquestionable.

The closing chapter treats of Massage of the Head, Face, Eyes, Ears, and Throat, with which the author seems to have had only a limited experience.

In thus hastily mentioning Dr. Graham's book we can not do justice to the author's research or experience, both of which have been great. Although many readers will be inclined to differ with him as to the degree to which massage is useful in

medicine, few will doubt that by its systematic application, as he recommends, far more will be accomplished than is now attained by the unskillful attempts of physicians who have not learned to regard the treatment in the light of a scientific procedure.

The Elements of Physiological Physics: an Outline of the Elementary Facts, Principles, and Methods of Physics; and their Applications in Physiology. By J. McGregor-Robertson, M. A., M. B., C. M., Muirhead Demonstrator of Physiology, etc., in the University of Glasgow. Illustrated with 219 Engravings on Wood. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xii–528.

This handy little book is the result of a series of demonstrations given by the author to his class in the physiological department of Glasgow University. The various branches of physics are taken up, one after another, the main facts of each briefly stated, the apparatuses needed to illustrate the same described, and the physiological application of the facts and adaptation of instruments noted.

Of the 514 pages of reading matter, 174 are devoted to the study of magnetism and electro-physiology. Nor is this disproportionate to the importance of this interesting branch of the subject. Electro-physiology and electro-therapeutics, it must be confessed, are yet but imperfectly understood, and inadequately appreciated. The space devoted to them in this work is very fairly filled, but contains nothing novel and lacks practical details of some instruments of precision and convenience which students on this side the water have come to look upon as standard and essential. This is particularly true as to galvanometers.

On the other hand, under the head of Blood Pressure, more than a dozen different instruments of measurement and precision are described, many of which are anything but practical in the hands of medical students, and of value only to experts and specialists.

In other departments the work seems to have been carefully prepared, and in all essentials to be abreast with the progress of the day in physical science. If we were to venture any criticism on the work as a whole, it would be that the hasty glance we have been able to give it leaves the impression that it is not full enough for a general treatise, and yet is too heavy for a handbook. As a compendium for the accommodation of the busy practitioner who wishes to review the subjects treated, but has no time to devote to an elaborate treatise, this compact and well-printed volume will be of value.

The Elements of Pathology. By Edward Eichhorst, M. D. Professor of Pathological Anatomy in the University of Würzburg. Translated from the First German Edition by William H. Mercer, M. D. Revised by James Tyson, M. D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son, & Co., 1884. Pp. 783. [Price, $5.]

"This little work does not pretend to be a text-book," says the author in his preface. This we must bear in mind in judging of its merits before we accuse him of having written an inferior manual. He adheres throughout to the intention of presenting only an outline of the science, but as an outline, it is certainly not unworthy of careful perusal.

A glance at the table of contents shows us the general plan of the book. Beginning with the first part, which he calls the "Local Outbreak of Disease," the author treats briefly on the hyperæmia, inflammation and its results and tumors in general.

In Part II. which treats of the Anatomical Extension of Disease, he considers metastasis, fever, and irritation of the nervous system.

Part III includes, under the head of "Physiological Extension of Disease," the disturbances of nutrition, of the circulation, of the blood (called "vegetative disturbances"), and of the nervous system, which are characterized as "animal disturbances."

The concluding section treats of traumatic diseases, parasites, and defects of development. There are no illustrations.

When we say that the translator has rendered the German of Rindfleisch (and it is often ponderous) into clear and intelligible English, we give him no scant praise. Most careful, too, has been the work of revision.

Dental Surgery for Practitioners and Students. By Ashley W. Barrett, M. B. (Lond.), M. R. C. S., L. D. S., etc. Philadelphia: Presley Blakiston, Son, & Co., 1885. Pp. xii–83.

This little work aims to convey enough practical information upon dentistry to serve the purposes of the general practitioner and no more. Naturally, but little space is required. It deals with the eruption of the teeth, lancing the gums, some of the more common deformities, and the extraction of carious teeth. Even then it goes much further into the subject than any general practitioner would go in this country, for few men who were not dentists would undertake here to fit a plate to the mouth for the correction of an abnormal position of the permanent teeth. What has been written is all interesting, but it would seem that the choice of subjects might be much improved. Some matters of interest to the general practitioner have in many cases been omitted.

The Microscope in Botany. A Guide for the Microscopical Investigation of Vegetable Substances. From the German of Dr. Julius Wilhelm Behrens. Translated and edited by Rev. A. B. Hervey, A. M., assisted by R. H. Ward, M. D., F. R. M. S. Illustrated with Thirteen Plates and One Hundred and Fifty-three Cuts. Boston: S. E. Cassino & Co., 1885. Pp. xv–466. [Price, $5.]

The scope of this work is not clearly set forth in the title. The subject of botany occupies only its second and lesser portion, and this is still further diminished by the presence of forty-three pages of valuable matter upon microscopical reagents. The larger part of the book is occupied with a description of the microscope and its accessories, and with the preparation of microscopical objects. It is the most satisfactory work upon these subjects that we have ever seen. It will be especially valuable for beginners in the use of the microscope, and is the only book with which we are acquainted which describes those principles which are fundamental to the microscope, and which are essential as a foundation for work with that instrument in a manner which is intelligible to the average mind. Leaving the botanical portion entirely out of consideration, it is a book which will be a useful addition to every student's shelves, and is to be recommended without qualification.

BOOKS AND PAMPHLETS RECEIVED

Facts and Mysteries of Spiritism. Lectures by a Seven Years' Experience and Investigation. With a Sequel. By Joseph Hartmann. Philadelphia: Thomas W. Hartley & Co., 1885. Pp. xii–218. [Price, $1.00.]

Proceedings of the Twenty-fifth Annual Meeting of the Oregon State Medical Society, held at Portland, June 8, 9 and 10, 1885. Volume XII. E. P. Tyson, M. D., Secretary. Portland, Oregon: A. Anderson & Co. 1885. Pp. 180.

THE

NEW YORK MEDICAL JOURNAL,

A Weekly Review of Medicine.

Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 19, 1885.

THE MEDICAL SERVICE OF THE NATIONAL GUARD OF THE STATE OF NEW YORK.

We have been much interested in the reports of the Surgeon-General of the State of New York, Dr. Joseph D. Bryant, for the years 1883 and 1884, included in the reports of the Adjutant-General for those years. Since the close of the War of the Rebellion, there has been comparatively little real duty devolving upon the Surgeon-General of the State, and we are glad to see that Dr. Bryant, whose appointment to the office we commended at the time it was made, has made work for himself, so to speak, by preparing elaborate annual reports on the affairs of the National Guard from a medical point of view, especially the sanitation of the State Camp of Instruction at Peekskill.

The sanitary affairs of individual bodies of troops during their stay at the camp are fully reported upon, and it is gratifying to learn that thus far no case of disease has come to light that could fairly be imputed to any peculiarity of the locality. The reports upon the experiences of these various organizations are preceded by some excellent remarks concerning the selection of regimental medical officers. Too often, as Dr. Bryant says, a colonel looks upon these members of his staff as ornamental luxuries rather than necessities, their chief function being supposed to be to assist in making up a full staff on parade and on inspections, while that of attending upon those of the men who may require their professional services is viewed as nothing more than incidental. Hence it happens that men are recommended for the appointment as medical officers of regiments quite as much out of consideration for their [illegible] reference to their actual fitness for the duties. This, of course, is all wrong, and it is to be hoped that Surgeon-General Bryant's views on the matter will make an impression on [illegible] officers.

The [illegible] are to discard [illegible] depressingly upon what they term the [illegible] of the National Guard. With an enhanced [illegible] appreciation of the fact that in actual warfare it is not the troops [illegible] that can be counted on to endure the hardships of [illegible] marches, and that they best [illegible] the ground who are [illegible] and fit, and in [illegible] full training, [illegible] subject and having to [illegible] of a body of [illegible] to be [illegible] the [illegible] long marches and camp [illegible] the [illegible] the [illegible] and the [illegible] of the medical officer to [illegible] such [illegible] to the [illegible] [illegible] As to [illegible] [illegible] the [illegible] of [illegible] to [illegible] [illegible] a public parade on a cold, windy November day, when the men's bodies become hot and perspiring, while their legs are cold and clammy, on account of the illogical distribution and quality of the clothing, should be opposed by the medical officers, and commanders should be impressed with the fact that, while pomp and display constitute something of military glory, the health and comfort of the men are infinitely more important. Regimental surgeons should not wait for commanding officers to ask them for their advice as to such matters, but should obtrude it upon them, and public opinion should hold that commander to a strict accountability who should dare to disregard the medical officer's protests.

Dr. Bryant makes a number of excellent suggestions as to providing for immediate medical attention to soldiers in need of it, pending the arrival of the surgeon. For example, he says, the first sergeant of each company should be provided with a few simple remedies, the doses and general applications of which should be instilled into his mind, and he should be taught, among other things, to distinguish pallor from cyanosis, and to treat the patient accordingly. It is urged, too, that during rifle practice it is not enough that the surgeon should be somewhere on the grounds—he should be at the butts, where he may be needed at any instant and when there is no time to be wasted in searching for him.

MINOR PARAGRAPHS.

THE HARMLESS LUNATIC.

Those persons who believe that a lunatic should not be deprived of his liberty until he has committed a murder or two have doubtless been edified by the accounts of the recent achievements of a man in Norristown, Pa., who played the part of a demon until he was overpowered and "held by four men while a physician prescribed medicine to render him harmless for the time." It is naively added that he is "subject to such attacks." Norristown, by the way, is an asylum town.

"CROWNER'S QUEST LAW."

The newspaper accounts of the contention between two coroners as to whose "case" the death of Mr. William H. Vanderbilt was show something bordering unpleasantly on a quarrel, and, worse than that, they show the unsatisfactory state of the law which defines the coroners' jurisdiction. Why, for instance, a physician can not certify as to the cause of death unless he has seen the deceased within the twenty-four hours preceding the fatal issue, is not at all clear to the non-official mind.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 15, 1885:

DISEASES.	Week ending Dec. 8		Week ending Dec. 15	
	Cases	Deaths	Cases	Deaths
Typhoid	0	0	1	0
Typhus fever	18	5	16	5
Scarlet fever	54	8	50	5
Cerebro-spinal meningitis	1	1	3	2
Measles	10	1	6	2
Diphtheria	97	45	69	30
Small-pox	12	1	5	1

Trichiniasis is reported to have attacked seven members of a family living in Tarentum, Pennsylvania, in consequence of their having eaten of a salad containing raw pork.

The American Public Health Association.—The committee on the disinfection of rags, appointed at the Washington meeting last week, was instructed to investigate the matter thoroughly, and report at the next annual meeting.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality" that the total mortality for the month of November was 421, including 69 deaths from zymotic diseases, 75 from constitutional diseases, 210 from local diseases, 46 from developmental diseases, 18 from violence, and 3 from causes not ascertained. During the corresponding month in 1884 the deaths numbered 379.

The Massachusetts State Board of Health, Lunacy, and Charity has just issued the Supplement to the Sixth Annual Report, containing the reports on public health. The document contains the following papers: "The Sanitary Condition of School-houses in Massachusetts," "Report of the Analysis of Food and Drugs," "Summary of the Weekly Mortality Returns of Massachusetts Cities and Towns," "The Report upon Illuminating Gases," "Epidemic Cholera," "Disinfectants," and "The Health of Towns." There is a large amount of valuable matter, not only to the profession, but to the general public.

The late Mr. Vanderbilt's Bequests include one of $100,000 to St. Luke's Hospital, and one of $50,000 to the Home for Incurables.

The Manhattan Hospital, at the corner of Tenth Avenue and One Hundred and Thirty-first Street, was opened on Monday.

Personal Items.—Among the passengers by the steamship Etruria, which arrived at this port last Sunday, were Dr. W. S. Halsted, of New York, and Dr. G. M. Sternberg, of the army.

The Newark Outbreak of Hydrophobia seems still far from subdued. Although all sorts of barbarous means are resorted to for exterminating the dogs of the town, several persons have been bitten since the four children sailed for Paris, some of whom seemed inclined to betake themselves to M. Pasteur at once, while others, notably a veterinarian who received his injury while attempting to render professional services to a dog, put their trust in cauterization.

Composite Photographs of Skulls.—We learn from the "Medical Times and Gazette" that Mr. Francis Galton, F. R. S., the president of the London Anthropological Institute, has exhibited to that body, on behalf of Surgeon-General J. S. Billings, of the United States Army, a collection of twenty composite photographs of skulls, forming four series, referring respectively to Sandwich Islanders, ancient Californians, Aymaknai Indians, and Witchetaw Indians. Each composite was the mean of six skulls of adult men.

The Mount Olivet Crematory can not be said to be in perfectly successful operation yet, if we may judge by the newspaper reports of the state of the "Cadaver" of Virginia Lewis, whose body was subjected to its action last week. It would have been a case in the Sessions, by Judge Fox, was still on fire when the coroner and attendants first saw it, and could be kept so by the use of two hands.

Another Harmless Lunatic [illegible] the suicidal frenzy of a maniac, who used his knife on one of the policemen, between his repeated incisions of his own throat and body, having first attempted to decapitate his wife, who, however, managed to escape.

College of Physicians and Surgeons: Medical Department of Columbia College.—At a meeting of the Board of Trustees, held December 15, 1885, the following preamble and resolutions were unanimously adopted:

Whereas, By the death of Mr. William H. Vanderbilt the cause of medical education in this country has lost one of its first conspicuous benefactors; and

Whereas, It becomes the duty of the Trustees of the College of Physicians and Surgeons, which was the object of his sagacious benevolence, to express their deep sense of the debt due to his memory; therefore

Resolved, That Mr. Vanderbilt's gift toward the advancement of medical knowledge reaches a higher mark in the intelligent disposition of wealth than has often been attained by public benefactors, for it recognizes science as the handmaid of humanity, and acknowledges the benefits of the healing art in controlling human misery and enhancing human happiness.

Resolved, That it is a source of profound regret to this board that Mr. Vanderbilt's life was not spared to witness the completion of the college building which his generous endowment projected, and which will become his most worthy and enduring monument.

Resolved, That the seresolutions be inscribed upon the minutes of this board, and that a copy be sent to the family of the deceased, with the assurance of our respectful sympathy for them in their great affliction.

[Signed] J. C. Dalton, M. D., *President*.
George C. Whitlock, M. D., *Registrar*.

The New York County Medical Association.—At the next meeting, to be held at the Carnegie Lecture-room, on Monday evening, December 21st, Dr. J. R. MacGregor will read a paper on "Insanity and Public Opinion," and Dr. I. B. Read one on "Double Popliteal Aneurysm." Dr. J. W. S. Gouley will present four specimens of papilloma of the bladder.

A Victim of an Experiment.—Dr. Daniel Carrion, an esteemed Peruvian physician, lately lost his life in consequence of having inoculated himself with the blood of a child suffering with the disease known as verruga peruana. According to the "Union médicale," he performed the experiment for the purpose of demonstrating the identity of the disease with [illegible]

The Medico-Chirurgical College of Philadelphia.—Section IV of the Pennsylvania Registration Law of 1881 requires that diplomas from outside the State must be issued by [illegible]

The College of Physicians of Philadelphia.—At the [illegible]

crease in the year of 2,592, as compared with 1,261 in 1884, and 869 in 1883.

The books were classified as follows:

General Library	18,069
Lewis Library	8,736
On special deposit:	
Mütter Museum	86
S. D. Gross Library	5,130
The Hodge collection	1,665
Total	33,686

The library had received 184 current periodicals devoted to medicine and the collateral sciences. The number of books taken out during the year, not including the large number which had been consulted in the rooms, was 1,231. In the General Library all the books were catalogued with the exception of the dictionaries, journals, reports, and pamphlets. In the Lewis Library, all the books were catalogued to date. During the year additional bookcases had been erected in the large hall, affording accommodation for about 2,600 books. These cases were now full.

The Committee on Publication reported that during the year papers had been read by fourteen Fellows. In addition to these, a paper by Dr. Graham and one by Dr. Orville Horwitz had been communicated by Dr. J. M. DaCosta, and an address on "Photography of the Larynx" had been read by Dr. Theodore R. French, of Brooklyn. The total number of pages in the volume of "Transactions" for 1885, to date, was about 232. Through the generosity of the President, the committee had been enabled to employ a stenographer and thus obtain a full report of the discussions.

The Committee on the Directory for Nurses reported that the number of nurses registered December 1, 1884, was 419. The present number was 475, showing a gain of 56. During the year the loss by dismissal, resignation, death, and removal had been 18. The number of applicants for registration had been 118, of whom only 68 had been registered. The largest number of nurses sent out in any one month was in January, 1885, 119; the smallest in August, 47. The total number of nurses supplied during the last four years had been in 1881-'82, [illegible]; in 1882-'83, 786; 1883-'84, 913; 1884-'85, 1,005. Seventeen wet-nurses had been furnished during the year. The committee had recently assisted the New York Academy of Medicine in establishing a similar directory for nurses in that city.

Medical Men in Parliament.—The "Medical Times and Gazette" announces that the following-named graduates in medicine have been elected to the new House of Commons: Charles Cameron, M. D., Glasgow; Robert Farquharson, M. D., F. R. C. P. [illegible]; Robert Barnhaven Finlay, M. D. [illegible]; Inverness Burgess Balthazar W. Foster, M. D., F. R. C. P. [illegible]; Hans Methuen Hamilton, F. R. C. S., Glasgow; Sir Guyer Hunter, M. D., F. R. C. P., K. C. M. G., Hackney; Sir [illegible] Lawrence Peel, M. R. C. S., Surrey; E. Mac[illegible], M. D. [illegible] and Cromarty; Kevin Izod O'Doherty, F. R. C. S. I., North Meath; L. J. N. Tanner, L. R. C. P., [illegible]; [illegible] and Philip J. Vanderstel, M. D., M. R. C. P. [illegible]. The contest in which Mr. Erskine was engaged was one of the closest on record. Mr. Lyon Hart, Dr. Hoyle, Mr. Wilfrid Carpenter, Mr. Peter Rayne, Dr. Dan Lloyd Thomas, and apparently Dr. E. H. Lyons Arnold, have been returned. Among the defeated candidates are not a few medical gentlemen, for Dr. Henry Evans, the veteran, Sir Lyon Playfair, and Sir [illegible] Gibson, who is not inconsiderable [illegible] "Of course, it is possible that the Ayrshire doctor may be difficult to match."

Obituary Notes.—The death of Dr. John W. Sawyer, of Providence, R. I., took place on Monday last, in his fifty-first year. He was born in Danvers, Mass., in 1834, was graduated from Harvard Medical School in 1859, and entered the Butler Hospital for the Insane, in Providence, as assistant physician. He then became assistant physician to the Wisconsin Hospital for the Insane, and subsequently returned to the Butler Hospital, of which he was superintendent at the time of his death. He was a member of the Providence Medical Association, of which he was twice president, and also a member of the Rhode Island Medical Association.

Death of Dr. Albert H. Smith, of Philadelphia.—Although it comes as a release from a long and painful illness, Dr. Smith's death, which took place on Tuesday, will be generally recognized in the profession as involving the loss of one of the most accomplished and most esteemed of American obstetricians.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 29 to December 12, 1885:*

Vickery, R. S., Major and Surgeon. Relieved from the assignment as Acting Medical Director, Department of the Columbia, to date the 16th inst. S. O. 200, Department of the Columbia, November 23, 1885.

Birmingham, H. P., First Lieutenant and Assistant Surgeon. Ordered for duty at Camp Grant, Riverside Park, New York city. S. O. 256, Department of the East, December 4, 1885.

Bushnell, George E., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort Preble, Me. S. O. 256, Department of the East, December 4, 1885.

Wilson, William J., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon, Plattsburg Barracks, N. Y. S. O. 256, Department of the East, December 4, 1885.

Appel, D. M., Captain and Assistant Surgeon. Ordered for duty at Jackson Barracks, La. S. O. 256, Department of the East, December 4, 1885.

Everts, Edward, First Lieutenant and Assistant Surgeon. Ordered from Department of the Columbia to Department of Arizona. S. O. 279, A. G. O., December 5, 1885.

Polhemus, A. S., First Lieutenant and Assistant Surgeon. Relieved from duty at Presidio of San Francisco, Cal., and ordered for duty as Post Surgeon at Fort Halleck, Nev., relieving Acting Assistant Surgeon Loren N. Clark, U. S. Army. S. O. 113, Department of the Columbia, November 30, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending December 12, 1885.*

Allick, Hamilton, Surgeon. Ordered to the Alliance as relief of Surgeon G. P. Bradley.

Beasley, George P., Surgeon. Ordered to Naval Hospital, Philadelphia.

Shafer, Joseph, Assistant Surgeon. Detached from Naval Hospital, Philadelphia, and ordered to the Minnesota.

Gatewood, H., Past Assistant Surgeon. Detached from Naval Hospital, Washington, and ordered to the Dolphin.

Lungren, George C., Passed Assistant Surgeon. Detached from Navy Yard, Washington, and to wait orders.

Dixon, C. W., Passed Assistant Surgeon. Ordered to the U. S. Receiving Ship Dale as relief of Passed Assistant Surgeon G. P. Lumsden.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to Naval Hospital, Washington.

LOVERING, P. A., Passed Assistant Surgeon. Detached from U. S. Receiving Ship Wabash, and to wait orders.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the three weeks ended December 12, 1885:*

WYMAN, WALTER, Surgeon. Granted leave to attend meeting of American Public Health Association. December 3, 1885.

BENSON, J. A., Passed Assistant Surgeon. Granted leave of absence for fifteen days. November 28, 1885.

ARMSTRONG, S. T., Passed Assistant Surgeon. Granted leave of absence for eight days. November 30, 1885.

WASDIN, EUGENE, Assistant Surgeon. Granted leave of absence for thirty days. November 28, 1885.

WATKINS, R. B., Assistant Surgeon. To proceed to Galveston, Texas, for temporary duty. November 30, 1885.

YEMANS, H. W., Passed Assistant Surgeon. Granted leave of absence for fifteen days. December 7, 1885.

BRATTON, W. D., Assistant Surgeon. When relieved, to proceed to San Francisco, Cal. December 12, 1885.

NORMAN, SEATON, Assistant Surgeon. Appointed an Assistant Surgeon, December 11, 1885. Assigned to duty at New York, N. Y., December 12, 1885.

Society Meetings for the Coming Week:

MONDAY, *December 21st:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *December 22d:* New York Dermatological Society; New York Surgical Society; Buffalo Obstetrical Society (private); Medical Society of the County of Lewis (quarterly), N. Y.

WEDNESDAY, *December 23d:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational).

THURSDAY, *December 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

FRIDAY, *December 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *December 26th:* New York Medical and Surgical Society.

Letters to the Editor.

THE DISINFECTION OF RAGS AT THE PORT OF NEW YORK.

To the Editor of the New York Medical Journal:

SIR: It is in view of this responsibility that I wish to lay before you some facts touching the importation of rags (the raw material of paper) into the port of New York. Under the law of the State, as now interpreted and practiced, it is within the discretion of the Health Officer of New York to forbid the landing of imported rags, no matter whether they be brought from infected districts or not, or whether there be reason to suppose that they are themselves infected or not, unless they are disinfected to his satisfaction. This is the accepted law and the actual practice at this port, and this extraordinary discretion is subject to no accountability or control except by the Board of Quarantine Commissioners, and in their hands the power of control, as a matter of fact, is not exercised.

Now, the manufacturers of paper contend that this practically unchecked and arbitrary power in the Health Officer is subject to grave abuse, and that it is unnecessary to the protection of the public health.

The manufacturers of paper do not wish to import disease. If they had no other reason for not wishing it, it is enough that it would be greatly against their interests to do so, for, as soon as it was known that they had done so, their employees would leave, their mills would be closed, and their importations would be stopped. They have been taught by experience to doubt whether rags can be thoroughly disinfected, especially in the bale. They are willing and desirous, if rags can be shown to be infected or to have been gathered in infected districts, that these rags shall be destroyed. But they protest that it is a gross outrage on them and on the public that their property, coming from uninfected districts, in ships bearing clean bills of health, shall be subjected to a patent disinfecting process. They demand, and they think they have a right to demand, that, if "*disinfection*" be required, it may be done by some other than a patented or secret process. Nominally a choice is given between two processes; in reality only one can be applied, and that one belonging to what, for want of a better term, I shall call the "Quarantine Ring."

This is being done now and here in the name of "sanitarian" vigilance and "humanitarian" zeal, and the medical profession are asked to approve it. I would respectfully ask them to examine carefully and consider candidly these facts before lending their powerful support to such a scheme.

I remain, with the highest respect,

Your obedient servant,

AUGUSTINE SMITH,

Vice-President American Paper-Makers' Association.

TYPHOID AND TYPHO-MALARIAL FEVERS.

SENECA FALLS, N. Y., December 7, 1885.

To the Editor of the New York Medical Journal:

SIR: At the meeting of the New York State Medical Association, Third District, Dr. Lindsley, of Syracuse, read an essay on "Typhoid Fever generally and in Central New York," which I saw in your December 5th issue. I read it with much interest. It is a full review and discussion of the disease of this section very minutely and well, and I would like to get [illegible]

come on just as he describes, but, if taken early, can be broken up; in fact, they never reach the typhoid state unless treated by some homœopath, or the patient has tried to treat himself for a week or ten days. I will not say *never*, because there are a few which are taken violently, and will pass into the typhoid condition in spite of all you can do. This proportion of cases is very small—perhaps five per cent. They then go on fourteen, twenty-one, or twenty-eight days in that typhoid condition, with livelier delirium than in typhoid fever proper, less of the bowel lesion, and less subsultus tendinum. I hope my friend Dr. Elsner may never strike an epidemic of typhoid fever "Simon pure"; if he does, he will be led to know that our typho-malarial fevers of Central New York are about as near typhoid fever as chicken-pox is like the deadly confluent small-pox.

I am very respectfully yours, etc.,

Elias Lester, M. D.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of December 9, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Bilateral Perinephritic Cysts.—Dr. T. M. Prudden reported on the specimens presented for a candidate by Dr. Boldt at the last meeting. The conditions found, he said, were very interesting. One of the tumors had occupied nearly half the right side of the abdominal cavity; there was a similar tumor on the left side, but smaller. One contained about 300 c. c. of a gelatinous fluid; the other contained over a litre. In the former the surface of the kidney was thickly besprinkled with small cysts, containing fluid like that in the larger cyst. The cortex of the kidney was about 1 ctm. in thickness; the pelvis was largely dilated; the ureters were also dilated. There seemed to be a capsule over the kidney, which in places was two or three times as thick as normal. One side of the kidney was still adherent [illegible] formed the wall of the cyst; the other was free. The [illegible] contained but very few small cysts, [illegible] marked chronic interstitial nephritis; [illegible] on the other side. Both sides of the second kidney were free, and covered by sub-capsular and intra- [illegible] about 7 ctm. in diameter was [illegible] with the one which held a litre of fluid. There was very little interstitial nephritis. The convo- [illegible] dilated by a gelatinous material similar to that contained in the [illegible] and in the [illegible] there were cysts which [illegible] Thus there were two cysts [illegible] chronic nephritis. Everything seemed to indicate that the [illegible] had terminated there was into the tubules. There were also some crystals of hæmatoidin in [illegible] It was impossible [illegible] whether or not they were [illegible]

Sarcoma of the Liver.—Dr. H. J. Boldt presented a part [illegible] the entire organ [illegible] The patient in the case [illegible] the [illegible] pointing to either [illegible] liver, which [illegible] to the [illegible]

Cystic Degeneration of both Kidneys and of the Liver.—Dr. A. S. Hubbard presented the specimens and remarked that he had been able to find only four recorded cases of the kind. The patient from whom the specimens were removed was a laborer, aged thirty-seven years, who was admitted into Roosevelt Hospital July 6, 1883. He was a hard drinker; he denied syphilis. He had been ailing for a year or longer; complained of palpitation of the heart and of seeing muscæ volitantes. He had also had dyspnœa on exertion, headache, œdema, etc. On admission, he was poorly nourished and his face was flushed. He had no œdema, but some dyspnœa and a slight cough. The urine, which was of low specific gravity, contained a small amount of albumin. The liver was enlarged, and there was enlargement of the superficial abdominal veins. July 12th he suffered more and more from dyspnœa, became comatose, and died from pulmonary œdema. The interesting lesions were in the liver and kidneys. The liver was enlarged and was filled with cysts varying in size from being only visible to the size of a lemon, some containing a thicker and darker fluid than others. Both kidneys were very much enlarged, preserved partially their normal outline, and had been converted into masses of cysts. To the naked eye, there was no normal kidney tissue remaining, but the specimens would be examined by the Committee on Microscopy. The ureters were not dilated.

Dr. Roosevelt also presented a mass of cysts occupying the place of a kidney, found in the museum of the Roosevelt Hospital, unaccompanied with any history.

Stone in the Bladder.—Dr. Roosevelt presented further a bladder with greatly thickened walls, containing a stone of about the size of a walnut; also the right kidney reduced to a small cyst, and the left kidney much enlarged—the so-called "surgical kidney"; the pelvis and ureter were dilated. Dr. Roosevelt thought the nucleus of the stone might have developed within the kidney, and, after destroying that organ, have worked its way into the bladder. The patient's condition did not warrant an operation when he was admitted into the hospital, and he died shortly afterward.

Osteitis of the Fibula.—Dr. Wackerhagen presented the lower end of a fibula removed for necrosis from a girl thirteen years of age. About three years ago she sustained a contusion on the outer aspect of the right ankle; afterward an abscess broke, and trouble existed until about seven months ago, when the speaker exsected two inches and a half of the lower end of the fibula and scraped the astragalus. There was no history of tuberculosis.

White Renal Infarctions, etc.—Dr. L. E. Holt presented the heart and kidneys of a child which died, aged seventeen months, in the Infant Asylum. At the cutting of each tooth there had been an unusual amount of cerebral irritation; on the last occasion this was very marked; on the eighth day the temperature rose to 104° F., the child became comatose, the pupils were contracted, and on the tenth day, three hours before death, there was marked cyanosis. At the autopsy the vessels in the right hemisphere of the brain were found greatly engorged, and in marked contrast with those in the left hemisphere, which was anæmic. In the sinuses on the left side of the brain there were firm decolorized thrombi; there were none on the right side. Both sides of the heart contained large, closely adherent clots, which were regarded as of ante-mortem formation. There was white infarction in both kidneys to a very marked degree, with commencing diffuse nephritis. The case was interesting in three respects. First, with regard to engorgement of the arteries on the right side of the brain, with absence of thrombi on that side, while there was apparently stasis on the left side with thrombi of the veins; second, with regard to evident ante-mortem heart clots; third, with regard to renal infarctions. For none of these conditions was there an apparent underlying cause.

Multiple Myomata of the Stomach and Bladder.—Dr. R. VAN SANTVOORD presented a series of specimens removed from the body of a man aged seventy years. The brain was anæmic; the vessels at the base were slightly atheromatous, but quite brittle; there were one or two spots of softening on the cortex. There was straw-colored fluid in the pleural cavities, and cheesy nodules were found in the upper lobe of each lung; the pleuræ were adherent and thickened. The left cardiac ventricle was markedly hypertrophied; there was slight atheroma of the mitral valves; the aorta was calcified, and the same atheromatous process extended into the larger vessels of the neck. The radial arteries showed no marked amount of atheroma. In the lesser curvature of the stomach there was a saddle-shaped neoplasm, about two inches and a half in length, and about half an inch in thickness; it seemed to be chiefly muscular; the walls of the bladder and rectum also presented a muscular-like tumor, the microscopical examination of which had not yet been completed. The mesenteric glands were likewise thickened.

Physical Signs of Pneumonia involving the Anterior Surface of the Upper Lobe.—Dr. VAN SANTVOORD presented a second series of specimens, from a man who had been sick seventeen days prior to admission into the Randall's Island Hospital. On his admission, Dr. Maxwell found marked dullness over the upper lobe of one lung, flatness over the lower lobe, absence of the respiratory murmur over the lower lobe, and marked amphoric breathing above. On the following day the amphoric breathing had disappeared over the upper lobe, bronchial breathing having taken its place. Flatness had disappeared over the lower lobe, and bronchial breathing was present where there had been absence of respiratory murmur before. The urine contained about one eighth albumin, blood casts, and free blood. The last day of his life the patient had three epileptoid convulsions, and died comatose. He was about sixty-five years of age. The autopsy revealed the arachnoid thickened by a chronic process. The pia was infiltrated with a gelatinous-looking lymph extending over the whole of the brain and into the spinal cord. There was gray hepatization over the right upper pulmonary lobe, very firm in character, and differing from that ordinarily seen in the upper lobe in that it approached very near the anterior edge of the lung. This point had an important bearing upon the physical signs. Dr. Janeway had called attention to the fact that in pneumonia of the upper lobe, in which the infiltration extended almost or fully into the anterior edge, there was very frequently not only amphoric respiration instead of bronchial, but also a cracked-pot percussion note transmitted from the bronchus. These cases not infrequently gave rise to errors in diagnosis. The speaker was unable to explain the cavernous breathing. In this case there was but little atheromatous change in the aorta, but it was very considerable in the radial arteries. The kidneys contained a few cysts, and examination would probably show chronic diffuse nephritis with an acute form ingrafted upon it.

Congenital Cartilaginous Bodies anterior to the Tragus. The PRESIDENT presented three small bodies, pearly yellow fibroid cartilage, removed from in front of the tragus of a young man whose father and aunt had had similar tumors. They were congenital.

Probable Tuberculosis Testis.—The PRESIDENT also presented a diseased testicle which would be examined by the Committee on Microscopy. The patient, fifty-five years of age, had been admitted into Mount Sinai Hospital December 7th. He had had hernia on the left side for twenty-five years. About seven months ago the left testicle became enlarged and gave slight pain. It increased gradually, and six weeks ago had extended upward into the inguinal canal, becoming harder and more tender. The patient had also been treated for posterior spinal sclerosis. On the 7th instant the President found the tumor as large as one's fist, extending into the inguinal canal. There was evidently fluid. The bowels were not free. It seemed possible that there was either hydrocele, simple periorchitis, or strangulated hernia. At the operation there was found a double cyst, the first outside the cord practically, which contained about an ounce of clear fluid, the second within the tunica vaginalis testis, which discharged about four ounces of fluid. There was no hernia present. The testicle and epididymis were enlarged, and, when they were removed, little blood escaped, a fact suggestive of necrosis of the testicle. There were, then, three possible conditions in the case, any one of which would have justified an operation. The nature of the disease of the testicle could not be determined until after a microscopical examination.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 1, 1885.

The President, Dr. W. R. BIRDSALL, in the Chair.

Unilateral Hallucinations.—Dr. WILLIAM A. HAMMOND read a paper on this subject. [See page 649.]

Dr. LEONARD WEBER related the history of a case which he thought went to support the view which Dr. Hammond seemed to entertain, that unilateral hallucinations were not associated with disease of the special sense concerned, but with an affection of central origin. A man came under his observation in 1879, at which time he was thirty-seven years of age, strong, healthy, very active in business, but, in consequence of domestic trouble and mental strain, had begun to lose sleep, was sensitive to strong light, loud noises, etc., and from 1879 to 1881 was subject to hallucinations connected with the left ear. On going to bed he was unable to sleep for two or three hours because of whispering noises, growing louder and louder, heard in the left ear, and of two kinds, one soothing and the other mandatory. A careful examination by himself and by a specialist in diseases of the ear failed to reveal anything wrong connected with the auditory apparatus. When the patient's circumstances changed, and he was enabled to lead a peaceful life, the hallucinations disappeared, and had not returned.

Dr. E. C. SEGUIN had not heard the entire paper, but, being familiar with the author's views regarding the function of the optic thalamus, he was somewhat surprised that he had not tried to harmonize his observed facts with the anatomical and physiological facts which had been incontestably established during the past decade. Lewes, upon whom Dr. Hammond probably could rely for support of his views expressed [illegible] twenty-five years ago, and what he wrote was a good work. If he had been expected to point to exact scientific methods of research, such as the atrophy and other methods, it was a mere coincidence. The speaker's own views regarding hallucinations were directly opposed to those of Dr. Hammond. He believed that hallucinations had their seat in the [illegible] and not in the optic thalamus. The optic thalamus might have [illegible] without [illegible] the patient [illegible] having hallucinations, showing that hallucinations had not their seat in the optic thalamus. The case cited by Dr. Hammond, in which during her hallucinations the patient saw the figure of a [illegible] and woman, showed the [illegible] of mental [illegible] which could have their seat [illegible] in the cerebral cortex. Dr. Hammond had stated that he did not believe in hallucinations or in [illegible] which had been previously registered in the memory, and which was projected outward.

He would reply that, without quibbling about terms, that was precisely what he meant by an hallucination.

Dr. M. A. Starr related the facts in a case reported by Vetter, in which a patient having right hemianopsia imagined that she saw people sitting at her right side, which was the blind side. By a process of exclusion it was shown that the lesion could not have existed in the optic thalamus, but must have existed in the occipital lobe. In all probability the source of the hallucination in this case was cortical irritation. Certainly in a great many cases cortical irritation would produce hallucinations. This was observable in meningitis in which the optic thalamus was not implicated.

Dr. W. M. Leszynsky recalled the case of a woman, fifty years of age, in a lunatic asylum, suffering from mania, who was in the habit of sitting hours at a time with the left ear inclined toward a table, sending, she said, and receiving telegraphic communications. She did not receive the telegraphic communications with the right ear, which she said was only for general use. The hearing seemed to be normal; perhaps that in the left ear was a little more acute than that in the right ear.

Dr. Sachs referred to a case of hemiplegia with tumors in the optic thalamus, reported by Minot, and asked Dr. Spitzka whether he could imagine an excitation of the cerebral cortex giving rise to an image or hallucination, the revival of such image not being due to an antecedent peripheral irritation.

Dr. J. L. Corning asked why hallucinations which might be produced by impressions coming from the peripheral nerves might not also be produced by an irritation at any point in that peripheral tract, as in the thalamus? Everybody would admit that the higher forms of conception took place in the cerebral cortex.

Dr. C. L. Dana would like to hear the subject discussed which Dr. Hammond had probably wished to bring before the society, namely, the duality of the brain. So far as the mechanism of hallucinations was concerned, he thought all would agree with Dr. Spitzka that it was essentially in the cerebral cortex; but the exciting cause might be a peripheral irritation acting upon the psychopathic centers. As to the duality of the brain, he thought there were many more arguments against the proposition than for it; but the subject was one of great reach, and could hardly be discussed at this hour. The cases of hallucination cited did not, it seemed to him, prove much, because only a small part of the psychical mechanism was involved. On the other hand, the experiments of Dumont Paré proved little, because hypnotized subjects could be led to do almost anything by slight suggestion. But pathological observations, the results of [illegible], or of tumors on one side of the brain, studies regarding language, etc., all went to show that the two cerebral hemispheres had certain distinct functions, and that there were [illegible] of the brain, each having about the same [illegible]

Dr. Charles Heitzman said that, although he was not a specialist in this department, he had given considerable study [illegible] had got the impression that neurologists were not entirely [illegible] concerning the seat of irritation [illegible] the physiological fact to be remembered that an impression upon any nerve could be brought [illegible] and thus to the impression of a projected sensation or [illegible]. Thus, a peculiar sound might be heard which [illegible] a dog, and the animal would look around in that [illegible] Experiments of this kind had been repeated in [illegible] and had been carried to the very extreme. In the case of the [illegible] could the man have had an hallucination of a [illegible] He answered it. When [illegible] the image of the black cat might be revived. [illegible] ter was disturbed, it would be likely to excite that center, and the image of the black cat would be revived. The special point of interest connected with the hallucinations related was that they were unilateral. He asked if that might not be explained on the supposition that the irritation, being upon one side, led to the center for the given image upon that side only.

Dr. Spitzka said, with regard to the duality of mind, that there could be little difference of opinion regarding the following facts: The two cerebral hemispheres were alike in structure, the variations being no greater than in other symmetrical organs, if allowance was made for a higher type of development; the hemispheres were united by a symmetrical commissure; they had corresponding peripheral tracts; they had about the same distribution of retinal fields; post-mortem examinations on the insane went to prove that the hemispheres were symmetrical; one hemisphere might be practically destroyed and yet the individual retain power to exercise the several faculties of the mind, such as reasoning, memory, judgment, etc.—not, however, that there would be no paralyses or other symptoms. But it was a different matter entirely when it was suggested that unilateral hallucinations could exist when the corresponding hemisphere was perfectly healthy.

Dr. Hammond, in closing the discussion, said it had not been his object to discuss specially the function of the optic thalamus. He might say, however, that he believed a person could have hallucinations without an optic thalamus at all, provided he had a cortex; but he believed also that he could have hallucinations without any cortex, provided he had an optic thalamus. In the former case the hallucinations would be due to a revival of past impressions; in the latter case they would be original, having nothing to do with former associations. A man without an optic thalamus could have an idea of a cat in the abstract, but he could not have an hallucination of a particular cat. He believed that ideation resided in the cortex. With regard to the duality of the mind, many arguments might be brought forward, but time would not permit.

BALTIMORE ACADEMY OF MEDICINE.

Meeting of December 1, 1885.

The President, Dr. J. J. Chisolm, in the Chair.

Evisceration of the Eyeball by the New Method.—The President related a case of evisceration of the eyeball after the plan recently recommended, which consisted in completely excising the cornea by means of a circular incision around its margin, the contents being then entirely removed, leaving the sclerotic intact. The advantage alleged for the operation was that the socket tissues were not disturbed; neither was the muscular apparatus of the eye interfered with; besides, the stump left made an admirable seat for an artificial eye. The operation itself was very simple, and could be performed much more expeditiously than complete enucleation, but convalescence was so very tedious, and at times gave rise to such painful and alarming symptoms, as had occurred in his case, that in future he should confine himself to the old plan of complete enucleation. It was his usual custom to allow a patient to go about his affairs very soon after the operation, at the outside in twenty four hours, but in the evisceration operation, even up to the fourth day and later, there were such oedema and pain that he could not think of allowing the patient to be from under his observation. He had never had such an experience with the old method.

Dr. S. C. Chew wished to know if sufficient anæsthesia could be [illegible] by the use of cocaine to enable one to perform [illegible] without pain to the patient.

The President thought not.

Paralysis from a Fall.—Dr. A. B. Arnold related a case which had occurred at Bay View Asylum a year before, in a woman five months pregnant. She fell from the second story window, striking upon the head; when picked up she was senseless, and remained so for three days. Among the consequences of the fall, abortion was brought on. At present she had paralysis of both lower extremities, and complete anæsthesia on the right side, and was deaf and blind on that side. She evidently had some spinal trouble, as she complained of that sensation so common in these troubles, "as if a belt were being drawn about her waist"; also had some enfeeblement of the sphincters of the bladder and rectum. In addition, there was a peculiar nervous jerking about the head, which had continued for a year.

The speaker thought the lesion was located about the inferior third of the internal capsule, extending up and involving the optic and auditory nerves at their point of crossing, and that the nerves of sensation which came off at that point were affected. He thought the symptoms justified this conclusion. The pupils responded normally to light. She had never had any trouble previous to the fall.

The President asked if any ophthalmoscopic examination had been made. He was prompted to ask this question by a case which had recently come under his observation. It occurred in a man who had received a severe beating, and, among the results, loss of vision began after about six weeks. He examined him, and found anæsthesia of the fifth nerve, the hearing involved, and several small retinal hæmorrhages around the point of entrance of the optic nerve.

Empyema.—Dr. Chew had been called in consultation to a patient who for several days had suffered from severe dyspnœa. The night before he saw him he had had copious expectoration of matter, the nature of which he could not describe, as it was not saved. This was followed by immediate relief from the difficulty of respiration. Upon physical examination of the chest, the left pleura was found to be about two thirds filled with fluid. Shortly after his visit the patient suddenly died with profuse vomiting of purulent matter, as well as the passage of quantities of it from the bowels. From such symptoms he thought it highly probable that perforation took place through the diaphragm into the stomach, and that the fluid was discharged both through the œsophagus and through the intestines. He had searched the literature on the subject and had found no record of a case terminating in this manner. Physical examination of the chest made before the first expectoration of matter showed the pleural cavity to be entirely filled with fluid. More recently he had seen a patient at the Baltimore Infirmary whose physiognomy was indicative of pulmonary trouble. Percussion over the right side of the chest gave decided resonance, both anteriorly and posteriorly. On auscultation on the same side, there was pronounced Hippocratic succussion. No discomfort at all was noticed, neither pain nor dyspnœa. He thought the absence of dyspnœa could be explained on the ground that the air probably distended the pleura and thus compressed the lung so gradually that this lung, as well as the healthy one, had sufficient time to accustom itself to its abnormal relations. Whether perforation was due to ulceration outward through the pleura from the wall of a cavity in the lung, or whether it was due to a loss of substance occasioned by a point of inflammation upon the visceral pleura, thus perforation taking place in the reverse direction, he could not say, though symptoms sufficiently marked were present to favor the latter mode. In his opinion, surgical interference should be resorted to as soon as the condition of empyema was made out.

Dr. Arnold had seen a case of empyema in a child, which occurred on the right side, ulcerated through the diaphragm, and discharged its contents into the abdominal cavity. The child died from shock. He considered it somewhat remarkable how rarely phthisical patients showed any signs of discomfort from interference with respiration, even though their lungs might be riddled with cavities.

Dr. Chew looked upon this as due to the slowness of the pathological process, this enabling that portion of the lung which was healthy to increase its physiological activity. He also thought, in view of the fact that cavities so frequently formed near the pleura, that it was singular that we so rarely found perforations from them.

The President said serous sacs resisted perforation.

The Cocaine Habit.—Dr. J. C. Thomas said that since he had been told that in some of our principal cities the cocaine habit was largely being acquired, he would like to ask if any member had ever seen a case of it, and, if the report was true, whether the medical profession should not take steps to prevent the reckless prescription of this seductive drug.

The President related two cases in which decided loquacity had been produced by the introduction of cocaine into a cavity in a decayed tooth. In speaking of *cocaine tablets*, he referred to a condition, amounting almost to a slough, that was produced on the buccal surface of his own cheek from the application of one of these tablets to the gum and allowing it to remain until dissolved. From this, he hardly considered them the proper thing to use in nasal catarrh.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Sensitiveness of the Normal Eye to Differences in the Wave-Lengths of Light.—König and Dieterici ("Arch. f. Ophth.") conclude, from their investigations upon this subject: 1. The differences in color-sensibility at the red end of the spectrum, as far as the line C of the spectrum, are dependent solely upon the existing differences of intensity. 2. The maximum sensitiveness for differences in wave length in the yellow region of the spectrum lies for the two observers at different points of the spectrum. 3. The two other maximum conditions (in the blue-green region and the region of fusion of indigo and violet) lie, with the same or equal intensity, at the same point for both observers. 4. But they pass with increasing intensity toward the violet end of the spectrum just as the neutral point in the spectrum of those who suffer from red-green blindness.

Investigations into the Light-Sense and the Sense of Space in Different Diseases of the Eyes. Bjerrum (*Ibid.*) gives the results of his laborious investigations upon the light sense and sense of space in connection with various diseases of the eyes as follows: 1. Among patients with the same acuity of vision for black on white by good illumination, one individual may show a marked abnormal diminution of vision by lowered illumination (hemeralopia), the good vision by diminishing difference of brightness and by exclusion of illumination, while another individual may show good vision by lessening illumination, but bad vision by diminishing differences of brightness. 2. Among individuals with the same degree of vision one may show marked hemeralopia, but a perfectly unaltered sensitiveness for differences of brightness by good illumination, or vice versa. Moreover, one and the same individual may be hemeralopic in a very slight degree of light, but a very sensitive observer of differences of brightness by good illumination under the same conditions. 3. The difference may be referred to the central part of the retina in one individual, that the limit of sensibility is displaced upward, while in another individual under a greater degree of brightness to see affected, while in another individual the reverse will be the case. 4. The investigations showed that general eye affections

of the retina and choroid showed a particular tendency toward hemeralopia, while patients with atrophy of the optic nerve showed a tendency to diminution of sensitiveness for differences of brightness under a greater absolute brightness. The examination of cases of congenital and strabismic amblyopia revealed nothing. The cases of central amblyopia resembled in this regard those of optic-nerve atrophy. 5. The so-called nyctalopia as a rule depends upon the circumstance that many cases of amblyopia, when the illumination diminishes, approximate more and more the normal, both as regards the sense of space and the light-sense.

Researches into the Perception of the Differences of Brightness or Illumination.—Charpentier ("Arch. d'ophth.") formulates the results of his investigations as follows: 1. The perception of differences of brightness is always influenced by the illumination. 2. The differential fraction diminishes continuously as the illumination increases. 3. There is no simple law which can explain the relation between the illumination and the value of the differential fraction, but an approximative law would be as follows: the differential fraction varies inversely as the square root of the illumination. 4. The perception of differences of brightness varies according to the size of the objects to be distinguished. 5. The differential fraction diminishes continuously as the size of the object increases.

Rare Tumor of the Orbit.—Story ("Ophth. Rev.") reports an interesting case of orbital tumor occurring in a young girl who had never suffered from any inflammation or painful affection of the eyes or orbits. As long as could be remembered there had been noticed a small lump beneath the left lower eyelid toward the nasal side. This lump became more prominent at certain times, and slightly discolored, and this was especially noticeable when she laughed or cried, or after stooping or taking violent exercise. On palpation, a hard body of about the size of a small pea could be felt beneath the discolored skin, and was freely movable in all directions in the orbital cavity. It could be drawn forward and made to project through the fornix beneath the eyeball. On dividing the skin and fascia over it, the tumor projected through the opening, inclosed in a thin but firm capsule. On dividing this capsule, the tumor popped out upon the cheek, there being no pedicle. It was nearly spherical, being one centimetre long and seven millimetres broad, and at one extremity of the longer diameter a smaller spherical tumor, about two millimetres in diameter, was firmly attached to the primary one. On making a section with a saw, the tumor was seen to be formed of a series of concentric lamellæ, the peripheral layer resembling bone in appearance. A microscopical examination, however, showed no bone, but only a series of different layers of fibrous tissue and calcified matter.

Chronic Tuberculosis of the Eye.—Schäfer ("Klin. Monatsbl. f. Augenheilk.") gives the results of an examination of an eye removed, for general intra-ocular inflammation and exophthalmus, from a soldier of healthy constitution. The eyeball was 29 mm. long and 21 mm. wide, and almost shapeless. The cornea was 3 mm. thick; the sclera varied in thickness from 1½ mm. to ¼ mm. The anterior chamber was very shallow, and filled with a granular, dark-yellow mass. Two millimetres external to the corneal margin was a narrow, funnel-shaped, gaping cleft leading into the interior of the eye. This opening was surrounded by a broken-down, grayish-yellow mass similar to that in the anterior chamber. This extra-ocular tumor was connected by this cleft with the intra-ocular tumor, and section showed that it originated in the external temporal half of the choroid behind the ciliary body. The microscope showed a lymphoid infiltration of the entire uveal tract, [illegible] formed conglomerate nodules of masses. The lens and capsule were [illegible] degeneration, and everywhere there was partial removal of the retinal and nodular tissue, with caseous [illegible] and granular detritus. There was also in places dense [illegible] with numerous [illegible] nodules. The [illegible] were enclosed but not [illegible]

A Portable Campimeter.—Cooper (" [illegible] ") describes a [illegible] for measuring the limits of vision, and [illegible] of [illegible] [illegible] A vertical [illegible] [illegible] [illegible]

tends to the larger vascular branches and to the connective-tissue framework of the retina. This aids in destroying the retina by compressing those elements which still survive. It advances slowly and ends by attacking the largest vessels and the interstitial connective-tissue of the retina and optic nerve. The retina is thus transformed into a connective-tissue membrane crossed by fibrous cords which are covered by masses of pigment cells.

The Relations between Ocular Symptoms and Dental Lesions.—Power (*Ibid.*) classifies as follows the phenomena which may appear in the eye in connection with certain morbid conditions of the teeth: 1. Phenomena of reflex irritation which affect striated or non-striated muscular fibers. 2. Phenomena of reflex irritation which affect the mucous membrane and the cornea. 3. Reflex irritation affecting the optic nerve and retina, or the intra-ocular tissues. In the first class we put paralysis of the ciliary muscle, paralysis of the intra-orbital muscle, paralysis of the iris, paralysis of one of the muscles of the eyeball, and paralysis of the orbicular muscle of the eyelids.

Lesions of the Trifacial Nerve in Locomotor Ataxia.—Galezowski (*Ibid.*) continues his series of remarks upon ocular lesions in connection with locomotor ataxia, and this time takes up the lesions of the fifth nerve. He finds that they may occur at all periods of ataxy, though they are more common in the early stage. Sometimes there is a sort of hyperæsthesia disseminated all over the circum-orbital region, especially on one side, accompanied by very severe intermittent pain. These patches of hyperæsthesia all lie along the course of the branches of the fifth nerve. The lancinating pains may be propagated to the eyeball, which becomes the seat of a veritable neuralgia. Sometimes patches of anæsthesia are met with, which, however, only appear after severe pain, and are in a sense transformations from hyperæsthesia. These anæsthetic patches are also situated along the branches of the fifth nerve, the insensibility coming on gradually and sometimes becoming absolute. The local treatment should consist especially in the employment of revulsives, chiefly blisters. The continuous galvanic current, applied directly to the particular branch or branches affected, sometimes renders good service. In some cases methodical hydrotherapeutics gives good results. Galezowski also speaks well of the "mixed" mercurial treatment, combined with mercurial inunction. He has also employed hypodermic injections of the cyanide of mercury, making a solution of 8 grains of the cyanide in 2½ drachms of water, and injecting every day from five to ten drops. In the general treatment of ocular lesions of whatever nature, occurring in the course of ataxy, Galezowski also recommends as a hypodermic injection a solution of cyanide of gold and potassium, and also the bromide of gold and potassium, the latter being not so acid as the former.

Clinical and Pathogenetic Connection between Detachment of the Retina, Myopia, and Glaucoma.—Dransart ("Ann. d'ocul.") has been investigating this subject in connection with the operative treatment by iridectomy and sclerotomy, and draws the following conclusions: 1. There are clinical and pathogenetic relations between glaucoma, detachment of the retina, and myopia which seem incontestable. These relations may possibly explain the beneficial effect of iridectomy on detachment of the retina. 2. If iridectomy, in connection with the use of pilocarpine and the horizontal position, is regarded as the best method of treatment for detachment of the retina, on the other hand, sclerotomy, iridectomy, and all the therapeutical agents opposed to excess of tension, and employed in progressive myopia, must be regarded as most powerful adjuvants in the prophylactic treatment.

Astigmatic Keratitis.—Martin (*Ibid.*) continues his previous discussion of this subject in a fourth paper, and formulates two statements as follows: 1. Congenital astigmatism is often, but not always, accompanied by a flattening of the eyeball. 2. In half the cases the spots upon the cornea produced by a keratitis coincide with a flattening of the organ. His final conclusions are as follows: 1. Cases of corneal spots without astigmatism are rare. 2. The degrees of astigmatism grouped round each patient are much greater than those observed in an equal number of patients who have never had an ocular lesion. 3. Muscular spasm varies in importance in different affections. 4. In many cases where a keratitis has been discovered it exists in connection with hypermetropia, as in ametodic keratitis, where more than half the patients examined were hypermetropic. In these cases the hypermetropia is no doubt partially the cause, as well as the astigmatism.

Glaucoma produced by Homatropine.—Sachs ("Centralbl. f. prakt. Augenheilk.") reports a case of acute glaucoma produced by the instillation of homatropine. The patient was a man, aged fifty-eight, who came to the clinic desiring to be measured for a pair of reading-glasses. He had never seen well at a distance. Both eyes showed a shallow anterior chamber with normal tension and normal pupils. One drop of a one-per-cent. solution of homatropine was instilled, and, after mydriasis had been produced, it was found that the lens in each eye showed a zone of punctate opacities between the nucleus and the anterior capsule. There was no disease in the fundus, and the visual field and color-sense were normal. The next day the patient came with the complaint that, shortly after having left the clinic the day before, he had been attacked with pain in the temple and forehead, marked disturbance of vision, and vertigo, and that these symptoms had continued. The right eye showed a typical picture of a moderate acute glaucoma; cloudy cornea, punctate epithelium, very shallow anterior chamber, pupil dilated to 5·5 mm. and immovable; arterial pulsation on the disc; increased tension; vision reduced to the power to count figures at three metres; limitation of the field on the temporal side. Eserine was immediately instilled several times, and in an hour all signs of glaucoma had vanished.

The Pathological Anatomy of Primary Sarcoma of the Iris.—Thalberg ("Arch. of Ophth.") gives the results of his examination of the eyeball of a woman, aged sixty-four, which had been enucleated for irido-cyclitis dolens. The development of the neoplasm from the endothelium of the iris could be distinctly traced at the place where the corneal tumor passed over upon the anterior surface of the iris. The development of this sarcomatous neoplasm seemed apparently the result of a cataract extraction. From its origin in the endothelium, and from the form and size of the cells, it was evidently a sarcoma, and of the round-cell variety. In the peripheral (most recently formed) portion the tumor had the appearance of a simple granuloma. In the central (oldest) portion there was a rather sudden transition from these small cells into large polygonal and round sarcoma cells; among them were some large spindle cells. By division of the large polygonal cells, small ones were formed, which at first retained their polygonal form, but, by further division, passed over into round cells as large as lymph cells. The cornea was considerably thickened and infiltrated, and blood-vessels ran from it into the tumor. The growth filled the anterior chamber, formed a vascular connection with the cornea, and passed through the opening in the center of the capsule into the vitreous; but it did not enter the iris tissue proper.

The Comparative Frequency of Eye Diseases in the White and Colored Races in the United States.—Burnett (*Ibid.*) has been investigating this subject with some care, and has made a very interesting article. Taking *conjunctival diseases* as a whole, he finds that they are of about the same relative frequency in the two races. *Scrofulous conjunctivitis*, including herpes of the conjunctiva, sclera, and cornea, is very much more frequent in the colored race. When we come to *trachoma*, Burnett has never seen a genuine case in the negro race, even among the mulattoes. He thinks that the trachoma granule, follicle, or whatever name we may give it, is a deposit of material analogous in character to tubercle. At least they both seem to have this in common, that when they disappear the tissue in which they were imbedded is destroyed, and a cicatrix is the result. There is another similarity in the successive crops of these deposits which may occur. He thinks each fresh attack of trachomatous inflammation is the manifestation of a fresh deposit, and where there is a series of these in a number of years with these resultant cicatrices, we see that total destruction of the mucous membrane so commonly met with in old cases. At present writing of the cornea, we find in the negro a comparatively large number of the inflammations of all kinds. When it comes to the question of the percentage among the races of cases that cause the whites, though the percentage of applicants seems to be greater, it is greater among the whites. [illegible] Burnett states that [illegible] being equal, the [illegible] in general [illegible] to eye operations on the whites [illegible] the [illegible] [illegible] [illegible]

(*Ibid.*), in a second communication on this subject, affirms that there is never any purulent secretion so long as the jequirity ophthalmia lasts; a thin watery discharge trickles down over the cheeks, while a whitish, viscid substance covers the edge of the lids. Jequirity does not produce a purulent, but a croupous or croupo-diphtheroid ophthalmia—croupous, if the remedy is only applied superficially; croupo-diphtheroid, if an intense action has been produced by rubbing or the application of strong infusions. No danger attends the careful single or even repeated application of a three-per-cent. infusion to a normal, non-secreting conjunctiva. The jequirity ophthalmia produces the least amount of scar-tissue, and favorably affects that which has previously existed.

Further Observations on the use of Jequirity.—Knapp (*Ibid.*) has another brief communication upon the use of jequirity in ophthalmic practice. He thinks that the occurrence of diphtheria, and occasionally diphtheritic inflammation of the most deleterious kind, must be registered as one of the possible consequences of the application of jequirity infusion. In cases of inveterate, dense pannus with advanced cicatrization of the conjunctiva, the remedy is incapable of producing diphtheritic infiltration or purulent discharge to any great extent, for the cicatricial tissue, very scantily supplied with blood-vessels, can not furnish nutritive material enough for either an infiltration into the depth of the conjunctiva or an abundant purulent secretion.

New Formation of the Epithelium of the Anterior Capsule of the Lens in Adult Animals in Conditions of Health and Disease.—Falchi ("Arch. f. Ophth.") has been making some investigations into the frequency of indirect cell-division in the epithelium of the anterior lenticular capsule, and concludes as follows: 1. In the normal state this process is much rarer among mammalia and birds than among amphibia. 2. In adult rabbits, after a wound of the central portion of the anterior capsule, the indirect cell-division of the anterior capsular epithelium occurs most frequently in the neighborhood of the wound; at a certain distance from the wound the process is but rarely met with; and at points very distant from the wound it is never seen. Even in the vicinity of the wound the number of cells involved in the process was never large, and they were generally isolated, not conglomerate.

A Light-reflex from the Retina.—Heuse (*Ibid.*) calls attention to an appearance, hitherto undescribed, which may be seen with the ophthalmoscope in the upright image. It consists of a narrow, oval ring of light on the retina, which changes its shape according to the position and property of the illuminated spot. If it strikes a wide retinal vessel, the ring is changed into the shape of a heart; sometimes a portion of the ring passes into a broad, diffuse, shining streak; sometimes two faint rings are seen, the one included within the other. In two instances Heuse saw, at the spot where the ring was, a distinct, pale, inverted image of the candle-flame. The ring is best seen when the observer is very close to the eye observed. Reflected figures of a similar shape may often be seen at the bottom of vascular vessels which are homogeneously illuminated. He regards this ring as a reflex from the walls of the interior of the eye. He assumes a double reflection within the shell of the retina in such a way that from the first reflex image, which is subjectively perceived, there results a second reflection toward the source of the original reflection. This reflex can not be seen in all emmetropic and hypermetropic eyes. It may be found in about one third of children's eyes, and is rarer in older persons.

Glaucoma.—Jacobson (*Ibid.*) has a long and interesting paper, which is mainly devoted to the relations existing between acute and chronic glaucomatous attacks, and to the causation of both. He thinks that the diagnosis of chronic glaucoma can not be made independent of the appearance of the so-called glaucomatous or marginal excavation. This excavation is rather to be regarded as a late stage of the process. The diagnosis of chronic glaucoma may be made from every excavation of the optic disc in connection with the subjective symptoms of periodic obscurations of sight and cumbous vision, and the objective symptoms of increased tension of tension. Failure of vision, periodical headache, subjective color of vision are all of secondary diagnostic value. By the spreading out or extravasation of the exosmic excess, every point of the ocular surface is affected in equal measure. The yielding portion of the sclera, through which the vessels pass, is more than any other part of the eye liable to the extension of the eye, the lens, zonula ciliary processes, and iris also give way. As soon as the periphery of the iris is pressed against the cornea, Fontana's space is closed; and, as soon as this position becomes fixed by adhesion or by a permanent change in the vitreous, the exit of lymph ceases to a great extent, and this leads to glaucomatous degeneration. Jacobson draws the following conclusions from his observations: 1. The disturbance of central and peripheral vision in chronic glaucoma may be explained by the excavation of the optic disc; this is the pressure-excavation. 2. The marginal excavation is a late symptom, which is preceded by a shifting of the vessels at first backward in the vicinity of the contral canal, and afterward on the margin of the excavation. 3. The prodromal stage of chronic glaucoma is characterized by four symptoms: subjective obscurations, excavation of the central canal, dilatation of the pupil, and increased tension. 4. Iridectomy is of most avail in the prodromal stage. 5. Among the causes of the prodromal stage are the accommodative strain of hypermetropes on account of the venous stasis which follows prolonged muscular contraction. 5. The glaucomatous eyeball maintains its hardness longer after enucleation than the normal eyeball. 7. The cause of the hardness is the increase in volume of the vitreous. 8. The hypertrophied vitreous spreads backward toward the central canal of the optic nerve; forward toward the space between the lens and the ciliary processes; it presses the latter against the origin of the iris, the latter against the cornea, and closes Fontana's spaces. Sometimes the vitreous may even alone obstruct the exit of the lymph. 9. The clouding of the media in acute glaucoma and in the prodromal stage is due to an œdema and not to an inflammatory product. 10. The obscurations of the prodromal stage without clouding of the media point to an extended circulatory disturbance as cause, such as venous stasis or arterial anæmia. 11. In the increased amount of the vitreous humor we have a lasting cause for further venous stasis and œdematous and inflammatory infiltrations. 12. The transition from acute to chronic glaucoma is explained directly by the increase in tension; the transition from chronic to acute glaucoma may, perhaps, be explained by the venous hyperæmia in the anterior half of the eyeball, in consequence of the increase in volume of the vitreous.

Jequirity Ophthalmia.—Wecker (*Ibid.*) again enters upon the discussion of this subject in a critical answer to von Hippel's recent paper. He starts with the axiom that the intensity of action of the drug increases with the strength of the infusion. He then states that the more the conjunctiva swells and the more evident the signs of acute or chronic purulent ophthalmia appear, the more difficult it is to produce the specific jequirity ophthalmia with its croupo-diphtheroid exudation, and hence the less reliance can be placed upon its action. Further, the more the trachomatous condition is complicated by papillary swelling, hyperæmia, and increased secretion, the more difficult it is to produce the croupo-diphtheroid jequirity ophthalmia. He is firmly convinced that true granulations and trachoma are cured by jequirity, but that false granulations or the papillary hypertrophy of chronic purulent ophthalmia are rather made worse by its use. The duration of the stage of incubation varies with the looseness or tightness of the eyelids, which allow more or less air to pass into and over the conjunctiva which has been bathed with the infusion.

A Case of Traumatic Pulsating Exophthalmos partially cured by Ligation of the Common Carotid, and entirely cured by Extirpation of the Aneurysmal Varix of the Orbit.—Knapp ("Arch. f. Augenheilk.") reports a case of this kind occurring in a woman aged forty-eight. Seven years previously she had received a blow on the left temple, from which she was unconscious for several days. The blow produced complete and permanent paralysis of the left side of the face. The left eye became at once prominent, but was reduced; the lids could not be closed, and in a few months she began to hear a pulsating noise in the left side of the head. This gradually increased in intensity and annoyed her extremely. After a year the blood-vessels of the lids began to swell and the eye became prominent. From this time all the signs of a pulsating tumor in the orbit became very marked. The left common carotid was located on November 29, 1880, and immediately after the operation a weak systolic murmur was audible, and forty-eight hour later a weak pulsation could be felt in the vessels above the orbit. In the course of the year the enlarged blood-vessels of the face gradually subsided, but there was no change in the exophthalmos, which slowly increased. On October 12, 1882, the eye was enucleated

and then the tumor carefully extirpated, and the entire contents of the orbit were removed. This operation resulted in a complete and radical cure. Knapp thinks that the period from the time of the injury to the appearance of the exophthalmos was longer than usual, and it is probable that the injury consisted of an inconsiderable laceration of the carotid, which resulted in a communication between the artery and the cavernous sinus. The chief mass of the recurrent tumor in the orbit was an aneurysmal varix, while the smaller tumor met with in the extirpation was a pulsating cavernoma. The very large blood-vessel which was divided at the bottom of the orbit was the superior ophthalmic vein. In explanation of the manner in which the extirpation of the entire contents of the orbit brought about the cure of the communication with the cavernous sinus, Knapp assumes that the sudden obliteration of the orbital veins caused a thrombus in the cavernous sinus, which proceeded from the mouth of the ophthalmic vein, but extended so far into the sinus as to cover the laceration in the carotid.

A Case of Sudden Amaurosis with Subsequent Hemianopsia Homonyma Superior.—Wiethe (*Ibid.*) reports a case of this nature in a man aged fifty-four. Two years before the patient had had acute articular rheumatism with cardiac complication. Five months before Wiethe saw him he had fallen from a ladder a distance of three metres and struck on the back of his head. There was bleeding from mouth, nose, and ears, and he was unconscious for several hours. The following Easter apoplexy and left hemiplegia supervened, but in a few weeks he recovered completely. The day before Wiethe saw him his vision suddenly became clouded, and in an hour and a half he was entirely blind. The pupils were dilated *ad maximum* and immovable. The eyeballs were immovable with parallel axes. Ophthalmoscopically, nothing abnormal was discovered. The patient complained of violent headache. Two days later the left pupil grew narrower and reacted to light, and the patient saw a faint cloud, and later in the day could count fingers with the left eye at fifteen feet and with the right eye at twelve feet. On the fifth day the headache had disappeared and the pupils were of normal size and reaction. Some days later the patient could count fingers at eighteen feet, and the color sense was normal. There was an apparent hemiopia of both eyes upward, on testing the field of vision. A diagnosis was made of hæmorrhage at the base of the brain in the neighborhood of the optic chiasm. The patient lived for nine months and a half, and died of strangulated hernia. At the autopsy there were found atheroma of the arteries at the base of the brain, and old apoplectic foci in the left parietal lobe and left temporal lobe, in the left optic thalamus and left lenticular nucleus, and also in the medulla of the right frontal lobe, and the cortex of the right sulcus olfactorius was the seat of chronic pachymeningitis. There was not a trace of any hæmorrhage in the vicinity of the chiasm, optic nerves, or optic tracts, nor of any fracture of the skull.

Stretching of the External Nasal Nerve in Neuralgia of the Ciliary and Trifacial Nerves.—Lagrange ("Arch. d'ophthal.") draws the following conclusions from his own observation and experience: 1. Stretching of the external nasal nerve acts beneficially on ciliary neuralgia. 2. The pain can be cured in every case without reference to visual troubles resulting from grave lesions of the deep structures of the eyeball. 3. This special effect produced by stretching the external nasal nerve may be explained by the relations of this nerve-trunk to the ophthalmic ganglion. 4. The stretching may act in two ways: either by reflex action or by the production of an actual solution of continuity between the sensitive root of the ophthalmic and the trunk of the nasal nerve. 5. In neuralgia of the trigeminus, stretching of the external nasal nerve is of no special value.

Miscellany.

A Reminiscence of the Civil War.—Under the title of "A Ride with Sheridan," Dr. A. D. Rockwell gives a very interesting account of a portion of his campaigning experience in a recent number of the "Magazine of American History." The following passage from Dr. Rockwell's article vividly sets forth one of the aspects of an army surgeon's life:

And here, without any invidious distinction, attention may be called to the work of the medical staff of the army, who labored without hope of special preferment or possibility of distinction. They shared the fatigue and much of the danger of the campaign, and in emergencies their labors were simply incredible. On this very march, for instance, after a long day's ride, when all others were sleeping, the surgeons collected about the ambulances, and, with the dim light of candles, dressed each wound with gentle care. Every effort was made to save the lives of those who were not too far gone. The dying were passed by, excepting to minister to their immediate wants, and the dead were quickly buried. As I recall, at this distance of time, those nights of toil, with wagons against the dark background crowded with wounded, and surgeons here and there bent low over the sufferers, engaged in their humane ministrations, the scene loses none of its weird and solemn impressiveness. We passed over the recent battle-field of Spottsylvania, where the destructive effects of the terrific shower of shot and shell were plainly visible. Broken branches of trees were on every hand. Many trees were almost completely denuded of bark and foliage, some were riddled with bullets, and others were felled to the ground by the shots. Brigadier-General Grant, of the Vermont Brigade, Sixth Corps, thus graphically describes the close and deadly fighting at the celebrated "Angle": "It was not only a desperate struggle, but it was literally a hand-to-hand fight. Nothing but the piled-up logs or breastworks separated the combatants. Our men would reach over the logs and fire into the faces of the enemy, would stab over with their bayonets, and many were shot and stabbed through the crevices and holes between the logs. Men mounted the works, and, with muskets rapidly handed them, kept up a continuous fire until they were shot down, when others would take their places and continue their deadly work. . . . Several times during the day the enemy would show a white flag about the works, and, when our fire slackened, jump over and surrender, and others were crowded down to fill their places. . . . It was there that the somewhat celebrated tree was cut off by bullets; there that the brush and logs were cut to pieces and whipped into basket stuff; . . . there that the enemy's ditches and cross-sections were filled with dead men, several deep. . . . I was at the 'Angle' the next day. The sight was terrible and sickening, much worse than at Bloody Lane (Antietam). There a great many dead men were lying in the road and across the rails of the torn-down fences, and out in the corn-field, but they were not piled up several deep, and their flesh was not so torn and mangled as at the 'Angle.'"

The New York Academy of Medicine.—A Section in Laryngology and Rhinology will be organized on Wednesday evening, the 23d inst., and Dr. R. P. Lincoln will read a paper entitled "The Surgical Uses of Electricity in the Upper Air-Passages." The Section in Obstetrics and Diseases of Women and Children will meet the same evening, and Dr. Egbert H. Grandin will read a paper entitled "An Obscure Case of Abdominal Gestation, with Remarks bearing particularly on Timely Diagnosis and Treatment." Notice is given that neither the paper nor the discussion is intended to cover the subjects of tubal and interstitial gestation. The Section in Ophthalmology and Otology will hold a meeting on Monday evening, the 21st inst. A paper on "Contrast of Colors" will be read by Professor Ogden N. Rood, of Columbia College, and one on "Antiseptics in Eye Surgery" by Dr. Henry D. Noyes.

A Jewish View of the Operation of Craniotomy.—In the "American Israelite," Dr. M. Mielziner, of Cincinnati, says that in Mishna *Ohaloth*, vii. 6, the undisputed decision is laid down that "in case of a dangerous parturition it is justifiable to kill the unborn infant in order to save the mother, as her life precedes its life." Such operation is, however, not permitted after the infant has already been partially born, as in the latter case the maxim applies one human life must not be set aside on account of another. In the commentary on Tract Sanhedrin 72*b*, where this Mishna is quoted, Rashi explains the reason of the distinction between these two cases to be that the unborn infant is not yet a *distinct* personality with an independent life, hence the duty of saving the mother's life is to prevail, while in the second case the individuality is established; hence the legal principle must apply that one life must

not be destroyed to save another. The authoritative codes of Maimonides (Hilchoth Rotzeach u Shemirath Nephesh I. 9), as well as of R. Joseph Caro (Choshen Mishpat 425. 2), adopted the decision of the Mishna as the rule of Jewish law.

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality," the deaths in November included 1 from small-pox, 36 from scarlet fever, 79 from diphtheria, 39 from croup, 6 from whooping-cough, 1 from typhus, 39 from typhoid fever, 5 from cerebro-spinal fever, 8 from malarial fever, 15 from other zymotic diseases, 7 from diarrhœal diseases, 103 from pulmonary phthisis, and 82 from acute lung diseases.

Bromidia.—Dr. Thomas Stretch Dowse, of London, in a letter to the manufacturers of this preparation, says: "I am glad to speak in praise of your preparation named bromidia. As it is a known compound in quantity and quality, its virtue should be known, and not even the most fastidious of physicians can refuse to prescribe it. I have found it a most valuable hypnotic and sedative, and it unquestionably controls the circulation of the brain generally, and the nervous centers and gray matter in particular. In muscular spasm and in epilepsy its effect is very marked."

The late Mr. Vanderbilt.—At a special meeting of the Faculty of the College of Physicians and Surgeons, the Medical Department of Columbia College, in the City of New York, held on December 10, 1885, the following preamble and resolutions were unanimously adopted:

Whereas, By the death of William H. Vanderbilt there has been taken from the community a citizen from whose hands the college has received a splendid addition to its means of usefulness, be it

Resolved, That we offer hereby our tribute of mourning for the loss of a benefactor whose service to the advancement of education has been great and enduring—as broad in scope as free in gift—and whose enlightened generosity will ever be held in grateful remembrance by ourselves and our successors.

Resolved, That we tender our heartfelt sympathy to the family of the deceased in their bereavement.

Resolved, That, as a token of respect, all exercises at this college be suspended on the day of the funeral, and that we attend the same in a body.

Resolved, That these resolutions be communicated to the family, and be duly published.

[Signed] John G. Curtis, M. D.,
Secretary of the Faculty.

Errata.—Dr. William A. Hammond, whose article on Unilateral, Hallucinations we published last week, informs us that we were in error in attributing to him the possession of the degree of LL. D.

In the article by Dr. Bacon and Dr. Roosa, in the same issue of the Journal, page 559, for "Dr. William T. White" read *Dr. W. H. White*.

THERAPEUTICAL NOTES.

The Physiological Action of Tobacco.—In the Fiske Fund Prize Dissertation, No. XXXIV, entitled "The Physiological and Pathological Effects of the Use of Tobacco," recently published by Messrs. P. Blakiston, Son, & Co. of Philadelphia, the author, Dr. Hobart Amory Hare, presents the facts and arguments that have led him to the following conclusions:

1. Tobacco smoking does not decrease the urine eliminated, but rather increases it. 2. Tobacco does retard tissue waste. 3. Tobacco acts by divided cerebro-convolutions in the primary stage of the poisoning, by depressing the vaso-inhibitory centers in the cord. 4. It causes the pulse of the second stage, by paralyzing (*a*) the motor nerve trunks, (*b*) the motor tract of the spinal cord. 5. The sensory nerves are not affected by the drug. 6. Nicotine contracts the pupil, by stimulating the oculo-motor and paralyzing the sympathetic, this action being peripheral. 7. Nicotine primarily lowers the blood-pressure and pulse-rate (by stimulating cardiac pneumo and rate), (*b*) thirdly, decreases pressure. 8. The primary lowering of pressure and rate is due to pneumogastric stimulation, associated with vaso-motor dilatation. 9. The secondary stage is due to vaso-motor constriction and pneumogastric paralysis. 10. The third stage is due to vaso-motor dilatation returning. 11. Death in poisoning from this drug is due to failure of respiration, the action of the drug being centric. 12. The blood-corpuscles are broken up and crenated by the action of the poison. 13. In death from nicotine poisoning the blood shows changes in *spectra*. 14. Death can be brought about by the cutaneous absorption of nicotine. 15. Tobacco increases intestinal peristalsis in moderate amounts, and produces tetanoid intestinal spasms in poisonous doses. 16. The liver seems to destroy the poison, although this destruction is participated in by any set of capillaries in other parts of the body. 17. Tobacco smoking increases the pulse-rate and decreases arterial pressure.

Hypnone as a Hypnotic.—The fanciful name hypnone has been applied to methylphenylacetone. At the request of M. Dujardin-Beaumetz, who insists that it should be used only in cases of sleeplessness from over-excitement of the brain, and not where there is pain, M. Pierre Vigier ("Gaz. hebdom. de méd. et de chir.") has experimented with regard to its administration. The amount necessary to produce sleep varies from four to ten drops, which should be taken all at once, for divided doses do not succeed. The drug is scarcely soluble in water, and but slightly soluble in glycerin; but dissolves readily in alcohol. A syrup may be made in the following proportions:

Hypnone	1 drop;
Ninety per cent. alcohol	15 grains;
Syrup of orange-flowers	75 "
Syrup of cherry-laurel	15 "

Let the drop of hypnone fall into the alcohol, add the syrups, and keep in a tightly-stopped bottle. In like manner an elixir may be made of the following ingredients:

Hypnone	1 drop;
Sixty per cent. alcohol, Syrup of mint, each	45 grains.

The taste of these preparations is said to be very bearable. The drug itself has a very hot taste, and its odor reminds one of essence of bitter almonds, with a suggestion of wintergreen.

Iodol, a New Antiseptic.—The "St. Petersburger medicinische Wochenschrift" mentions iodol as a new antiseptic, and says that, while it is free from the unpleasant odor of iodoform, and does not produce poisoning when applied to wounds, it is not only a powerful antiseptic, but also a local anæsthetic, and favors the formation of granulations. It is prepared from ethereal animal oil (oleum animale æthereum), and is a fine crystalline powder, of a brownish color, almost insoluble in water, but readily soluble in alcohol, in ether, and in chloroform. It is precipitated from its alcoholic solution by the addition of water, but bears a considerable addition of glycerin without becoming turbid.

The Treatment of Lienteric Diarrhœa in Children.—M. J. Simon ("Progr. méd.") orders the following powders in cases of rebellious lienteric diarrhœa in children five or six years old:

Powdered crabs' eyes	15 grains;
Sodium bicarbonate	8 "
Magnesia	30 "
Calumba	4½ "
Nux vomica	1½ "

Divide into twenty powders, one to be taken twice a day, before eating. If the child refuses to take the powders, he orders:

Tincture of cinchona, " " rhubarb, " " calumba, " " nux vomica, each	75 grains;

Dose, five to ten drops, before each meal. In addition, the diet is to be regulated.

A Suppository for Chronic Cystitis.—The "Union médicale" publishes the following formula, attributed to Mallez:

Morphine hydrochlorate	½ to ¼ grain,
Powdered stramonium	¼ "
Cocoa butter	q. s.

For one suppository, to relieve the pain of chronic cystitis or that which follows lithotrity.

Original Communications.

VULVAR AND VAGINAL ENTEROCELE.*

BY T. GAILLARD THOMAS, M.D.,
SURGEON TO THE NEW YORK STATE WOMAN'S HOSPITAL.

THERE are five varieties of hernia which may show themselves in the vagina and vulva:

1. Cystocele, or hernia of the bladder.

2. Rectocele, or hernia of the anterior wall of the rectum.

3. Vaginal enterocele, or descent of a portion of the small intestines into the vagina.

4. Pudendal enterocele, pudendal hernia, or descent of the small intestines into the labium majus of one or both sides; and

5. Perineal enterocele, perineal hernia, or descent of the small intestines by protrusion through the perinæum.

Were one inclined to go very fully into detail, other varieties might be given, based upon the contents of these hernial sacs, in which the ovaries, the uterus, and the Fallopian tubes, either empty or filled with the products of conception, have in exceptional cases been found; or upon some extremely rare and extraordinary development of this condition—such, for example, as one case mentioned by Burns and quoted by Sir Astley Cooper,† in which the base of the bladder, passing down alongside of the right wall of the vagina, formed a hernia in the labium majus of that side. For practical purposes, the varieties of hernia which I have mentioned will, I think, fulfill all the requirements of the case.

As the title of this paper announces, I propose to pass by herniæ of the bladder and anterior wall of the rectum, merely with the mention of them which has been made, and to confine my remarks to descent of the intestines through the pelvic roof, and their protrusion into the labia majora, into the vagina, or through the perinæum.

Although these varieties of hernia have been known for at least a century and more, it is curious to see how very generally they have been ignored in systematic treatises upon gynæcology. And this is the more remarkable since errors in diagnosis of them are very liable to occur, and, when occurring, would put both practitioner and patient in a most deplorable position. To sustain this statement, let me refer to the most recent works upon gynæcology, which are now used as text-books by students of medicine in this country and in Europe. In the works of A. Martin, Hart and Barbour, and Emmet, no mention of vaginal and vulvar enterocele is made; in those of Barnes and Edis a mere mention is made, and in those of Courty and Thomas very short and unsatisfactory accounts are given.

Even in literature outside of systematic treatises, and in that of serial character, it is difficult to find much upon the subject. The truth of this will be appreciated from the statement that Littré and Robin, in their "Dictionnaire de médecine," published about ten years ago, quote largely, in their description of it, Sir Astley Cooper, who wrote as early as 1804.

In 1736, Garengeot was, according to A. Bérard,* the first to describe this form of hernia, and he was followed by Verdier, Hain, Sandifort, and Richter. As I have already stated, Sir Astley Cooper treated of it fully in his celebrated work upon hernia in 1804. The best account of it with which I have met is that given by A. Bérard in the "Dictionnaire de médecine," published in 1846.

Instances of this accident have been put on record by the following writers: Davis, in his "Principles and Practice of Obstetric Medicine," Levret, Gunz, Boivin and Dugès, Smellie, Fordyce Barker, and Peter Young, of Edinburgh. The last-named gentleman published a very interesting paper upon the subject in the "Edinburgh Medical Journal" for April, 1882, and put upon record a striking case which illustrates most of the important features of the lesion when occurring during parturition and soon after it. In the transactions of the New York Obstetrical Society for 1878 will be found a very able and exhaustive article upon the subject by Fordyce Barker, containing several illustrative cases occurring during pregnancy and parturition, and detailing a valuable case reported by Dr. B. A. Clements, U. S. Army, in which eight distinct attacks occurred.

VAGINAL ENTEROCELE.—This variety of the disorder consists in a descent of the intestines into the pelvic cavity, either in front of or posterior to the broad ligament of one side. As Boyer and Richter long ago pointed out, the intestines never descend directly in the median line, either anteriorly or posteriorly, on account of the intimate relations of the vagina at these points. They always descend a little obliquely, and most frequently posteriorly.

Usually the intestines alone descend in these hernial protrusions, but sometimes the omentum accompanies them; and Petrunti has reported one case in which the hernial tumor consisted of nothing but omentum. Usually, too, it is the small intestines which form the hernial protrusion, but Levret ‡ has put one case on record in which the sigmoid flexure of the colon did so, and Boivin and Dugès ‡ mention one in which a portion of the large intestines came down as low as the perinæum and obstructed the vagina.

Vaginal hernia, as a rule, develops itself in the following manner, under the influence of causes which will soon be mentioned: A loop of intestine gradually pushes downward the prolongation of the peritoneum which forms the pouch of Douglas until it impinges upon the outside of the wall of the vagina and causes it to arch inward. This mechanical influence being continued and gradually increased, a tumor forms in the vaginal canal, invests the wall of that canal more and more completely, and may end by escaping from the vulva and hanging outside the body, as a complete prolapse of the bladder or of the uterus would do

* Read before the New York Academy of Medicine, December 17, 1885.

† "The Anatomy and Surgical Treatment of Abdominal Hernia," by Sir A. Cooper.

* "Dict. de médecine," tome xxx, p. 405.

† "Observations sur les polypes," Young's article, [illegible]

‡ "Diseases of the Uterus," p. 541.

Under these circumstances it is evident that the tumor which protrudes has for its component parts—first, the inverted vaginal wall; second, the peritonæum; and, third, the intestines. Sir A. Cooper, in giving a description of these cases, says: "I wish it, however, to be understood that I have had no opportunity of examining this disease in the dead body, and that I am here describing it from what is known of the structure of the parts, and not from actual dissection." And Bérard, writing toward the year 1840 * and declaring that it is very important to know whether "the entire thickness of the vaginal wall is inverted and forms the envelope of the tumor, or if the external coat is torn so as to present an opening through which the hernia passes, carrying before it only the internal tunic of the vagina," asserts that at that time Sandifort was the only author who had reported an autopsy, and that he had neglected to mention this point. In looking up the literature of this subject, I find reports of several autopsies, and yet, so far as I have been able to ascertain, this point still remains unsettled.

Unquestionably the greatest danger which attends this form of hernia, and the same remark applies to the two other varieties which we shall consider, arises from the possibility of an error of diagnosis occurring from the practitioner's being off his guard, and therefore not sufficiently careful in the practice of differential diagnosis. The tumor occurring during labor and obstructing the progress of the fœtal head, a too rapid conclusion may be arrived at that an ovarian or parovarian cyst with a long pedicle has been pushed into the pelvis, a trocar and cannula are plunged in, and the operator is horrified at the escape of fæcal matter and intestinal gases. Or, if the condition be found to exist in the non-parturient woman, an effort is made to remove it, and, as this effort advances, the operator becomes painfully enlightened as to the error into which he has unfortunately fallen. Let me quote two cases to impress this important fact upon the minds of my hearers. The following is related in the "Centralblatt für Chirurgie," May, 1879: The woman, aged fifty-two, had had twelve children, the last born twelve years before. On examination, a swelling, about three inches long, reddish blue in color and covered by granulations and pus, protruded between the labia. A diagnosis of polypus of the uterus was made and the tumor removed. After suffering severe pain in the abdominal region for several hours, death ensued. Upon autopsy, there was found in the pelvis half a pound of liquid blood. A portion of the great omentum and a piece of the transverse colon had been cut away in the mass. In the posterior wall of the vagina there was an opening about five centimetres in diameter. Gunz relates the following: A woman had a tumor occupying one wall of the vagina and presenting at the vulva. A surgeon, mistaking it for an abscess, pierced a bistoury into it, intestines protruded, and the patient died of gangrene.

The most frequent cause for the varieties of hernia which we are considering to exist is parturition. Under the influence of uterogestation all the pelvic tissues are greatly hypertrophied and relaxed, and, under the violent efforts of child-expulsion, the relaxed parts are strained by pressure from the intestines which are forced down upon them. Nevertheless, it must be borne in mind that some of the most striking cases of the accident which have been placed on record have occurred in nulliparous women. These are usually due to violent efforts, falls, and the previous existence of pelvic tumors which have burst or been removed.

Vaginal hernia, so long as it remains in the pelvic cavity and does not interfere with parturition, is usually a matter of little moment and the source of little inconvenience. As Klebs * points out, it is not prone to undergo strangulation, for the reason that, the peritoneal protrusion having no neck, constriction does not often occur. Under certain malign influences, however, occurring during parturition, as well as in the non-parturient state, such as pressure from the fœtal head, inflammatory processes, fæcal impaction, torsion of the contents of the sac, or the existence of a neoplasm, strangulation may occur.

The symptoms which are apt to develop are difficulty in locomotion, pelvic tenesmus, or "bearing down," colicky pains, dragging sensations, tendency to constipation, and, in time, vomiting. Should the accident complicate parturition, obstructed labor is apt to result.

Upon vaginal examination, a tumor of greater or less size is found in the vagina, and is diagnosticated by the following physical signs: It is supple, soft, and yielding; decreases upon pressure; gives a sense of gurgling to the finger if not to the ear; increases upon the patient's coughing or straining; yields resonance upon percussion, and is very generally reducible if the patient be placed in the knee-chest position and efficient taxis be practiced.

Vaginal enterocele may be confounded with the following conditions by a careless and rapid diagnostician: Prolapse of vagina, uterus, bladder, or rectum, or a combination of these displacements; with vaginal cyst, parovarian, or ovarian cyst; with a fibrous tumor presenting low down in the pelvis; with a "cold abscess" of the pelvis; or with a marked case of tubal dropsy.

It will be seen, by a review of the rational and physical signs already given, that the behavior of a true enterocele of the vagina under pressure differs very much from that which would characterize the pathological conditions just mentioned.

Why, then, it may be asked, is such caution inculcated with reference to the possibility of erroneous diagnosis?

Because error creeps in from the practitioner's being too confident, too much off his guard, and too little inclined to consider the possibility of a mistake. If he approach these cases calmly, philosophically, and in a proper spirit of diagnostic investigation, it is very improbable that an erroneous diagnosis will occur. Most cases present striking features.

Sir Astley Cooper's † description of a case seen by him is so graphic that I can not refrain from quoting it at length. The patient was "a young woman, aged twenty years, who had never had children, and whose case, I was informed by Mr. Stocker, apothecary of Guy's Hospital, was worth examination on account of a tumor projecting

* The second volume of the Atlas to which appeared in 1840.

* "Path. Anat.," p. 970. † *Op. cit.*

into the vagina. She was ordered to place herself in the recumbent posture with the shoulders a little elevated, and, an examination being made *per vaginam*, I felt a swelling a little above the os externum vaginæ, the size of which was that of a small billiard-ball. It was situated at the posterior part of the vagina, but rather to the left side; it was elastic and not at all painful to the touch. When I compressed it, it readily passed away, but, upon directing her to cough, it was reproduced. When I ordered her to place herself on her knees the swelling became very tense, and much larger than before, and, when she coughed, it dilated as any other hernia, but more forcibly.

"Having placed her again in the recumbent posture, I pressed the swelling entirely away by keeping the fingers about half a minute on the posterior part of the vagina, and then carrying the fingers higher up in the vagina, above the seat of the tumor, near to the os uteri, and, having pushed the vagina toward the rectum, I directed her to cough, and the tumor was not reproduced. Still pressing at the same part, I desired her to rise, and, so long as the pressure was sustained, the hernia did not return, but almost immediately, as the fingers were removed, the hernia became as large as before."

No description could be more graphic than this as applied to hernia occurring posterior to the broad ligament.

It must be borne in mind that, like hernia occurring elsewhere, those forms which we are now considering may show themselves in two ways: first, by a brusque and sudden development marked by alarming and decided symptoms; and, secondly, by a development so gradual and uneventful as to symptoms as to escape recognition entirely until the mere mechanical results of the hernial tumor force themselves upon the attention of patient or physician. At the end of this paper I shall relate a very striking and remarkable instance of the latter form of development. An equally striking illustration of the former is given by Dr. Young, in the article already referred to, in which all the symptoms of incarceration of the intestines rapidly and unmistakably showed themselves to be entirely relieved by successful taxis.

In certain very rare cases acute vaginal hernia occurs as a consequence of some traumatic influence destroying the continuity of this canal in its upper part. A striking instance of this, which occurred in the service of M. Anger, is reported by M. Pennel, in "La France medicale" for November, 1881. The patient, three months pregnant, endeavored to bring on abortion by the use of vaginal injections. One of these was immediately followed by violent colic, and in a few days after by abundant hemorrhage which continued for several days. At that time a loop of intestines escaped from the vulva, which could readily be returned to the abdomen, but would at once prolapse. On the day after this occurrence the cæcum made its appearance, as evidenced by the presence of the vermiform appendix. In time this proved to be irreducible, and gangrene occurred, followed by escape of fecal matter. During the progress of this condition abortion took place and a fœtus was expelled. In time the vaginal opening of the intestine closed entirely, fæcal matters passed normally, and the patient made not only a complete, but a rapid recovery.

Some years ago I called a consultation of two physicians in a case of interstitial pregnancy to decide the question of laparotomy. One of these gentlemen, anxious for an extremely thorough and conscientious diagnosis, refused to express an opinion until he had had the privilege of passing his entire hand into the vagina. I acceded to his wish, anæsthetized the patient, and his desire was fulfilled. As he withdrew his hand, however, a loop of intestine escaped from the vulva through a laceration which he had made in the upper part of the vaginal canal. I at once put the patient in Sims's position, introduced a speculum, and sewed up the rent. The patient recovered after having narrowly escaped death from acute peritonitis, and my colleague the annoyance of a suit for malpractice.

I once saw a similar hernia follow an attempt to replace a retroflexed uterus by a sponge probang in the hands of a most able and cautious gynæcologist. As the retroflexed fundus was pressed upon, the sponge suddenly burst through the vagina into the peritoneal cavity, and, being withdrawn, came forth entangled in a loop of small intestine. The examiner at once sewed up the opening with silver wire, and the patient recovered without a bad symptom.

It is not so much in the acute as in the gradually developing, creeping, insidious cases that the danger of erroneous diagnosis lies in ambush for the unwary and impulsive surgeon.

Pudendal Enterocele, or Pudendal Hernia, demonstrates its existence by the presence of an elastic tumor, about as large as a small hen's egg, or a pigeon's egg, about the middle of the labium majus of one side.

It may originate in two ways. As Paul Broca * has fully pointed out, the round ligaments of the female, which are the analogues of the spermatic cord of the male, after passing down through the inguinal canals, lose themselves in two glove-finger prolongations of fibrous character, which run down through the labia majora. Following the course of these ligaments through the abdominal rings and the inguinal canal the intestines sometimes descend, as they do along the spermatic cord in getting to the scrotum, and reach their ultimate point of descent in these dartoid sacs. Again, they sometimes reach the pudendum by passing downward between the vagina and the ramus of the ischium, thus reaching the labium majus from within the pelvis. In its commencement the latter variety resembles exactly vaginal hernia; but, instead of inverting the vagina before it as that does, it separates the vaginal wall from the ischium and insinuates itself between these parts.

Some of the French writers † divide hernia of the labia majora, or pudendal enterocele, into two varieties: first, "anterior labial hernia," or that which penetrates from the inguinal form; and, second, "posterior labial hernia, or labio-vaginal hernia," or hernia forming by extension of the peritoneum down in front of the round ligament and along side the vagina to the vulva.

* [illegible] † [illegible]

From inguinal hernia ending by descent into the labium majus the internal variety may be thus distinguished: (1) the finger, pushing the tumor upward, will pass into the pelvic cavity between the ischium and vagina; (2) at the level of the os uteri, or thereabout, it will enter the pelvic roof; and, (3) pressure being maintained on the inguinal canal, and the patient being ordered to cough, it will, in spite of the pressure, recur.

In diagnosis the following conditions of the labia majora may be confounded with pudendal hernia:

Cyst or abscess of the vulvo-vaginal gland;

Cyst of the labium minus, or majus;

Abscess of the labium majus;

Fatty or fibrous tumor of the labium;

Tumors descending from the pelvic cavity.

Dr. Galabin reports, in the "Transactions of the Obstetrical Society of London" for 1884, what he believed to be a hydrocele, an egg-shaped cyst, two inches and a half long, translucent, occupying the labium majus. It had existed three years in a patient aged fourteen, been tapped once, and a straw-colored fluid removed. Dr. Galabin divided the skin on a director, and found a cyst free except at the anterior end toward the inguinal ring, where a firm cord was divided. The patient recovered.

Saenger (in "Arch. für Gynäkol.," vol. xvi) reports two cases in which the contents of labial herniæ were found to be tumors of the broad ligaments. In one case, reported by Hecker, the woman, aged forty, had noticed since childhood a tumor situated in the right labium majus. This mass, formerly easily returned into the abdomen, was at the time of operation irreducible. An incision was made over the tumor, which was found to be a myoma of the ligamentum rotundum; weight, three hundred and thirty grammes.

Paletta reports a case which was similar, a fibro-myoma of the round ligament being found as the contents of a labial hernia.

The differentiation of pudendal hernia from these conditions of the labia should be very carefully considered, for, if an erroneous diagnosis be made here, a fatal result might very probably prove the consequence.

The diagnostic signs which prove most reliable, and which may almost be styled pathognomonic, are these: First, airy feeling upon palpation; second, gurgling upon replacement; third, diminished tension in the dorsal decubitus; fourth, diminution of bulk upon taxis; fifth, resonance upon percussion; sixth, succussion upon coughing; and, seventh, intestinal pains of a colicky character.

As I have already said in reference to vaginal enterocele, there are no very great difficulties attending the differentiation of the disease. The danger is that the possibility of hernia at this point may be forgotten, and deductions drawn without considering it. Although the probability of error is not great, the appalling nature of the accident in which it would result warrants the relation of the following case, which is illustrative of the possibility. A patient called [illegible] She had had an [illegible] the external abdominal ring, which, after [illegible] had been [illegible] by her physician about a month before the time of her visit to me. After this she had felt well until a week before, when, after a muscular effort, the pain had returned with all the original signs of abscess, and these had continued, although she had painted the part steadily with tincture of iodine, as she had been directed to do in case of such an occurrence. Being in great haste at the moment, I examined the enlargement while the patient was standing, and, under a recent cicatrix which was painted with iodine, I discovered what I supposed to be a reaccumulation of pus. As the patient came to me, in the absence of her physician, merely for the evacuation of this, I placed her in the recumbent posture, and, lancet in hand, proceeded to operate. But, to my surprise, I discovered that change of posture diminished the size of the enlargement. This excited my suspicions, and, upon further examination, I found that a recent hernia had occurred under the old cicatrix.

Perineal hernia may affect both male and female. In the latter it consists of the descent of the intestines between the vagina and rectum, the advance being made posterior to the broad ligament, and continuing until the perineal muscles are forced apart, and the gut, with its peritoneal envelope, is arrested by the skin. In these cases Sir Astley Cooper declares that the hernial sac "protrudes as far as the skin of the perinæum, but does not project it so as to form an external tumor; its existence in the male can be only ascertained during life by an examination by the rectum; but in the female it may be felt both by the rectum and by the vagina. The sac lies between these two canals."

All these varieties of hernia are usually readily amenable to taxis, and this I have invariably in my experience found greatly facilitated by the knee-chest, or genu-pectoral, position. In some rare cases strangulation occurs. Under these circumstances the same surgical practice is indicated as in inguinal or crural hernia—namely, cautious opening of the sac and section of the constricting band by passing up a probe-pointed bistoury.

Before closing this paper, I desire to put upon record a remarkable case of extreme vaginal hernia, which presents some features which I have never met with in such literature of the subject as has fallen under my observation:

Mrs. K., a multipara of small figure and spare habit, thirty-nine years of age, residing in Middletown, Conn., called upon me in my office, and gave me the following history: About six years ago she noticed that a lump presented itself at the vulva, and that she began to suffer from difficulty in locomotion, frequent micturition, painful defæcation, dragging in the back and loins, colicky pains in the bowels, and general nervousness and malaise. During the past six years this tumor had steadily increased in size, until it had come down to the middle of the thigh on the right side. At the time I saw her she was greatly emaciated, and suffered so much from the symptoms which have been enumerated that she felt that any resource which held out the prospect of even partial relief would be a boon to her. While the tumor hung out of the pelvis, she could neither stand, walk, nor sit with any comfort, and when by taxis it was restored to the pelvis, she found it so very difficult and painful to empty the bladder and rectum that she was compelled voluntarily to force it out again.

Upon physical examination, as the patient lay upon the back, I discovered a large pinkish-colored tumor hanging from the vulva, as represented in Fig. 1, and presenting all the gross

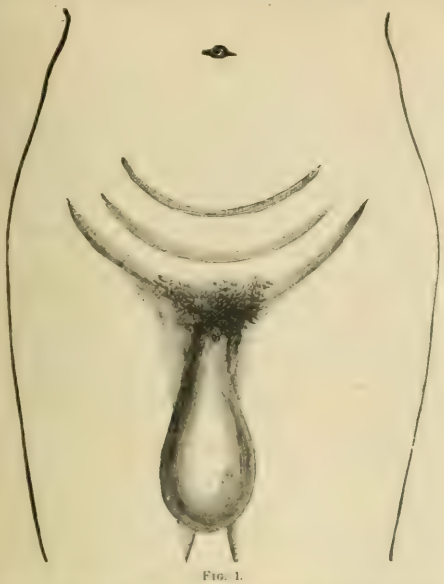


FIG. 1.

appearances of a huge cystocele. As soon as a minute examination was made it at once became evident that this superficial impression was entirely erroneous. The index-finger being passed around the tumor and up the vagina, the tumor was found to be attached to the ischium on the right side of the vulva, so that there was no vaginal space there at all, while on the left side it passed up readily and discovered the uterus almost out of reach in the left side of the pelvis. A catheter being passed into the bladder, that viscus was found high up above the pubes and obliquely in front of the uterus.

Taxis being practiced in the knee-chest position, the tumor disappeared with a very slight gurgle, its contents evidently retreating into the pelvis through an opening on the right side. Only once in manipulating the mass did a slight gurgling sound make itself manifest; resonance upon percussion did not appear distinctly, and yet there could be no doubt that hernia did exist. After the contents of the sac were returned to the abdomen it was evident that their retention there, or even the retention of the sac itself within the pelvis, would prove impossible by any mechanical contrivance which could be devised, for two reasons—first, the great weight of the mass; and, second, the fact that pressure of it against the bladder and rectum when it was returned to the body interfered so greatly with the functions of these viscera as to render the patient utterly uncomfortable.

And yet the deplorable condition of the patient and her great mental and bodily distress urgently called for active interference. She had consulted many medical men, had been discouraged from seeking surgical relief, while all lesser methods had failed to give her aid, and now both she and her husband were desperate, and willing to adopt any plan which held out the least hope for them.

It was under these circumstances that I suggested the following operation. I proposed to perform laparotomy, have an assistant to keep the hernial sac well within the pelvis by one hand in the vagina; pull all the contents out of the sac; seize this at its most dependent portion (A, Fig. 2), drag it up into



FIG. 2.

the abdominal wound (Fig. 3), and fasten it there by suture, sustaining the heavy sac, meanwhile, by two knitting-needles passed through and lying flat across the abdomen (Fig. 4).

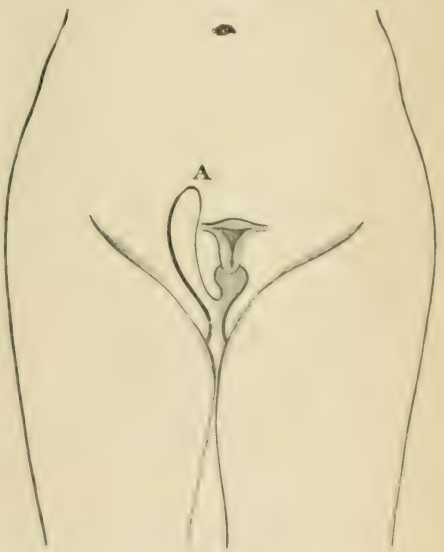


FIG. 3.

As soon as this was explained to them they eagerly accepted the proposal, and the patient entered my service in the Women's Hospital. There Dr. Lozier and Dr. Emerson saw her with me, agreed in the diagnosis, and indorsed the operation proposed.

Upon cutting through the abdominal wall, after an assistant had, as I have stated he was to do, pushed the hernial mass

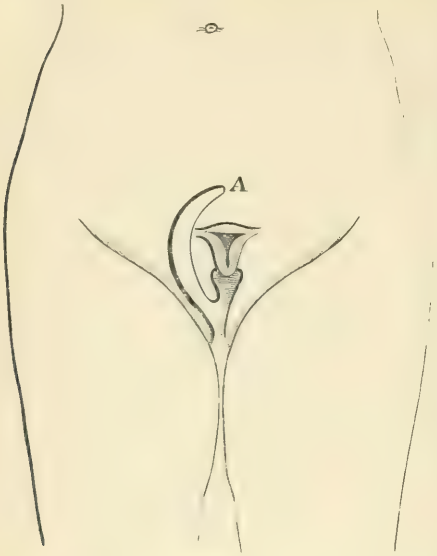


Fig. 4.

back into the pelvis, I was surprised to find in the pelvis a soft, fibrous tumor, which had evidently been pushed up from below, on a level with the symphysis pubis. It was very movable, covered by peritonæum, disconnected with the uterus, and, upon careful examination, proved to have no connection with the bladder. I was entirely at a loss to determine its relations, but, in view of the desperate character of the case, decided at once to remove it. This I did by splitting the peritoneal covering, tying a number of bleeding vessels, draining the sac with a glass tube, and fastening the sac into the abdominal wound, as I have said that I proposed to do. The patient made a good recovery, and so far, more than a month having now passed since the operation, has continued to be free from any return of the hernia. I confess that I feel apprehensive about the future, but the present is quite gratifying and completely satisfactory.

My explanation of the case is this: This very movable tumor, which appeared to have no fixed anchorage in the pelvis, had originally pushed the vagina before it by entering the pelvic cavity behind the broad ligament of the right side; the intestines had pressed down upon this, and together they had made up the contents of the sac.

And now the question suggests itself, What was the nature of this tumor? Dr. Coe, the pathologist of the Woman's Hospital, has furnished me the following report of his examination of it:

Report on specimens removed by Dr. Thomas at the Woman's Hospital, December 12, 1881.

Gross Appearances.—A soft, fibrous mass of tissue, which [illegible] to an hypertrophied bladder.

[illegible]

[illegible]

Average Weight, 1 5 [illegible]

"The growth is covered in some places by a layer of peritonæum, and over its exterior are numerous torn pieces of tissue, marking the sites of adhesions. The vascular supply of the exterior of the mass is quite extensive, but its interior is bloodless and poor in vessels.

"On section, no signs of cyst-formation can be found; nothing but a softened, œdematous, fibrous tissue. This tissue is easily separated by the fingers so as to form pseudo-cavities, but no true, preformed cavity is present anywhere.

"The tissue varies in color at different points. On holding the mass up to the light, it is seen to be traversed by bundles, or trabeculæ, of reddish fibers (smooth muscle?), which offer a contrast to the general whitish ground of the tumor.

"*Microscopically*, (1) The growth consists of ordinary fibro-muscular tissue, similar to that of a uterine myo-fibroma. Vessels are few in number.

"(2) The fluid squeezed from the interstices of the tissue is colorless, and contains no cellular elements, except a few blood-corpuscles (lymph?).

"(3) The tissue, covering the exterior of the growth, is a delicate membrane, strengthened by interlacing fibers of connective tissue, in the meshes of which are numerous large, epithelioid cells. Nerve-fibers and blood-vessels cross the field in all directions.

"*Inferences.*—(1) This is not an organ, *i. e.*, the bladder.

"(2) It is not an ovarian cyst.

"(3) It is not composed (at least to any great extent) of inflammatory tissue.

"What is it? I submit two theories, both of which are merely theories—viz.:

"(1) The growth is a local hypertrophy of the pelvic connective tissue.

"(2) It is a sub-peritoneal uterine fibroid, which has become thoroughly œdematous.

"I incline to the former view for the following reasons:

"1. The situation of the mass at the time of operation, as described to me.

"2. The absence of a distinct pedicle.

"3. The absence of a complete peritoneal covering.

"4. The absence of any 'géodes,' or cavities, in the mass, such as are almost invariably found in a softened fibroid.

"Finally, the *tout ensemble* of the tumor, which forbids the thought that it has ever been a firm, hard growth, such as a fibroid.

"*Origin of the Growth.*—The presence of adhesions, in which the mass was buried, the dilated condition of the blood-vessels in those adhesions, and the general œdema of the tissue, all point to some obstruction of the circulation in the tumor. It is not difficult to regard this phenomenal appearance as due to simply a localized œdema of the pelvic connective tissue."

(Signed) H. C. Coe.

That this tumor had no connection whatever with the uterus or bladder I feel quite sure. My impression is that it belongs, as Dr. Coe's report intimates, to a somewhat rare class of tumor, arising from the pelvic areolar tissue or the round ligaments, of which quite a number have been recently reported by German pathologists.

Dr. McCosh has kindly looked up the subject for me, and I present some of his researches.

A. Martin, in his recent work upon the "Diseases of Women," says: "In the broad ligaments are to be found, also, solid tumors which are described as myoma or fibro-myoma. They are not connected with the uterus, but spread out between the epithelial layers of the ligamentum latum,

and can from that point develop as large abdominal tumors, or may grow downward toward the vagina, and, finally, at the side of the vagina, bulge out as far as the vulva, where they present themselves for operation. In rare cases they have pushed through the great ischiadic foramen."

The same author also reports the case of a woman who complained of great weight and vaginal pressure. On examination, he found a prolapsus of the anterior vaginal wall, and also of the posterior, Douglas's pouch being filled with a soft mass which seemed to arise on one side of the uterus. He performed laparotomy, and found the mass to consist of an œdematous fibro-myoma of the broad ligament.

Schmidt reports a case of a solid tumor attached by a pedicle to the broad ligament, which caused marked prolapse of the anterior vaginal wall.

Schröder acknowledges the existence "of connective-tissue tumors, of very soft consistence, which are saturated with fluid, and which arise in the pelvic connective tissue, and in this situation (subserous) continue to develop.

"Their anatomical relations correspond to subserous ovarian cysts," etc.

M. Hofmeier ("Gesellsch. f. Geb. und Gyn.," Berlin, October 24, 1885) reports a tumor, of the size of the fist, situated between the anterior vaginal wall and the urethra, causing a decided prolapse, and projecting above the level of the vaginal wall to the size of an egg, the spot being somewhat ulcerated. After division of the capsule, it was easily enucleated. Its attachment was deep in the connective tissue of the pelvis; and it belonged to the rare class of soft fibroid tumors of pelvic connective tissue.

It is highly probable that the tumor which I removed belonged to one of these curious and rare classes.

Unfortunately, little can be said concerning the treatment of vaginal and vulvar herniæ, for the reason that there is but one variety, the pudendal, which eventuates from inguinal hernia, for which very much can be done. That variety is as amenable to treatment by the ordinary truss as inguinal hernia is. The other varieties can, to a limited degree, be relieved by pessaries, perineal pads, abdominal bandages, etc.; but we are poor in methods of decided relief, and utterly wanting in those of cure. It appears to me that the plan suggested, and partially carried out in the case which I have related, promises more than any other which has yet been brought forward; but of the validity of this surmise time and experience must give the proof. Certain I am that, if another case of large vaginal hernia presented itself, I should feel inclined to try laparotomy, dragging up the sac and fastening it in the abdominal wound.

B. Schmid says ("Handbuch f. Chir.," Billroth und Pitha) that attempts were made by Huguier at radical cure of vaginal hernia by an oval excision of part of the posterior vaginal wall and closure by suture, but without any lasting result. He must, indeed, be a sanguine surgeon who hopes for much from such procedures.

Errata.—In the report of Dr. R. J. Hall's remarks on the bacillus of syphilis, published in our issue of December 12th, page 671, for "Susgarten," *passim*, read *Lustgarten*; and, for "giacomi," read *de Giacomi*.

ADHESION OF THE SOFT PALATE TO THE WALL OF THE PHARYNX.*

By CLARENCE C. RICE, M. D.

In reviewing the literature relating to this class of cases, one must conclude that very little has been accomplished for their relief. It would appear that, where this unfortunate condition has existed, as a rule no surgical measures have been attempted. In the records where the line of treatment has been indicated, nothing more than temporary benefit seems either to have been sought or obtained. In the histories of a considerable number of these cases, where there was almost complete occlusion of the middle pharynx, we find the lesion accurately described, but no allusion made to operative procedure. Many of the systematic treatises on surgery refer to partial destruction of the pharynx by ulcerative process, but no mention is made of resulting adhesion of the mucous surfaces. The difficulty of reaching the affected part, dangerous hæmorrhage from an inaccessible quarter, and the strong tendency to recurrence after the adhesions were separated—these were sufficient obstacles to deter the surgeon, and to make the prognosis of successful operation doubtful. Fifty or even thirty years ago—before the days of the rhinoscopic mirror, when little could be seen, the operator working in the dark and mapping out landmarks with his finger—it does not seem strange that surgeons avoided post-nasal operations whenever the demand for interference was not imperative.

Writers of to-day present a prognosis hardly less gloomy. Verneuil remarks that "nothing is easier than to separate adhesions, and nothing more difficult than to prevent their recurrence." Mackenzie says that "great relief can be afforded to the patient as long as he remains under treatment; but no cure can be predicted, as the stenosis always returns when mechanical measures are suspended." Sémon's opinion is, "that attempts at dilatation are only of service so long as used." Cohen says that "the tendency to reunion is very great; that he has seen a number of these operations performed with very little benefit." And Bosworth: "It must be confessed that at present we possess no means of remedying this frequently distressing condition; all that lies in our power is simply to palliate some of the most prominent symptoms." In view of such opinion, the operator will hardly welcome this class of patients to his office. But such prognosis, I think, may be misleading. The same verdict should not be applied to all cases, since the lesions caused by inflammatory ulceration in the upper and middle pharynx differ so greatly as to location and extent. It is not to be expected that a pharynx in which all semblance of mucous membrane has disappeared, and the muscular tissue been replaced by a fibrous structure, can ever give its owner much happiness. Comfort may be left out of the reckoning; but that such a pharynx may be made available for the passage of air, that the nasal voice may be corrected, and the sense of smell partially restored, is quite possible.

* Read before the American Laryngological Association, June 25, 1885.

In considering the prognosis, these cases should be divided into two classes:

1st. Where the *sole lesion is the adhesion of the soft palate to the walls of the pharynx*, and

2d. *Where, in addition to this, extensive cicatrization has narrowed the normal caliber of the naso-pharynx.* In determining the probable success of surgical treatment it is most important to ascertain to which of these classes the patient belongs. Has the ulcerative process extended above the level of the soft palate? and have the deeper tissues been involved? These are the questions to be decided. My own experience would lead me to believe that in the majority of instances the deformities are occasioned by superficial rather than deep ulceration. Union of the soft palate and pharyngeal wall may be a result of simple erosions, and that, too, when only one surface is involved. Here the cicatricial stricture is, of course, less formidable and more amenable to treatment than where there is deeper destruction.

Belonging to the second class is a case reported by Dr. William Turner,* and referred to in Dr. Cohen's book. It was one of almost complete occlusion between the middle and superior pharynx. An autopsy showed that very extensive changes had taken place. The anterior pillars were normal, but the uvula had disappeared, and the posterior pillars had become absorbed in the union of surfaces. On removal of the pharynx from the vertebral column, the deep muscular structures were found to be almost wholly altered. Subsequent contraction had greatly diminished the diameters of the pharynx. Although about normal at its superior extremity, it gradually became narrower below, until at the level of the hamular process the lateral diameter was not more than half an inch. This point corresponded in location with the junction of palate and pharynx. Below, the tube became enlarged. Dissection demonstrated that the muscular fibers of the superior and the upper portion of the middle constrictor muscles were entirely replaced by connective tissue. The palatal muscles were not changed.

This autopsy teaches the importance of an early diagnosis, that the ulcerations may be controlled before they involve the deep structures and produce lasting deformities. To my mind, the contraction of the pharynx above the line of adhesion is the most discouraging feature in the treatment of these cases. I believe it is much easier to operate adhesions and to prevent their recurrence than to enlarge the cicatrized pharynx. In searching for the cause of nasal dyspnœa and pharyngeal discomfort, too much stress has been placed on the adhesions, which are to be plainly seen in the back of the mouth, and too little on the soft palate above, which can not be so readily observed. It is for this reason that the operator is frequently disappointed in the small improvement in nasal breathing after he has freed the adherent surfaces. The trouble above remains.

The highest grade of contraction occurs in hospital and dispensary practice, where we find those unfortunates who, in addition to an hereditary scrofulous or tuberculous diathesis, have acquired the syphilitic poison. Ulcerations under such conditions are rapid and destructive, and frequently have attacked all the soft parts before the patient comes under medical supervision. Extensive disorganization often takes place behind the soft palate or pharyngeal pillars before physician or patient is aware of anything more serious than an ordinary sore throat, pain not being always a prominent symptom. The physician should be suspicious of any painful affection of the pharynx the cause of which is not apparent and which does not yield readily to treatment; such a case should have the benefit of a rhinoscopical examination at once.

Ulcerations of the pharynx have gained the reputation of being insidious, because they often attack primarily parts which are not easily seen. The angle of the pharynx behind the posterior pillars is a favorable location for the commencement of ulceration, which in this hidden pocket is apt to escape observation. I have seen a number of cases where this was the first point of attack. I remember an interesting example of this kind where the progress of inflammation was easily studied on account of a wide cleft in the palate. The child was suffering from scrofula or congenital syphilis. The mucous membrane showed a constant tendency to degenerate, and the posterior surfaces of the pillars were always the first localities to succumb. Constant friction between the mucous surfaces at this point and the retention of irritating secretion are exciting causes. Superficial ulcerations undoubtedly occur here during attacks of simple pharyngitis which are repaired without adhesion. It is in those cases where the syphilitic or tuberculous dyscrasia are present that we find the evidence of a destructive process.

Erosions or superficial ulcerations may escape detection even when located in plain view. There may be so little change in color, and the depth of the ulceration may be so slight, that loss of tissue is determined more by the fact that the surface bleeds when touched than by its gross appearances.

In addition to adhesion and cicatrization, another pathological change takes place which renders these cases difficult to treat satisfactorily, and this is the formation of new connective tissue. Not only is the normal structure replaced by it, but there is actual hypertrophy, which diminishes the diameters of the pharynx in all directions. This condition compromises the success of operative measures.

The process of inflammation and cicatrization is an interesting one. The soft palate, almost wholly a muscular structure, is so constantly in motion that it would seem impossible for it to become adherent to neighboring structures; but this result follows quite easily and naturally. The pillars of the pharynx, as has been said, are first involved, and later the soft palate is drawn to the posterior wall of the pharynx. This is accomplished in two stages: the first is the retraction of the palatal muscles, which have become shortened by the loss of tissue, consequent upon ulceration, and the second is the union of the pillars to the wall of the pharynx. The palate is thus forcibly drawn backward, little by little, until it rests upon the back of the

* Lond. Med. Journal, January, 1860, p. 612.

mouth. The ulceration extends to it from the sides, and the mischief is done. The unsymmetrical appearance of the palate indicates where the disease began and the course it followed, for all the tissues are drawn toward the point first attacked. The tendency to adhesion is increased whenever the muscular tone and mobility of the palate are diminished. This is true also in perforations of the palate, since the current of air passes through the artificial opening and no longer diverts the uvula from the back of the mouth.

The occlusion between the middle and upper pharynx is frequently nearly complete, only a small communication remaining. Dr. Bosworth says: "A perfect closure never occurs"; and my observation tallies with his. But Dr. William Turner, at the time of writing the article already referred to, stated that he had just had a case reported to him by Dr. W. H. Flower, assistant surgeon of the Middlesex Hospital, where there was complete occlusion.

The ætiology of pharyngeal ulcerations is well known. They rarely occur in the simple varieties of pharyngitis, but are a frequent complication of the eruptive fevers and typhoid, diphtheria, scrofula, syphilis, tuberculosis, lupus, phagedæna, epithelioma, etc., and sometimes result from post-pharyngeal abscess, caries of the vertebræ, and traumatism.

It is unnecessary to enlarge upon this, but it is wise to appreciate these well-known pathological changes, because the prognosis will depend wholly upon their nature and extent.

It is not an uncommon occurrence to find patients, in the throat-wards of hospitals, suffering with pharyngeal adhesions. Usually they obtain little relief and remain as long as they are permitted. I am unable to speak definitely of several cases which I saw in the hospital, as they did not specially interest me at the time. In private practice they are much less frequently seen.

The first case I had the opportunity of studying was at the office of the first president of this society, the memory of whose good works we honor and whose loss we to-day lament. I am confident that the cheerfulness and assurance with which he operated, and the good results he obtained, grounded me in the belief that much could be done for the relief of these unfortunate ones. In the case referred to, Dr. Elsberg used the blunt-pointed staphylorrhaphy knife in separating the soft palate from the pharynx. He made forcible dilatation with his finger, and, to prevent reunion, gave the patient a hard-rubber palate retractor, and instructed him to draw the palate forward many times each day. This procedure was successful in largely benefiting the patient.

The operations performed to separate adhesions have differed but little. Before the day of the galvano-cautery most surgeons seem to have preferred gradual dilatation by means of bougies, sounds, sponge-tents, air bags, etc., and rapid dilatation with the finger, to the use of the knife. The danger of hæmorrhage was deemed a strong argument in favor of non-cutting instruments. It was the general opinion, too, that, if cut surfaces were made, they would again become adherent, with an increased amount of contraction. Rothenberg made an advance step when he recommended that a portion of the cicatricial tissue be excised, and so, after separating the surfaces, he dissected off the rough edges with forceps and scalpel.

Diefenbach passed ligatures through the soft palate, drew it forward as far as possible, and held it away from the pharyngeal wall by fastening the cords around the ears.

Dr. A. P. Cook, of Kentucky, describes, in the Philadelphia "Medical and Surgical Reporter" of March, 1873, an interesting and, at that time, an original plan for keeping the ulcerative surfaces apart. The case was one of syphilitic ulceration. The entire palate was adherent, with the exception of a minute opening, through which only a small probe could be passed. He used specially devised knives, the blades at right angles to the shaft. With the handle of a tablespoon, introduced behind the palate, he measured the extent of separated surfaces; he then hammered out a piece of sheet lead to the required size, and suspended it behind the veil of the palate by two strings which were passed through the nostrils. The patient wore this constantly for six weeks. The writer says: "It did not interfere with deglutition, and successfully prevented readhesion." If such an interposing medium can be worn without too much discomfort, it is certainly more efficacious than pieces of lint, and is more comfortable than forcible traction by means of ligatures.

At times it has been deemed advisable to guard against hæmorrhage by preliminary tracheotomy. Dr. T. Gilbert Smith, of London, arrived at the following conclusions: (1) Tracheotomy; (2) divisions of adhesions with guarded knife; (3) a number of notches are preferable to a long incision; (4) cutting should be done from above downward, that the whole wounded surface may be seen. These instructions are more pertinent to strictures of the lower pharynx. J. William White, in Holmes's "Surgery," recommends that an artificial opening be made through the soft palate in cases where there would be great difficulty in preventing readhesion. The main object, he says, in such operation is to restore the sense of smell. It is also suggested that, after severing attachments, longitudinal incisions through the palate be made, to counteract muscular contraction and to prevent the palate, as a whole, from being brought against the pharynx. But the condition established by operations of this kind is hardly preferable to a closed naso-pharynx.

An article by von Lesser,* of Leipsic, having the attractive title "A New Procedure for the Separation of the Soft Palate from the Wall of the Pharynx," describes the following operation:

"Patient was syphilitic; surfaces were adherent, except at small opening near uvula. This free portion was split parallel to its surface; the anterior plate was divided into halves by a median longitudinal section; the lateral halves were detached from pharyngeal wall, the freshened surface of the triangular apex of posterior plate was united with the wounded angle of the anterior plate. Finally, each detached half of the anterior plate was duplicated, the medial edge of the wound being turned backward and outward, and

* Berlin. klin. Wochenschr.," No. 23, 1879.

fixed by sutures in this position. The mucous membrane of the lateral portions of velum thus faced the wounded surface of the pharynx. Reunion was in this way prevented."

In closing, I will briefly report the history of a patient I saw at my office. The plan of treatment followed presents but few original points. In fact, there seems to be little opportunity for new surgical methods here, but I believe that persevering work will do much for these patients, and they will not be condemned as incurables:

Case.—Mrs. J., aged thirty-eight, married in her twenty-second year, mother of five children, consulted me in March, 1883. Her husband was a prosperous business man. She occupied a good social position at her home in a Southern city. She was of healthy parentage, though there had been several deaths from phthisis in her father's family. Patient was of average height, pale, somewhat emaciated, and I was impressed with her careworn expression. She breathed noisily through the mouth; sense of smell gone; voice nasal. She complained of a feeling of great dryness and discomfort at the back of the nose and mouth. She was unable to clear the pharynx of tenacious mucus, which always collected there, and which constantly annoyed her. She swallowed with some difficulty, and liquids frequently passed into her nose. She was extremely nervous, a condition exaggerated by tinnitus of the left ear. Hearing was impaired on both sides. She had a hacking cough, and had lost fifteen pounds in weight.

She gave this history of her malady: Her health was good until the birth of her last child, three years previous. Confinement was followed by pelvic cellulitis. She recovered after serious illness, lasting several months. It was while convalescing that she was attacked with sore throat. She remembered only that swallowing was painful, but there was not much discomfort when her throat was at rest. These symptoms lasted two weeks, and interfered but little with her recovery. Her physician prescribed gargles, and she supposed that her throat was entirely well. It was some weeks later, when she found it difficult to breathe through the nose and there was a feeling of constriction in the back of the mouth, that she suspected something was wrong. She says that neither the physician nor herself was aware of any ulceration, and this is to be credited because there were no cicatrices below the junction of the mucous surfaces. The physician who attended her died two years later, so that I was wholly dependent upon the patient for these facts. In regard to causation, the most careful inquiries of the patient and her husband produced no evidence that it was a syphilitic lesion. I could find absolutely nothing to base such an opinion upon. The character of the people was such that their statements were to be believed.

The type of the ulceration was probably either scrofulous or tuberculous, since the patient was suffering from bronchial catarrh, and there was consolidation at apex of left lung. Her respirations, about thirty per minute, seemed unduly increased, considering the amount of pulmonary trouble, but the frequency was due to the necessity of mouth-breathing and the discomfort of a dry pharynx. The back of the mouth presented a very unsymmetrical appearance: all the soft structures were drawn to the right. The right pillars were bunched in one mass, and on the left the pillars, as well as the uvula, had been drawn half an inch out of position before they had become adherent to the wall of the pharynx. An opening one fourth of an inch in diameter at the right of the uvula was the only communication with the posterior cavity.

The patient was under treatment for two months. The plan adopted was as follows. I dilated the passage with steel sounds until it was large enough to admit the finger (which, after all, is the best dilator). Traction was then made until the opening measured three fourths of an inch across. A small curved sound was passed for the purpose of exploring the lateral attachments. On the right side the point of the sound could be carried downward behind the posterior pillars for a considerable distance. Using the sound as a guide, I burned through to it, with the galvano-cautery knife, at the junction of the mucous surfaces, establishing a second communication. A platinum wire was passed through the opening just made, and drawn out through the original aperture into the mouth. The loop was threaded through an insulated cannula attached to a cautery battery. The adhesions included within the wire were separated by shortening the loop and passing a current through it. The cannula was bent at right angles, point upward, so that the snare was tightened in a direction parallel with the posterior wall of the pharynx.

I repeated the same procedure in dissecting off the uvula; and twice more in detaching the left side of the velum. Here it was necessary to burn through more tissue, as the adhesions extended higher up. Division of the bands near the left Eustachian orifice relieved materially the tinnitus. There was no hæmorrhage. Traction was constantly made with the finger by the patient as well as myself. In addition, she used a hard-rubber palate-hook every few hours. For a time I had the patient wear at night a plate of hard rubber of proper size, one eighth of an inch thick, with rounded edges, suspended by cords through the nostrils. It gave little discomfort, and may have aided in keeping the surfaces apart, though I consider continued traction of the soft palate the most important means of preventing readhesion. There is far less danger of secondary union when the tissues are separated with the galvano cautery loop, as the edges are thus thoroughly cauterized. The patient was able to breathe through the nose comfortably, and the sense of smell was restored to a large extent.

I treated a case last winter very much like the one here reported.

A man, thirty-five years of age, in good health. The soft palate was adherent to the wall of the pharynx along the greater part of its border, the result of syphilitic ulceration. The tissues were separated in the same manner by the galvano-cautery loop, and reunion was prevented by the same method used in the former case. But here I had the benefit of the use of cocaine, which is of immense advantage, not only in the relief of pain, but in a much more important particular—the control of muscular action. By a free use of cocaine the soft palate can be made nearly immovable, so that, after being freed from the pharyngeal wall, it hangs directly downward, and does not continually invite reunion by being in contact with the neighboring mucous surfaces. A third advantage is that it diminishes the inflammatory reaction necessary to repair.

DISCUSSION.

Dr. Mackenzie: I question strongly the diagnosis of tubercular or scrofulous ulceration in the class of cases reported by Dr. Rice. The localization of tubercular ulceration in the naso-pharynx, especially when associated with cicatrices, if it exist, must be the rarest of pathological events. I regard the large majority of these cases as syphilitic, although the same result may be brought about through the ulceration which follows diphtheria, the essential fevers, and other forms of blood poisoning. The social standing counts for nothing in the diagnosis.

I would like to say, in reply to Dr. Ingals, that, while it would be a great pity to call all destructive ulceration in the naso-

pharynx syphilitic, it would be a still greater pity, in uncertain cases, not to give the patient the benefit of the doubt. I should like to call special attention to the peculiar tendency of syphilitic lesions to isolation in some portion of the upper respiratory tract, and this long after the disease has apparently run its course; or, in another class of cases, where there has been no previous history of syphilis. In such cases a tertiary ulcer in the nose, on the palate or in the larynx, or even trachea, may be the first thing to call attention to the existence of syphilis.

This tendency of the syphilitic virus to crop out in some portion of the upper air-passages, without pre-existing syphilitic lesions in other parts of the body, or long after the original disease has apparently spent its force, is a point of considerable interest. In this connection, too, I may cite the case reported by me in the "Wiener medicinische Jahrbücher" in 1881, in which the trachea was the seat of isolated syphilitic lesions; and another reported last year in Baltimore, where, on autopsy, the only evidences of syphilis were unmistakable signs of that disease in the nasal passages.

Dr. ROBERTSON: This high-arched condition of the palate and its frequent occurrence in syphilis have been explained as being due to the loss of permanent teeth. From this, contraction of the jaw results and arching follows. The same would occur in congenital syphilis from the frequency with which the teeth are lost.

Dr. DE BLOIS: I think Dr. Mackenzie's remarks are too sweeping, for, in my limited experience, I have had three cases of ulceration under the velum and in the position to produce adhesions. I know these cases were tuberculous, for the patients died of tuberculosis, and post-mortem examinations were made. Adhesions had not taken place, but there is no reason why they should not have.

Dr. DELAVAN: The subject of Dr. Rice's interesting paper was presented to this association several years ago in an elaborate article by Dr. A. H. Smith. In this Dr. Smith referred to a case of syphilitic adhesion which I reported to him, in which I had operated successfully by separating the attachments of the velum with the pharynx and immediately applying to the incised surfaces pure mono chloracetic acid. Healing took place without adhesion, and the result was remarkably good.

Dr. INGALS: I believe that most of the cases are syphilitic, as has been claimed, but it is too bad to call all patients syphilitic in whom we do not know what is the matter. I have recently seen a case in which the mode of operation was easy and satisfactory, at least for the time being. The patient had adhesions both of the palate and tongue to the pharynx. The opening below was so small as to greatly interfere with swallowing and breathing, being not more than three eighths of an inch in length by an eighth of an inch in breadth. He attempted to divide the adhesions, which were very extensive, by cutting through them with the galvano-cautery knife; but the proceeding was very slow, and, after a couple of applications, the patient was allowed to sit aside while other patients were being seen. He soon sent word that he was choking. I then found that there had already been swelling as the result of the cauterization, which was so great as to make it unsafe either to leave the patient in his present condition or to repeat the operation. I then pulled out the adhesions with a knife bent at a right angle, cutting about an half on one side and nearly as far on the other, with the result of making an opening through which the largest sized bougie more than half an inch in diameter could be passed. The adhesions since had been easily divided by means of such instruments such as are used by gynæcologists. The patient left the city for his home within a couple of weeks, so that the ultimate result was unknown.

Dr. RICE: I am always pleased to be able to report cases of the absence of syphilis in a case, because I believe that many physicians are overfond of finding this disease, and that it is already burdened with lesions frequently due to some other malady. It is the duty of every physician to place the blame where it belongs. The majority of the cases of adhesive inflammation are syphilitic. My first case, so far as could be ascertained, was not. A pelvic cellulitis, following a severe confinement, was the exciting cause. The predisposing causes were a moderately bad family history, a severe grade of catarrhal inflammation of the upper air-passages, and the first stage of phthisis of one lung. I believe such a combination of pathological conditions sufficient to occasionally cause a post-nasal or pharyngeal catarrh to assume an ulcerative and adhesive form—the so-called scrofulous inflammation. The use of the galvano-cautery knife, as described by Dr. Ingals, is very tedious, so little tissue can be separated at one time, and readhesion rapidly takes place. The use of the platinum loop, as described in this paper, is very satisfactory. There is but slight inflammatory reaction.

THE DIAGNOSIS OF INJURIES TO THE SACRO-ILIAC ARTICULATION.*

BY E. A. LEWIS, M.D.,

BROOKLYN

THE object of this paper is to call attention to a class of injuries which I believe to be not uncommon, and which I also believe are apt to be overlooked —*i. e.*, considered as contusions. I hope also to give a few symptoms which are diagnostic.

Let me call attention briefly to the anatomy of this articulation.

The ligaments which hold the sacrum and ilium together are simply anterior and posterior sacro-iliac. The anterior, thin ligamentous bands stretching from one bone to another; the posterior, thicker and more numerous fibers, making a strong ligament.

These ligaments proper are supplemented by the greater and lesser sacro-sciatic, and by the lumbo-sacral and ilio-lumbar from the transverse process of the last lumbar vertebra. Thus the articulation, as you here see it, seems to be, and is, a very strong one. Nevertheless, when force is applied to it in certain directions, it may not require a very great amount of violence to cause a separation, or partial separation, of the bones. I do not mean a displacement causing deformity, for this would require very great violence, owing to the way the sacrum is wedged in at the base of the spine; but I do mean an interference with the integrity of the articulation, giving rise to certain symptoms which differ from those of simple contusion, or may be associated with them. Two cases have come under my observation within the last two or three years which illustrate the particular points to which I wish to call attention.

On October 21, 1882, Thomas D., aged thirty-six, a strong man in perfect health, was filling a milk-route. The animal was restive, and, in pursuing, threw the robe and some heavy firewood, so that he struck against the sharp shoulder of the horse, and they acted in a similar manner to the robe. Mr. D. was injured, and immediately discovered, but found he could

* Read before the Medical Society of the County of Kings, November 17, 1885.

not stand. He was removed to his home in an ambulance. Examination showed no contusion whatever. There was no interference with any function of life. The urine and fæces passed naturally. There was no paralysis of any kind. Pressure over the crest of the left ilium caused pain at the corresponding sacro-iliac articulation. There was no external evidence of displacement. The patient could lie only on his back; in this position he was perfectly comfortable. The slightest movement toward either side, by which lateral pressure was made on the pelvis, caused intolerable pain. During the third week he began to be able to turn slightly on to the right side, but for two months could not lie on the left side at all. At the expiration of one month he began to get about on crutches. For over three months he used a cane. For nearly a year he had to drag his left leg up-stairs, going up with the right leg first. At the present writing he prefers to carry a cane when walking any distance. He can not stand unsupported on his left leg. He still walks with a slight halt in his gait, caused by using the right hip joint as a pivot on which to swing the pelvis, not advancing the left leg and thigh naturally. This defect in locomotion was very apparent at first, but improved gradually. This injury seems to be permanent, and to disable the patient from any active occupation.

The second case was complicated by other serious injuries which need not occupy our time. This patient, Mr. L., was also a robust, middle-aged man, in perfect health. On April 20th of this year he was injured by a very heavy gate, under which he was rolled some distance. So far as his pelvic injury was concerned, he exhibited similar symptoms to the preceding case, *i. e.*, he could lie at ease on his back, but any attempt to turn on either side caused great pain. There appeared to be no deformity at the right sacro-iliac articulation, but pressure on the right side of the pelvis caused great pain at that point. There was no disturbance of the pelvic organs or paralysis of any kind. He laid in bed nearly a month without being able to turn on either side; then gradually could get over to the left.

At the end of two months he could lie for a very short time on his right side. He, too, began to be able to get about on crutches before he could lie at ease on either side. He walked with the same swing in his gait, depending on his left lower extremity principally for support, and using his left hip as a pivot to swing the pelvis. He experienced the same trouble in going up-stairs, being obliged to advance the left leg first and draw the right after. At the present time he is well, with the exception of the slight swing in his gait. This is improving. He can not, however, stand alone on his right leg for any length of time. He promises to make a better recovery than the first case [illegible]

The points in diagnosis which I wish to call attention to are:

1. The history of the injury. Any force which rotates the pelvis under severe pressure, or any force which acts as a wedge between the sacrum and the innominate bone, is liable to injure the sacro-iliac articulation, although it does not cause complete separation or deformity.

2. The symptoms are usually associated with those of contusion of the hip, but differ in this, that the patient can not rest on the back for a long period of time, the slightest lateral pressure on the pelvis being unbearable.

3. The patient is able to be moved in the most painful position [illegible] long time before being able to lie on either side.

4. Many months elapse before the patient can walk with ease, and frequently the injury is permanent to the extent of rendering him unable to do any active work.

5. A peculiar affection in walking, the uninjured side being used as a pivot on which to swing the pelvis, and thus save strain on the affected articulation.

I believe there is many a man going about to-day with some difficulty who has suffered from this injury, which has been considered and called "contusion of the hip," or, perhaps, simple "injury to the hip," without further specification as to its character.

This class of injuries is apt to have a permanent defect in walking.

The articulation is never so strong as before the accident.

The points in differential diagnosis may be arranged as follows:

Contusion.	*Injury to Sacro-iliac Articulation.*
The cause is a direct blow or fall.	The cause acts as a wedge between the sacrum and os innominatum, or rotates the pelvis under severe pressure.
The thigh of the affected side will not endure passive motion.	The thigh of the affected side may be freely moved without causing pain.
Patient can turn or be turned on the side after a short time without causing much pain.	Patient can not turn or be turned on either side for a long time, and can even walk about some before being able to endure any lateral pressure on the pelvis.
Patient suffers pain in the soft parts surrounding the hip joint.	Patient suffers no pain when lying quietly on the back, unless the injury is accompanied by contusions.
Patient recovers completely in a few days, or, at most, weeks.	Patient does not recover for months, and frequently the injury is permanent.
There is apt to be ecchymosis and tenderness on pressure over the soft parts.	There is no ecchymosis, and pain on pressure is only felt when the force is applied to the bony pelvis, and then at the seat of injury—*i. e.*, the articulation.

The explanation of the symptoms of pain on lateral pressure, and the ability to stand erect and walk some before being able to lie on the side, is not difficult. A glance at the pelvis in its natural position will show. It is naturally inclined at an angle of 60° to 65°, and pressure from above downward or from below upward is made against the bony pelvic rings, and inclines to press the articular surfaces together and not to call on the ligaments at all; while lateral pressure inclines to put the ligaments on the stretch and separate the joint surfaces.

Such surgical works as I have had access to have not mentioned injuries of the character I have spoken of at all, or have passed them over with a very few words. The more serious injuries, involving fracture of the pelvis with great violence and much deformity, are the only lesions

mentioned at or in the neighborhood of this sacro-iliac articulation. The opportunity to study more cases, such as I have detailed, will, doubtless, develop more symptoms which are characteristic of this peculiar form of injury. I have seen several cases in which I suspected this injury, but the two mentioned seemed to show the prominent symptoms detailed so clearly that I thought them worth putting on record. No change was noted in the length of the lower extremities, nor was any to be expected, as the femora and hip joints were not injured.

CEREBRAL ABSCESS FROM A CRANIAL FRACTURE.*

By D. MORRIS WOOLLEY, M. D.,
BROOKLYN

On July 30th, about 7 P.M., I was called to attend a boy, fourteen years of age, who had fallen from the roof a two-story-and-basement house. He was then in convulsions. There was considerable tumefaction over the right eye and supra-orbital portion of the frontal bone. There was no laceration of the tissues, and, from the great œdema present, it was impossible to make out any fracture. I immediately applied hot water to the feet, and gave rectal injections of whisky.

In the course of two hours I succeeded in equalizing the circulation and controlling the convulsions. The boy was finally restored to consciousness.

At this time the family physician, who is a homœopathist, came in, and I, of course, surrendered the case to him. But, had it been my case, from what I know of antiseptic surgery, I should not have hesitated in making an exploratory incision in the scalp. However, the boy was treated by this homœopathic physician for about ten days, when the family, becoming dissatisfied, again sent for me. During these ten days, I was informed, the boy had been all the time conscious, with only slight spells of delirium in the evening. It was asserted that he even went to the table and partook of meals with his usual appetite, the principal trouble being considerable pain over the eye, with much more swelling than ever.

I learned that morphine, which had been given him, greatly increased the delirium. The night previous he suffered much from pain. I found a large abscess forming and pointing just above the eye. This was poulticed with flaxseed meal and hot lead-and-opium wash, and I ordered potassii bromid., grs. 10; sodii bromid., grs. 10; chloral hydratis, grs. 5, three times a day. As a substitute for morphine, I gave ext. hyoscyamus in pills of two grains each, all of which seemed to act like a charm, giving good sleep. At this time his temperature was only 100°, and he had a full pulse of about 70. His pupils contracted and freely responded to light.

The next day I found him in bed, reading a story with great interest. This I forbade. Curious to say, this boy was remarkably bright and had an excellent appetite, the only symptoms being at times much pain, which increased if his temperature was about 101° and pulse 95, when I made an incision just above the eye, where the abscess seemed to be pointing. I think fully one quarter of a pint of horrible pus came out. The cavity was washed out with [illegible] solution, a drainage-tube inserted, and the wound dressed antiseptically twice a day. The temperature fell to 99.5° F. A day or so after, another abscess was found on the squamous portion of the temporal bone, where the probe detected a depression of bone and an apparent fracture. It was not until we got rid of the pus and I probed extensively that anything like a depression or fracture could be made out. I then suggested to the father the necessity of trephining, but, after consulting two or three physicians, it was thought that to wait for further symptoms was the best plan.

For a few days after the incisions were made he had much less pain, and did apparently well, the pulse ranging between 60 and 70, and the temperature under 100°. But the pain returned to the region of the right eye, increasing each day with so much severity that large doses of bromide of potassium and ext. of hyoscyamus failed to produce sleep. Finally, on Saturday, at 5 P.M., August 22d, I for the first time gave, hypodermically, five minims of Magendie's solution of morphine, because for twenty-four hours he had not slept, owing to intense pain. This relieved him and produced sleep. His pulse now was 58, and temperature under 100°. All this time the boy had been intelligent, his pupils responding freely to light. Two hours afterward I found him comatose, with a temperature of 104° and a pulse of about 140. I concluded that he must now be suffering from acute encephalitis due to the burrowing of pus through some fracture of the skull.

I immediately called in Dr. Walter B. Chase, and we gave twenty grains of antipyrine hypodermically and ten grains by the mouth. In less than one hour the temperature fell to about 102°. Next morning the temperature was 100°. In the evening it rose to 102°. At this time we held a consultation, calling in Dr. J. H. Hunt. We decided to trephine on the following morning. We gave chloroform for anæsthesia because least liable to cerebral excitement. After making an incision and dissecting up the scalp we found a stellate fracture of the right frontal bone just above the orbit. In the center of this fracture was a triangular piece of loose bone with one of the angles penetrating the substance of the brain, causing a deep abscess into which you could put your finger. We took this bone out and elevated a portion of the rest. About five hours later the temperature went up to 104°, and it was again shortly afterward reduced to 102° by antipyrine. The next morning, which was Tuesday, the temperature remained the same. In the afternoon there was an elevation to 103°. Gave antipyrine, with some slight return of consciousness, but pupils somewhat dilated. Wednesday morning the temperature was down to 101°, with a good pulse of about 100. In the evening the temperature went up to 102°, with contracted pupils. The next morning it went down to 100·75°. In the evening there was another marked elevation to 104.5°. At this time there seemed a marked change for the worse; the pupils were more dilated than ever, the breathing was heavy, the pulse 140 and very weak, and the coma more profound.

I injected twenty grains of antipyrine hypodermically, and gave ten grains by the mouth. Shortly after, the temperature fell to 103°. He regained some consciousness, speaking in monosyllables. About midnight the temperature was taken by the nurse and found to be slightly subnormal.

On Friday morning the temperature was 101°, the pulse good and full, and I was told that the boy recognized those around him and was at times quite conscious. I went home to eat [illegible] at 2 P.M., and the temperature was up to 104°. Again I gave twenty grains of antipyrine, which by the evening had brought it down to 101.5°. Still a good, full pulse.

On Saturday morning the temperature and pulse were the same. In fact, there was no change that day except his being at times slightly conscious, having said to his sister, when asked, "Got mad." No antipyrine was required that day. The case was assumed [illegible] a hope to see better days, when the question arose [illegible] that nature was going to

* Read before the Brooklyn Pathological Society, October 8, 1885.

bring the boy through. But Sunday told a different tale. That morning the temperature was 104°, with a full, rapid pulse. Twenty grains of antipyrine failed to produce any effect, and by evening the fever was raging at 104·5°, with a pulse of 142.

I gave 3 ss. of antipyrine and applied ice to the wrist. Here I would say that the ice-bag had been continuously applied to the great vessels of the neck ever since the commencing night of the high fever. However, we again, in a few hours, succeeded in bringing the temperature down to 101°, the pupils contracting and responding to light.

On Monday morning at eight o'clock the temperature was 102·75°. I undressed and washed out the wound as usual with 1-to-2,000 bichloride-of-mercury solution. During the last two or three days there seemed to have been more discharge of pus than usual, but presenting a very healthy appearance.

In the evening the temperature was 102·6°. He answered "Yes" to the question "Do you see?" On Tuesday morning the temperature was 103·25°, with a full pulse of 140. Gave twenty grains more of antipyrine. That evening the temperature and pulse were about the same. I repeated the same quantity of antipyrine and reapplied ice to the wrist. I asked him if he felt any pain. He faintly replied, "My eye hurts."

Wednesday morning the temperature was 103·6°. Gave twenty grains of antipyrine. In the evening the temperature went up to 104·8°, the highest point yet reached. Again gave twenty grains more of antipyrine, and the temperature, in less than two hours, fell to 102°, and by twelve o'clock that night it was 101°.

Thursday morning, temperature 103·5°. Left foot cold, while the rest of the body is warm. Since last night, for the first time, there has been difficulty in swallowing. There is a tremor to the pulse. When the left leg is touched, it causes some distortion of the facial muscles. There is now a greater change and a more anæmic condition of countenance. It looks as though the vital centers were being disturbed. In the evening the temperature was 105·25°. Gave twenty grains of antipyrine, without any effect.

On Friday morning there was still a greater change for the worse. The countenance was that of the Hippocratic expression, the temperature again reaching 105·25°. It did not seem that he could last over two hours, yet his heart was beating well, and, with the wonted pressure, he might live till night. He died that afternoon about six o'clock. The next day Dr. Hunt and I held an autopsy, but, much to our surprise, found no meningitis except a localized portion around the point of fracture. We found no other changes except a depression which had broken into the right lateral ventricle.

The conclusion which may be drawn from this case is, that this process had commenced to form immediately after the perforation of the dura mater, and the irritation caused by the fragments of bone, and that perhaps the high fever and sudden coma came after the rupture in the ventricle.

I think there is another important lesson which may be drawn, and that is, that we are not to be too conservative at times. It strikes me that, without antiseptic precautions, my case might be lost by trephining while a great deal may be gained. It is probability, and an operation been made [illegible] after the accident, the chances of the boy's life would have been greatly enhanced.

The Department of Public Charities and Correction of the city of New York has issued $1,000,000 bonds to expend for the coming year.

Book Notices.

Contributions to the Topographical and Sectional Anatomy of the Female Pelvis. By D. Berry Hart, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc. Edinburgh and London: W. & A. K. Johnston, 1885. 4to, pp. 8, xii plates.

We have several times been gratified by being able to speak in commendation of Dr. Hart's researches in pelvic anatomy, and these beautiful plates call no less for praise than the author's previous publications. They relate for the most part to sections of frozen cadavers. The descriptive text, brief as it is, deserves careful reading, preferably in connection with Dr. Hart's other contributions to the anatomy of the pelvis.

Contributions to Surgery and Medicine. Part I. Intestinal Disease and Obstruction. London: H. K. Lewis. Pp. 284.

The title of this work hardly conveys an adequate idea of its scope and contents. It is an essay by Hugh Owen Thomas on the intestinal lesions of typhoid fever and the milder forms of obstruction, with particular reference to treatment. With operative procedures it has little or nothing to do, and the therapeutic methods may be summed up in two words—rest and starvation. The action of opium and belladonna is carefully studied, and the indications for their use are given. All active methods of manipulation, purgatives, enemata, kneading, etc., are condemned.

The work has been carefully done, and shows study. The latter half of the book is made up of a large number of histories of cases, with appropriate comments.

BOOKS AND PAMPHLETS RECEIVED.

La Patogenesi del Colera. Dal Dottore Giuseppe Paoletti, Sottotenente Medico di Complemento. [Estratto dal "Giornale Medico del R°. Esercito e della R°. Marina."]

Hereditary or Degenerative Ataxia. By W. Everett Smith M. D., Framingham, Mass. [Reprinted from the "Boston Medical and Surgical Journal."]

Synopsis of Proceedings of the Third Annual Meeting of the American Rhinological Association.

Correspondence.

LETTER FROM WASHINGTON.

The American Public Health Association.—The Inspection on the Canadian Frontier. Proposed Sanitary Legislation.—The Cholera in Japan.

Washington, *December 14, 1885.*

Since my last the city has been enlivened by the presence of the American Public Health Association. The President, Senator Harris, and Representative Beach were expected to be present at the opening, but the President only sent a letter, and the other gentlemen had other engagements. The meeting, however, was successful, and, although perhaps there were those little elements of discord sometimes present at gatherings such as this, where every health officer has some special measure of his own to put through, yet, as a whole, it was harmonious and creditable to all concerned. The election of Dr. H. P. Walcott, of Cambridge, as president, was a deserved compliment to a distinguished health officer, and broke up the pestiferous custom of perpetually electing the vice-president, without any regard to

special fitness. No man has been more thoroughly identified with Southern sanitary matters than Dr. G. B. Thornton, of Memphis, who was elected first vice-president, and Canada was appropriately recognized by naming Toronto as the next place of meeting, and a Canadian as second vice-president.

The special features of the meeting were the papers read and the social pleasures. Among the interesting papers, those of Dr. Joseph Holt, of New Orleans, Dr. O. W. Wight, of Detroit, Dr. Armstrong, of the Marine-Hospital Service, Dr. Hartwell, of the Johns Hopkins University, and Dr. John Morris attracted unusual attention. Dr. Holt is an orator as well as an efficient health officer, and the reading of his paper was accompanied by round after round of applause. Dr. Wight maintained that the disinfection of the abominable sewers of Detroit by burning sulphur at each man-hole had been followed by a great reduction in the death-rate from diphtheria and scarlet fever, and that the sulphur fumes speedily found out all the defective traps in houses; and many amusing instances were given of its effectiveness. Dr. Hartwell's paper was on the method of physical training adopted in Germany to secure the *mens sana in corpore sano*, and the methods of the "Turners" as well as those of the gymnasium professors were fully explained. There is no doubt that the time is coming when the "pale-faced, stoop-shouldered student" will be only a reminiscence. There is no longer any reason why intellectuality should be regarded as a necessary sequence of chronic dyspepsia and mal-assimilation. Dr. Morris's paper dealt strongly with the necessity for crematories everywhere, in order to insure proper facilities for cremation of the dead. He cited the evils of the existing practice of inhumation near our cities so forcibly that the "Republican" the next morning editorially spoke of the water drank by the Philadelphians as a product of the rain-fall into the Schuylkill mixed with a large percentage of the distillate from the bones of their ancestors.

The trip to Mount Vernon and the oyster roast were very successful.

The Marine-Hospital Bureau has ordered the discontinuance of the inspection at the International and Suspension Bridges, in accordance with the request of the State Board of Health of New York. The maritime inspections at the lake ports have been discontinued owing to the closure of navigation and the efficient work now being done by the health authorities of Ontario.

Senator Palmer has reintroduced the bill prepared by Dr. Wight, of Detroit, last year, providing for a Commissioner of Health for the United States.

Senator Eustis, of Louisiana, has introduced into the Senate the bill prepared by Dr. Holt to provide "for the appointment of a commission to investigate the declared discovery of inoculation of yellow fever, and protection so afforded against that disease." The bill contemplates the appointment of three commissioners, who shall proceed to Brazil immediately to verify alleged discoveries, and report thereon. [illegible] dollars are to be provided for the expenses of the commissioners. Senator Harris, of Tennessee, has reintroduced the bill to re-habilitate the National Board of Health, and restore its former functions, which expired in June, 1883. This Senator, it will be remembered, is the chairman of the Public Health Committee of the Senate, or, as it is sometimes [illegible] the Select Committee to Investigate the Introduction and Spread of Epidemic Diseases. Speaker Carlisle has not yet appointed the Public Health Committee of the House, but it is presumed that he will do so this week, and that the Hon. Lem Beach, of New York, will be appointed.

Press dispatches, confirmed by the Department of State, announce the increase of cholera in Hiogo and Osaka (Japan).

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, DECEMBER 26, 1885.

THE ALUMNI OF THE WOMAN'S HOSPITAL.

It is always a good thing for the graduates of an educational institution to organize themselves into an alumni association even if for no other reason than that it serves to keep alive the *esprit de corps* that readily takes root among young men, but is apt to droop under the heat of the actual conflict of life unless nurtured and sustained by some specially favoring circumstances. But there are other reasons why such organizations are to be commended, not the least of which is the influence that they are more and more getting to be able to exert in strengthening the hands of the managers of the institution, whatever it may chance to be, and, to some extent, in shaping its policy. It is only within a very few years that associations of the alumni of medical colleges have aspired to much more than social objects in this country, but now they may fairly be said to have lifted themselves far above that plane, as witness the laboratory, the annual prize, and the Cartwright lectures, established by the exertions of the Alumni Association of the College of Physicians and Surgeons. That is one of our oldest colleges, and it is but natural that its alumni should have made their association conspicuous among like organizations; but the very creditable showing that has been made by a number of other similar bodies argues their early achievement of commensurate importance.

When we speak of educational institutions it does not follow that we have in mind exclusively those which furnish didactic instruction in the various branches of medicine, and round it off by conferring the doctorate. On the contrary, nothing could be more truly educational—more drawing out—than the training that the young graduate gets during his term of service on the house-staff of a hospital. Moreover, the bond of personal sympathy is far closer between the few to whom such a service is necessarily restricted than it can be among the more miscellaneous and far more numerous students of a college. We presume it may therefore be assumed that the rarity of associations of hospital alumni is due to the idea that [illegible] are necessary to success, but we are confident that a hospital alumni association which has recently been formed is [illegible] to an amount of success that will speedily establish the position of that society, especially as the founding of it is comparatively new and such a spirit has been [illegible] as to the full drawbacks that may be supposed to attend the formation of successful associations of hospital alumni.

We refer to a [illegible] recently organized society of graduates who have served on the house staff of the Woman's Hospital in New York, of which it is well organized and started on its career. Necessarily its members are, for the most part, young men, but many of them are already known

wherever gynæcological literature penetrates; and that it should have been able, in the few years of its existence, to rear a body of alumni so promising and so favorably known is not the least of the laurels to which the pioneer woman's hospital of the world may lay claim. The programme arranged for the first meeting of the new society seems to us exceedingly creditable, and we do not doubt that the proceedings at the annual meetings which are to follow will prove of equal value and importance. The formation of the society is a good move, and we wish the organization all possible success.

MINOR PARAGRAPHS.

THE "MEDICAL TIMES AND GAZETTE," OF LONDON.

It is rumored that this most estimable journal will cease to be published with the close of the present year. This will be unwelcome news for those who have been accustomed to peruse its columns, especially during the two years that it has been under the editorial management of Dr. Philpot. The "Times and Gazette" was always a valuable journal, but Dr. Philpot has made it, so far as the editorial columns are concerned, by far the most readable of the London weeklies. We shall sorely miss it from our exchanges.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 22, 1885:

DISEASES.	Week ending Dec. 15.		Week ending Dec. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	5	0
Typhoid fever	16	5	19	5
Scarlet fever	50	5	52	21
Cerebro-spinal meningitis	3	3	1	1
Measles	6	2	14	1
Diphtheria	75	33	104	41
Small-pox	5	1	12	1

Pasteur's American Patients.—News has been received that the Newark children who were lately sent to Paris, in order that they might undergo protective inoculation against rabies at the hands of M. Pasteur, have arrived in good condition and have been subjected to the early inoculations of the series.

Small-pox in New York and Brooklyn, as well as in a number of other places, although not verging on epidemic prevalence, is proving to light far oftener than it is comfortable to contemplate. It is reported that the number of patients now in the Hospital is greater than at any other time during the last three years.

Diphtheria in Ontario. The schools are reported to have been closed in Dundas, Ont., on account of the prevalence of diphtheria, and it is said that the disease in certain Sunday-school entertainments which were to have come off at about the time have been postponed.

A Conviction for Criminal Abortion has been obtained in Chicago, Ill., and it is satisfactory to learn that the heretofore practically unpunishable crime has been punished in this instance.

An Impostor.—Dr. Silas C. Blanchard, of Brooklyn, L. I., writes to the Medical Tribune: "I would call the attention of the profession of this city to the fact that a person claiming to be a physician and obstetrician has been representing himself at having been robbed, etc., while visiting the city, purporting to come from Newark, N. Y. Dr. Cooper, clerk of the University, has in his possession several cards from physicians already swindled by this impostor, and would like the card of any other having a similar experience with this disgrace to the medical profession."

The Death of Dr. John S. Heard, of Newburg, N. Y., took place on Friday, the 18th inst. The deceased was a graduate of the College of Physicians and Surgeons, and formerly practiced medicine in New York. After taking his medical degree he served on the house staff of the New York Hospital. At the time of his death he was seventy years old.

The Death of Dr. Isaac G. Collins, of Sing Sing, N. Y., occurred on the same day. He was a graduate of the Albany Medical College, and had been president of the Medical Society of the County of Westchester. He was fifty-three years old.

Society Meetings for the Coming Week:

Tuesday, *December 29th:* Boston Society of Medical Sciences (private).

Wednesday, *December 30th:* Auburn, N. Y., City Medical Association; Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *December 31st:* Cumberland County, Me., Medical Society (Portland).

Friday, *January 1st:* Practitioners' Society of New York (private).

Saturday, *January 2d:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY.

John Christopher Draper, M. D., LL. D.—Professor Draper, a son of the late Professor John W. Draper, died, after a brief illness, on Sunday, the 20th inst., in the fifty-first year of his age. He was a native of Virginia, but was educated in New York, having been graduated from the academical department of the University of the City of New York, and subsequently from the medical department of the same institution. When he had obtained his medical degree, which he did in 1857, he served on the house staff of Bellevue Hospital, and was soon afterward made professor of analytical chemistry in the University of the City of New York. For three years, from 1860 to 1863, he served also as professor of chemistry in the Cooper Institute. Since 1863 he has been the professor of natural history and physiology in the College of the City of New York, and since 1866 professor of chemistry in the medical department of the University of the City of New York. He received the degree of LL. D. from Trinity College in 1873.

Albert Holmes Smith, M. D., of Philadelphia.—Dr. Smith, whose untimely death we briefly mentioned last week, was a native of Philadelphia, where he received his education and afterward practiced his profession. He was a graduate of both the academical and the medical departments of the University of Pennsylvania. After taking his medical degree he became resident physician to the Frankford Asylum for the Insane, in which capacity he served for a year and a half, and then became a member of the house staff of the Pennsylvania Hospital. He began private practice in 1859, and in the same year he was made an assistant physician to the Philadelphia Lying-in Charity. In 1867 he was appointed accoucheur to the Philadelphia Hospital, and the following year physician and lecturer to the Lying-in Charity. He was one of the founders of the American Gynæcological Society, of which he was chosen president

in 1883. He was also one of the founders of the Obstetrical Society of Philadelphia, a fellow of the College of Physicians, and a member of the Philadelphia County Medical Society and of the Philadelphia Pathological Society.

Dr. Smith was an accomplished obstetrician and an earnest and lucid teacher. He was a man of fine physique, and his conscientiousness as well as his amiability raised him high in the esteem of his professional brethren and of the community in which he lived. For more than two years before his death it was evident that his health was hopelessly shattered, and that period was marked by great suffering, which he bore with patient resignation. He was in his fifty-first year at the time of his death.

Letters to the Editor.

THE CHLORIDE-OF-SILVER CELL VS. THE GRENET CELL.—A REPLY TO DR. RANNEY.

BROOKLYN, *December 15, 1885.*

To the Editor of the New York Medical Journal:

SIR: In your issue of the 28th ultimo is contained an article by Dr. Ranney upon the worth of the chloride-of-silver battery, which I had recommended so warmly in your Journal of July 18th. Dr. Ranney intimates that he is impelled to write upon the subject because of a feeling of "duty to correct some statements made in that article" (mine) "apparently on insufficient information." I propose, in reply, to make plain that, from the beginning to the end of Dr. Ranney's letter, there is scarcely a statement that is not made on insufficient information, and this not *apparently*, but *indubitably* so. Indeed, so numerous and so crass are the incorrect statements that one is almost led to doubt whether Dr. Ranney has ever seen the battery on which he passes judgment—a doubt to which corroboration is lent by the fact, stated to me by the manufacturer, that Dr. Ranney would not even let him—the maker—show him the instrument.

Dr. Ranney says: "The chloride-of-silver-and-zinc element as the basis of a battery is not new." If the doctor will turn to my article, he will be happy to ascertain that I never said it was. On the contrary, I expressly spoke of this type of battery as being made by Gaulle, of Paris. I shall also have occasion, in this letter, to convince Dr. Ranney of the worth of one made many years ago by De la Rue.

"Dr. Gray need not have written to foreign countries as he states in his article that he has done, to obtain much valuable information respecting its rise and fall. The 'chloride-of-silver' battery presented to the profession some years since by the Western Electric Company is practically the same as the one Dr. Gray now extols. True, it had glass cups in place of rubber ones (which cost money, and it lacked some other of the mechanical features described by Dr. Gray, although the latter are but copies or slight modifications of identical devices employed by other manufacturers of this city and Europe. Its excitant was the same, the elements were the same, the cell was practically the same, and the battery was light and easy to handle (the only claim, in my opinion, which it ever had to electrical recognition). The battery was sold extensively at first by a reputable firm in this city, and probably equally so elsewhere. This firm finally declined to continue selling it, and I am informed that the Western Electric Company has since discontinued its manufacture. So much for the history of the 'chloride-of-silver battery' in this country from a practical standpoint."

No, Dr. Ranney, this is not all of the history. This letter will carry it up to date:

"WESTERN ELECTRIC COMPANY,
"NEW YORK, *Dec. 2, 1885.*

"DEAR SIR: In regard to Dr. Ranney's article in the "Medical Journal," we would say that he is correct in the statement that we are not especially pushing the sale of the chloride-of-silver battery as a medical battery. The reason he assigns, however, is incorrect. The true reason is that we are not pushing in this city the sale of any medical batteries, because it requires more special attention than we are prepared to give it. We are, however, selling this battery very extensively *as a testing battery, its constancy and durability especially recommending it to well-posted electricians for that purpose.**

"Yours truly,
"WESTERN ELECTRIC CO."

As to the mechanical features of the battery described by me being mere copies or modifications of others, it is only necessary to say that all the details of construction are contained in my article; that Dr. Ranney could have indicated to me wherein they were copies or modifications; that the Patent-Office has regarded them as sufficiently original to grant the maker a strong patent; that the battery as thus made has given greater satisfaction than any previous one of the same kind.

Although it is true that the elements of this battery are the same as in others that have been made, the excitant is not the same. It is here the sulphate of zinc, while in the others it has been some of the soluble chlorides. As this peculiar excitant bears an important relation to the internal resistance, as well as to the durability of the elements, it follows that it is not correct to say, as Dr. Ranney does, that "the cell is practically the same."

"Dr. Gray admits that Mr. Schoth, of Europe, has thus far failed to make a satisfactory battery with this form of cell."

I did not *admit* it—I *stated* it, and very distinctly. I fail to see that this fact has any other importance than that a man in London failed to do what a man in Paris and another in New York succeeded in doing.

"Dr. Gray has tried his own battery but a few months; yet, because it works and is light, he gives it his unqualified indorsement. Is not the conclusion on its face rather a hasty one?"

That depends very largely on who puts on the face. I think that Dr. Ranney has somewhat altered its complexion. We can obtain some knowledge of the original lineaments by the following reproduction of what I actually did say: "The instrument which, as I have already said, I have had in daily use for *some five months, and which has many times been called upon to do* carriage and road duty, seems to me almost to be known of it, has never failed to respond when called upon to do its work."

Dr. Ranney goes on to inform us that "this type of cell has a low electro-motive force, and generates but a small quantity in the battery Dr. Gray describes."

First, as to the electro-motive force. Niandet—who, as Dr. Ranney will probably admit, is an authority in electrical matters—puts the electro-motive force of the Daniell cell—which, as Dr. Ranney will probably admit, is a standard—at [illegible] volts. I [illegible] the [illegible] cell, according to the [illegible] is in the same cell. Dr. Ranney's chloride-of-silver battery is given at [illegible] volts. Dr. Wesendonck, also, in Dr. Ranney's own [illegible] gives to good sulphuric acid cells [illegible] the same as the Daniell, [illegible] It is well known to electricians that, in 1873, Mr. Latimer Clark [illegible] and [illegible] the Daniell [illegible] and [illegible] [illegible]

* [illegible]

of the whole electro-motive force, and even this infinitesimal difference could be accounted for by an accidental difference of temperature. This would seem to be a good enough standard for any reasonable man. It so happens that Mr. Hamilton, of the Western Union Telegraph Company, possesses some of these Latimer Clark Standard Cells, and the chloride-of-silver cell which I described in my article has been compared with them and found to have an electro-motive of 1·03 +, being thus practically the same as these exquisite Latimer Clark cells.

Second, as to the quantity. An elementary application of Ohm's law would show Dr. Ranney that, through such high resistances as are usually those of the human body, the quantity of electricity which will be carried by any battery will depend very largely upon the electro-motive force employed, and that the size of the plates and the capacity to generate large quantities of electricity have no practical bearing on the result. Only a certain quantity of electricity can be used about the human body, and that quantity is not large, the maximum being about forty milliampères. In the construction of batteries for medical purposes, there is seldom any difficulty about obtaining sufficient quantity, the chief obstacles being the weight, the constancy, and the liability to spill.

We are furthermore told that "the elements are costly, and are not regarded by well-posted electricians as possessing the durability Dr. Gray claims for them. It is true that the silver can be reclaimed (when the fluid is saved after the elements are consumed and subjected to certain chemical processes), but few physicians would go to that trouble for the purpose of saving a few dollars. Dr. Gray estimates that it will cost 'about $8 per year' for repairs. Even at this very low estimate, the battery becomes decidedly expensive. He fails, moreover, to state the first cost of the instrument—so that comparison on that score with the cost of other batteries made by reputable manufacturers is impossible."

1. As to cost. The cost of a fifty-cell battery of this kind, with electrodes and pole-changer, is $65, being about fifteen to twenty dollars more than that of other batteries of the same power. But, in my opinion, this additional cost is more than repaid by the durability, the infrequent recharging, the light weight, and the value of the silver ultimately reclaimed—as I shall soon show—in the chloride-of-silver cells. One might suppose that the same "best physicians" who would disdain going to the [illegible] for the purpose of saving a few dollars" would [illegible] additional cost at the outset.

Dr. Ranney states that the silver is reclaimed from the fluid by certain chemical processes. As a matter of fact, the silver is not reclaimed from the solution, but remains in a block of refined [illegible] into which the chloride of silver was originally cast, and this block can be removed readily by any one with a pair of pincers, together with the wire which holds it. Does this not make it impossible to avoid the conclusion that Dr. Ranney is grossly ignorant of the cell which he attacks? I have [illegible] the silver [illegible] in a single cell weighed, and its actual value is fifteen cents, which for fifty cells would be $7.50—about enough to pay for renewal of all these cells after a year of [illegible] service.

2. As to "well-posted" electricians not agreeing with me as to the durability of the cell:

Compare [illegible] quotation from Dr. [illegible] that he had been for three years working a battery made of [illegible] elements with practical [illegible], a constant [illegible]

In Watson's [illegible] standard work on electro-therapeutics, says: * "I am not aware of any other battery which combines to the same extent durability, portability, and efficiency."

Messrs. E. S. Greely & Co., successors to the firm of L. G. Tillotson & Co., of New York, whom Dr. Ranney will probably recognize as well-known manufacturers of electrical instruments, have adopted the battery described by me not only for medical uses, but also as a standard testing battery for such service as depends specially upon constancy and durability. This firm is even arranging to issue a special circular on the subject.

Professor A. K. Eaton, whom all "well-posted electricians" know as a manufacturer of electrical measuring instruments, employs this same battery in "standardizing" or calibrating his meters.

Messrs. George Tiemann & Co. are arranging to keep this battery in stock, and are preparing circulars for a wide advertisement of its merits.

The opinion of the Western Electric Company is contained in the letter given above.

I do not deem it necessary to multiply similar opinions.

"In the third place, great stress is laid by Dr. Gray upon the light weight of the battery (9 to 12 pounds). Personally, I fail to see why a physician who owns a buggy and horse need to care much if a few pounds of weight are or are not dispensed with, provided he can carry the machine easily from the carriage to the house of each patient without assistance."

In the first quotation which I have made above from Dr. Ranney he says, speaking of the battery made by the Western Electric Company, that its lightness and easiness to handle constituted its only claim, *in his opinion*, to "universal recognition." He thus expressed his opinion that a battery might have no other claim than lightness and easiness to handle, and yet be entitled to "universal recognition." Some thirty lines further on, he can not see why lightness—one half of the claim to "universal recognition"—should make any difference! It would thus seem that not only does Dr. Ranney not know the chloride-of-silver cell, but that he has only a bowing acquaintance with his own opinions. But, although the first of these two opinions refutes the last, I would say in addition that, although I am rather of muscular build, there is considerable difference, in my opinion, between the 9 to 12 pounds of the chloride-of-silver battery and the 25 to 30 pounds which other batteries of like size may weigh. A battery that can be carried lightly in the hand is usually preferred by the disinterested to one that causes a temporary lateral curvature of one's vertebral column.

For the Grenet cell Dr. Ranney claims many advantages. Let us examine them in detail.

1. Cheapness of construction.

The Grenet cell is cheaper, as I have said; how much cheaper, I do not need to repeat.

2. "A fluid which can be renewed when required at a cost of a few cents."

I have a battery containing 36 Grenet cells, and the actual cost of the necessary fluid for all of them is 75 cents—not a few cents. As this needs to be renewed at least every month, sometimes every two weeks, the annual cost of renewal would be $9 and over as against $8, after 18 months' service, with the silver cells.

3. "A cell whose elements last a long time, and cost about ten cents each to replace when they at last are consumed by the fluid."

If Dr. Ranney used his Grenet cells much he would find, as I have, that the elements will last about three or four months.

* "A Practical Treatise on Electricity and Magnetism," vol. i, p. 316.

* * Medical Electricity. New York, 1884, p. 64.

4. "A high electro-motive force."

The electro-motive force of the Grenet cell is 1·7 volt. But this is only when the cell is freshly charged, and by work this gradually diminishes until it becomes too low for use. The chloride-of-silver cell, as we have seen, is 1·03 volt, and we have also seen that it is remarkably constant.

5. "A considerable quantity of electricity."

It is not necessary to repeat what we have already said about Ohm's law.

6. "An easy way of overcoming polarization when the battery is in use."

Dr. Ranney seems to have made a new discovery about the Grenet cell. I frankly admit that I do not know what he means by this.

7. "A clean instrument, which, when properly made, will not spill the fluid."

This, when piously examined, is the most remarkable statement of all, for the double reason that it furnishes additional proof, if any were needed, that Dr. Ranney has never seen the chloride-of-silver cell which he attacks, and also because it provokes grave doubt as to whether he has ever closely examined the Grenet cell which he advocates. The chloride-of-silver cell which I described is a glass or rubber bottle, into which is screwed a rubber top. It is therefore tighter than a corked bottle. Into this bottle are put the fluid and the elements, and the wires coming from the elements come through the rubber top. This cell, therefore, does not spill, as Dr. Ranney evidently infers. On the other hand, the Grenet cell is a jar, on the top of which is loosely laid a plate, this plate holding the elements. It can very easily spill. In order to prevent it spilling, some batteries composed of it are so made that the elements can be hoisted up, or the jars can be lowered, and a rubber-covered board or gutta-percha plate is thrust in between the elements and jars thus separated, and held in place by a spring. This board or plate—the so-called "hydrostat"—is, of course, a part of the *battery*, not of the *cell*; and, as can be seen at a glance, is cumbrous as compared with the neat compactness of the silver cell.

8. "The ability to select the cells employed from any part of the battery."

Still more proof that Dr. Ranney has never seen the battery which I described, or else he would have known that to its plates are attached two wires terminating in hollow plugs, and that by these plugs one can select any cells whatsoever.

9. "A simplicity of construction which admits of repair by the physician himself, if he possesses a screw driver and a pair of pinchers."

To this list should be added a sweet and equable temper, total abstinence from profanity, mechanical order sufficient to enjoy a half-hour to an hour's piling of the stonewall screw-driver and pinchers in the midst of one's other loose or lost wits, one is sallying out on his rounds, or at other opportune moments of life, and also philosophy enough to find amusement in the occasional necessity for sending the battery to an electrical mechanic in spite of pinchers and screw driver.

Since writing my article on July 1 I have had four months' additional trial of the particular battery which I described, making nine months in all. The battery was then accidentally turned upside down for several hours, and thus injured. The cells were taken out and carefully examined, and it was found that they were as good as at almost any time during the nine months. The battery would, therefore, have run eighteen months but for the accident.

Nor is my experience a single one. Dr. J. B. Hunter, of New York, now uses this battery exclusively for his work in practice and at the Woman's Hospital, and has just ordered a third one. Dr. J. J. Putnam, of Boston, has been using one for six months, and states that he is well pleased with it. Dr. B. Sachs, of New York, writes me: "I have had the new chloride-of-silver battery in almost daily use for more than five months, and I am extremely well pleased with it. I find that it fulfills all that Mr. Barrett claims for it. It is durable, very easy to manage (if one knows anything at all about batteries), and portable. As I am in the habit of using an absolute galvanometer in all applications, whether for diagnostic or therapeutic purposes, I can safely say that the electro-motive force of these cells has not sensibly diminished in the course of five months." Dr. Charles K. Mills, Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic, reports that he has used the battery for several months with great satisfaction. "Its portability," he writes, "greater than that of any other battery of equal current strength, the absence of corrosion, and the little trouble required in its management, are features of excellence which will serve to make it deservedly popular with specialists and general practitioners."

"Some months ago Dr. Brown, of this city, exhibited, at a meeting of the Clinical Society of the New York Post-Graduate Medical School, the very battery which Dr. Gray now presents as novel. The remarks of Dr. Brown were published, without the cut, in the 'New York Medical Journal' in February, 1885. If I am not mistaken, Dr. Brown had been instrumental in calling the attention of the manufacturer to several of its best features."

The maker informs me that the "several of its best features" suggested by Dr. Brown were—that the handle should be made larger! As the battery was shown to Dr. Brown, as well as to many other gentlemen, after it had been made at my suggestion, I have never understood that Dr. Brown has made any claim to priority in the matter. Dr. Ranney will be glad to learn, however, that, at the time Dr. Brown showed the battery, he incidentally remarked that "this little battery was the best portable galvanic battery he knew of."

"In closing, I would say that the sentence in Dr. Gray's article which impugns the many advantages claimed for the Grenet cell, both by myself and others, for a portable galvanic apparatus, is not in accord (as far as I can learn) with the experience of thousands who are to-day using this form of cell in Europe and this country. It seems to give universal satisfaction when properly managed and cared for."

These remarks are answered, I think, by what I have already said.

I charge, therefore, that Dr. Ranney was entirely ignorant of the chloride-of-silver battery upon which he attempts to pass judgment, because—

1. He did not know what the exciter of the cell was.

2. He did not know that any of its cells could be secured at will.

3. He had not the remotest idea of how the waste was reclaimed.

4. He did not know what the worth of the waste was when reclaimed.

5. He knew nothing of the cell's durability.

6. He did not know that it was impossible to spill the contents of the cell unless the cells were broken.

Inasmuch as I may soon, Dr. Ranney says, be "asked to write [him] [illegible] that I have intentionally omitted this form of cell from the list of those which I have suggested and recommended in my forthcoming work upon 'Electricity in Medicine,' and that I have done so for good and sufficient reasons, I must refer which appeal to be accompanied with the progress I have made in examining the

views, or I must prove the soundness of my convictions. I prefer to attempt the latter."

I leave it to my readers to determine whether the "attempt" has been successful. If not, taking Dr. Ranney at his own word—what follows?

I desire to return my thanks to Dr. Ranney for thus affording me a further opportunity of calling the attention of the profession to what I consider to be by all odds the best portable battery as yet made for medical purposes.

Yours very truly,

Landon Carter Gray.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 8, 1885.

The President, Dr. Charles McBurney, in the Chair.

Supra-pubic Lithotomy; Suture of the Bladder-wound; Primary Union.—Dr. Pilcher presented a man, twenty-one years of age, upon whom, two weeks ago that day, he had operated for the removal of stone from the bladder by the supra-pubic method, as perfected by Petersen, of Kiel. The patient had suffered from symptoms of stone about nine years. After etherization, a rubber ball having been introduced into the rectum, it was distended with about ten ounces of water, after which nine ounces of a warm solution of boric acid were injected into the bladder through a soft-rubber catheter. The result was to cause a very marked protuberance of the bladder above the pubes, and to make exposure of its antero-superior wall by incision above the symphysis pubis remarkably easy. The wall of the bladder having been exposed, he followed the suggestion of von Antal of making an incision first through the muscular wall of a bevelled shape, so as to increase the width of the fresh surfaces afterward to be united by suture. This step having been accomplished without serious inconvenience, the blue color of the mucous membrane of the bladder could be plainly seen by all present in the operating-room of the Post-Graduate Medical School, where the operation was performed. Upon the incision into the bladder being completed, the stone was seized and removed without difficulty. It was of moderate size, weighing 2·7 grams in its dry state, and was composed of a nucleus of uric acid with an external layer of oxalate of lime, principally, with some triple phosphates. The ease with which the interior of the bladder could be inspected, after removal of the stone, was particularly noteworthy. The posterior wall was clearly visible, and the whole interior wall was easy of exploration. The [illegible] through which the preliminary injection of boric acid solution had been made, was left open, to insure continuous drainage of the urine. The wound in the bladder was closed [illegible] with catgut sutures passing through only the mucous and submucous coats. The superficial muscular tissues were then closed by a similar catgut suture, and the integument, which was brought together and supported with three horsehair sets, and [illegible] of sutures were placed between the integumental wound. A little cotton, [illegible] with [illegible] was laid over the wound and the man was put to bed, and did perfectly well. The catheter was removed on the third day, and the pen-wound on the fifth day following. On the twenty-first day he was able to go home, [illegible] passing water through the urethra, and the whole extent of the wound having healed without any apparent symptoms of any kind. It was not [illegible] since the operation.

About fifteen months ago Dr. Pilcher had advised with regard to an operation in the case of a child ten or eleven years of age, in whom, according to his wish, the supra-pubic method was likewise adopted. The operation was performed by Dr. McPhail at the Brooklyn Orphan Asylum. In that case no attempt was made to close the vesical wound, and the supra-pubic wound was left to granulate, while the bladder was drained by a pair of drainage-tubes passing through the supra-pubic wound to the base of the bladder and outward over the pubes and down between the thighs, after the method of Perrier. The progress of the case was as satisfactory as could be expected; granulation took place and the wound ultimately healed, the patient being discharged cured at the end of the third or fourth week.

He thought the case presented had a bearing more particularly upon what seemed to be taking place at the present time—namely, a readjustment of views with regard to the relative merits of cutting and crushing methods for the removal of stones from the bladder.

Dr. Briddon asked Dr. Pilcher whether he objected to the operation of crushing.

Dr. Pilcher replied that he should not object to crushing, yet it seemed to him that under ordinary circumstances such an operation as this was more favorable for the patient. He might say, however, that he had been especially led to do the supra-pubic operation in this case to illustrate to the general practitioners who formed his class what he considered to be the best operation which would be available to those who had not acquired the technical skill necessary to crush a stone in the bladder.

Dr. H. B. Sands thought that it would hardly be proper to allow a case of this sort, successful as it was, to go without an expression of doubt as to the expediency, if not as to the propriety, of removing a stone of the size of the one presented, and which seemed to be friable, by any cutting operation. This patient had certainly recovered very promptly, else he would not have been shown within a fortnight; but it was probably within the experience of most of the surgeons present that, after crushing stones quite as large as this one, and even larger, the patients had been able to leave the hospital in the course of a week. He acknowledged the very great superiority of Petersen's operation in certain cases, but he thought it could not be recommended to the general practitioner as one free from risk. It seemed to him that it was one which would always require considerable skill in order to avoid danger to life, and our experience was not large enough to enable us to recommend it as preferable to one which had stood the test of extensive trial, and had proved to be almost absolutely safe in healthy young adults. As an example of successful operation he would accept Dr. Pilcher's case, but as an example for imitation he would reject it.

Dr. A. C. Post recalled a case in which he performed lithotripsy long before evacuation of the bladder had been introduced, three crushing operations having been performed at his clinic, the patient returning to his home on each occasion, a distance of about nineteen miles. No unpleasant symptoms developed.

Dr. Bridden said that within a few weeks past he had removed a stone by the crushing operation in a man over seventy years of age who had enlargement of the prostate and cystitis of an aggravated character. The operation lasted three hours, and more than six hundred grains of calculous material were removed yet the man was able to leave the hospital within a week. Eight or nine days ago he performed Bigelow's operation on a man sixty-nine years of age, who left the hospital within a week with relief from his bladder symptoms. But he

thought there was sufficient justification for the operation performed by Dr. Pilcher, for he certainly would prefer to be cut for a stone than to have the stone crushed by a man who was not accustomed to do the crushing operation.

The PRESIDENT asked Dr. Briddon whether he would not consider the first case to which he had referred as specially suited for the high operation.

Dr. BRIDDON replied that he would not want any better result than that obtained by crushing.

The PRESIDENT said that would apply to Dr. Pilcher's case as well, which was altogether of a different character.

Dr. BRIDDON said that if he had cut this man he would have chosen the high operation in preference to the lower one. In such a case the high operation was certainly preferable.

Dr. POST asked if there were not two sides to that question. In case of enlarged prostate with cystitis, did not the low operation afford a fair prospect of relief of the prostatic and vesical difficulty independently of removal of the stone? A number of cases had been placed on record with such a result by high authorities, such as Sir William Fergusson, Mr. Reginald Harrison, Dr. Gouley, and others.

Dr. BRIDDON said that such had not been his experience. If relief followed the operation, it was only of short duration, the symptoms returning with as much severity as before.

Dr. T. M. MARKOE remarked that, after all, there remained a certain number of cases, small to be sure, in which Bigelow's operation was unsuitable by reason of the largeness or hardness of the stone, in which he thought the question as to the advisability of the high operation in preference to the low one fairly presented itself. As to a comparison of the high or low operation with crushing, general surgical experience was decidedly in favor of the crushing operation. But, in cases in which crushing was inadvisable, the high operation as modified by Petersen he regarded as, in certain cases, preferable to any other, and it must be accepted as an admirable contribution to modern surgery.

On Rupture of the Ligamentum Patellæ, and its Treatment by Operation.—Dr. SANDS then read the following paper:

Three forms of injury to the knee are closely allied, by their causes, effects, and principles of treatment. These injuries are: simple transverse fracture of the patella, subcutaneous rupture of the tendon of the quadriceps extensor muscle above that bone, and a corresponding lesion of the inferior division of the tendon, known as the ligamentum patellæ. The experience I have gained in the management of two cases of the last-named accident which have fallen under my observation has led me to a brief study of its literature, from which I have gleaned a few facts of sufficient interest, perhaps, to justify me in bringing the matter to the notice of the society. At the same time, I desire to put on record a number of cases of this nature hitherto unpublished, and to describe an operation for uniting the ends of the divided ligament by suture, which I have performed upon the patient now exhibited before you.

Compared with fracture of the patella, rupture of the ligamentum patellæ is a rare event. Malgaigne,* whose statistics are the largest I have yet met with, was able to collect only eighty-five examples of the latter form of injury. In this paper I am able to report thirteen other cases treated in the Bellevue, New York, St. Luke's, and Roosevelt Hospitals. In order to form a rough estimate of the comparative frequency of the two forms of injury, I have caused a search to be made of the entire records of the four hospitals above mentioned, and have obtained the following result:

	Fracture of patella.	Rupture of ligamentum patellæ.
	Cases.	Cases
New York Hospital	150	3
Bellevue Hospital	140	7
Roosevelt Hospital	44	2
St. Luke's	19	1
Total	353	13

A comparison of these figures gives a ratio of about 25 to 1.

The relative infrequency of rupture of the patellar tendon may be ascribed chiefly to its greater strength and thickness, its being less exposed to direct injury, and the great mechanical advantage with which indirect violence often acts in causing fracture of the patella. Thus, as has been remarked, when the knee is bent, and a sudden and powerful contraction takes place of the quadriceps extensor muscle, as in endeavoring to prevent the body from falling backward, the patella is acted upon by two forces, which, as its upper and lower borders are then free from contact with the femur, may cause it to break, in the same manner as a stick may be broken by bending it across the knee.

The remarks I wish to make may conveniently take the form of a commentary upon the cases which have come under my care, or which, as will be seen in the appended table, have been gathered from the hospital records above mentioned. I shall give only my own cases in detail.

CASE I.—Patrick Fitzpatrick, a car driver, thirty-five years of age, was admitted to my department of the Roosevelt Hospital October 19, 1882. Ten years previously his right patella had been fractured by striking his knee against the pole of a truck. Five months later the same accident occurred, the final result being a fibrous union between the fragments, which remained separated a distance of two inches. On the day of his admission into the hospital, while in the act of hitching his horses to a street car, he missed his footing in attempting to ascend the platform, and felt something suddenly give way. An examination detected evidence of an old fracture of the right patella, which had been broken about its middle. The distance between the fragments measured two inches, and the interval was occupied by a broad, thick, fibrous band. In the normal situation of the ligamentum patellæ was found a shallow depression, dependent upon a complete rupture of the ligament, which seemed to have been torn close to its inferior extremity. The patient was entirely unable to extend the leg. Much tenderness and swelling of the knee were present.

Treatment.—Extension of the limb in the horizontal position, with an ice-bag applied to the knee.

October 20th.—Pain and swelling have subsided; vertical suspension of injured limb; rubber bandage to the knee.

November 1st.—Appearances unchanged. Limb kept extended, and raised on a pillow. The space behind the patella was filled up.

December 1st.—Water-glass bandage applied from ankle to thigh. Patient allowed to walk.

7th.—Discharged from hospital, wearing the splint.

November 14, 1884.—Patient presented himself three years after the injury. He stated that immediately on his discharge from the hospital he resumed his employment as car driver, and began to use the limb more freely. He soon remarked that, however, there was a certain weakness in descending a staircase, and found it necessary to keep one hand on the banister to support the limb, while bringing forward the foot. [illegible] the right knee, which was [illegible] and had the [illegible] [illegible] [illegible]

Evidently, in this case, the rupture of the ligamentum patellæ was due to the severe strain to which it had been subjected by the weight of the body and the forcible contraction of the quadriceps extensor muscle. Whether transverse fracture of the patella usually results from direct or indirect violence is an open question. I agree with those, however, who contend that this injury may generally be traced to the latter cause; and I am sure that the same is true regarding rupture of the ligamentum patellæ. Maydl, in investigating the ætiology of this accident, analyzed forty-four cases, in only five of which the rupture could be attributed to direct violence. Most often it is occasioned by a powerful contraction of the quadriceps, occurring in an attempt to save the body from falling backward; at other times from falling forward or sidewise. Violent flexion of the leg, accompanying a fall from a height, may produce it, and it has been known to occur spontaneously during an attack of convulsions, as also during forced flexion practiced with the object of overcoming an ankylosis of the knee. In the last case muscular contraction can not be concerned in the rupture, which must be ascribed in part to pathological changes in or around the affected joint. Adhesion and fixation of the patella, or rigidity and contracture of the quadriceps muscle, may, by preventing the descent of the patella when the knee is bent, cause the ligamentum patellæ to be lacerated during forcible flexion, either manual or instrumental.

In some of the cases I have collected from our hospital records the agency of muscular contraction in causing the rupture is plainly evident. The case just narrated (10) is one in point. In another case (4) the man, while wrestling, was thrown down, striking the left knee. As he fell, he was conscious that something had given way; and, on trying to get up, he found himself unable to extend the right, or opposite leg. Another man (7) stumbled while carrying a barrel of flour, and, in a violent but unsuccessful effort to save himself from falling forward, heard something snap, and felt his knee suddenly give way, as he came down with his left leg helpless. Another (6), whose heel had been caught between two flag-stones, and who squatted quickly to pick up his hat, felt something give way, and immediately fell to the ground, unable to extend his legs. In this case the rupture occurred on both sides. In Case 13 the man slipped while crossing the street, and did not strike the knee. In Case 12, to be related presently, the injury was certainly due to direct violence, a heavy piece of timber having fallen across the knee. One patient (9) fell from a roof, sustaining fracture of the left thigh and rupture of the left ligamentum patellæ. Here the violence may have been direct, as also in Case 2, in which a man fell from a jib-boom a distance of thirty feet, striking sideways; and in Case 11, in which a fireman was buried beneath a falling building, and, on being extricated, was found to have received a fracture of the femur, a rupture of the ligamentum patellæ, and severe contusion of the injured limb. In Case 1 the patient fell from a wharf into the water, striking his knee against a boat. Whether, in the four cases last described, the rupture of the ligament was caused by direct injury, by extreme flexion of the knee or by muscular contraction, must be a matter of doubt; and in the remaining examples the force concerned in the production must be still greater. Thus, in Case 10, while engaged in carrying a plank, fell upon his left knee, the latter, which was supported by three men and loaded with a weight of 80 lodging-boards, struck by knee against the flooring. In Case 5 the patient, while walking, stumbled and fell, striking his knee against the ground. Now, in all these cases, the impact was great. That the knee was bent seems to favor the supposition that the rupture was commenced by direct violence. That it is quite likely that such an inference is wrong, and that the fall upon the knee may have been the result, not the cause, of the rupture. This explanation is corroborated by the probability that, in all these instances, the extensor muscles were forcibly contracted at the moment the accident happened.

It is well known that rupture of the ligamentum patellæ is far more frequent in the male than in the female sex. I have been unable to find more than five published cases in which females have sustained this injury, and the thirteen subjects whose cases I have recorded were all males. The relative frequency of the accident in the latter may be accounted for by their greater exposure to its exciting causes, and by the greater strength and activity of their muscles.

In one case (6), already mentioned, the rupture took place on both sides simultaneously. Four other cases of this double injury have been recorded—namely, two by Shaw,* one by Gibson,† and one by Hamilton.‡ In three cases (3, 7, 10) the rupture occurred in persons who had previously suffered from transverse fracture of the patella on the same side. In Case 3 the patella had been broken one year previously, and ligamentous union had taken place. In Case 7 the fracture occurred eight months before the rupture, and the uniting band measured two inches in length. In Case 10 the fibrous band was likewise two inches long, while a period of ten years intervened between the fracture and the rupture. I have found elsewhere only four other examples of this singular sequence,§ from which, I think, two conclusions may be drawn. The first is, that a fracture of the patella may establish a predisposition to rupture of the ligamentum patellæ. In Flower's case, in which the rupture took place at the patellar attachment, this end of the ligament seemed to have ossified during the repair of the fracture; and to this circumstance he was inclined to ascribe the predisposition. Such could not have been the explanation, however, in Markoe's case (3), nor in the one I have reported (10), as in both of these there was no evidence of ossification of the ligament, which, however, was found to be ruptured at its tibial insertion. In the majority of instances, probably, the essential cause of the predisposition is a weakness of the limb induced by the earlier injury, which renders the individual less able to avoid the accidents that determine the later one. The second inference is, that the fibrous bond of union between the fragments of a broken patella may be able to bear a greater strain than the normal patellar ligament. This may be the fact, even when the uniting band is of considerable length, as in the two cases I have recorded. Additional evidence of the occasional strength of the ligamentous union of patellar fragments is afforded by the numerous examples of refracture of the patella in which the second fracture has taken place through a part of the bone before uninjured. It is noteworthy that, when rupture of the ligamentum patellæ has been preceded by fracture of the patella, the two lesions have always been found to exist on the same side of the body. The longest recorded interval between the two accidents is ten years, in Case 10; the shortest, eleven weeks, in Flower's case.

In seven of the cases I have reported, the seat of rupture is definitely stated. In three it took place at the upper, and in four at or near the lower attachment of the ligament. In two cases a small fragment of the patella was torn off; in one of these it could be distinctly felt, and in the other it gave rise to

* "Trans. of the Path. Soc. of London," vol. v., 1854.

† Gibson, "Surgery," 6th ed., vol. i., p. 595.

‡ Hamilton, "Fractures and Dislocations," 6th ed.

§ Nélaton, "Archives générales de médecine," 1858, p. 704, obs. vi.; Fraser, "Trans. of the Path. Soc. of London," vol. vii., 1856; Bulkley, "Med. Times and Gazette," London, 1864; Zeis, "Archiv für klinische Chirurgie," vol. vii., p. 155.

occasional crepitus when the ruptured parts were approximated. These results are in accordance with the general rule that the ligament is far less liable to give way in its middle than at one of its extremities, the lower being involved in about 50 per cent. of all cases. The rupture, wherever it occurs, is usually complete; my notes of thirteen cases furnish only a single instance in which a portion of the ligament remained intact.

The symptoms were in every case so plain as to leave no doubt concerning the nature of the injury. In one, the amount of retraction of the patella is said to have been slight; in another, it was two inches; and in all the gap between the severed parts could be distinctly made out. Prominent among the symptoms is inability to extend the leg. So far as I know, this loss of power is absolute when, as is usual, the rupture is complete. In transverse fracture of the patella, on the other hand, it occasionally happens that some power of extension remains immediately after the accident. An illustration of the preservation of this function to a remarkable degree came to my notice a few weeks ago, when a gentleman entered my office to consult me about an injury to his knee, which he thought he had sprained a few hours previously while playing in a tennis-court. In the mean time he had been able to walk, had gone down town to the Stock Exchange, and returned in a street car without suspecting the gravity of his injury, which, to my surprise, I found, on examination, to be a transverse fracture of the patella. The fragments, however, were in contact, and bony crepitus was well marked. We can readily understand why no such exception should ever be met with when the ligamentum patellæ is completely ruptured, since, under these circumstances, nothing is left to transmit the force exerted by the quadriceps except the insignificant aponeurotic attachment of a few of its fibers to the tibia.

The condition of the knee joint was noted in six cases, and in all but one the joint is said to have been distended and painful soon after the accident. Whether, as seems probable in this form of injury, the laceration extends into the joint, and whether the distension of the latter is due to the presence of blood or of inflammatory effusion, are points which have not yet been demonstrated. In any case, the swelling generally subsides, under appropriate treatment, in the course of a week or ten days.

The treatment adopted in most of the cases herewith reported was essentially the same as that usually followed in fracture of the patella, comprising extension of the knee, elevation of the injured limb, cold applications to the joint, and the use of pads, straps, and bandages for the purpose of approximating the ends of the ruptured ligament. As in the case of fracture of the patella, the retraction of the upper end appears to be largely owing to distension of the knee joint with fluid; and, until this has been absorbed or otherwise got rid of, my attempt to force it downward will prove futile, perhaps injurious. In one case (a), in which compresses and light bandages were employed very early, they certainly caused an aggravation of the symptoms, which compelled their removal, and a suspension of this part of the treatment for a period of four weeks. The final result, however, was satisfactory.

As a rule, such treatment as that described is followed by a fair amount of recovery of the functions of the injured limb. I regret that the notes of some of the cases I have collected are so defective regarding the results obtained as to possess little or no value. We know, nevertheless, that the continuity of the ruptured parts is usually restored in the course of six or eight weeks, the knee meanwhile gradually regaining its normal size and shape. Afterward the joint generally becomes movable, and the power of extension returns to a variable degree. Occasionally both the physical and functional results are excellent, as in Welt's case (13), in which, sixteen years after the injury, no difference could be discovered by measurement between the length of the patellar ligaments of the opposite sides, and in which the patient declared that the limb injured was quite as good as its fellow. Such a result, however, is exceptional, and the patella is apt to remain permanently more or less retracted, sometimes to the extent of several inches. Generally, as after fracture of the patella, the impairment of the power of extension bears a direct ratio to the length of the fibrous cord by which the severed parts are united; but this rule is not without exceptions. A case has been recorded in which a lengthening of six centimetres did not prevent complete voluntary extension of the leg; on the other hand, the power of extension may be seriously impaired, even when the uniting medium is short and firm. Here the disability is doubtless owing to some complication or sequel of the rupture, such as chronic inflammation of the knee joint, atrophy of the quadriceps muscle, or adhesions between the opposite surfaces of the upper part of the synovial sac which lies underneath the quadriceps. In such cases, flexion, as well as extension, is usually limited.

It is impossible to determine in what proportion of cases the power of extension is greatly damaged; but the number is larger than one would infer from a perusal of the published reports, in which very inferior results are often put down simply as "cures." We may be sure, however, that, in a certain number of instances in which no union takes place between the ruptured parts, the power of extending the leg will be entirely abolished, and the act of walking rendered impossible without assistance. Hitherto such cases have been treated by some form of mechanical apparatus designed either to prevent the knee from being bent, or to make artificial extension by means of an elastic force; but, so far as I am aware, no attempt has been made to re-establish the function of extension by an operation intended to restore the continuity of the ruptured ligament. Maydl states that, in a posthumous work by Veslingius ("Obs. anat. et posthum."), published in 1740, he found a notice of a case in which tenorrhaphy of the ligamentum patellæ was performed with success. He does not say, however, whether the injury was old or recent, and I have been unable to procure a copy of the work to which he alludes. In the case of the patient now exhibited I operated eight months after the accident, by bringing together the separated ends of the ruptured ligament and uniting them by sutures. The history reads as follows:

Case II.—Charles Krdenich, a healthy man, forty-four years old, by occupation a digger, was admitted [illegible] Roosevelt Hospital seven months ago, and gave the following history: In September, 1884, a heavy piece of timber fell across his right knee. He was at once disabled, and could neither walk nor extend the leg on the injured side. The accident occurred at once, and the patient received no treatment beyond confinement in bed on account of pain and swelling of the knee. In December he entered a hospital in Colorado, where the joint was incised to allow the escape of fluid. He recovered from the operation, but remained so weak in the knee [illegible] to walk except when he wore a splint applied to the back of the limb in order to keep it straight. When he came under my care he was still wearing a leather splint, which, although apparently well suited to its purpose, did not seem [illegible]. He gave the [illegible] and the patient, who was in good health and general condition [illegible] of the accident, and declared his willingness to undergo any operation in the hope of restoring the usefulness of his limb. On examination, the right knee was found to be similar in [illegible] and both [illegible] in an antero-posterior [illegible] The patella was displaced upward about two inches, [illegible] could be felt, and the [illegible] were in an [illegible] position. Above [illegible] the quadriceps could be [illegible] [illegible] [illegible] [illegible]

As nearly as I was able to ascertain, the ligamentum patellæ had

been completely ruptured close to its inferior point of attachment, and no attempt had been made to repair the injury. In place of the ligament there was a gap into which the skin could be readily depressed until the fingers encountered the femoral condyles. The power of extending the leg was entirely absent, and the patient, when lying upon his back with his leg extended, was unable to raise his foot from the bed.

On May 19th last I commenced an operation by making a longitudinal incision, six inches in length, in the median line on the anterior aspect of the knee, the center of the incision being opposite the lower edge of the patella. The cut was subsequently lengthened, both upward and downward, until it measured nine inches. On exposing the injured parts, in doing which the knee joint was freely opened, it was found that the ligamentum patellæ had been torn away from the spine of the tibia, which was now covered by only a small amount of dense fibrous tissue—sufficient, nevertheless, to allow a firm hold for sutures. A little more than an inch of the ligament, in good condition, was normally attached to the patella. There was a complete lack of union between the ends of the severed ligament, and a great deal of difficulty was experienced in bringing them together after they had been freshened with the knife. Before the upper end could be drawn down and placed in contact with the lower one, it became necessary to make many deep oblique and transverse incisions into the median and lateral portions of the quadriceps, and, even when this had been done as far as was deemed prudent, considerable force was required to secure apposition, which was maintained by two sutures of stout silver wire, the ends of which were twisted, cut short, bent flatwise, and buried in the wound. The mucous and alar ligaments were found redundant, and were partly removed with the curved scissors. The incisions in the capsule of the joint were closed by catgut sutures, and the external wound was united, except at its upper and lower ends, in the same manner. Two bone drains, one on each side, were inserted into the joint through openings made for that purpose, and one into each extremity of the median incision. During the operation a solution of mercuric bichloride, 1–1,000, was applied freely to the wound, which was afterward covered with iodoform gauze. The limb was next enveloped in a moss-bag, moistened with the bichloride solution, and finally fastened to a long, straight wooden splint, provided with a foot-piece. Previous to the operation the knee and adjacent parts had been shaved, scrubbed several times with soap and water, then washed with oil of turpentine, and finally disinfected with a solution of mercuric bichloride.

The subsequent progress of the case was uneventful, except that, during the first four days, the patient complained of almost constant pain. This was so severe on the second day that I removed the dressing and examined the wound, which, however, showed nothing which would account for the man's suffering. The drainage-tubes were cleared of a few clots of blood and a fresh dressing like the first was applied. On the fourth day the pain began to diminish, and soon afterward it disappeared altogether. The wound was not dressed again until July 7th, seven weeks after the operation. It was then discovered that the wound had long before healed by primary union, except at its lower angle, where a minute sinus was discovered, marking the site of one of the drainage-tubes. The sutures which had retained the joint were entirely closed. The patella was movable, as was also the knee joint, but [illegible] the leg to extend a few degrees. On July [illegible] to wear a starch bandage [illegible] and to walk with crutches, and a week later was replaced [illegible] The patient walked about without much [illegible] He continued to use the splint until October, when he laid [illegible] March, 1885, he wrote that he had walked as much as he [illegible] and that the ligamentous fibers of the ruptured parts had been [illegible]

[illegible] Dr. George F. Hamilton, [illegible] at my request [illegible] the following account of the patient's [illegible] which can be verified by the members of the Society.

[illegible] — [illegible] Caucasian, aged [illegible] years, [illegible] height [illegible] feet [illegible] inches, weight [illegible] pounds. Circumference of [illegible] joint over the patella, on both sides, 15·9 [illegible] circumference of [illegible] of upper and middle thirds. Right leg, 12¼″; left leg, 13″. Distance from tip of internal malleolus to lower border of patella.—Right side, 15·6″; left side, 14·4″.

"Functional Result.—A line drawn from the middle of the upper border of the great trochanter to the center of the outer surface of the external condyle is taken as the axis of the thigh. The axis of the leg is represented by a line drawn from the tip of the external malleolus to a point just anterior to the superior tibio-fibular articulation. On the left side, in full extension of the leg, these lines form with each other an obtuse angle of 174°. On the right side, when the patient is in the recumbent position, the amount of voluntary extension is as follows, the axis of thigh and leg forming an obtuse angle of 148°. When the patient is in a sitting posture the amount of extension is increased to 155°. *Passive Motion:* Extension of the leg possible to the normal limit; flexion to a right angle; rotation of the leg the same on both sides."

I will add that, in walking, the patient can easily and completely extend the leg; that for several weeks past he has been able to go up and down stairs without assistance; and that his limb is so steadily gaining in strength and freedom of motion as to warrant the hope of further improvement.

At all events, I think it will be admitted that, in this case, the operation has conferred a great benefit upon him by restoring the usefulness of the limb; and that, in similar cases, suturing of the ligament deserves a further trial. The principal difficulty likely to be encountered when the injury is not of recent date is that of bringing into contact the ends of the ruptured ligament. In my case this was accomplished only after the rectus and the vasti muscles had been extensively scored; and even then the parts could not be brought together without decided tension. I am inclined to believe that the pain the patient complained of during the first four days after the operation was caused by the traction of the sutures, and that it was relieved only when the sutures had cut through and receded far enough to moderate the existing tension. And, although I neglected to note the level of the patella immediately after the operation, its present elevation may be held as proving that the segments of the ruptured ligament separated from each other to a considerable extent after they had been sutured, the gap so formed being now occupied by newly formed ligamentous tissue, like that which, in ordinary cases of this injury, is furnished to repair it.

That which has most interested and gratified me in this and in several other severe operations I have performed in which the knee joint has been involved, is the impunity with which this articulation may be opened, and indeed somewhat roughly handled, provided antiseptic precautions are scrupulously observed. This fact was especially forced upon my attention in a case of old fracture of the patella in which I wired the fragments one year ago in the Roosevelt Hospital. The operation was performed in the usual manner, but the fracture was found to have been comminuted, and the fragments could not be brought into apposition without much difficulty, nor until the quadriceps muscle had been extensively exposed and repeatedly cut in order to obtain the necessary elongation. Meanwhile the bleeding was free, the knee joint was frequently sponged out and irrigated, and the operation was prolonged as well as severe. Yet the patient recovered, without an unpleasant symptom, under the use of a single dressing; and, when this was removed at the end of eight weeks, I discovered that the wound had healed throughout by the first intention, and that neither suppuration nor adhesive inflammation had taken place within the joint, which had a limited range of easy motion. Such cases afford, according to my judgment, indubitable proof of the marvelous improvements in operative surgery which have been wrought by antiseptic methods; and, when I see it stated in a standard American text-book published only three months ago, that "the alleged superiority of the antiseptic method can not be

said to have been as yet demonstrated." I am amazed at the author's incredolity. Even among those who practice antiseptic surgery, however, some hesitation is occasionally felt about opening the larger joints; and operations involving the healthy knee joint are at present regarded by many with the same kind of apprehension which, not a great many years ago, deterred surgeons from invading the peritoneal sac. The latter procedure is, as we now know, reasonably safe; and I can not doubt that the operation of opening the knee joint is already, when properly performed, far safer. I confidently anticipate the time when skillful and careful surgeons will be able to divest it of all danger, either to life or to limb; and, whenever this period arrives, our time-honored but clumsy, tedious, and uncertain methods of treating both fracture of the patella and rupture of its ligamentous attachments may well be abandoned in favor of some form of operation calculated to secure an immediate union of the divided parts.

Dr. R. F. Weir exhibited the patient treated in St. Luke's Hospital for rupture of the ligamentum patellæ, who was referred to in Dr. Sands's paper. The accident occurred in 1869. The patient, a man aged forty-seven, while crossing the street, slipped and fell, but did not strike the knee. The rupture resulted apparently from his attempts to save himself from falling. He was taken immediately to the hospital. The patient was recently looked up, and, when asked, in the absence of a written history, upon which side the accident occurred, said the left; but he had since thought over the matter a good deal and was unable to say positively whether the right or the left leg was affected. The result was a remarkably good one, both as to function and as to physical appearances. The patient could

Case.	Hospital.	Age and Sex	Date	Observer.	Side of rupture	Cause	Condition	Treatment.	Results.
1	New York.	32; Male.	1844	. .	Right	Fell from a wharf into water, striking knee against a boat.	Joint much swollen, ruptures at inferior insertion, carrying with it a separate fragment of bone; patella not much retracted, and easily brought down.	Leather, pasteboard, and tow splint and roll of tape, two days; then adhesive plaster and straps.	Fibrous union. Discharged "cured" at end of four months.
2	New York.	26; Male.	1851.	Watson	Right	Fell, thirty feet, striking knee.	Rupture of ligamentum patellæ at tibial insertion; joint distended, and painful.	Extension, cold lotions; exercise after four weeks.	Discharged "cured" at end of two months.
3	New York.	32; Male.	1859.	Markoe.	Left.	Slipped and fell, striking left knee.	Marks of fracture of patella confirmed a year previous; fragments united by ligament; patellar ligament ruptured at tibial insertion; joint greatly distended and painful.	Splint to thigh and leg, supporting patella; compress and bandage, which had to be removed on account of pain; reapplied four weeks later.	Discharged eighteen weeks after accident, with firm union.
4	Bellevue.	50; Male.	1870.	Hamilton.	Right.	While wrestling was thrown on left knee, and felt something give way. On attempting to get up he was unable to extend right leg.	Ruptured ligamentum patellæ.	Plaster-of-Paris bandage, figure-of-eight bandage to knee.	
5	Bellevue.	40; Male.	1874.		Left.	While carrying a trunk upstairs fell, striking left knee.	Complete rupture of ligamentum patellæ; unable to stand or to extend leg; no pain or distension of joint.	Plaster-of-Paris bandage day after accident; renewed three times, and thrice removed by end of six weeks.	Ligament united to tibia; knee somewhat stiff when patient left hospital eight weeks after injury.
6	Bellevue.	50; Male.	1874.	Wood.	Both.	Patient, whose heel had been caught between revolving screw-coupled pair of pedestal-boxes, felt something give way, and fell to the ground helpless.	Each patella retracted from rupture of ligamentum patellæ; extension of legs absolutely impossible.	Commenced seven months after injury. Posterior splint, figure-of-eight bandage.	Left hospital a fortnight after admission. Result not known.
7	Bellevue.	22; Male.	1874.	. .	Left.	Patient, seven months before, had fallen on left knee, striking it against a curb-stone, and made a powerful effort to save himself from falling; heard something snap as he fell; found left leg helpless.	Signs of old fractured patella.	Posterior splint.	
8	Bellevue.	52; Male.	1878.	Stephen Smith.	Left.	While hurrying down stairs, struck left knee against door-step.	Marked effusion; rupture of ligament close to its attachment to patella.	Posterior splint, ice-bag; afterward, bandage, and traction with adhesive plaster.	Patient discharged with stiff knee, eight weeks after injury.
9	Bellevue.	30; Male.	. . .	. .	Right.	Fell from a roof.	Fracture of left femur, rupture of ligamentum patellæ, and fracture of right patella.		
10	Roosevelt.	45; Male.	1882.	Sands.	Right.	Slipped while getting on a car, and felt something give way.	Marked [illegible] of patella; [illegible] band two [illegible] afterward [illegible]	Ice-bag; extension at first horizontal, afterward vertical; rubber bandage.	Recovery, with useful limb.
11	Bellevue.	34; Male.	1884.	Dennis and Bryant.	Left.	Buried beneath a falling building.	[illegible] lar; fracture of lower third of femur, [illegible] of tibia.	Double inclined plane for thirteen days; Buck's extension [illegible] six weeks.	Four years after accident patient has a stiff knee, with the leg [illegible]
12	Roosevelt.	44; Male.	1885.	Sands.	Left.	Fell from a [illegible] ladder.	[illegible]	[illegible]	[illegible]
13	St. Luke's.	47; Male.	1869.	Weir.	Left.	[illegible]	[illegible]	[illegible]	[illegible]

use one limb as well as the other. Dr. Weir was unable to detect any difference in the appearance or length of the two patellar ligaments. The man was treated in the hospital about a month with a plaster-of-Paris splint. He then went home, and, by incautious walking, got up a synovitis and was confined to his house for another month.

Dr. Weir said four cases of rupture of the ligamentum patellæ had come under his notice, the first being during his interne service in the New York Hospital, and probably the one reported by Dr. Sands as occurring in that hospital under the care of Dr. Markoe. The second was the one narrated to-night. The third occurred in a gentleman from the West, treated at the Sturtevant House. The result was uncertain as to function, as he was treated only three or four weeks, when he went to his home, but union had taken place satisfactorily. The fourth case, which, however, did not properly belong to the class referred to by Dr. Sands, occurred in a case of stiffness of the knee joint supposed to be due to fibrous ankylosis of the patella, and in which an attempt was made to practice *brisement forcé*, with the result, not of fracturing the patella, but of rupturing the ligamentum patellæ. It healed promptly. Dr. Weir further reported that within the past two weeks he had been consulted by Dr. Loring, of Valparaiso, Ind., about the case of a woman, sixty-five years of age, who fell and sustained a rupture of the ligamentum patellæ on the left side from muscular violence. The gap was now of the breadth of a hand, and the limb was incapacitated except with the use of a posterior splint which enabled her to get about by the aid of crutches. The case was additionally interesting as having occurred in a female. Dr. Weir thought it was not generally enough recognized that the ligamentous band uniting the fragments of a fractured patella was frequently stronger than the bone itself.

Dr. Weir remarked that it had been suggested, as a means of overcoming the distance between the fragments of a recently fractured patella, to fracture the thigh bone; might this not be resorted to as a last measure in certain instances, where an operation was required, when the scoring of the quadriceps muscle would not permit the approximation of bony fragments in fracture of the patella, or of the tendon ends in rupture of the ligamentum patellæ?

Dr. L. A. Stimson said that the creation of a gap in cases of rupture of a tendon at its lower end was not produced solely by contraction of the muscle, as of the quadriceps femoris, but was produced in part, as in Dr. Sands's case, by retraction of the ligament itself. This had been observed constantly after fracture of the patella, and it was one of the reasons why it was so difficult to obtain union without a gap after that accident. Fracture of the thigh would not overcome a gap due to that cause.

The Professor would suggest the substitution of division of the patella for fracture of the thigh bone in certain cases for overcoming the gap, owing to the well known facility of formation of a ligamentous band to unite the divided patella. This procedure might be resorted to in some cases in which the separation was great and could not be overcome by division of the muscle.

Pott's Fracture at the Ankle. Dr. Stimson presented a specimen illustrating a common fracture, but one in which we [illegible] opportunity to obtain the injured parts for study. The patient was sixty years of age, and received Pott's fracture of the right [illegible] by a vertical blow. He died [illegible] after admission to the hospital. The characteristic deformity of the fracture was present and crepitus could [illegible] At the outer part of the fracture was found on the [illegible] beginning in front, as much as [illegible] above the tip of the malleolus and extending upward and backward more than two inches. The internal lateral and lower tibio-fibular ligaments were ruptured, and the outer malleolus was displaced from a half to three quarters of an inch outward from the tibia. There was no fracture of any other part.

Miscellany.

The Mitral Cardiac Murmurs.—The study of the mitral cardiac murmurs at the present time is of importance to every medical practitioner, as well as of interest to those whose attention is especially directed to the diseases of the heart. In an able article in the January number of the "American Journal of the Medical Sciences," Dr. Austin Flint reviews our existing knowledge of these murmurs. He holds that there are four mitral murmurs—namely, (1) the systolic regurgitant, (2) the systolic non-regurgitant or intra-ventricular, (3) the presystolic, and (4) the diastolic. Each of these four murmurs has distinctive characters which individualize it. Two, three, and even all four may be combined in the same case. This statement, as will be seen, applies to the systolic regurgitant and to non-regurgitant murmurs. The names post-diastolic and post-systolic, proposed by Hayden, seem to the author unnecessary refinements, and, therefore, objectionable. If the reader would stop to reflect upon the inquiry whether the mitral murmurs offer topics for consideration and discussion of sufficient interest and importance to occupy the thirteen and one half pages which Dr. Flint devotes to them, let him refer to that portion of the elaborate and able work on diseases of the heart, by Hayden, which treats of the cardiac murmurs. He will there find a statement of the defects in our existing knowledge, together with differences of opinion in regard to the number of the mitral murmurs, their characters, their significance, and the modes of their production, which must convince him that they afford scope for an article extended much beyond the limits to which the author restricts himself. In fact, the object of the article is to present certain conclusions and suggestions without attempting to consider the subject comprehensively and fully.

On the Dilatation and Hypertrophy of the Heart which are not produced by Changes in the Valves.—That all the examples of cardiac hypertrophy and dilatation which we meet with in practice are not due to valvular lesions is a proposition which every one will admit. That attention has been called to such non-valvular cases by a number of authors is evident to any one who reads medical literature. And yet the recognition of these cases and their treatment have not become matters of ordinary practice. Dr. Francis Delafield (*Ibid.*) has been led, therefore, to group together the cases of cardiac dilatation and hypertrophy not due to valvular disease; to subdivide the group into its appropriate classes, and to state the characteristics of each class. Under the heading of dilatation of the ventricles occurring without discernible cause, Dr. Delafield gives sixteen clinical examples. Most of the patients were males, and many of them young adults. The invasion of the symptoms was sudden in seven cases, gradual in five, and in three was not stated. The disease ran in some cases an acute, in others a chronic course. In his own case the shortest period was twenty four days, the longest fifteen months. The heart's action was irregular and feeble, the physical signs of dilatation were evident, in some of the cases there was a systolic murmur, in others none. The dyspnœa was in most of the cases a marked symptom. Dropsy was developed in the more protracted cases, but not in those of shorter duration. The urine was diminished in quantity, the specific gravity being from 1.010 to 1.026, there was no albumen present, or but very little. The dilatation regularly involved both ventricles, and hypertrophy was the exception. The lungs, liver, stomach, spleen, and kidneys secondarily presented the conditions of chronic congestion which belong to marked valvular lesion of the heart. The course of the disease was from bad to worse, and even the symptoms were but little alleviated by treatment.

The Theory of Bronchial Asthma, viewed in the Light of the Pathology of Hay Fever. His fever occurs in winter or spring, some-

times it occurs at sea, or in the heart of a great city; sometimes, when no pollen can be found in the air, it arises after a full meal, or in the middle of the night; sometimes it appears almost instantaneously under the influence of intense light, the heat of a great fire, the odors emanating from certain localities, plants, and animals, some particular place or position occupied in driving, or from emotions and vivid ideas. In an able and suggestive paper (*Ibid.*) Sir Andrew Clark points out that in these and in all like cases there are clearly two main factors at work, a certain local or constitutional predisposition, and some immediately acting exciting cause. That some such predisposition exists is plainly proved from the fact that the exciting agents which produce the malady in one class of persons entirely fail to produce it in another; and that these exciting agents, in their relations to the persons acted upon by them, are in a remarkable manner specialized seems also proved by the circumstance that the emanations from a stable, which in one person provoke a severe attack, produce in another, liable to hay fever, no sensible effect. And of the persons subject to this disease, it must be said that they are not always affected in the same manner by the same agent; for sudden intense light which may bring on an attack at one time will quite fail at another; and so we are compelled to conclude that the organism, or some particular part of it, varies so much in its conditions that its relations to its environments are capable, without sensible structural alteration, of becoming completely changed. When we inquire into the family and personal history of an individual subject to hay fever *we* shall discover as the prominent point in it that the patient and his people are more or less "neurotic." There may be found among members of the patient's family the disease of which he is himself the subject, gout, such skin troubles as urticaria and eczema, migraine, neuralgia, epilepsy, and no inconsiderable sprinkling of pulmonary disease. But that which will be found the most widely, and will connect them all, will be a sensitive, an irritable, and an unstable nervous system. In a series of propositions the author sets forth what he regards as the teaching of a study of hay fever concerning the pathology of bronchial asthma, holding that it is a neuro-vascular trophic disease, and has its roots in a special vulnerability of the respiratory mucous membrane, of the respiratory nerve-centers, and of certain portions of the sympathetic.

Notes toward the Formation of Clinical Groups of Tumors.—Mr. Jonathan Hutchinson, of London (*Ibid.*), says that, in his opinion, the time has arrived when it is both possible and desirable to make, for practical purposes, a much more detailed classification of tumors than has yet been attempted. Some grouping of the kind is needed, both for purposes of prognosis, and in order that we may lay down good rules for treatment. Such grouping must be accomplished chiefly by observation of external features of similarity, and of resemblance in general tendency. It is these conditions, rather than minute histological differences, which will be of chief assistance to the surgeon; or, perhaps, it may be convenient to have two classifications side by side, the one clinical the other histological, and let the two help each other at all points where mutual help is possible. Mr. Hutchinson does not attempt the ambitious task of presenting an arrangement of new growths based upon their clinical features and like histories. He is, however, so convinced, both of its desirability and of its practicability in the future, that he ventures to offer a few hints and detached memoranda, which may possibly prove helpful toward its attainment at some future time.

Treatment of Intestinal Obstruction by the Force-Pump.—Dr. H. Holloway, of Cincinnati (*Ibid.*), advocates the employment of enemata administered with sufficient penetrating power to pass beyond the ileo-cæcal valve and into the small intestines, and to produce peristaltic action. He advocates the use of the force-pump, and maintains (1) that enemata thus administered are superior to every other method of treatment in the rapidity with which they either relieve the symptoms or clearly indicate the necessity of surgical interference; (2) that they are entirely free from all danger, and in no way prejudice the case should a surgical operation become necessary.

The Remains of William Harvey.—We desire to again call the attention of our readers to the effort being made for the restoration of Hempstead Church, where Harvey's remains were deposited, and to state that any subscriptions forwarded to us for that purpose will be duly acknowledged and forwarded to the treasurer of the London committee.

The New York Polyclinic.—Dr. Henry C. Coe has been appointed instructor in gynæcology, to fill the vacancy occasioned by the resignation of Dr. Clement Cleveland.

The Long Island College Hospital.—Professor A. P. Grinnell, M. D., of the faculty of the University of Vermont, will give the course of lectures on the practice of medicine at the Long Island College Hospital the coming year.

Brown vs. Purdy.—The facts of this case are briefly as follows: In November, 1879, Dr. A. E. M. Purdy was called to see Miss Angelina Brown. On his arrival he diagnosticated small-pox. He saw her later in the day with Dr. A. S. Purdy, who likewise diagnosticated small-pox. Still later he saw her again with Sanitary Inspector Dr. C. E. Lockwood, whom he had notified of the case. Dr. Lockwood's diagnosis was small-pox. The patient went or was sent to the small-pox hospital. On her arrival, the house physician, Dr. Bowen, made a diagnosis of small-pox, and so reported to the Board of Health. He subsequently revised his diagnosis and certified that Miss Brown was only suffering from eczema, and told her that she need not remain in the hospital. She voluntarily remained there, however, for some days.

After leaving the hospital she brought suit against the Drs. Purdy, claiming damages to the extent of $10,000. She asserted that the diagnosis made by Dr. A. E. M. Purdy, Dr. A. S. Purdy, and Dr. C. E. Lockwood was incorrect, that she had been damaged to the above-named amount by being sent to the small-pox hospital, and that she was sent there through the agency of the Drs. Purdy.

On the trial of the cause, in November, 1885, in the Superior Court before Judge Ingraham, the counsel for the defendants moved to dismiss the complaint, on the ground that the defendants had not sent the plaintiff to the small-pox hospital, but that the sending of Miss Brown to the hospital was the act of the Board of Health, for which the defendants were not responsible.

His Honor denied the motion, and ordered that the trial proceed before the jury.

The plaintiff on the stand gave a lengthy history of her experiences, and declared that she was not suffering from small-pox in November, 1879, but from the effects of a local irritant that she had applied to the skin.

The defendants testified minutely as to the symptoms and eruptive appearances present at the time of their examination, and declared that they were unmistakably indicative of small-pox.

Dr. Lockwood testified to the same effect, that his opinion was formed independently of the Drs. Purdy, and *that Miss Brown was sent to the hospital in conformity with the rules and regulations of the Board of Health.*

Dr. Austin Flint, Dr. E. L. Keyes, and Dr. George H. Fox testified that, from the recital of the symptoms and the character of the eruption, as detailed by witnesses, Miss Brown was undoubtedly suffering from small-pox at the time referred to. Other physicians were in court prepared to testify to the same effect.

At the close of the testimony the counsel for the defense again moved that the case be dismissed on substantially the same grounds as before, to wit: that it was the Board of Health, and not the Drs. Purdy, that caused the transfer of the plaintiff to the hospital.

His Honor again denied the motion, and in his charge to the jury said in effect that *the defendants had not to answer the mandate* that led to the plaintiff being sent to the hospital.

The jury brought in a verdict of $500 against the defendants.

The features of the case that are important to the medical profession of this State do not hinge on the correctness or otherwise of the diagnosis.

The essential point is whether a physician who complies with the law requiring him to report cases of suspected small-pox thereby becomes liable for any damage arising or claimed to have arisen through the subsequent acts of the Board of Health.

The decision of Judge Ingraham in sending the case to the jury would imply that the physician may thus become liable.

This decision, in accordance with judicial custom, will be considered law until reversed by a higher court.

The case of Brown *vs.* Purdy having been brought to the notice of the Medical Society of the County of New York, that body referred the matter to its *Comitia Minora*, with power. The Comitia, believing that it would be expedient to appeal from Judge Ingraham's decision, provided sufficient funds could be raised, appointed a special committee, consisting of members of the society, for the purpose of raising said funds.

This committee appointed a sub-committee to prepare a brief statement of the facts of the case, and the foregoing is their report.

[Signed] H. G. Piffard,
Daniel Lewis,
P. A. Morrow,
Frederick R. S. Drake,
A. H. Smith,
Sub-Committee.

In the light of the facts, as above stated, the special committee earnestly urge the members of the Medical Society of the County of New York to contribute to the fund now being raised for the purpose of carrying the case to the higher courts. To this fund Dr. A. E. M. Purdy has subscribed one thousand dollars, and Dr. C. R. Agnew five hundred dollars. Other subscriptions of one hundred dollars and under have been received. Additional funds are still needed, and may be sent by check or otherwise to the treasurer of the committee, Dr. A. B. Douglas, 123 East Thirty-sixth Street. Any part of the fund not required will be returned, *pro rata*, when the suit is decided.

By order of the Special Committee.

[Signed] Daniel Lewis, *Chairman.*
F. R. S. Drake, *Secretary.*

The Importance of Mechanical Training to Medical Men.—We are allowed to make the following extract from a letter lately written by Dr. Morris H. Henry, of New York, in answer to an invitation to be present at a meeting held in reference to the Gramercy Park School and Tool House: "I have always felt a sincere interest in the development of every industrial art, and the education and training of boys to manual labor. It is the basis of and incentive to progress and success. In the practice of my own profession, whether in chemistry, experimental physiology, or practical medicine or surgery, this want and absence of early manual training are severely felt when, alas! it is almost too late for them repair to be of good service. A good knowledge and training of the hands—guided by average intelligence—are not yet fully appreciated by a large proportion of those on whom we depend for skilled industrial work. I speak from personal experience. A portion of my early school-days was spent in a school of art. The inspirations and practical advantages of that atmosphere have been of no small benefit to me in the practice of medicine. The labor you have assumed must bear good fruit."

The Physiology of the Bile.—In an article on Ideal Cholecystotomy, [illegible] published in the "Weekly Medical Review," Dr. Augustus C. Bernays, of St. Louis, says:

"But little is known of the influence and uses of the human bile. We know [illegible] and [illegible] its chemistry, we know approximately the quantity of the secretion. As good as nothing is known of the use and function of the gall-bladder. We do not know whether it is filled and emptied periodically, or whether the flow is a constant one. I have [illegible] to ascertain by a measurement of the amount of pressure [illegible] present in the bladder or the ducts. In a case where I performed cholecystotomy on the supposition of cholelithiasis, I found the gall-bladder [illegible], containing no calculi, and I could squeeze the bile [illegible] with very great ease by compressing the thin normal [illegible]. There was certainly no amount of pressure in the bladder [illegible]. It is evident that the glands in the walls of the bladder secrete mucus. Law and Lee [illegible] that mucus contains more [illegible] of bile-salts than the bile itself. The [illegible] of the gall-bladder contains more water than bile. I have [illegible] and [illegible] the [illegible] year than acid work. Since the [illegible] of [illegible] mucus with the [illegible] of an abnormal [illegible] [illegible] [illegible] by the [illegible] and [illegible] [illegible] and experiments have been made in order to determine the use of the bile to the organism. In a number of cases where these fistulæ persisted for months (seven months in one case), the stools were almost milk-white and the entire amount of the bile dribbled out of the fistula, not the slightest symptoms of disease or disturbed digestion or alimentation could be observed. The administration of calomel, iron, salts, podophyllin, aloes, or rhubarb does not seem to have the slightest effect upon the quantity or chemical constituents of the secretion. No effects have been noticed either after the administration of quinine, morphine, or cocaine. In some cases the patients have gained in weight and health while losing all their bile through a fistula. Tait says there is not the slightest evidence of flatulence and decomposition which are said in the text-books to accompany biliary fistula. After a careful perusal of all the accessible literature on this subject I have come to the conclusion that the bile is almost, if not entirely, as much of an excretion as the urine. Even the much-praised emulsifying power of the bile is probably only an accidental quality, certainly not a necessary one. The trypsin of the pancreas, according to Kuehne, is entirely sufficient to emulsify all the fats that come into the intestines."

THERAPEUTICAL NOTES.

Tartar Emetic in the Treatment of Consumption.—Bucquoy ("Gaz. des hôp."; "Ctrlbl. f. klin. Med.") has been led by a number of successes to recommend this drug anew. At first he gives from a grain and a half to two grains and a quarter in the course of the day, restricting the drink, in order to prevent vomiting. The daily amount is then reduced to three quarters of a grain, and its use is continued, with the result of diminishing the fever, increasing the appetite, overcoming constipation, allaying the cough, and reducing the expectoration. The only contra-indication consists in diarrhœa and intestinal ulceration.

Cotton Root in the Treatment of Uterine Hæmorrhage.—Massini ("Korrespondenzbl. f. Schweiz. Aerzte;" "Ctrlbl. f. klin. Med.") thinks that this drug is to be regarded not only as an efficient substitute for ergot, but as having some advantages over that remedy. Although less prompt in its action, it is more enduring; hence, while it has been used successfully to increase the pains of labor and in uterine atony in the placental stage of labor, its most appropriate field is in gynæcological practice. In two cases of metrorrhagia at the menopause the author observed brilliant results from the use of the fluid extract, two or three teaspoonfuls daily.

Pichi, a Chilian Remedy for Cystitis.—Pichi is the name given in Chili to the *Fabiana imbricata*, a plant indigenous to that country, where it is in great repute in the treatment of urinary diseases, even those due to renal and vesical calculi. Dr. A. Rodiguez ("Diario Médico-farmaceutico"; "Med. Times and Gaz.") thinks it especially valuable in catarrh of the bladder from lithiasis, and in certain tropical affections of the liver. In Rio de Janeiro it has been found useful in several cases of jaundice, dropsy, and dyspepsia from deficient biliary secretion. It has been found to contain a highly aromatic essential oil, a resin, and a fluorescent substance resembling esculin, pavin, and fraxin, which crystallizes in needles.

Iodide of Mercury and Sodium.—Dr. L. Vacher ("Gaz. hebdom. de méd. et de chir.") recommends this double salt for hypodermic use in the treatment of syphilis, according to the following formula:

Biniodide of mercury,	each	1 part;
Iodide of sodium,		
Distilled water		10 parts

Dissolve with the aid of heat, and add 190 or 90 parts of distilled water, accordingly as a one-half per cent. or a one per cent. solution is desired. The maximum dose of the latter is fifteen drops, but smaller ones should be used at first. If need be, the injections may be repeated several times in the course of a day.

Sphacelinic Acid in the Treatment of Rosacea.—At the Fifty-eighth Congress of German Naturalists and Physicians, Dr. Unna ("Deutsch. Med. Ztg.") reported excellent results in the treatment of uncomplicated cases of rosacea with ointments containing from five to ten per cent. of an extract of ergot that was rich in sphacelinic acid rather than that known to the trade as Gehe & Co.'s "extractum secalis cornuti continuo sphacelinicum" or an extract prepared by Mielck, of Hamburg.

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